Acknowledgement

The 26th IUGG General Assembly is being held under the auspices of the Deputy Prime Minister for Science, Research and Innovations; the Mayor of Prague and the President of the Academy of Sciences of the Czech Republic.

General Assembly Sponsors

The IUGG 2015 Local Organising and Programme Committees extend their appreciation to the City of Prague for its invaluable commitment and support of the 2015 General Assembly.
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Welcome Messages

Message from the IUGG President – Harsh Gupta

I am very pleased to welcome you to Prague for the 26th General Assembly (GA) of the International Union of Geodesy and Geophysics (IUGG) to be held from 22nd June to 2nd July 2015. The IUGG GA is held once every four years. Prague is the only city in the world to hold this Assembly for a second time, the first one being held in 1927. So, we shall be meeting in Prague again after 88 years. Over the last century, IUGG has made tremendous progress in several disciplines of Geodesy and Geophysics. Currently, IUGG is a composite of eight semi-autonomous associations dealing with various physical, chemical, mathematical and environmental disciplines.

Prague, a beautiful city with remarkable history, pleasant weather, excellent cuisine and wonderful conference facilities is an ideal place to meet and discuss various aspects and developments in varied disciplines of Geodesy and Geophysics. Prof Vladimir Cermak, the Chair of the Local Organising Committee and Prof Eduard Petrovsky, the Chair of the Scientific Program Committee along with their colleagues, have done a wonderful job of preparing for this mega event and making it a memorable General Assembly.

I wholeheartedly welcome you all.

Harsh Gupta
President
International Union of Geodesy and Geophysics

Message from the IUGG Secretary General – Alik Ismail – Zadeh

Dear Colleagues,

I warmly welcome your participation in the 26th General Assembly of the International Union of Geodesy and Geophysics (IUGG), which takes place in the historical and beautiful city of Prague, Czech Republic, from 22 June to 2 July 2015, and wish you a successful meeting, fruitful scientific discussions, and enjoyable time at the assembly and in the host country.

The Union has very high hopes for the Prague assembly: we hope that it proves to be a major step towards greater cooperation of Earth and space scientists from the Czech Republic and neighbouring European countries with their colleagues from other parts of the world. The 2015 IUGG General Assembly highlights many research topics of great social importance including climate change and geo-engineering, extreme natural hazards and disaster risk, water resources and see level changes. I encourage you to participate in Union, Inter-Association and your Association scientific sessions as well as to take an active part in business meetings of the Union and its Associations.

For the last several years IUGG has been modernising the operations of the union developing new programs and activities, strategies and implementation plans. The Union raises its visibility and effectiveness within other international organisations and policy makers and improves international research cooperation across the breadth of sciences represented by the IUGG eight Associations and six interdisciplinary bodies.

I thank the Local Organising Committee and the Science Program Committee of the Prague General Assembly for their voluntary service and appreciate the work of the C-IN company as a professional conference organiser.

Enjoy the IUGG General Assembly, the city of Prague, the Czech culture and the hospitality of the local people!

I look forward to seeing you at the assembly and to thanking you for attending.

Alik T. Ismail-Zadeh
Secretary General
International Union of Geodesy and Geophysics
Message from the Local Organising Committee Chair – Vladimir Cermak

Dear IUGG2015 delegates, dear colleagues and guests,

Welcome to Prague, welcome to the 26th General Assembly of the International Union of Geodesy and Geophysics. On behalf of the Czech National Committee for Geodesy and Geophysics and the IUGG 2015 Local Organising Committee I am happy to welcome you. We have been planning for this assembly since the year 2010, bidding for it during the 25th IUGG General Assembly in Melbourne four years ago and luckily succeeded in receiving the honor to host the IUGG in Prague in a memorable international competition with four other well respected cities.

IUGG holds its general assembly every four years and Prague can be proud of being the only city to host this event for the second time. It was in 1927 when Prague hosted the 3rd IUGG General Assembly of almost 300 participants. During these past 88 years the world experienced a complex history, passed over periods of sorrowful degradation, but successfully recovered and in the last decades is enjoying an unprecedented progress, which enabled an amazing worldwide cooperation. The IUGG did not stay behind; as an eminent science union and as a composite of eight semi-autonomous associations, well covers all Earth science disciplines stretching from the deepest Earth interior to the most remote edges of the Universe.

Concurrently, the Czech Republic gets well from its unfortunate recent history. Its capital, Prague, in the last 25 years has been flourishing and become an affordable destination for people from the whole world. Prague, with its unique collection of historical monuments dominated by the Prague Castle and Charles Bridge is one of the most beautiful cities in Europe. I am sure, that the view from the windows of the Prague Convention Centre, the meeting venue, is something you will never forget.

To prepare this General Assembly was not an easy task and it took a dedicated effort to do so. On this occasion, I want to thank all members of the Local Organising Committee for their help and cooperation, special thanks go to Eduard Petrovsky, who as the chairman of the Science Program Committee did a good job and set up a superb program consisting of the Union, Inter-Association and Association lectures, scientific sessions, workshops and short courses. It is obvious that he could not get by without the essential assistance of all secretaries of all eight IUGG Associations. Thanks go to the director of the Geophysical Institute, Czech Academy of Sciences, Pavel Hejda. The cooperation with the IUGG Secretary General, Alik Ismail-Zadeh, was constructively beneficial and pleasant. The organisation of the General Assembly could not have happened without the highly professional help of the C-IN company, a professional conference organizer contracted by the LOC to assist with the realisation of the General Assembly.

To finish, I want to share the words of Albert Einstein, a resident of Prague between 1911 and 1912: “Besides, the city of Prague is wonderful, that beautiful that this city alone would already prove of value for a longer journey.”

Thank you for coming to Prague. Make your attendance of the 26th IUGG General Assembly a successful scientific experience. Enjoy your stay, enjoy Czech culture and hospitality.

All the best.

Vladimir Cermak
Chair of the Local Organising Committee
Ladies and gentlemen, dear colleagues and friends,

It has been my great honour to act as Chair of the Scientific Programme Committee of the 26th IUGG General Assembly in Prague. The Committee consisting of the IUGG Secretary General and Secretaries General of eight Union Associations, started its activities in September 2013 towards the present scientific programme of the Assembly. Along with the time and space limits we have faced multiple constraints, which had to be considered during the programme development. As a result we managed to provide room for an attractive and exciting scientific programme, consisting of more than 200 scientific symposia, including 23 Joint Inter-Association and 11 Union symposia, the latter being based primarily on solicited talks. In addition, we have the pleasure to listen to 9 Union lectures given by prominent experts in their fields, including Yuan T. Lee from Taipei, winner of the 1986 Nobel Prize in Chemistry. Great diversity of research topics covered by the associations determined also the great variety of the proposed symposia and workshops, ranging from processes in the Earth’s deep interior through to processes on its surface, to the effects of outer space. Many of the topics naturally overlap and so do the symposia. In total some 5500 contributions will be presented in the scientific symposia and workshops, with the presenting authors being from almost 100 countries. Compilation of the programme and the figures of submissions would never be possible without a great joint effort of the whole Programme Committee and the support we got from our Czech colleagues, representing each of the 8 associations. Last but not least, I have to mention the C-IN staff, always doing their best to meet our needs and respond to numerous requests.

On behalf of the Scientific Programme Committee, I firmly believe that although we cannot perhaps satisfy everybody, you all will enjoy the Assembly, its scientific programme and your visit to Prague in general. Looking forward to meeting you here.

Eduard Petrovsky
Chair of the Scientific Programme Committee
Host – About the International Union of Geodesy and Geophysics (IUGG)

The International Union of Geodesy and Geophysics (IUGG) is an international, non-governmental, non-profit organisation established in Brussels on July 28, 1919. IUGG is dedicated to the promotion and coordination of scientific studies of the Earth (physical, chemical and mathematical) and its environment in space. These studies include the shape of the Earth, its gravitational and magnetic fields, the dynamics of the Earth as a whole and of its component parts, the Earth’s surface, internal structure, composition and tectonics, the generation of magmas, volcanism and rock formation, the hydrological cycle including snow and ice, all aspects of the oceans, the atmosphere, and the cryosphere including climate dynamics, the ionosphere, the magnetosphere and solar-terrestrial relations and analogous problems associated with the Moon and other planets. The Union encourages the application of this knowledge to societal needs, such as the development of mineral resources, mitigation of natural hazards, climate change and environmental preservation.

IUGG consists of 8 Scientific Associations:

- International Association of Cryospheric Sciences (IACS)
- International Association of Geodesy (IAG)
- International Association of Geomagnetism and Aeronomy (IAGA)
- International Association of Hydrological Sciences (IAHS)
- International Association of Meteorology and Atmospheric Sciences (IAMAS)
- International Association for the Physical Sciences of the Ocean (IAPSO)
- International Association of Seismology and Physics of the Earth’s Interior (IASPEI)
- International Association of Volcanology and Chemistry of the Earth’s Interior (IAVCEI)

and 6 Union interdisciplinary bodies:

- Union Commission on Climatic and Environmental Changes (CCEC)
- Union Commission on Mathematical Geophysics (CMG)
- Union Commission on Geophysical Risk and Sustainability (GRC)
- Union Commission on the Study of the Earth’s Deep Interior (SEDI)
- Union Commission on Data and Information (UCDI)
- Union Working Group on History

Through these Associations and interdisciplinary bodies, IUGG promotes and enables research in the Earth system by providing a framework for collaborative research and information exchange. Scientific meetings allow geophysicists from all countries of the world to discuss their respective methodologies, results, hypotheses and to plan collaborative research projects. Publications, schools, and videos instruct researchers, students, technicians and the public on issues such as environmental protection and human safety. Standards work provides rules of scientific definition, procedure, and practice, international reference systems, and free exchange of data. And finally, resolutions passed by General Assemblies of IUGG promote issues of scientific policy on which members agree.

For more information about the Union, please visit the IUGG webpage: www.iugg.org
International Union of Geodesy

Associations

IAG
International Association of Geodesy

IAGA
International Association of Geomagnetism and Aeronomy

IAHS
International Association of Hydrological Sciences

IACS
International Association of Cryospheric Sciences

IAG Commissions
- Reference Frames
- Gravity Field
- Geodynamics and Earth Rotation
- Positioning and Applications

IAGA Commissions
- Internal Magnetic Fields
- Aeronomic Phenomena
- Magnetospheric Phenomena
- Solar Wind and Interplanetary Field
- Geomagnetic Observatories, Surveys, and Analyses

IAHS Commissions
- Surface Water (ICSW)
- Groundwater (ICGW)
- Continental Erosion (ICCE)
- Snow and Ice Hydrology (ICSIH)
- Water Quality (ICWQ)
- Water Resources Systems (ICWRS)

Service
- The World Glacier Monitoring Service (WGMS)
- IACS Standing Group on Glacier And Permafrost HAZards in mountains (GAPHAZ)
- Global Terrestrial Network for Glaciers (GTN-G) Steering Committee

Standing Groups
- International GNSS Service (IGS)
- International Gravimetric Bureau (BGI)
- International Altimetry Service (IAS)
- IAG Bibliographic Service (IBS)
- International Centre for Global Earth Models (ICGEM)
- International Doris Service (IDS)
- International Centre for Gravity and Reference Systems Service (IERS)
- International Geoid Service (IgS)
- International Gravity Field Service (IGFS)
- The International Laser Ranging Service (ILRS)
- International VLBI Service for Geodesy and Astrometry (IVS)
- The Permanent Service for Mean Sea Level (PSMSL)
- Global Geodetic Observing System (GGOS)

Service
- Interdivisional Commission on Geomagnetic Indices
- Interdivisional Commission on Developing Countries
- Interdivisional Commission on History
- Interdivisional Commission on Education and Outreach

Union Commissions

CCEC
CLIMATIC AND ENVIRONMENTAL CHANGE

CMG
MATHEMATICAL GEOPHYSICS

GRC
GEOPHYSICAL RISK AND SUSTAINABILITY

INTERASSOCIATION

10.6.2015 15:45:58
2015 Council Delegates

Accredited delegates of the IUGG 26th General Assembly, Prague, Czech Republic, 23 June – 1 July 2015.

S.R. Cimbaro (ARGENTINA); C. Risso (ARGENTINA); I. Jackson (AUSTRALIA); B.L.N. Kennett (AUSTRALIA); C. Rizos (AUSTRALIA); G. Kaser (AUSTRIA); G. Babayev (AZERBAIJAN); I. Guliev (AZERBAIJAN); K. Vanneste (BELGIUM); M.S. de Assumpcao (BRAZIL); D. Blitzkov (BRAZIL); L.P.S. Fortes (BRAZIL); Z. Hajnal (CANADA); R. Jara Lecanda (CHILE); J. Li (CHINA); S.-C. Liu (CHINA-TAIPei); M. Proti (COSTA RICA); M. Orlic (CROATIA); V. Cermak (CZECH REPUBLIC); S. Gregersen (DENMARK); R. Room (Estonia); E. Kozlovskaya (FINLAND); C. Boucher (FRANCE); J. Muller (GERMANY); C. Zerefos (GREECE); J. Adam (HUNGARY); L. Bozo (HUNGARY); K.S. Vogfjord (ICELAND); V.P. Dimri (INDIA); A.G. Jones (IRELAND); C. Price (ISRAEL); G. Panza (ITALY); A. Speranza (ITALY); S. Nakada (JAPAN); A. Oth (LUXEMBOURG); T. Van Dam (LUXEMBOURG); A. Gogichaisvili (MEXICO); J. L. Macias Vazquez (MEXICO); R. F. Hanssen (THE NETHERLANDS); D. Rhoades (NEW ZEALAND); O. Kristiansen (NORWAY); J. Krynski (POLAND); J.M.A. Miranda (PORTUGAL); C.F. Sava (ROMANIA); A.D. Gvishiani (RUSSIA); M. Bielik (SLOVAK REPUBLIC); P. Moczo (SLOVAK REPUBLIC); P. Kotze (SOUTH AFRICA); J. Gomez Gonzales (SPAIN); P. Holmlund (SWEDEN); A. Wiget (SWITZERLAND); K. Rammon (THAILAND); B. AKTI (TURKEY); O. Alp (TURKEY); H. Bryden (UK); J. Freymueller (USA); M.C. MacCracken (USA); N. X. Anh (VIETNAM); N. Van Giang (VIETNAM).

Executive Committee
IUGG Secretariat

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GFZ German Research Centre for Geosciences
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Phone: +49 (0) 331 288-1978
E-mail: secretariat@iugg.org

IUGG Sponsors

DFG
Deutsche Forschungsgemeinschaft

Helmholtz Centre Potsdam
GFZ German Research Centre for Geosciences
Committees

Local Organising Committee (LOC)

Vladimir Cermak          Chairman & IUGG Liaison
Petr Holota              Deputy Chairman & News
Eduard Petrovsky         Secretary
Jano Simkanin            Deputy Secretary
Marta Tuckova            Treasurer
Iva Pelanova (C-IN)      Exhibitions & Sponsoring
Vladislav Babuska        Scientific Field Trips
Vladislav Rapprich       Media, Computer & Community Liaison
Jaroslava Plomerova      National Convenors

International Scientific Programme Committee

Eduard Petrovsky, Czech Republic  Scientific Program Committee Chairman
Harsh Gupta, India             IUGG President
Alik Ismail-Zadeh, Germany     IUGG Secretary General
Andrew Mackintosh, New Zealand IACS Secretary General
Hermann Drewes, Germany         JAG Secretary General
Mioara Mandea, France          IAGASecretary General
Christophe Cudennec, France    IAHS Secretary General
Hans Volkert, Germany          IAMAS Secretary General
Johan Rodhe, Sweden            IAPSO Secretary General
Peter Suhadolc, Italy          IASPEI Secretary General
Jean Marti, Spain              IA VCEI Secretary General

Czech Geoscience Institutions Contact Committee

Jan Lastovicka             Contact Committee Chairman
Zdislav Sima               Astronomical Institute, ASCR
Jan Lastovicka             Institute of Atmospheric Physics, ASCR
Vladimir Rudajev            Institute of Geology, ASCR
Karel Holub                 Institute of Geonics, ASCR
Jiri Malek                  Institute of Rock Structure and Mechanics, ASCR
Bohumir Jansky              Faculty of Science, Charles University
Tomáš Halenka               Faculty of Mathematics and Physics, Charles University
Jakub Velímsky              Faculty of Mathematics and Physics, Masaryk University
Jan Svancara                Masaryk University, Brno
Vladislav Rapprich         Czech Geological Survey
Jan Pretel                  Czech Hydrometeorological Institute
Petr Holota                 Research Inst. Geodesy, Topography & Cartography, Prague
Viliam Vatr                 Military Geographical Service, Armed Forces of the Czech Republic
Petr Schnabl                Institute of Geology
Practical Information A – Z

**A**

**Abstracts**
Abstracts of all oral/poster presentations are available on the USB that you received during registration.

**Accommodation**
Should you need any help with accommodation please contact our staff at the Registration desk.

**Airport**
Václav Havel Airport Prague handles flights from within Europe and from overseas. It is located 30–45 minutes by car from the centre of Prague. There are good connections between the airport and the city centre by public transport – buses and taxis.

**Airport information – nonstop phone line**
Tel: +420 220 111 888
AFTN: LKPRDYDX
SITA: PRGCZ7X, PRVCZ7X
http://www.prg.aero
An airport shuttle service from your hotel to the airport can be ordered on the website www.prague-airport-transfers.co.uk or on phone 800 870 888.

**Arrival by Public Transport**
Prague has a sophisticated underground, tram and bus transportation system. During peak hours trains run every 1 or 2 minutes and during off-peak hours at least every 10 minutes. For more information about Prague public transportation visit www.dpp.cz. Each delegate gets a free Public Transport Pass valid on all means of public transport from 22 June – 2 July, 2015.

**B**

**Badges**
Along with your registration, you will receive your name badge, which must be worn when attending all sessions and official congress programme. Participants without a badge will not be allowed to enter the venue building.

**C**

**Cash Points**
- **Komercni Banka** cash point is located right between the entrances No. 5 and 6.
- **Ceska sporitelna** cash point is located right next to the underground station Vysehrad entrance.

**Komercni banka**
Address
5. kvetna 65
140 00 Praha 4

**Certification of Attendance**
All registered delegates present on site are entitled to receive a Certificate of Attendance, which can be printed by each delegate at the special registration desk counters in the ground floor.

**City of Prague**
For more information please visit following pages:
- www.praguewelcome.cz
- www.czechtourism.com
- www.praha.eu
- www.prague.cz
- www.prague-czechrepublic.com
- www.lonelyplanet.com/czech-republic/prague

**Climate**
Prague is a city with a mild continental climate. The average temperature in June varies around 20 °C. Umbrellas maybe useful, however the month of June is usually more on the sunny side.

**Cloakroom**
A cloakroom is located on the ground floor, the service is provide free of charge to all registered participants.

**Congress Language**
The congress languages are English and French. No simultaneous translation is provided.

**Currency/Exchange**
The Czech currency is called the Czech crown (CZK). Its circulation is in the form of banknotes of the following value: 5,000, 2,000, 1,000, 500, 200, 100 and coins of the following value: 50, 20, 10, 5, 2, 1 crowns.

Exchange offices are located all around the city centre (exchange offices, banks, post offices).

ALL RATES given in the program are in EUROS (€). Some big stores and restaurants accept Euro.

**D**

**Disclaimer**
The General Assembly Organisers have taken all reasonable care in making arrangements for the Congress, including accommodation and technical visits. In the event of unforeseen disruptions, neither IUGG neither the General Assembly Organiser nor their agents can be held respon-
sible for any losses or damages incurred by delegates. The programme is correct at the time of printing, but organisers reserve the right to alter the programme if and when deemed necessary. The General Assembly Organisers act as agents only in securing hotels, transport and travel services and shall in no event be liable for acts or omissions in the event of injury, damage, loss, accident, delay or irregularity of any kind whatsoever during arrangements organised through contractors or by the employees of such contractors. Hotel and transportation services are subject to the terms and conditions under which they are offered to the general public. Delegates should make their own arrangements with respect to personal insurance. The General Assembly Organisers reserve the right to make changes as and when deemed necessary without prior notice to the parties concerned. All disputes are subject to resolution under Czech Law.

Doctor / First Aid
Poliklinika Budejovicka is located at the station Budejovicka – 3 underground stations from the station Vysehrad (the location of the venue).
MEDICON a.s. – Poliklinika Budejovicka
Antala Štáska 1670/80, 140 46 Praha 4
Tel.: +420 261 006 111, fax: +420 261 006 210
E-mail: info@mediconas.cz
www.mediconas.cz

Emergency Call
General emergency 112
Police 158
Fire Department 150
Medical Service 155

Exhibitors
Exhibition is located on the 2nd floor and all exhibitors are listed in the programme. For more information please see pages (313 – 316).

Electricity
The electricity used in Czech Republic is 220 Volts/ 50 Hz (type E French 2-pin electrical adapter plug and electrical outlet identified by two round pins spaced 19 mm apart with a hole for the socket’s male grounding pin. Type E outlet will also accept Type C plugs and Type E plugs will also work in Type F outlets. A transformer is necessary for your electrical and electronic equipment if using different voltage (ie USA, Canada).

Food and Beverages
Coffee-breaks/Poster Session refreshments (included in the registration fees) and Lunches (if purchased while registering) will be served in:
1st floor foyer adjacent to Panorama Hall
1st floor Restaurant Zoom (Buffet lunches – please make sure to have your lunch voucher with you)
2nd floor Congress Foyer – Poster and Exhibition Area

Tickets for lunches may be purchased a minimum of 2 days in advance from the cashier at the Registration Desk. Tickets are subject to availability.

Cash Bars/Public Catering Outlets
Various catering outlets/cash bars will be set up within the Venue selling lights snacks, salates and other refreshment throughout the General Assembly.
Cash Bars location is indicated in the venue floorplans. Offsite food and beverage options are visualised in the map on the back of this brochure.

First Aid
First Aid is available at the Prague Congress Centre – the office is located on the ground floor adjacent to the Registration Area. Should you need any help please contact our Information desk staff, they will be happy to assist you.

Grant Recipients
All IUGG registration fee/monetary grants had to be applied for in advance and have already been assigned. No additional travel grants, reduced fees or financial support of any kind can be given to participants.
All monetary grants recipients are kindly asked to register at the on-site registration desk and than visit the Grant Office Room – No. 220 to proceed with their monetary grant administration.

GSM Operators
There are 3 major GSM Operators in the Czech Republic: Telefonica O2, Vodafone, T-Mobile.

Information Desk
The registration staff will be happy to help you with questions you may have with regards to the General Assembly or any other matters.

Insurance and Liability
The organizers will accept no liability for personal injuries sustained by or for loss or damage to property belonging to congress participants, accompanying persons either during or as a result of the congress or during all tours and events. Upon registration participants accept this proviso.
Participants are strongly recommended to seek insurance coverage for health and accident, lost luggage and trip cancellation.

Internet
There is free Wi-Fi internet connection available.

Lost & Found
A lost and found service is available at the information desk at the registration.
Lost or stolen credit cards. Call one of the following services to take care of it:

- Visa: +420 800 142 121
- American Express: +420 850 882 028
- Master Card/Eurocard: +420 800 142 494

Mobile Phones
Participants are kindly requested to keep their mobile phones in the off position in all meeting rooms while sessions are being held.

Parking
Participants arriving by car are advised to use the underground parking space available. Parking fees are not included in the registration fee.

Pharmacy
The nearest pharmacy is located in the shopping centre Arkady Pankrac – 2nd underground stations from the Vysehrad station (venue location).

Shopping Centre Arkady Pankrac – 1st floor
Na Pankráci 86, 140 00 Praha 4
Tel.: +420 225 111 211
www.lekarnapankrac.cz
Opening hours: Monday – Sunday 9:00 – 21:00

Posters
The poster area is placed in the foyer next to the Congress Hall. For more information about Poster Sessions please check respective pages in this Programme Book.

Presentations – Speakers Ready Room
Please hand in your presentations to the technician in the Meeting Room 2.1. Please make sure to hand in your presentation at least 2 hours prior to the start of your assigned session. Our staff in the room will be happy to assist you. Alternatively you can use an online uploader accessible form the GA website (www.iugg2015prague.com) to upload your presentation.

Programme Changes
The organizers cannot assume liability for any changes in the programme due to external or unforeseen circumstances.

Registration Desk
The registration desk is located on the Ground floor of the Prague Congress Centre.
Tel.: +420 261 177 010

Registration Entitlements:
The registration fee entitles all delegates to the following:
- Admission to all sessions
- All official documentation including programme booklet
- Copy of abstracts and list of participants
- Admission to Union and Association Ceremonies
- Coffee Breaks
- Satchel
- Free Prague public transport pass
- Please note that lunch is not included in the registration fee.
- There are 2 Lunch options available to pre-purchase:
  - Buffet lunch at EUR 25,- person/day (buffet consists of a salad, hot meal item, dessert, fruit and water.)
  - Lunch Box at EUR 15,- (sandwich, fruit, water, chocolate bar)

Accompanying Person fee includes:
- Entrance to the Assembly Venue
- Admission to Union and Association Ceremonies
- Free Prague public transport pass
- Grand Tour of Prague (half day tour)
please choose one of the dates June 24 or June 30.

Restaurants – Czech Cuisine
Czech cuisine is typical of Middle European gastronomy, yet clearly reflects a number of Czech elements – e.g. bread or fruit dumplings, various kinds of soups, sauces, numerous potato dishes, cakes and a wide range of festive dishes. In general, Czech gastronomy means roasted pork with dumplings and sauerkraut, potato pancakes, plum dumplings and bilberry cakes … and, of course, Czech drinks – primarily beer and first-rate wines from South Moravia, not to mention “Slivovice”, a clear Czech plum brandy and “Becherovka” a delicious herbal elixir with legendary aphrodisiac qualities. People usually have lunch between 12:00 and 14:00 and sit down for dinner between 18:00 and 21:00. However, it is possible to dine throughout the whole day and every visitor’s needs can be met.

Safety
Prague is one of the most popular destinations in the world. Statistics show that when compared to other major European cities the rate of crime is much lower in Prague. A night walk around the city is relatively safe but, of course, like in all other big cities we recommend handling your personal belongings with utmost care.

Shopping
Most shops in Prague are open from 9:00 to 18:00, Monday through Saturday. Shops in the city centre are usually open from 9:00 – 20:00, Monday through Sunday.
Smoking Policy
Please note that smoking is not permitted anywhere within the venue.

Taxi
In the city centre taxis are easy to hail from the street but we strongly recommend that you use hotel taxis or obtain taxis by phone through the radio taxi service e.g. AAA (+ 420 14 014), City taxi (+420 257 257 257) or Speed cars (+420 224 234 234).
Boarding charge: approximately 40 CZK.
Journeys within the city: approximately 28 CZK/1 kilometre. Do not board the taxi without finding out if there is a fixed rate.

Time Difference
The Czech Republic is in the Central European Time Zone. Central European Time (CET) is 1 hour ahead of Greenwich Mean Time (GMT +1). After the last Sunday in March the time in Czech Republic is shifted back by 1 hour to CET and this remains until the end of September.

Tipping
Service is usually included in the bill in bars and restaurants but tips are welcome. If you consider the service good enough to warrant a tip, suggested level is around 10%.

Transportation in Prague
Prague Public Transit Co. Inc. is the main public transport operator in the Czech Republic. Almost two thousand metro trains, trams and buses are dispatched every day in Prague and the surrounding region. Tickets must be bought before starting your journey.

Metro/Underground
The Metro operates daily from 05:00 to 24:00. We recommend that you use this kind of transport as the fastest and cheapest way of moving around the city. The Metro networks consists of 3 lines designated by letters and differentiated colours:
A – green colour, B – yellow colour, C – red colour – with transfer possible at Muzeum station (line A and C), Mustek station (line A and B), Florenc station (line B and C).

Tram and Bus
Trams and buses operate 24 hours a day.
Night trams from 00:30–4:30 (numbers 51–58) with traffic intervals of 30 minutes.
Night buses from 00:30–4:30 (numbers 501–514). Bus schedules are located at individual stops.
Website: www.dpp.cz
Transport around Prague:

VAT
Czech legislation requires that all congress costs includes the Czech VAT (21% or 15%). In case the VAT rate changes, the change will automatically apply to the service ordered.

Venue
Prague Congress Centre
5 kvetna 65
140 21 Prague 4
Czech Republic
www.kcp.cz
Taylor & Francis boasts an expanding portfolio of high calibre journals in Earth Science. Our journals are edited by some of the most prominent academics and practitioners in their fields. We are partnered with an array of the world’s leading societies, such as the Geological Society of Australia, Royal Society of New Zealand, Geological Society of Sweden, International Union of Soil Sciences, and Vilnius Gediminas Technical University to publish cutting-edge, high quality research across the spectrum of Earth Science.

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Social Programme

Opening Ceremony and Welcome Reception

Date: June 23, 2015
Time: 16:30 – 19:00 followed by the Welcome Reception
Location: Congress Hall and adjacent foyer – Poster and Exhibition Area

Tickets: Included in the registration fee for all delegates and accompanying persons.
An invitation is extended to all delegates and accompanying persons to the Opening Ceremony and Welcome Reception. The General Assembly will be officially opened with a cultural experience and will be followed by drinks and a buffet dinner whilst catching up with old acquaintances and networking with your colleagues.

Poster Socials – Snack and Beer / Wine and Cheese

Date: every day from June 24, 2015 to June 30, 2015
Time: always 18:00 – 20:00
Location: Congress Hall Foyer – Poster Area

Join fellow delegates to enjoy a small refreshment (snack/canapes wine and/or beer) while roaming among posters. The poster social sessions give General Assembly attendees a unique opportunity to learn more about the research being supported by the IUGG 2015 scientific programme.

Closing Ceremony

Date: July 1, 2015
Time: 16:30 – 18:00 followed by the Farewell Dinner
Location: Congress Hall

Farewell Dinner

Date: July 1, 2015
Time: 19:00 – 23:00
Location: Zofin Garden Restaurant – Zofin Palace (Slovansky ostrov 226, Prague 1)

Tickets: Not-included in the registration fee. Tickets can be purchased as an extra at the On-site Registration Desk. Please note the capacity is limited.
Something is always going on at Slovansky Island on the Vltava river. It is a green oasis of comfort and excellent gastronomy in the heart of Prague. We spend our summers outside in the beautiful space of our covered outdoor restaurant located between the Zofin Palace and a romantic gazebo. Slovansky Island has always been at the centre of the Prague social scene and culture. Irrespective of your reason to visit it – a stroll in the park, children’s play date, a concert, ball or another social gathering at the Palace, the Zofin Garden will always have something to offer. Pop in for a glass of tasty wine from Moravia or treat yourselves to an exotic cocktail. If you get hungry and order something from our grill, you will certainly want to wash it down with a glass of exceptional Czech beer on tap.
Guided Tours

The following Guided Tours are optional, not included in the registration fee and subject to availability. In case of interest please ask at the Registration Desk. All tours include informative English speaking commentary, all entry fees and meals were specified. Comfortable shoes and clothing are recommended for all tours. All tours are based on a minimum number of participants. If minimum numbers are not reached, alternative arrangements or a complete refund will be made.

PLEASE NOTE THE MEETING POINT FOR ALL TOURS IS 15 MINUTES PRIOR TO THE DEPARTURE TIME (SPECIFIED BELOW) AT THE REGISTRATION AREA

Grand Tour of Prague

This insightful historical tour lets you enjoy the city's most famous sights. The tour starts at Prague Castle (Hradčany), registered as the biggest castle complex in the world. It established itself as the spiritual centre of the Bohemian sovereigns from the 9th century and since 1918 (foundation of Czechoslovakia) it has served as the residence of presidents. A visit to St. Vitus Cathedral is included. The tour then follows the “Royal Route”, the former promenade of kings and part of the official coronation by foot. Winding down to the Lesser Town where you will cross the famous Charles Bridge and continue to discover remarkable monuments in the Old Town area. This remarkable journey ends in front of the Old Town City Hall with its extraordinary astronomical clock.

Please kindly note THIS IS A WALKING TOUR!

- 39,- EUR per person
- 4 hours (13:00 – 17:00)
- June 22, 2015
- Accompanying person guided tour: June 24 & June 30 (9:00 – 13:00)
- Including A/C coach transfer to the Prague Castle and then from the city centre to the Prague Congress Centre, English speaking guide.

Old Town & Jewish Quarter

This insightful historical tour of the Old Town of Prague lets you enjoy the city's most famous sights such as the Powder Tower, the Estate Theatre, the Charles University, the Old Town Square, the Jewish Quarter and other sights. You will discover the astonishing history of the Jewish community in Prague, which can be traced back to the middle of the 10th century. Miraculously many outstanding monuments have remained intact through WWII. The visit includes the Jewish Museum located in Prague Synagogues and Old Jewish Cemetery.

- 50,- EUR per person
- 4 hours (9:00 – 13:00)
- July 1, 2015
- Including A/C coach transfer to/from the city centre to the Prague Congress Centre, English speaking guide, admission ticket to Jewish Museum, Cemetery.

Cruise on the River Vltava with Dinner

This tour offers the opportunity to explore enchanted Prague from the deck of a boat. The river cruise allows you to discover some of the city’s major monuments and sights, while relaxing over dinner or a drink and listening to music or dancing. During the dinner on the boat which is served buffet-style you can admire the illuminated sights of Prague passing the Charles Bridge, the Castle district (Hradčany), the National Theatre, the Vyšehrad Castle etc.

- 56,- EUR per person
- 3 hours (19:00 – 22:00)
- June 25, June 27, June 29, 2015
- Price includes entrance fee, dinner incl. welcome drink, all other drinks must be purchased separately, music (transportation from/to boat is NOT included).
Prague Castle in Detail

The Prague Castle, an ancient symbol of the Czech lands, is the most significant Czech monument and one of the most important cultural institutions in the Czech Republic. The Prague Castle was most likely founded in around 880 by Prince Bořivoj of the Přemysl Dynasty (Přemyslovci). According to the Guinness Book of World Records, the Prague Castle is the largest coherent castle complex in the world, with an area of almost 70,000 sqm. A UNESCO World Heritage site, it consists of a large-scale composition of palaces and ecclesiastical buildings of various architectural styles, from Roman-style buildings from the 10th century through to Gothic modifications in the 14th century. The famous Slovenian architect Josip Plečnik was responsible for extensive renovations in the time of the First Republic (1918 – 1938). Since the Velvet Revolution, the Prague Castle has undergone significant and on-going repairs and reconstructions.

A visit includes: The Old Royal Palace, Golden Lane, Basilica of St. Georg, and St. Vitus Cathedral. The tour then follows the “Royal Route”, the former promenade of kings and part of the official coronation by foot. Tour ends at the Lesser Town (close to Malostranska Metro station) after the winding stairs down from Prague Castle.

Please kindly note THIS IS A WALKING TOUR!

- 49,- EUR per person
  incl. Prague Castle – Old Royal Palace, St. Vitus Cathedral, Golden lane
- 4 hours (13:00 – 17:00)
- June 25, 2015
- Including A/C coach transfer to/from the city centre to the Prague Congress Centre, English speaking guide, Admission ticket to Prague Castle.

One Day Guided Tours

Karlštejn & Glass Factory

During your visit to Prague you should not miss the large Gothic castle founded in the 14th century by Charles IV, King of Bohemia and Holy Roman Emperor. Karlštejn served as a place for safekeeping the Empire coronation jewels, holy relics and other royal treasures. Located about 35 km southwest of Prague in the Karlštejn village, it is one of the most famous and heavily visited castles in the Czech Republic.

The visit of the castle is also connected with visit of the Glass factory in Nízbor, where traditional Czech glass is produced.

- 80,- EUR per person
- 8.5 hours (8:30 – 17:00)
- June 28, 2015
- Including A/C coach transportation, English speaking guide and entrance fees to the Karlštejn castle and Glass Factory and a 3-course lunch incl. 1 drink.
Field Trips

The following Field Trips are optional, not included in the registration fee and subject to availability. All Trips include informative English speaking commentary, all entry fees and meals were specified. Comfortable shoes and clothing are recommended for all Trips. All Trips are based on minimum number of participants. If minimum numbers are not reached, alternative arrangements or a complete refund will be made.

PLEASE NOTE THE MEETING POINT FOR ALL TRIPS IS 15 MINUTES PRIOR TO THE DEPARTURE TIME (SPECIFIED BELOW) AT THE REGISTRATION AREA

A4 Carboniferous Rhyo-Dacitic Calderas in Czech/German Border Region
Tuesday, June 23 – Thursday, June 25.
Departure: 7:40 / Arrival: 19:00.

Central Europe experienced periods of intense volcanic activity in the Late Paleozoic post-dating the Variscan Orogeny. The excursion will visit two rhyodacitic calderas from the Late Paleozoic age, Döhlen Basin with volcanosedimentary succession and two volcanic complexes in Saxony. The Döhlen Basin is a Permian basin controlled by the NW-SE-trending Elbe Lineament. The Early Permian North Saxonian Volcanic Province is the largest outcrop of Late Paleozoic volcanics in Central Europe and it is dominated by extended welded ignimbrites with two pyroxenes and signs of magma mingling. Tharandt Forest Caldera (TFC) and the Altenberg-Teplice Volcanic Complex (ATVC) formed 310 – 326 million years ago; the ATVC hosts Sn, Li deposits, active hydrothermal systems and since the 11th century, also famous for its spas. The trip will include visits to Medieval Meissen and Freiberg towns and to a unique petrified forest in Chemnitz buried by phreatomagmatic pyroclastic deposits 290 Ma ago.

B1 Czech Hydrometeorological Institute
Wednesday, June 24. Departure: 14:00 / Arrival: 16:30.
Tuesday, June 30. Departure: 14:00 / Arrival: 16:30.

We will visit the National Weather Forecast Centre in Komorany (surrounding area of Prague) with short presentations about the basic principles of weather forecasting, use of the ALADIN model for climate projections, forecasting of hydrological conditions during extreme events and the air quality warning system, practical demonstrations of weather forecasting and interactive discussion with Q&As.

B2 Flood History of Prague

The city of Prague was established at the ford on the Vltava River. Floods and their consequences have affected the development of old Prague from at least the 12th century. The Charles Bridge, sculpture of the Bearded man and historical flood marks witness the impacts of floods on the development of the city center. The walking tour, guided by hydrologists of CHMI, provides information about major floods including August 2002 (500y floods).

B3 Klementinum
Sunday, June 28. Departure: 14:00 / Arrival: 17:00.

A visit to the Klementinum (Klementinum in Czech), a historic complex of buildings in down-town Prague. Its history dates back from the existence of a chapel dedicated to Saint Clement in the 11th Century. The Dominican Monastery was founded here in the medieval period and transformed in 1556 to a Jesuit college. In 1654 the whole complex merged with Charles University. The Jesuits remained until 1773, when the Klementinum was established as an observatory, library, and University by the Empress Maria Theresa of Austria. The Astronomical Tower was erected with the completion of the unique Baroque library and of the Mirror Chapel. The tower was used for astronomical observations till the late 1930s, when astronomers moved out of Prague to the new observatory in Ondrejov. The Meteorological Observatory is the oldest
measuring station in the Czech Republic, where the first regular meteorological measurements started in 1752 and have been continuing until now. The commemorative plaque of Croatian seismologist Andria Mohorović in the Clementinum was festively revealed on September 23, 2011.

**B4 Astronomical Institute and the Geodetic Observatory Pecný in Ondřejov**

**Sunday, June 28. Departure: 9:00 / Arrival: 18:00.**

Both of the institutions are located about 35 km south-east of Prague near the village of Ondrejov at an altitude of about 500 m, away from the air and light pollution of urban Prague.

The Astronomical Observatory in Ondrejov was built in 1898 by the Czech amateur astronomer Josef Jan Fric and donated to the Czech state on October 28, 1928 to celebrate the 10th anniversary of its independence. The Astronomical Institute has been responsible, amongst other scientific achievements, for the discovery of numerous asteroids; more recent works include the examination of the trajectory and origin of the Chelyabinsk meteor.

The Geodetic Observatory Pecný is part of the Department of Geodesy and Geodynamics of the Research Institute of Geodesy, Cartography and Topography. It contributes to scientific services and projects of the IAG, especially IGS, EUREF/EPN, ICET, BGI, IDS, IGFS and participates in several international EU projects. The Geodetic Observatory Pecný is responsible for operation of all observing facilities (including data collection, archiving and dissemination), in particular GPS, GLONASS, Galileo and JAXA receivers; water vapor radiometer, tidal, superconducting and absolute gravimeters; meteorological sensors, seismometer, and other instruments.

The programme of the trip includes a visit of the nearby Komorní Hradek Castle.

**B5 Paleontological Treasures in Lower-Paleozoic Marine Sediments in Barrandian**

**Saturday June 27. Departure: 9:00 / Arrival: 18:00.**

The Barrandian is famous for the first GSSP being established at locality. The limestone of the Bohemian karst area has been quarried for a long time and used in numerous construction projects. We will see and compare natural and man-made landscapes and follow the history of quarrying in the Sv. Jan pod Skalou (Saint John) area where we will see the incised meanders of the Lodenice river. The meanders were formed by down-cutting during the eustatic uplift of the Bohemian Massif during Cenozoic.

**C2 Permian, Miocene and Pliocene Mafic Monogenetic Volcanism in the Bohemian Paradise**

**Thursday, July 2 – Friday, July 3. Departure: 8:00 / Arrival: 19:00.**

The picturesque landscape of the Bohemian Paradise in northeast Czech Republic inspired many romantic writers and painters. The landscape is built on Cretaceous marine sediments with famous rock-towns created by erosion in sandstones, but the area is dominated by erosional remnants of monogenetic volcanoes. During the trip, remnants of Miocene pyroclastic cones and their feeder systems will be investigated as well as exposures in pyroclastic sequences of Permian mafic monogenetic volcanism. The trip will lead to Trosky castle built upon remnant of a scoria cone as well as to the Zebin tuff cone remnant. We will also visit historical town of Jicin – great inspiration for fairytale-writers and Nova Paka brewery. The Permian volcanic rocks host various types of gems, with best samples displayed in the Nova Paka treasures house.
C7 Variscan Plutonism of the Bohemian Massif (Joint Trip IAVCEI and Eurogranites)

Friday, July 3 – Wednesday, July 8. Departure: 8:00 / Arrival: 19:00.

The Bohemian Massif is a large relict of the crystalline basement at the eastern extremity of the Variscan orogen in Europe. During the field trip, we shall see a uniquely preserved sequence of magmatic and metamorphic rocks ranging from Late Devonian/Early Carboniferous subduction-related magmatism to Variscan continental collision and metamorphic climax and Serpukhovian large-scale crustal anatexis. One day will be dedicated to HP granulites from the orogen’s root and their relation to the ultrapotassic plutons. Also, the rich cultural heritage of southern-central Bohemia will not be neglected. Starting in Prague, a medieval gem of Central Europe, we visit the historical towns of Cesky Krumlov and Telc.

More information about the trip available on the external website – eurogranites2015.cz
Awards

IUGG Awards

IUGG Earlier Career Scientist Awards, IUGG Silver Medals to elected Union Fellows, and the IUGG Gold Medal will be presented to the winners at the Opening Ceremony of the 26th IUGG General Assembly in Prague, Czech Republic, on June 23, 2015.

The conferred Union Fellows will receive a certificate of IUGG honorary membership (fellowship) and a Fellow pin at the Closing Ceremony of the 26th IUGG General Assembly in Prague, Czech Republic, on July 1, 2015.

IUGG Gold Medalist

Sir Brian J. Hoskins (UK)

The IUGG Gold Medal is bestowed on Sir Brian J. Hoskins (the Imperial College of London and the University of Reading, the United Kingdom) for “his scientific contributions that have been pioneering and profound in almost all aspects of the atmospheric and climatological sciences, with strong linkages to IUGG and its Associations”, in the words of the jury’s citation.

Early Career Scientist Awardees

Ruiqiang Ding
(China)

Ben Kravitz
(USA)

Andreas Fichtner
(Switzerland)

Ben Marzeion
(Austria)

Gregory Foltz
(USA)

Ilona Riipinen
(Sweden/USA/Finland)

Markus Hrachowitz
(Netherlands)

Johanna Salminen
(Finland)

Matthias Huss
(Switzerland)

Futoshi Takahashi
(Japan)
IUGG Honorary Members (elected Fellows)

John Burrows, Germany
The Honorary Membership is bestowed on him for accomplishing a sustained series of innovations, which are essential for the global monitoring of atmospheric constituents and his sustained leadership efforts in voluntary international cooperation.

Prof. Xiaofei Chen, China
The Honorary Membership is bestowed on him for his significant contributions to the studies of seismic wave propagation, earthquake rupture dynamics and strong ground motion prediction and for his service to the seismological community.

Andrea Flossmann, France
The Honorary Membership is bestowed on her for her outstanding reputation as a top scientist in clouds and precipitation physics studies and of her achievements in leading the community and teaching the young generations of students.

Sophie Godin-Beekmann, France
The Honorary Membership is bestowed on her for her outstanding contributions to long-term monitoring of the ozone layer and to our understanding of its evolution in the Earth’s atmosphere and for her service to the community.

H. Gerald Jones, Canada
The Honorary Membership is bestowed on him for his pioneering contributions to the crosscutting field of snow ecology and for his relentless work towards the establishment of an International Association of Cryospheric Sciences within IUGG.

Jianping Li, China
The Honorary Membership is bestowed on him for his contribution to climate dynamics and climate prediction and his active promotion of international scientific cooperation in Earth sciences.

IUGG Honorary Members (conferred Fellows)

Robin Adams, UK IASPEI
Ian Allison, Australia IACS
Ole Bedsted Andersen, Denmark IUGG
Shigeyuki Aramaki, Japan IAVCEI
Attila A. Ashour, Egypt IUGG
Arthur Askins, Switzerland IAHS
Georges Balmino, France IUGG
Charles Barton, Australia IAGA
Gerhard Beutler, Switzerland IAG
Claude Boucher, France IAG
Fred E. Camfield, USA IAPSO
Junyoung Chen, China IUGG
Yun Tai Chen, China IUGG
Henny Colebrander, The Netherlands IAHS
How C. Davies, Switzerland IAMAS
Jean-Claude de Bremaecker, USA IASPEI
Robert A. Duce, USA IAMAS
E. R. Engdahl, USA IASPEI
Sergei A. Fedotov, Russia IAVCEI
Egil Friis-Christensen, Denmark IAGA
Claude Froidevaux, France IASPEI
Paolo Gasparini, Italy IAVCEI
V.K. Gaur, India IUGG
Soren Gregersen, Denmark IUGG
Erwin Groten, Germany IUGG
Michael J. Hamlin, UK IAVCEI
Grant Heiken, USA IAVCEI
Brian J. Hoskins, UK IAMAS
Bengt Hultqvist, Sweden IAGA
Shiro Imawaki, Japan IAPSO
David J. Jackson, USA IUGG
R. Wally Johnson, Australia IAVCEI
Jo Ann Joselyn, USA IUGG; IAMAS
Georg Kaser, Austria IAMAS
Brian L.N. Kennett, Australia IUGG; IAMAS
David J. Kerridge, UK IAGA
Masaru Kono, Japan IUGG, IAMAS
Herbert W. Kroehl, USA IAGA
Michael Kuhn, Austria IAMAS
Manfred Lange, Cyprus IACS
Roland List, Canada IAMAS
Michel Louis, France IAG
Michael C. MacCracken, USA IAMAS
Paola Malanotte-Rizzoli, USA IAPSO
Gordon McBean, Canada IUGG
Stephen R. McNutt, USA IAVCEI
Helmut Moritz, Austria IUGG; IAG
Ivan I. Mueller, USA IAG
Robin D. Muench, USA IAPSO
Lawrence Mysak, Canada IAPSO
Setsuya Nakada, Japan IAVCEI
Oded Navon, Israel IAVCEI
Alexei V. Nikolaev, Russia IASPEI
James J. O’Brien, USA IAPSO
Patrick Pinet, France IUGG
John C. Rodda IAHS
Juan G. Roederer, USA IAGA
Fernando Sanso, Italy IAG
Hans-Ulrich Schmincke, Germany IAVCEI
Uri Shamir, Israel IUGG, IAHS
L. Vreven Shannon, IAPSO
Jozsef Somogyi, Hungary IUGG
Steve J. Sparks, UK IAVCEI
A. F. Spilhaus, USA IUGG
Kiyoshi Sugetoh, Japan IUGG
Kuniyoshi Takeuchi, Japan IAHS
A.A.A. Tealeb, Egypt IAMAS
Wolfgang Torge, Germany IAHS
Seiya Uyeda, Japan IUGG
Juan F. Villas, Argentina IAMAS
Guoxiong Wu, China IAMAS
Zhongliang Wu, China IASPEI
Peter J. Wyllie, USA IUGG
Gordon Young, Canada IAHS
IACS Awards

Early Career Scientist Prize

Dr. Mathieu Morlighem (USA)

The winner of the International Association of Cryospheric Sciences (IACS) 2015 Early Career Scientist Prize, the inaugural award, is Dr Mathieu Morlighem, Assistant Professor at University of California Irvine, USA. The objective of the prize is to recognise excellence in cryospheric science by honouring and promoting someone in the early-stages of her or his career and to draw attention to the work of IACS. The 2015 Prize will be formally “presented” during the IACS Plenary Administrative Session on 26 June 2015 during the XXVI IUGG General Assembly in Prague.

The 2015 Prize was awarded to Dr Morlighem for his paper *Deeply incised submarine glacial valleys beneath the Greenland Ice Sheet* (M. Morlighem, E. Rignot, J. Mouginot, H. Seroussi, and E. Larour. Nature Geoscience, 7(6):418 – 422, June 2014). In this paper, Dr Morlighem and his colleagues use high resolution satellite measurements of surface elevation and surface ice velocity, plus an ice-mass conservation optimization scheme, to infer ice thickness and bed topography along the periphery of the Greenland ice sheet where the ice is sliding on its base.

The Prize will be awarded again in 2016.

IAG Awards

IAG Levallois Medal

Reinhard Rummel (Germany)

The Medal is awarded in recognition of his distinguished service to the Association and to the science of geodesy in general. He served as Commission Secretary from 1991 to 1995 and as Commission President from 1995 to 1999 and he is the scientific key person in the satellite mission “Gravity Field and Steady-State Ocean Circulation Explorer” (GOCE) launched in 2009.

IAG Bomford Prize

Yoshiyuki Tanaka (Japan)

The Prize is awarded to a young scientist, under 40 years of age, for his outstanding theoretical and applied contributions to geodetic studies in the recent four year period, in particular in the field of geodynamics, regional tectonics and glacial isostatic adjustment. His work has opened new interdisciplinary research areas between modern geodesy and seismology.

IAG Young Authors Award 2013

Krzysztof Sośnica (Switzerland)

The Award is granted for his article “Impact of loading displacements on SLR-derived parameters and on the consistency between GNSS and SLR results”, elected as the best publication of a young author, not older than 35 years, in IAG’s Journal of Geodesy 2013.

IAG Young Authors Award 2014

Álvaro Santamaría-Gómez (France)

The Award is granted for his article “Long-term vertical land motion from double-differenced tide gauge and satellite altimetry data”, elected as the best publication of a young author, not older than 35 years, in IAG’s Journal of Geodesy 2014.
IAGA Awards

IAGA Awards will be presented during the IAGA Dinner on Sunday, June 28, 8 p.m..

Shen Kuo Award for Interdisciplinary Achievements

Dan Baker (USA)

Daniel Baker is the Director of the Laboratory for Atmospheric and Space Physics at the University of Colorado-Boulder and is also the distinguished Professor of Planetary and Space Physics, the Professor of Astrophysical and Planetary Sciences and the Professor of Physics. His primary research interest is the study of plasma physical and energetic particle phenomena in planetary magnetospheres and in the Earth’s vicinity. He conducts research in space instrument design, space physics data analysis, and magnetospheric modeling. Dr. Baker is a Fellow of the American Geophysical Union (AGU), the International Academy of Astronautics (IAS), the American Institute of Aeronautics and Astronautics (AIAA), the American Association for the Advancement of Science (AAAS) and the National Academy of Engineering. He has received numerous awards in recognition of his achievements. He has also chaired numerous important panels dealing with various facets of solar-terrestrial physics and space weather. He has served as U.S. delegate to IAGA, as a member of the IAGA Executive Committee, and Chaired the IGY+50 Task Force for IAGA. Dr. Baker’s lifetime research has focused on the physics of energetic particles in the narrowest sense and on solar-planetary coupling from the broadest perspective. Most of his research has involved the interpretation of satellite-based electric field, magnetic field, and particle data, often involving multiple satellites providing linkages between the Sun and the plasma particle population of interest.

IAGA Long Service Award

Hans-Joachim Linthe (Germany)
John Riddick (U.K.)

Young Scientist Award

Erin Dawkins (U.K.)
Maria Mendakiewicz (Poland)
Israel Silber (Israel)
Rémi Thiéblemont (Germany)

IAHS Awards

2015 International Hydrology Prize

The International Hydrology Prize is awarded annually by IAHS, with UNESCO and WMO, to two people who have made an outstanding contribution to hydrological science. Nominations for the Prize are made by National Committees to IAHS, National Committees to the UNESCO-IHP or National Hydrological Advisors to the WMO, and forwarded to the Secretary General of IAHS for consideration by the Nomination Committee. The Committee consists of the President and a Vice-President of IAHS and representatives of UNESCO and WMO.

As of 2014, two medals will be awarded under the International Hydrology Prize: the Dooge medal and the Volker medal. Both medals are intended to distinguish outstanding achievements by hydrological scientists but with a different focus. The **Dooge medal** is aimed at fundamental contributions to the science of hydrology, whereas the **Volker medal** is aimed at outstanding applications of hydrological science for the benefit of society at large.

IHP Dooge Medal

Mary Hill (USA)

IHP VOLKER MEDAL

Pierre Hubert (France)

2015 Tison Award

The IAHS Tison Award, established in 1982, aims to promote excellence in research by young hydrologists. The Award will be granted for an outstanding paper published by IAHS in a period of two years previous to the deadline for nominations.

Antonino Maltese and Fulvio Capodici (Italy)
IAMAS Awards

2015 IAMAS Early Career Scientist Medal

Yuan Wang (USA)

The IAMAS Early Career Scientist Medal is presented to an early career scientist working in any area of the atmospheric sciences who has carried out excellent scientific research and who has the potential to make a significant contribution in the future. The IAMAS Early Career Scientist Medal Award Committee received 10 nominations for the 2015 medal and unanimously decided to award it to Dr. Yuan Wang, a Post-Doctoral Research Associate at the Jet Propulsion Laboratory, California Institute of Technology for his seminal contributions in elucidating the role of natural and man-derived atmospheric particles in air quality, atmospheric dynamics and climate.

The Award Committee consists of IAMAS Bureau members and Members at Large, and is chaired by IAMAS Vice President Prof. John Turner. Dr. Wang will receive an inscribed medal and a certificate signed by the IAMAS President and Secretary-General.

IAPSO Awards

IAPSO 2015 Prince Albert I Medalist

Professor Toshio Yamagata (Japan)

The Prince Albert I Medal is awarded to Emeritus Professor Toshio Yamagata (the University of Tokyo and Japan Agency for Marine-Earth Science and Technology (JAMSTEC), ‘For his ground-breaking work and exceptional contribution to our understanding of El Niño/Southern Oscillation and the newly discovered Indian Ocean Dipole’. The Award ceremony led by Professor Eugene Morozov, President of IAPSO, will take place on June 29, at 8:30 after which Prof. Yamagata will give the Albert I Memorial Lecture.

IASPEI Awards

The award of a IASPEI medal was decided during the General Assembly in Melbourne and will be assigned at the IASPEI Opening Plenary in Prague.

The IASPEI medal is awarded for merits in seismology: for sustaining IASPEI goals and activities and for scientific merits in the field of seismology and physics of the earth’s interior.

The IASPEI Bureau is in charge of taking the decision about who will be the recipient.

Nominations of candidates were collected this year until December 31, 2014.

The IASPEI Bureau is proud to announce that it has unanimously selected William H. K. Lee as the IASPEI medal recipient.

IASPEI Medal 2015

International Cooperation for a Better Understanding of the Earth

William H. K. Lee (USA)

Awarding the 2015 IASPEI Medal to Dr. William H. K. (Willie) Lee, Emeritus Scientist U. S. Geological Survey, recognises a career of leadership in seismology and study of physics of the earth’s interior – a career marked by a strong emphasis on international cooperation and sharing of data and procedures and marked by the organisation of and significant contributions to important projects that are specifically identified with IASPEI.
## Business Meetings Overview

### IUGG meetings

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<td>09:00-12:00</td>
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<td>Meeting Hall II</td>
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<tr>
<td>Wed, June 24</td>
<td>14:00-18:00</td>
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<td>Thu, June 25</td>
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<tr>
<td>Fri, June 26</td>
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### IACS meetings

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## IAGA meetings

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### IASPEI meetings

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### IAVCEI meetings

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### IAHS meetings

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### Other meetings

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Special Sessions Overview

Monday, June 29

IAVCEI, UNESCO, IUGS 18:00 – 19:30, Terrace 1

Panel Discussion 1

**PD1 Protected Volcanic Areas and Volcanological Heritage**

*Moderators: Joan Marti (Barcelona, Spain), Karoly Nemeth (Palmerston North, New Zealand)*

Spectacular volcanic landscapes and regions are becoming increasingly recognised as critical areas to protect and conserve for the unique geoscientific aspects they represent and as places to enjoy and learn about the science and history of our planet. There is an increasing national and international interest related to “Geoheritage”, “Geoconservation”, “Geoparks” and “Geotourism” becoming this a general perception of modern Earth sciences and volcanology in particular. Most notably, “Geoparks”, in particular those with active volcanoes, attract an increasing number of visitors everyday and have proven to be excellent tools to educate the public about “Earth Sciences”, and the time that most of them have demonstrated to be areas for recreation and significant sustainable economic development through geotourism. However, due to the increasing interest on these geological sites, they also demand increasing scientific knowledge to guaranty the best dissemination of their values but also the security of their visitors by conducting accurate hazard assessment. In order to develop further the understanding of volcanism and Earth Sciences in general and to elucidate the importance of volcanology for Society we propose this Panel Discussion and Outreach on Protected Volcanic Areas and Volcanological Heritage, aimed at encouraging an exchange of information and experiences between organisms and people managing and/or working in protected volcanic landscapes, explaining the importance of knowledge for raising awareness of volcanic landscapes at a territorial scale, and sharing knowledge and raising awareness regarding experiences in management, education and geotourism in protected volcanic landscapes. The panel discussion will develop four main themes:

- management of protected volcanic areas;
- scientific values of, and research in, protected volcanic areas,
- communicating heritage values through education and interpretation, and
- geotourism as a factor of economic and community sustainable development in protected volcanic areas.

Wednesday, June 24

IUGG, WMO 18:00 – 19:30, Terrace 1

Panel Discussion 3

**PD3 Science in Support of Climate Services**

*Moderators: Arthur Askew (Geneva, Switzerland), Tom Beer (Aspendale, Australia)*

The World Meteorological Organization (WMO) has recently launched a new initiative entitled the Global Framework for Climate Services (GFCS).

The aim of the Framework is to guide the development and application of science-based climate information and services in support of decision-making so as to enable society to better manage the risks and opportunities arising from climate variability and change, especially for those who are most vulnerable to such risks.

The challenge for the scientific community is that, while studies of climate change and its impact are widespread, far less attention is given to the science needed to support the development and provision of climate services. The purpose of the panel discussion will be for the scientific community to discuss this challenge and seek ways in which IUGG and its member Associations can best respond to it and thereby contribute to the GFCS and related activities.
Transformation of Human Society for Sustainable Future

Yuan T. Lee
Academy Sinica, Taipei, China

The train of human development is going in the wrong direction, driven chiefly by rising global population and their relentless pursuit of faster growth and more consumption. From here on, the emerging regions led by Asia will be the main drivers. How they choose to develop will largely determine the fate of our world. We must work closely with them to steer in a far more sustainable direction, by fundamentally transforming the way we think about, and go about, human development. Otherwise, what lie ahead will not be prosperity, but catastrophe.

Yuan T. Lee
Born in Taiwan in 1936, Yuan T. Lee received his B.S. degree from the National Taiwan University in 1959 and Doctorate from UC Berkeley in 1965. After working with Professor Mahan at Berkeley and Professor Herschbach at Harvard as a post-doctoral fellow, he was appointed Assistant Professor at the University of Chicago in 1968. He returned to Berkeley as Professor of Chemistry in 1974. He was University Professor and Principal Investigator at the Lawrence Berkeley Laboratory, UC Berkeley, before he returned to Taiwan to serve as the President of Academia Sinica from 1994 to 2006. He was elected President of the International Council for Science (ICSU) in 2008 and served from 2011 to 2014. He has received numerous awards and honors, including the 1986 Nobel Prize in Chemistry, the U.S. National Medal of Science, Faraday Medal from the Royal Chemical Society of Great Britain, the Jawaharlal Nehru Birth Centenary Medal from India, the Ettore Majorana-Enrico-Science for Peace Prize from the Ettore Majorana Foundation and Centre for Scientific Culture of Italy, and Kolos Prize and Medal from Poland. He has received Doctor Honoris Causa from 40 universities and is an elected member of various academies throughout the world.

Aside from his scientific interests in the elucidation of dynamics of chemical reactions and photochemical processes, he also directed much of his attention to the advancement of international scientific developments and to the promotion of general public affairs. He has served as advisory board member on numerous national and international organizations, including US Department of Energy, Welch Foundation, Chief Advisor of the Science and Technology Advisory Group to the Prime Minister of Taiwan, International Scientific Council of the Israeli-Palestinian Science Organization, Science and Technology in Society Forum, RIKEN, and Okinawa Institute of Science and Technology in Japan.

The Whole-System Approach to Extreme Space Weather

Janet U. Kozyra
National Science Foundation
on leave from University of Michigan, Department of Atmospheric, Oceanic and Space Sciences

The whole-system investigation of extreme events has emerged as an important research area in a variety of scientific disciplines. A need to understand extreme space weather motivates a similar approach. A space storm involves all major components of the Sun-Earth system – the Sun, heliosphere, magnetosphere, ionosphere and upper atmosphere, and
hydrology education offered in southern Africa adequately prepares hydrologists for the challenges they will encounter. It is not uncommon to find a newly graduated hydrologist being required to undertake hydrological assessments of the limited number of trained hydrologists is worsened by the rapid staff turnover resulting in limited mentoring of young hydrologists. It is not uncommon to find a newly graduated hydrologist being required to undertake hydrological assessments of the limited number of trained hydrologists in each country, a singly hydrologist is often expected to contribute towards the solution of a diverse range of hydrological problems. These problems range from the assessment of the available water resources in both gauged and ungauged river basins, estimation of design floods for various purposes (e.g. stormwater drainage, spillways, floodlines for land use planning), river flow forecasting and prediction, assessment of environmental flow requirements, determination of appropriate water allocation, reservoir yield analysis, formulation of policies and guidelines for water resources management. Water resources management in southern Africa is either done by a central national agency or a river basin authority. For most countries, the national agency will not have more than 5-10 trained hydrologists, while river basin authorities may have 1–2 trained hydrologists who are expected to assist in solving diverse water resources management problems. The problem of the limited number of trained hydrologists is worsened by the rapid staff turnover resulting in limited mentoring of young hydrologists. It is not uncommon to find a newly graduated hydrologist being required to undertake hydrological assessments that elsewhere would require considerable years of mentoring. The need to have trained hydrologists capable of solving diverse problems in a rapidly changing environment and with limited resources, raises the questions regarding whether the hydrology education offered in southern Africa adequately prepares hydrologists for the challenges they will encounter.

Janet U. Kozyra
Janet U. Kozyra is an Emeritus Collegiate Research Professor at the University of Michigan on a leave of absence and currently serving as Program Director for the Magnetospheric Physics Program in the Geosciences Directorate at the National Science Foundation. Over her career she has been a science team member on four different satellite missions exploring geospace and connected regions in the upper atmosphere. Her most recent scientific focus is on the web of interconnected processes that link the Sun to the upper atmosphere resulting in a rich variety of space weather effects. This interest drove her to co-chair the international Climate and Weather of the Sun-Earth System (CAWSES-II) Space Weather and Applications Panel (2002 – 2008), and the CAWSES-II e-Science and Cyber-Infrastructure Working Group (2009 – 2013). As part of this effort, she was the lead organizer of an interdisciplinary virtual conference with 270 participants from 21 different countries that was co-sponsored by NASA’s Living with a Star Program and the National Science Foundation, as well as organizing multiple international and interdisciplinary observational campaigns for the CAWSES program. Throughout her career, she participated in a variety of strategic planning committees for U.S. national programs in Solar and Space Research, including: the National Research Council decadal surveys of Solar and Space Physics in 2002 and 2012, NASA Heliophysics Roadmap subcommittees in 2002 and 2013, NASA’s “Living with a Star Targeted Research & Technology” Program Definition Team in 2003, NSF’s GeoVision Working Group in 2006 – 2008 and the NSF CEDAR New Dimensions Strategic Planning Committee in 2009. All of these resulted in strategic documents aimed at maximizing science returns from federally funded programs while moving forward on science frontiers. In addition, she served on external advisory committees for Space Weather Operations (SWO) at NOAA (2001), Los Alamos National Lab Institute of Geophysics and Planetary Physics (1999 – 2003), NSF’s Center for Integrated Space Weather Modeling (CISM) (2003 – 2012), British Antarctic Survey (2007), and the National Center for Atmospheric Research (NCAR)/High Altitude Observatory (2012). In 2013, she was elected to the Board of Trustees of the University Corporation for Atmospheric Research (UCAR), a consortium of Universities that manages NCAR, but resigned to begin work at the National Science Foundation in 2015.

Challenges of Educating Hydrologists for the Global South; the Case of southern Africa
Dominic Mazvimavi
Institute for Water Studies, University of the Western Cape

The southern Africa region has limited trained personnel in almost all fields including hydrology. Due to the limited number of hydrologists in each country, a singly hydrologist is often expected to contribute towards the solution of a diverse range of hydrological problems. These problems range from the assessment of the available water resources in both gauged and ungauged river basins, estimation of design floods for various purposes (e.g. stormwater drainage, spillways, floodlines for land use planning), river flow forecasting and prediction, assessment of environmental flow requirements, determination of appropriate water allocation, reservoir yield analysis, formulation of policies and guidelines for water resources management. Water resources management in southern Africa is either done by a central national agency or a river basin authority. For most countries, the national agency will not have more than 5-10 trained hydrologists, while river basin authorities may have 1–2 trained hydrologists who are expected to assist in solving diverse water resources management problems. The problem of the limited number of trained hydrologists is worsened by the rapid staff turnover resulting in limited mentoring of young hydrologists. It is not uncommon to find a newly graduated hydrologist being required to undertake hydrological assessments that elsewhere would require considerable years of mentoring. The need to have trained hydrologists capable of solving diverse problems in a rapidly changing environment and with limited resources, raises the questions regarding whether the hydrology education offered in southern Africa adequately prepares hydrologists for the challenges they will encounter.
Most of the practising hydrologists with undergraduate degrees obtained their training as part of their civil/irrigation engineering, geography, geology, and environmental science degree programmes. During the last 10 years, few undergraduate hydrology and water resources management programmes have been started. Very few universities offer postgraduate university programmes in hydrology in southern Africa. A considerable number of hydrologists obtained qualifications in Europe and the USA. The curriculum of the hydrology education in southern Africa tends to mirror that in Europe and the USA. The lack of national funding in most of the countries results in most of the research being based on research priorities of the external funding agencies. Thus considerable knowledge gaps exist and constrain effective water resources management. The limited research being done in parts of southern Africa has not impacted on practice in hydrology. Significant problems in the transfer and translation of knowledge exist. Consequently, practising hydrologists continue to use empirical methods developed over 40 years ago for different environmental conditions. This raises the issue of the role of hydrology education in translating research results into practice. The presentation will examine the above challenges in the education of hydrologists in southern Africa. The presentation will examine whether hydrology education in southern Africa is developing the knowledge and skills required to solve the diverse water resources management problems in the region. Suggestions for improving hydrology education in this region will also be presented.

Dominic Mazvimavi
Dominic Mazvimavi is a Professor of Water and Environmental Sciences in the Department of Earth Sciences, and the Director of the Institute for Water Studies at the University of the Western Cape in South Africa. He obtained a PhD in Hydrology from the Wageningen University and the then International Institute for Information Science and Earth Observation in the Netherlands, MSc in Hydrology from the Vrije Universiteit Brussel, Belgium. For his undergraduate studies, he majored on Geography with Botany and Zoology as minors. After completing his undergraduate studies, he worked as hydrologist for 5 years in the Ministry of Water Resources and Development in Zimbabwe. From 1991 to 1992 he was involved in reviewing and improving the hydrological monitoring system of the Zambezi River basin. Prof Mazvimavi was a member of the academic staff in the Department of Geography at the University of Zimbabwe from 1988 to 2004 teaching mainly hydrology. From 2005 to 2008 he was a Senior Researcher at the Okavango Research Institute of the University of Botswana. While at the Okavango Research Institute, Dominic Mazvimavi led a multi-disciplinary study focusing on the environmental flow assessment of the Okavango River, a transboundary river basin covering parts of Angola, Botswana and Namibia. Dominic Mazvimavi's research interests are on the assessment of water resources of ungauged river basins, analysis of hydrological time series for change, hydrological effects of land use change, and determining influences of riparian and non-riparian wetlands on hydrological responses. Prof Mazvimavi has served as a Managing Guest Editor for the Journal of the Physics and Chemistry of the Earth, Associate Editor for the International Journal of Applied Earth Observation and Geoinformation, and Hydrology and Earth System Sciences Journal. He is a founding member of Waternet, a Southern African Development Community (SADC) regional capacity building network of over 70 institutions focusing on research and training on integrated water resources management (IWRM). This network which was started in 2000 runs a regional master’s programme on IWRM.

Friday, June 26, 2015

Sea Level Change in the Anthropocene

Jonathan Gregory
University of Reading and Met Office, UK

The rate of global mean sea level rise (GMSLR) has accelerated during the last two centuries, from the order of magnitude of 0.1 mm yr⁻¹ during the late Holocene, to about 1.5 mm yr⁻¹ for 1901–1990, with ocean thermal expansion and glacier mass loss being the dominant contributors. During the last couple of decades the rate of rise has been larger, at around about 3 mm yr⁻¹, because of increased radiative forcing of climate change, and increased ice-sheet outflow induced by warming of the immediately adjacent ocean. Ocean thermal expansion is the largest contributor to projections of GMSLR during the 21st century. For a given scenario, the range of projections for this component relates to uncertainty in simulating the processes of heat uptake into the ocean interior. Climate models also exhibit substantial disagreement in the geographical pattern of sea level change due to ocean density and circulation change. Larger uncertainty in projections of GMSLR comes from the land-ice contributions, especially ice-sheet dynamical change. These contributions also lead to substantial uncertainty in regional sea-level change projections, through their effect on gravity and the solid Earth. Until the middle of the 21st century, projections of GMSLR under various scenarios of greenhouse-gas emissions have a small spread, because of the time-integrating characteristic of GMSLR. However by 2100 the rate of GMSLR for a scenario of high emissions could approach the average rates that occurred during the last deglaciation, whereas for a strong emissions mitigation scenario
it could stabilise at rates similar to those of the early 21st century. In either case, GMSLR will continue for many subsequent centuries, because of the long timescales of ice-sheet change and deep-ocean warming, and could be partly irreversible.

Jonathan Gregory

Jonathan Gregory joined the Met Office Hadley Centre soon after it opened in 1990, following a PhD in particle physics and a year at the Climatic Research Unit of the University of East Anglia. He is presently a senior climate research scientist of the National Centre for Atmospheric Science at the University of Reading, a professor in the Department of Meteorology, and a Met Office Fellow in climate change research at the Hadley Centre. He was a coordinating lead author of the sea level chapter of the Third Assessment Report of Working Group I of the Intergovernmental Panel on Climate Change, a lead author of the ocean observations and projections chapters of the Fourth Assessment Report, and a lead author of sea level chapter of the Fifth Assessment Report. In 2009 he was awarded an Advanced Grant by the European Research Council for research on sea-level change. His recent interests also include climate sensitivity and radiative forcing, land ice response to past and future climate change, ocean heat uptake and changes in the Atlantic Ocean meridional overturning circulation.

Earthquake Dynamics and Seismic Radiation

Raul Madariaga

ENS, Paris, France

In the 1960s, kinematic models of earthquakes were proposed based on observations of seismic radiation and directivity. Almost simultaneously Kostrov and others developed earthquake models based on fracture mechanics and the state of stress on faults. The synthesis of both approaches is the radiation model proposed by Brune in 1970, which showed that far field spectra had several universal properties. The low and high frequency properties of Brune’s model were well explained by the properties of seismic radiation from fracture dynamic.

An equivalent model does not exist for near field records. These are most often modelled as kinematic ruptures that do not satisfy mechanical constraints like conservation of energy, finite stress drops, etc. An alternative approach to properly model near field records is to model them with dynamic fracture models that are simple and robust. Fitting observations with dynamic models is a very non-linear problem that can only be solved with advanced inversion techniques. These are expensive but quite accessible for modern parallel computers. As it is well known dynamic inversion is not unique, but extreme models can be inverted from a set of observed seismograms. These inversions show that events of different origins: intermediate depth, shallow strike slip and subduction zones share many common features and that as proposed by Aki, they statistically satisfy rather simple scaling laws. The most important from the point of view of dynamics is that energy release rate scales with earthquake size. A similar model may explain some slow earthquakes, events whose rupture velocity has not reached speeds comparable to that of seismic waves.

Comparing the spectra of observed and modelled spectra we find the central part of the synthetic spectra reproduce very well the observed ones with many characteristics that recall Brune’s spectra. Corner frequency varies from station to station depending on the ratio of available to fracture energy (kappa). The challenge now is to produce dynamic models that satisfy observations in the high frequency range where waves present significant complexity. To be presented to the 2015 IUGG meeting in Prague.

Raul Madariaga

Raul Ivan Madariaga is professor emeritus in the Department of Geosciences of Ecole Normale Superieure de Paris. He obtained a degree of Civil engineering from the University of Chile in 1967 and a PhD in geophysics from the Massachusetts Institute of Technology in 1972. After a brief stay at the University of Chile from 1971 – 1973, he became a researcher at MIT’s Earth and Planetary Sciences from 1974 – 1977. In 1977 he moved to France where he became a professor of Geophysics at the University Paris 7 and the Institut de Physique du Globe (IPGP). In 1998 he moved as a distinguished professor at Ecole Normale Superieure (ENS), where he is still working. In France he was the head of the Seismological laboratory of IPGP from 1985 to 1996 and at ENS he chaired the Geology Laboratory from 2000 to 2006. Raul became a Fellow of the American Geophysical Union (1991) and the Senior Member of the Institut Universitaire de France (1993 – 1998). He received several awards, among them the Prix Antoine D’Abbadié de l’Académie des Sciences (1992), Grand medal of the Rectorate of the University of Chile in Santiago (1998), Stephan Mueller Medal of the European Geophysical Society (1999) and, finally, the Harry F. Reid Medal of the Seismological Society of America (2004).

Volcanic Ash and Aviation Safety

Thomas J. Casadevall
U.S. Geological Survey, Denver, Colorado, USA

Since the early 1980s, jet-powered aircraft have experienced more than 140 damaging encounters while flying through clouds of volcanic ash from explosively erupting volcanoes. Each year, from 6 to 12 volcanic eruptions inject volcanic ash and associated gases into the upper atmosphere (>30,000 feet) where jet-powered aircraft fly. More than a dozen of these encounters have involved temporary in-flight loss of engine power. Total damage costs to aircraft from more than 30 years of encounters have totaled more than $200 million US dollars. In addition to in-flight damages, economic losses due to flight delays and cancellations, re-routing of flights, and airport closures from volcanic ash has exceeded $2 billion dollars, most of which was due to the April-May 2010 eruptions of Eyjafjallajökull volcano, Iceland.

To mitigate the hazard presented by volcanic ash the international volcanological, aeronautical, and meteorological communities have worked together to ensure continued safety of flight. Since the late 1980s, several international coordination bodies including the International Civil Aviation Organization, the World Meteorological Organization, the World Organization of Volcano Observatories, the Airline Pilots Association, and the International Air Transport Association, as well as a large number of regional and national aviation organizations have worked together to improve the detection, tracking, and coordination of information about volcanic eruptions to minimize the effects of explosive volcanic eruptions to air traffic on a global scale.

In addition to the improved coordination and communication about volcanic activity, there has been increased training of pilots and air traffic coordinating bodies to make them aware of the ash hazard and how to react in the event of an encounter. The global aeronautical and volcanological communities continue to look at multiple efforts to improve air safety and minimize the effects of volcanic ash on safe air travel. Following the eruption of Eyjafjallajökull volcano in April-May 2010, there has been increased effort to determine the dosage (concentration and exposure time) of volcanic ash which can damage aircraft. These efforts also include the development and installation of on-board, in-flight ash detection devices, to improvements in remote sensing of volcanic activity and ash cloud generation and movement, to improvements in computer modeling of ash transport and dispersion.

Thomas J. Casadevall

Tom Casadevall is a Scientist Emeritus with the U.S. Geological Survey in Denver, Colorado. His scientific interests focus on active volcanism and the related hazards to people and aviation operations, and on Geologic Heritage with an emphasis on Protected Volcanic Landscapes. From 1996 through 2008, Tom served in the Office of the Director, USGS. From 1978 to 1996, he worked as a geologist with the USGS Volcano Hazards Program, stationed at the Hawaiian Volcano Observatory, the Cascades Volcano Observatory, and in Denver, Colorado. From 1985 through 1988 he was Advisory Volcanologist to the Volcanological Survey of Indonesia and resided in Java, Indonesia. As past-chief of the project on Volcanic Hazards and Aviation Safety, he coordinated USGS activities with other Federal agencies and non-governmental groups in the area of aviation safety. He was instrumental in organizing the First International Symposium on Volcanic Ash and Aviation Safety, held in 1991, which was recognized by the aviation industry as the first coordinated exchange of information on the threat that volcanoes poses to air safety. In 1977 – 1978 he was a faculty member of the Escuela Politecnica Nacional in Quito, Ecuador. In 1976 he was a National Research Council post-doctoral research fellow with the USGS. From 1969 to 1972, he worked for in the mineral exploration industry as a geologist exploring for base metals in the western United States and in 1974 he worked as a production geologist in the Sunnyside gold mine, Silverton, Colorado. He currently serves as the past-Chair of the U.S. National Committee of the International Union of Geological Sciences (IUGS). His honors and awards include the Department of the Interior’s Superior Service Award in 1994 and Meritorious Service Award in 2000; the 2006 Service to America Citizen Award; in 2006 he was awarded the Meritorious Presidential Rank Award. Dr. Casadevall holds a Bachelor of Arts degree (1969) in Geology from Beloit College, Wisconsin; he earned a Master of Arts degree (1974) in Geology and a Ph.D. (1976) in Geochemistry from the Pennsylvania State University.
 Contributions of Geodesy to Monitoring Natural Hazards and Global Change

Harald Schuh
GFZ, Potsdam, Germany

The definition and realization of precise and stable reference frames play an important role in modern geodesy, as they are required when we want to monitor changes on the Earth such as plate tectonics or global sea level rise. An overview of the various natural hazards and global change phenomena that can be observed by geodetic techniques will be given. Depending on the spatial scale, various types of measurements can be used, from space geodetic techniques such as GNSS (Global Navigation Satellite Systems), SLR (Satellite Laser Ranging), VLBI (Very Long Baseline Interferometry), and DORIS (Doppler Orbitography and Radiopositioning Integrated by Satellite), to local measurements by geodetic surveying instruments. All these techniques are combined in GGOS, the Global Geodetic Observing System of the IAG (International Association of Geodesy), and the concept of this integrative enterprise will be described. Case studies will be presented that document the essential role of precise geodetic data, accurate analysis methods, and realistic mathematical and physical models.

Harald Schuh
Prof. Dr. Dr. h.c. Harald Schuh is the elected Vice-President of the International Association of Geodesy (IAG), Past President of the IAU commission 19 “Rotation of the Earth”, and was the Chair of the International VLBI Service for Geodesy and Astrometry (IVS) from 2007 to 2013. He has engaged in space geodetic research for more than 30 years with special focus on VLBI (Very Long Baseline Interferometry) and Earth rotation. Since 2012, he is the Director of Department 1 “Geodesy and Remote Sensing” at GFZ German Research Centre for Geosciences in Potsdam, Germany, and professor for “Satellite Geodesy” at the Technical University Berlin. Harald Schuh is author or co-author of about 350 publications and editor of more than one dozen of scientific books and proceedings with the main subjects VLBI, Earth rotation, geodynamics, geodetic reference frames, troposphere, and ionosphere.

Atmospheric Chemistry in the Anthropocene

Laura Gallardo
University of Chile

The anthropocene poses new challenges to the atmospheric chemistry community. There are challenges linked to the fundamental understanding of processes, to the development and maintenance of observational instruments and systems (including models), and to the complexities of the intricate interactions among the climate system components, including human activities. For instance: how do carbonaceous aerosols evolve in the atmosphere becoming more or less absorbing or hydrophilic?; how will our warming planet alter the distribution of ozone and consequently the oxidative capacity of the atmosphere?; how important are halogens for tropospheric ozone in coastal cities?; how do we best observe the changing chemistry of the Earth’s atmosphere?, etc. Such challenges may be considered “old” as they reflect the endeavor of science and research. However, they occur in a fast changing world, under increasing pressure for finding answers and solutions, which leads to stresses regarding science organization and funding. But also to opportunities to explore new perspectives, involve new people, particularly in the developing world, and finding new paradigms. In this presentation, I will illustrate these issues addressing current challenges in the over and around the South Pacific Ocean.

Laura Gallardo
Laura Gallardo is an Associate Professor at the Geophysics Department (DGF), University of Chile, and she is the Director for the Center of Excellence for Climate and Resilience Research. She got a PhD in Chemical Meteorology at Stockholm University (MISU) in 1996 working on lightning and emissions of oxidized nitrogen under the guidance of Prof. Henning Rodhe. She returned to her home land Chile in 1997 where she worked as an expert advisor for National Commission for the Environment (now Ministry for the Environment) between 1997 and 2001, leading the first regional scale dispersion modeling studies, with emphasis on oxidized sulfur from copper smelting. In early 2002 she got a researcher position at the Center for Mathematical Modeling (CMM), where she begun studies on inverse modeling applications for constraining city-scale emission inventories, data assimilation and optimal network design. In December 2007, she got a permanent position at DGF. Her research interests are broad and cover atmospheric modeling and data assimilation, air quality in mega cities, and lately short-lived climate forcers. She has been the leader for a scientific network and project studying South American Megacities (SAEMC, 2006–2012). Currently she acts as Director for the Center for Climate and Resilience Research (CR2), a center of excellence intended to deepen our understanding of climate system, its natural and anthropogenic changes and its consequences on society. She has served as a member of the Scientific Committee of the International Global Atmospheric Chemistry (IGAC) for the period 2003–2009, and as a member of the international Commission for Atmospheric Chemistry and Global Pollution (iCACGP) since 2006. In 2010 she was elected as vice-president for iCACGP. At the University of Chile, she teaches courses on atmospheric chemistry, modeling and global change, inverse modeling, atmospheric science and introductory physics. She has guided multiple theses in engineering and atmospheric science in Chile. All in all, she has made original scientific contributions, and played a significant role in establishing atmospheric chemistry and modeling in her home country and internationally.
The Global Ocean Carbon Sink: Recent Trends and Variability

Nicolas Gruber
ETH Zürich, Switzerland

Since the onset of the industrial revolution in the late 18th century, the ocean has taken up about 30% of the total anthropogenic emissions of CO2, thereby constituting the most important sink for this CO2. While the annual rate of uptake has increased considerably over this period, largely in response to the increase in atmospheric CO2, there is considerable concern that this sink might saturate or even reverse in response to future climate change. Here, I present and discuss the most recent estimates of the oceanic sink strength for atmospheric CO2 and how this sink might have changed and varied in the recent decades. These estimates are based on two very complimentary sets of observations, i.e. (i) surface ocean observations of the partial pressure of CO2, from which monthly resolved global air-sea CO2 fluxes can be estimated for the period from 1980 onward, and (ii) ocean interior observations of dissolved inorganic carbon and ancillary properties, from which the accumulation of anthropogenic CO2 between the 1990s and the mid-2000s can be derived. The ocean interior results suggest a global increase in the anthropogenic CO2 inventory of about 25 Pg C between 1994 and 2006, while the cumulative air-sea CO2 flux over this period amounts to about 19 Pg C. Assuming a cumulative outgassing flux of ~5 Pg of “natural” carbon stemming from the carbon input by rivers, the global ocean interior and surface perspective are consistent with each other, suggesting a mean oceanic uptake flux of about 2.0 Pg C yr⁻¹ over this period. This flux is at the lower end of most other estimates (e.g., atmospheric data and ocean inversions). If correct, the ocean sink would have been smaller than expected from the increase in atmospheric CO2. The surface ocean observations suggest that most of this lower than expected uptake stems from the Southern Ocean, whose sink strength was particularly weak in the 1990s. However, over the last decade, the Southern Ocean sink strength appears to have increased substantially, causing the global ocean uptake to increase commensurably. These substantial decadal variations and trends in the ocean carbon sink suggest that the sink strength could be more susceptible to the impact of future climate change than currently suggested by Earth System Models.

Nicolas Gruber

Nicolas Gruber (1968) holds a masters degree in environmental sciences from the Swiss Federal Institute of Technology (ETH) Zurich and received a Ph.D. from the University of Bern in 1997. Subsequently he worked as Visiting Research Scientist with the AOS program at the University of Princeton for three years. From 2000 – 2005 he was an Assistant Professor at the Department of Atmospheric and Oceanic Sciences at the University of California, Los Angeles, where he received tenure in 2005. In 2006 he returned to Switzerland to become Professor for Environmental Physics at ETH Zurich. His main research interest are the global biogeochemical cycles of carbon and other biologically essential elements and their interaction with the climate system. He combines the analysis of observations with modeling studies to better quantify, for example, the fate of the anthropogenic CO2 emissions in the Earth system, particularly the uptake by the ocean and land biosphere. He authored together with Jorge Sarmiento the textbook “Ocean Biogeochemical Dynamics” that has become a standard text in the field. In recognition of his outstanding contribution to Marine Sciences, Dr. Gruber received the Rosenstiel Award from the Rosenstiel School of Marine and Atmospheric Sciences of the University of Miami in 2004. In 2012 he was elected fellow of the American Geophysical Union.
Instructions for Oral / Poster Presenters and Chairs

Oral presentations are accompanied by PowerPoint presentations. The speakers are entirely responsible for the presentation content (order, graphics etc...).

Once onsite, each speaker should also verify in the final programme that the room and the time of the session did not change.

For Your Presentation

English and French are the official languages of the IUGG Assembly. Time reserved for your presentation is 15/30 minutes including discussion for regular/solicited talks, respectively.

Format of Your Presentation

Please make sure your presentation is in a commonly compatible format. Please prepare your presentation preferably using PowerPoint version 2010 or 2013 (although versions 2007 / 2003 and OS X Keynote are also supported).

Supported File Types:

- **Presentation:** PPT, PPA, PPTA, PPTX, PDF, Keynote (OS X)
- **Video:** AVI, MPG, MKV, MOV, MP4, WMV
- **Audio:** WMA, MP3, WAV
- **Pictures:** JPG, GIF, BMP, TIF

Do not forget when saving your final presentation to CD or USB stick, to make sure to include your video files, if any and all links to these multimedia files.

Uploading Your Presentation

Online Prior to the Event or Onsite

Your presentation must be handed over to the organizers via the ONLINE FILE UPLOADER or in the SPEAKERS’ PREVIEW ROOM as much in advance as possible, no later than TWO hours BEFORE the beginning of the corresponding session.

The presentation for an early morning session should be handed over the evening before.

In the Lecture Room

Your presentation will be sent directly to the lecture room through the local network.

Once the presentation is launched on the computer in the respective lecture room, you will advance your own slideshow using the remote control.

All speakers are requested to be present in the lecture room 5 minutes before the session starts to meet with the session chair. Please, do NOT come at the last minute with your own computer into the lecture room: you will NOT BE ABLE to connect it. All presentations must be downloaded in the SPEAKERS’ PREVIEW ROOM beforehand. Use of own computers is not recommended.

If any problems occur, there will be assistance staff in each lecture room.

Supported File Types:

- **Presentation:** PPT, PPA, PPTA, PPTX, PDF, Keynote (OS X)
- **Video:** AVI, MPG, MKV, MOV, MP4, WMV
- **Audio:** WMA, MP3, WAV
- **Pictures:** JPG, GIF, BMP, TIF

Please note, the organizers only check whether the presentation could be run and complies with the supported formats. Organizers do not check the content. Even though the online uploader is highly recommended, if you would you like to be sure the presentation content is correct, come and check it in the Speakers Preview Room onsite.

Speakers’ Preview Room

Should you prefer to hand over your presentation onsite or to check your pre-uploaded files, the SPEAKERS’ PREVIEW ROOM will be available within the whole assembly period. It will be located in the Meeting Room 2.1 on the 2nd floor by the main staircase and will be available in the following hours:

- **Tuesday, June 23:** 7:30 – 19:00
- **Wednesday, June 24:** 7:30 – 19:00
- **Thursday, June 25:** 7:30 – 19:00
- **Friday, June 26:** 7:30 – 19:00
- **Saturday, June 27:** 7:30 – 19:00
- **Sunday, June 28:** 7:30 – 19:00
- **Monday, June 29:** 7:30 – 19:00
- **Tuesday, June 30:** 7:30 – 19:00
- **Wednesday, July 1:** 7:30 – 19:00

In the SPEAKERS’ PREVIEW ROOM, you will be assisted by a technician, who will help you to download your presentation to the intranet. You will also be able to review your presentation and to verify that it has been transferred correctly to the network.

IUGG brings you the possibility to upload your presentation (and all related files) from the comfort of your home/hotel any time using the online file uploader (accessible from the IUGG website).

- Once the online platform is accessed, you will be asked to upload all files dedicated to each of your oral/solicited presentations, which will all be displayed on the screen.
- When uploaded, our staff will check the files were uploaded correctly in one of the supported formats and a confirmation will be provided via e-mail (within two days at the latest).
Instructions for Presenters

Please be punctual regarding the duration of your presentation.

Instructions for Chairs

Sessions should be started promptly on time. At the session, the chairpersons agree upon sharing the session and should be active in keeping the time limit of each talk so that time can be spared for questions. There will be assisting staff members to help with microphones for questions from the floor.

Please note there will be a special Scientific Programme Information Desk within the registration area dedicated to scientific programme queries. Should you need any assistance related to the scientific programme, feel free to visit for assistance. It will be open within the registration opening hours:

Monday, June 22 08:00 – 20:00
Tuesday, June 23 08:00 – 20:00
Wednesday, June 24 08:00 – 20:00
Thursday, June 25 08:00 – 20:00
Friday, June 26 08:00 – 20:00
Saturday, June 27 08:00 – 20:00
Sunday, June 28 08:00 – 20:00
Monday, June 29 08:00 – 20:00
Tuesday, June 30 08:00 – 20:00
Wednesday, July 1 08:00 – 18:00

Poster Presentations

English and French are the official languages of the IUGG Assembly. Each poster will be displayed for two days within two poster sessions (each day at 15:00 – 16:30 and 18:00 – 19:30).

Authors are kindly requested to be present by the posters within the session indicated in the Poster Sessions Overview – by Presenting Day (pages 209 – 213).

Poster Area

The poster area is located on the 2nd floor in the Congress Hall Foyer. For onsite assistance a poster information desk will be available within the poster area, opened as follows:

Monday, June 22 08:00 – 20:00
Tuesday, June 23 08:00 – 20:00
Wednesday, June 24 08:00 – 20:00
Thursday, June 25 08:00 – 20:00
Friday, June 26 08:00 – 20:00
Saturday, June 27 08:00 – 20:00
Sunday, June 28 08:00 – 20:00
Monday, June 29 08:00 – 20:00
Tuesday, June 30 08:00 – 20:00
Wednesday, July 1 08:00 – 18:00

Poster Dimensions

Each poster board will be given a specific number. Please make sure to mount your poster on the poster board with the number corresponding to the number assigned to your poster presentation (as announced in your Personal Scientific Schedule, also available in the Poster Sessions in Detail Overview). The poster number consists of the symposium code (serves only to keep display logic) and number of actual poster board (e.g., A01/001 means poster board 001 within the A01 symposium)

The maximum dimensions of your poster should be 90 cm wide and 120 cm high (portrait orientation).

In order to fit the poster board, your poster should not exceed the recommended size. Prepare your material beforehand so that it will fit the space available and can be easily attached to the board. Thin cardboard is more suitable than paper. The organizers will provide suitable fixing materials, and onsite assistance will be available to help you to display your poster.

Mounting and Removing Your Poster

Your poster should be mounted before the beginning of the first poster session and removed by the end of the last poster session of the corresponding symposium. If not removed by the author, the poster will be removed and trashed by our staff.
Programme at a Glance

IUGG 2015 Programme

Welcome to the Scientific Program of 2015 IUGG General Assembly. On behalf of the Scientific Programme Committee we hope you find the programme exciting and a great way to discuss areas of science that are both of direct interest to you and which also extend your horizons.

Programme at a Glance

This page programme overview provides an overall schedule of the programme. Please note that:
- Programme always starts at: 8:30
- Poster Sessions are always held at: 15:00 – 16:30; 18:00 – 20:00
- Coffee-breaks are always served at: 10:00 – 10:30; 15:00 – 16:30
- Lunches are always served at: 12:00 – 13:30
- Programme always ends at: 20:00 (with the exception of the Welcome Reception)

Programme Overview Day by Day – by Room

This provides a basic overview of symposia and session codes within the 10 days of the General Assembly by room allocation. Rooms are spread across 3 levels of the Prague Congress Centre. Please see page 308 – 310 for a map of the venue.

Programme Overview Day by Day – by Association

This provides a basic overview of symposia and session codes within the 10 days of the General Assembly based on their relevance to individual IUGG associations. Please note Association Business Meetings are listed separately on pages 48 – 56.

Detailed Programme Overview

The Overview is sorted by Date/Time Frame/Room allocation and by Associations for oral sessions within the programme. Each session listing provides information on the code of Symposium, Session Title, Room allocation and Chairpersons, followed by presentations by starting time with only presenting authors listed.
Please note that full list of Co-authors can be found via abstract proceedings.
List of symposia Convenors and Co-convenors can be found on pages 304–307.

Poster Sessions Overview – by Presenting Day
Symposa dedicated poster sessions are held every day from 15:00–16:30. This provides an overview of symposia poster sessions being presented each respective day.

Poster Sessions Overview – by Association
This provides a basic overview of poster sessions and session codes within the 10 days of the General Assembly based on their relevance to individual IUGG associations.

Detailed Poster Sessions Overview
The Overview is sorted by Presenting Date/Associations and by respective Symposia. Each session listing provides information on the code of Symposium, Poster Session Title, followed by presentations by Poster Numbers with only presenting authors listed.
Please note that all posters will be displayed for 2 days. Display days can be found in both Poster Sessions overviews.

DON’T FORGET TO CHECK PROGRAMME CHANGES
Please note that following programme overviews are correct at the time of printing therefore please do not forget to check for all programme updates. All programme changes since June 8, 2015 are displayed on the Programme Updates board located next to Registration Desk on ground Level and next to Poster Desk on Level 2.

Presenting Authors’ Index
This index only lists the Presenting Author. All Co-Authors can be found via abstract proceedings

PRESENTING AUTHORS OF ORAL CONTRIBUTIONS ARE REQUIRED TO VISIT THE SPEAKERS’ PREVIEW ROOM (MR 2.1 on LEVEL 2) AT LEAST 2 HOURS BEFORE THEIR PRESENTATION.

Association Codes And Colors:

<table>
<thead>
<tr>
<th>UNION SYMPOSIA</th>
<th>UNION LECTURES</th>
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Please note each cell contains symposia code and respective page from the detailed programme overview where symposia detail can be found.
## Programme Overview Day by Day – by Room

<table>
<thead>
<tr>
<th>Room</th>
<th>Floor</th>
<th>Time</th>
<th>22/06/2015 MONDAY</th>
<th>23/06/2015 TUESDAY</th>
<th>24/06/2015 WEDNESDAY</th>
<th>25/06/2015 THURSDAY</th>
<th>26/06/2015 FRIDAY</th>
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<td>10:30-12:00</td>
<td>U01 (p. 62)</td>
<td>UL01 (p. 78)</td>
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<td>U02 (p. 76)</td>
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<td>16:30-18:00</td>
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<td>Forum Hall 2</td>
<td>08:30-10:00</td>
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<td>13:30-15:00</td>
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26th IUGG, PRAGUE, CZECH REPUBLIC, JUNE 22 – JULY 2, 2015
### Programme Overview Day by Day – by Association

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**Meeting Hall 5**

**South Hall II**

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<td>10:30-12:00</td>
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<td>C03 (p. 83)</td>
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### Union & Joint Symposia

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Tuesday, June 23

Detailed Scientific Programme

**Union Symposia**

**U01 Future Earth and Sustainability**

**Chair:** Tom Beer (Australia)

**U01a**

- 8:30 Future Earth: Its importance and implications in Asia (#IUGG-3232)
  - **Solicited Speaker:** Tetsuzo Yasunari (Japan)
- 9:00 Integrating GEC Study into Future Earth Initiative (#IUGG-1585)
  - **Solicited Speaker:** Guoxiong Wu (China)
- 9:30 Climate change and food security (#IUGG-5707)
  - **Solicited Speaker:** Bruce Campbell (Australia)

**IAAG**

**A08 Time Variation of Magnetic Field over Millenial Timescales and Longer (Div. I)**

**Chair:** Florian Lhuillier (Germany), Julie Carlot (France)

**A08a**

- 8:30 Palaeointensity and palaeodirection studies of Siberian Devonian volcanic rocks from Minusinskaya Valley, Russia (#IUGG-5633)
  - **Valia Shcherbakova** (Russia)
- 8:45 New evidence for a weak geomagnetic field ~50 million years prior to the Permo-Carboniferous Superchron (#IUGG-5518)
  - **Louise Hawkins** (United Kingdom)
- 9:00 Long term trends in the Precambrian geomagnetic field: a new analysis with implications to geodynamo and craton dynamics (#IUGG-1974)
  - **Lauren Pesonen** (Finland)
- 9:15 The QPI criteria and their application to Precambrian palaeointensity determinations in the PINT database (#IUGG-2827)
  - **Andrew Biggin** (United Kingdom)
- 9:30 Reading magnetic record from deep time: An insight into the geodynamo and early Earth evolution (#IUGG-1894)
  - **Solicited Speaker:** Aleksey Smirnov (USA)

**Joint Inter-Association Symposia**

**JC2/C13 Cold Regions Cryosphere and Hydrosphere (IACS, IAHS/ICSIH, IAMAS, IPA)**

**Chair:** Charles Fierz (Switzerland)

**JC20a**

- 8:30 Mountain snow distribution and how it will change (#IUGG-3138)
  - **Solicited Speaker:** Michael Lehning (Switzerland)
- 9:00 Climatic trends in avalanche activity since the Little Ice Age in a temperate low altitude mountain range (#IUGG-0551)
  - **Florie Giacona** (France)
- 9:15 A review of climate change effects on snow and avalanches in western Canadian Mountains (#IUGG-1648)
  - **Bruce Jamieson** (Canada)
- 9:30 Snowpack characteristics and primary causal factors in the Japanese Central Mountains (#IUGG-2907)
  - **Shinji Ikeda** (Japan)
- 9:45 Impact of climate and land cover changes on snow cover in a small Pyrenean catchment (#IUGG-1887)
  - **Simon Gascoin** (France)

**IAMAS**

**M04 Numerical Models for Climate Studies and Forecasting at High Latitudes**

**Chair:** Tom Bracegirdle (United Kingdom)

**M04a**

- 8:30 Polar lows over the Nordic Seas: Improved representation in ERA-interim compared to ERA-40 and the impact on downscaled simulations (#IUGG-3273)
  - **Jean-Pierre Chaboureau** (France)
- 8:45 Influence of surface fluxes on polar low development: Idealised simulations (#IUGG-3893)
  - **Annick Terpstra** (Norway)
- 9:00 Impact of radiosonde observations on forecasting summertime Arctic cyclone formation (#IUGG-4563)
  - **Akira Yamazaki** (Japan)
- 9:30 Nonlinear Perspectives on CMIP5 GCM Skill and Greenland’s Melt-Season Variability (#IUGG-4092)
  - **David Reusch** (USA)
- 9:45 Simulation of Arctic climate with the Regional Arctic System Model (RASM): Sensitivity to atmospheric processes (#IUGG-0498)
  - **John Cassano** (USA)
Tuesday, June 23

IAGA 8:30-10:00, Meeting Hall V

A02 Recent Theoretical Advances in Electromagnetic Induction: Analysis, Modelling and Inversion (Div. I)

A02a
Chair: Jakub Velimsky (Czech Republic)
8:30 3D inversion of magnetotelluric data sets: optimizing the search for the regularization parameter (IUGG-2425)
Solicited Speaker: Naser Meqbel (Germany)
9:00 Data fusion methods for electrical conductivity models based on magnetotelluric surveys and a priori knowledge (IUGG-0806)
Jesse Raila (Finland)
9:15 Three-dimensional magnetotelluric inversion using adaptive model parameterization approaches (IUGG-1519)
Alexander Grayver (Switzerland)
9:30 3D Modelling in West Greenland considering the influence of polar electrojet, ocean and geology (IUGG-3680)
Nynne L. B. Lauritsen (Denmark)
9:45 Continuous Wavelet Transform and its applications to Magnetotelluric data processing (IUGG-4843)
Hugo Larnier (France)

IACS 8:30-10:00, Small Hall

C15 Cryosphere, Atmosphere and Climate: Evaluation of the Cryosphere in CMIP5 Models

C15a
Chair: Francois Massonnet (Belgium)
8:30 Falsifiability of earth system models (IUGG-1508)
Solicited Speaker: Dirk Notz (Germany)
8:45 Detection and attribution of multi-decadal 20th century Southern Ocean sea ice changes from satellite observations and proxy data (IUGG-2458)
Will Hobbs (Australia)
9:15 The Antarctic sea ice concentration budget in climate models (IUGG-3090)
Olivier Lecomte (Belgium)
9:40 Present-day evaluation and future projections of radiative fluxes, clouds, and snow cover in CMIP5 models (IUGG-0630)
Gina Henderson (USA)
9:45 CMIP5 Climate models evaluated against the first climatology of antarctic precipitation (IUGG-0183)
Christophe Genton (France)

IACS 8:30-10:00, Small Theatre

C01 GLIMS and the Randolph Glacier Inventory: where Do We Go from Here?

C01a
Chair: Sabine Baumann (Germany)
8:30 A retrospective and future perspective on global land ice measurements from space (IUGG-5464)
Solicited Speaker: Jeffrey Kargel (USA)
8:45 Extending the GLIMS Glacier Database to global completeness and new data types (IUGG-3715)
Bruce Raup (USA)
9:00 Derivation and analysis of a complete modern-date glacier inventory for Alaska and Northwest Canada (IUGG-0865)
Christian Kienholz (Canada)
9:15 The GAMDAM Glacier Inventory: A quality controlled inventory of Asian glaciers (IUGG-2846)
Akiko Sakai (Japan)
9:30 Glacier shrinkage, GLIMS and the Randolph Glacier Inventory (IUGG-1217)
J. Graham Cogley (Canada)
9:45 The Randolph Glacier Inventory: applications and future needs (IUGG-1898)
Solicited Speaker: Matthias Huss (Switzerland)

IAHS 8:30-10:00, Club A

HS01 Changes in Flood Risk and Perception in Catchments and Cities

HS01a
Chair: Magdalena Rogger (Austria)
8:30 Estimating urban flood risk – uncertainty in design criteria (IUGG-0044)
Stewart Franks (Australia)
8:45 On correlation between urban development, land subsidence and flooding phenomena in Jakarta (IUGG-0006)
Hasanuddin Z. Abidin (Indonesia)
9:00 Influence of urban land cover changes for the exposure of European cities to flooding during high-intensity rainfall events (IUGG-0063)
Per Skougaard Kaspersen (Denmark)
9:15 Spatio-temporal changes of urban areas patterns and their impact on 100 urban catchments hydrology (IUGG-0071)
Carina Furusho (France)
9:30 Analyzing the effect of urbanization on flood characteristics at catchment levels (IUGG-0092)
Xing Chen (China)
9:45 Urban flooding evolving and the drivers of Dongguan City in southern China (IUGG-0055)
Yangbo Chen (China)
Tuesday, June 23

**A19 ULF Waves: Space-Ground Coordination (Div. III)**

**A19a**

8:30 Ground-based observations of Pc1/EMIC waves and proton auroras at subauroral latitudes (#IUGG-3774)  
*Solicited Speaker: Kazuo Shikokawa* (Japan)

9:00 Interaction of magnetospheric Alfven waves with the ionosphere in the Pc1 frequency band (#IUGG-0360)  
*Viacheslav Pilipenko* (Russia)

9:15 ULF waves observed with ground-based magnetometers and GPS TEC (#IUGG-5746)  
*Solicited Speaker: David Murr* (USA)

9:45 Ionospheric influence on the ground signatures of ULF waves (#IUGG-4702)  
*Robert Lyasak* (USA)

**IAHS**

**HW08 Water Security in a Changing World**

**HW08a**

8:30 Key challenges for water security and conflicts between human and environmental water needs in China (#IUGG-0334)  
*Solicited Speaker: Jun Xia* (China)

9:00 Investigating impacts of climate change on water resources in the Yellow River basin and identification of adaptation strategies (#IUGG-3386)  
*Guoqing Wang* (China)

9:15 Groundwater security issues of over-exploited and urbanised crystalline watershed: Groundwater balance as an indicator (#IUGG-4154)  
*S. Sarah* (India)

9:30 Hydrological ecosystem service delivery in the upper umgeni catchment – water security from ecological infrastructure (#IUGG-4703)  
*Catherine Hughes* (South Africa, Republic of)

**IAHS**

**HW10 The Role of Sediment as an Indicator of Hydrological and Societal Change**

**HW10a**

8:30 Sediment transport due to hydroclimatic development and anthropogenic impacts: case study of Selenga-Baikal catchment (#IUGG-0199)  
*Sergey Chalov* (Russia)

8:45 Flash floods: the laws of origin, dynamics and distribution (#IUGG-0859)  
*Yulia Kuznetsova* (Russia)

9:00 Seasonal variations of rainfall-runoff erosivity and soil erodibility in the Muskingum Watershed in Ohio, USA (#IUGG-1533)  
*Tao Chang* (USA)

9:15 Human impact on the global sediment budget (#IUGG-1599)  
*Desmond Walling* (United Kingdom)

9:30 Using 137Cs and 210Pbex to explore the effects of climate change on sediment redistribution within two catchments in Southern Italy (#IUGG-1624)  
*Paolo Porto* (Italy)

9:45 Sand sheets as part of fining upwards sequences as indicators of hydrological and societal change in the Sydney basin, Australia (#IUGG-3307)  
*Wayne Erskine* (Australia)

**IAHS**

**HW02 Hydrological Model Intercomparison for Climate Impact Assessments**

**HW02a**

8:30 Modelling and intercomparison of climate impacts simulated by regional-scale hydrological models in eleven large river basins (#IUGG-4369)  
*Valentina Krysanova* (Germany)

8:45 Analysis of hydrological extremes along a hydro-climatic gradient under present and future conditions (#IUGG-1854)  
*Ilias Peclvanidis* (Sweden)

9:00 Evaluation of three hydrological models with respect to simulation of floods and droughts in three large-scale catchments (#IUGG-1787)  
*Shaohuan Huang* (Germany)

9:15 Multi-model climate impact assessment and intercomparison for three large-scale river basins on three continents (#IUGG-3141)  
*Tobias Vetter* (Germany)

9:30 Climate change impact on large-basin water regime and hydrological extremes: modeling and uncertainty issues (#IUGG-3475)  
*Alexander Gelfan* (Russia)

**IAMAS**

**M10 Global Monsoons and Climate Change**

**M10a**

8:30 “Asian Monsoon Onset Barrier” and Characteristics of the Indian Summer Monsoon Onset (#IUGG-1551)  
*Solicited Speaker: Guoxiong Wu* (China)

9:00 The role of air-sea interactions in monsoon sub-seasonal variability (#IUGG-2460)  
*Linda Hirons* (United Kingdom)

9:15 The diurnal cycle of precipitation in West Africa: An analysis using ground-based, satellite-based and reanalysis data (#IUGG-3771)  
*Uwe Pfeifroth* (Germany)

9:30 Changes in the summer monsoon intraseasonal oscillations and extremely dry and wet conditions in India in a warmer planet (#IUGG-4759)  
*Leila Carvalho* (Italy)

9:45 Influences of ENSO on the vertical coupling of atmospheric circulation during the onset of South Asian summer monsoon (#IUGG-0381)  
*Boqi Liu* (China)
IAGA 8:30-10:00, North Hall

A15 Long-Term Trends in the Stratosphere, Mesosphere, Termosphere and Inosphere (Div. II-F/ICMA/SCOSTEP)

A15a

Chair: Jan Lastovicka (Czech Republic)
8:30 Quantifying ozone recovery (#IUGG-2164)
Solicited Speaker: Michaela Hegglin (United Kingdom)
9:00 Decadal-Scale variability of temperature and density in the Mesosphere and lower thermosphere as observed by SABER/TIMED From 2002 to 2015 (#IUGG-5672)
Jeng-Hwa Yee (USA)
9:15 Trends in Temperature and PMCs in the Northern Hemisphere during 1979-2008 (#IUGG-1526)
Solicited Speaker: Uwe Berger (Germany)
9:45 Fluctuating tendency of trends near mesopause region (#IUGG-4746)
Gufran Beig (India)

IAGA 8:30-10:00, Terrace I

A01 Planetary Core Dynamics, Dynamos and Fundamental MHD Processes (Div. I)

A01a

Chair: Mathieu Dumberry (Canada)
8:30 Numerical/experimental canonical models of geophysical and astrophysical flows (#IUGG-4696)
Solicited Speaker: Adolfo Ribeiro (USA)
8:45 Turbulence reduces magnetic diffusivity in a liquid sodium experiment (#IUGG-5684)
Henri-Claude Nataf (France)
9:00 Optimization of the magnetic dynamo in a Cube (#IUGG-3281)
Long Chen (Switzerland)
9:15 Interpretation of magneto-hydrodynamic shear instability in terms of interacting vorticity waves (#IUGG-1462)
Eyal Heifetz (Israel)
9:30 Magnetostrophy or quasigeostrophy in rotating magnetoconvection (#IUGG-5199)
Jozef Brestensky (Slovak Republic)

IAGA 8:30-10:00, Terrace II

A13 Solar-Related Variability of the Lower, Middle and Upper Atmosphere (Div. II-D/ IAMAS-ICMA/ IAMAS-IRC)

A13a

Chair: Christoph Jacobi (Germany)
8:30 The influence of solar spectral variations on climate (#IUGG-4313)
Solicited Speaker: Joanna Haigh (United Kingdom)
9:00 The 11-year solar signal in the troposphere in ocean-coupled climate models with and without interactive chemistry (#IUGG-2235)
Anne Kubin (Germany)
9:15 Solar forcing synchronizes decadal North Atlantic climate variability (#IUGG-2905)
Rémi Thébault (Germany)
9:30 Solar signals in a very large ensemble of historical simulations (#IUGG-4358)
Hauke Schmidt (Germany)
9:45 The impact of different solar forcing datasets on the solar signal in climate (#IUGG-3881)
Tim Kruschke (Germany)

IAGA 8:30-10:00, Chamber Hall

A39 Geomagnetic Observatories, Variometers and Repeat Surveys: Instrumental and Operational Developments and Applications (Div. V)

A39a

Chair: Bill Worthington (USA)
8:30 Determining, and accounting for, spatial gradients of the geomagnetic field in observatories (#IUGG-2916)
Jurgen Matzka (Germany)
8:45 Dipole elementary current systems for ionospheric current reconstruction at low and middle latitudes (#IUGG-0533)
Huixin Liu (Japan)
9:00 New BGS IMOs: Increasing the global coverage of high standard magnetic observatories (#IUGG-4045)
Orsi Balázs (United Kingdom)
9:15 CrowdMag: crowdsourcing Earth’s magnetic data (#IUGG-5272)
Solicited Speaker: Manoj Nair (USA)
9:45 HYB-CPL: key low latitude magnetic observatories in India (#IUGG-0593)
Kusumita Arora (India)
Tuesday, June 23

**IAHS**

**HW13 Hydrological Predictions in Ungauged Basins**

**HW13a**

- Chair: Alberto Viglione (Austria)
- 8:30 Monitoring water levels by integrating optical and synthetic aperture radar water masks with lidar DEMs (#IUGG-0031)
- Chris Hopkinson (Canada)
- 8:45 Modelling of seasonal river-aquifer interactions in a tropical coastal area controlled by tidal sand ridges (#IUGG-0026)
- Heyddy Calderon (Nicaragua, Republic of)
- 9:00 Estimation and prediction of an ungauged basin using satellite remote sensing and a state space model: test case Aral Sea (#IUGG-1169)
- Alka Singh (Germany)
- 9:15 CRUCIAL: Cryosat-2 Success over Inland Water and Land: Full Bit Rate Altimetric Heights and Validation (#IUGG-2869)
- Philip Moore (United Kingdom)
- 9:30 Global maps of streamflow characteristics based on observations from several thousand catchments (#IUGG-2190)
- Hylke Beck (Italy)
- 9:45 Hydrological characteristics predictions in ungauged basins in the Czech Republic (#IUGG-1899)
- Petr Sercl (Czech Republic)

**IAGA**


**A43a**

- Chair: Inez S. Batista (Brazil)
- 8:30 Post-sunset low-latitude plasma depletions as observed by the Swarm satellite constellation mission (#IUGG-2640)
- Solicited Speaker: Claudiu Stalle (Germany)
- 9:00 Discrepant responses of the global electron content to the solar cycle and solar rotation variations of EUV irradiance (#IUGG-2529)
- Yiding Chen (China)
- Dalia Buresova (Czech Republic)
- 9:30 The storm effects of the ionosphere during a period of prolonged southward interplanetary magnetic field Bz (#IUGG-1076)
- Solicited Speaker: Libo Liu (China)

**IAMAS**

**M05 Observations and Modelling of Cloud Condensate and Water Vapour Variability**

**M05a**

- Chair: Lazaros Oreopoulos (USA)
- 8:30 Cloud horizontal heterogeneity from a regime perspective (#IUGG-1412)
- Lazaros Oreopoulos (USA)
- 8:45 Condensate variability - mining observations from the Atmospheric Radiation Measurement archive (#IUGG-2826)
- Solicited Speaker: Maike Ahlgrimm (United Kingdom)
- 9:15 Study of integrated water vapour trends and variability using ground-based GPS data and climate models (#IUGG-4148)
- Olivier Boik (France)
- 9:30 Integrated water vapor variability – exploiting unique field campaign data and high-resolution reanalysis (#IUGG-4269)
- Sandra Steinke (Germany)
- 9:45 Water vapour and cloud condensate variability simulated by statistical cloud parametrizations in the global ICON model (#IUGG-4657)
- Matthias Brueck (Germany)

**Union Symposia**

**U01 Future Earth and Sustainability**

**U01b**

- Chair: Tom Beer (Australia)
- 10:30 Future directions for the world climate research programme (#IUGG-5734)
- Solicited Speaker: Guy Brasseur (Germany)
- 11:00 Systems approach to future earth (#IUGG-5731)
- Solicited Speaker: Pavel Kabat (Austria)
- 11:30 Global change and global water emergency: a new vision for new solutions (#IUGG-2576)
- Solicited Speaker: Alberto Montanari (Italy)
- 12:00 Future earth and disasters (#IUGG-5111)
- Solicited Speaker: David Johnston (New Zealand)

**IAGA**

**A08 Time Variation of Magnetic Field over Millenial Timescales and Longer (Div. I)**

**A08b**

- Chair: Arto Gogichaishvili (Mexico), Julie Carlut (France)
- 10:30 Full-vector geomagnetic field records for the Late Quaternary for Mt Etna, Sicily (#IUGG-3912)
- Marilyn Monster (Netherlands)
- 10:45 Geomagnetic intensity variations during the early middle ages in western Europe: New constraints from ceramic production in Saran, central France (#IUGG-3847)
- Agnès Genevey (France)
- 11:00 Holocene paleomagnetic secular variation from East China Sea and a PSV stack of East Asia (#IUGG-5610)
- Yan Zheng (China)
- 11:15 Holocene palaeosecular variation in New Zealand and the south west Pacific: Master curves and models (#IUGG-3660)
- Gillian Turner (New Zealand)
- 11:30 Axial dipole moment over the past 400 years from single spot archaeointensities (#IUGG-2750)
- Koji Fukuma (Japan)
**Tuesday, June 23**

**Joint Inter-Association Symposia 10:30-12:00, Panorama Hall**

**JC02/C13 Cold Regions Cryosphere and Hydrosphere (IACS, IAHS/ICSIH, IAMAS, IPA)**

**JC02b**  
Chair: Martin Hoelzle (Switzerland)

- **10:30**  
  A factor controlling long-term variations of the Siberian river discharges during the past two centuries (#IUGG-4175)  
  Kazuhiro Oshima (Japan)

- **10:45**  
  Trends of breakup dates in Finnish lakes in 1963-2014 (#IUGG-1165)  
  Esko Kuusisto (Finland)

- **11:00**  
  Can temperature extremes in East Antarctica be replicated from ERA Interim reanalysis? (#IUGG-1591)  
  Aihong Xie (China)

- **11:15**  
  Snow water resources monitoring in Switzerland – integrating longterm observational datasets with advanced modelling approaches (#IUGG-3524)  
  Tobias Jonas (Switzerland)

- **11:30**  
  Future scenarios of the water balance of Switzerland: setup, verification and propagation of climate projections (#IUGG-1527)  
  Luzi Bernhard (Switzerland)

- **11:45**  
  Glaciers of the semi-arid chilean Andes: are they becoming precipitation-starved? (#IUGG-5099)  
  Christophe Kinnard (Canada)

**IAMAS 10:30-12:00, Meeting Hall IV**

**M04 Numerical Models for Climate Studies and Forecasting at High Latitudes**

**M04b**  
Chair: John Cassano (USA)

- **10:30**  
  Modeling the arctic climate change and variability at process scale using the regional arctic system model (#IUGG-5533)  
  Wieslaw Maslowski (USA)

- **10:45**  
  Examining Arctic ocean-atmosphere-sea ice processes using a hierarchy of high resolution coupled and uncoupled models (HIRAMS – HYCOM – OCC) (#IUGG-5035)  
  Ruth Mottram (Denmark)

- **11:00**  
  Sensitivity of Arctic climate to spectral nudging in the Regional Arctic System Model (#IUGG-1987)  
  Mimi Hughes (USA)

- **11:15**  
  Nordic budget study of inter-member variability using HIRAMS ensemble simulations (#IUGG-2542)  
  Anja Sommerfeld (Germany)

- **11:30**  
  Impact of the high-resolution on seasonal prediction skill and reliability at mid- to high-latitudes (#IUGG-4237)  
  Francois Massonnet (Belgium)

- **11:45**  
  Breaking the ice: storm-induced sea-ice breakup and the implications for ice extent in climate models (#IUGG-0855)  
  Sam Dean (New Zealand)

**IAGA 10:30-12:00, Meeting Hall V**

**A02 Recent Theoretical Advances in Electromagnetic Induction: Analysis, Modelling and Inversion (Div. I)**

**A02b**  
Chair: Takao Koyama (Japan)

- **10:30**  
  New transfer functions for global EM induction studies (#IUGG-1948)  
  Solicited Speaker: Christoph Püthe (Switzerland)

- **11:00**  
  The novel high-performance and scalable electromagnetic forward solver based on integral equation method (#IUGG-3077)  
  Alexey Geraskin (Switzerland)

- **11:15**  
  Long period external inducing magnetic fields resolved by eigenanalysis (#IUGG-2632)  
  Robert Shore (United Kingdom)

- **11:30**  
  Toward magnetic remote sensing of ocean flow (#IUGG-5324)  
  Robert Tyler (USA)

- **11:45**  
  On the influence of variable sea-water conductivity on ocean circulation induced magnetic fields (#IUGG-1355)  
  Christopher Irrgang (Germany)

**IACS 10:30-12:00, Small Hall**

**C15 Cryosphere, Atmosphere and Climate: Evaluation of the Cryosphere in CMIP5 Models**

**C15b**  
Chair: Gerhard Krinner (France)

- **10:30**  
  Sensitivity of permafrost thaw and carbon loss to warming (#IUGG-2925)  
  Solicited Speaker: Charles Koven (USA)

- **11:00**  
  Masking of snow albedo by forests in CMIP5 models (#IUGG-2136)  
  Richard Essery (United Kingdom)

- **11:15**  
  The influence of canopy snow parameterizations on snow albedo feedback in boreal forest regions (#IUGG-4908)  
  Chad Thackeray (Canada)

- **11:30**  
  Evaluation of CMIP5 models toward regional modelling of the Antarctic surface mass balance (#IUGG-5181)  
  Cécile Agosta (Belgium)

- **11:45**  
  Forcing impact on Greenland surface mass balance estimates (#IUGG-0768)  
  Daniele Peano (Italy)
Tuesday, June 23

C02 Advances in Estimating and Measuring Glacier Ice Thicknesses

C02a

Chair: Daniel Farinotti (Switzerland)

10:30 A worldwide database of glacier thickness observations (#IUGG-0607)

Michael Zemp (Switzerland)

10:45 Advances in helicopter radio echo sounding for the Swiss glacier inventory (#IUGG-2507)

Lasse Rabenstein (Switzerland)

11:00 A comparison of measured and modelled ice thickness distributions as a basis for future glacier scenarios in the Ötztal Alps (#IUGG-0794)

Kay Helfricht (Austria)

11:15 A catalogue of Svalbard radio-echo sounded glaciers and its use to derive a regional volume-area relationship (#IUGG-3723)

Francisco Navarro (Spain)

11:30 Estimation of total ice volume of Nordenskiöld Land glaciers, Svalbard, using radio-echo sounding and modeling (#IUGG-3449)

Stanislav Kutuzov (Russia)

11:45 A better than nothing estimate for the thickness of an ice cover (#IUGG-3349)

Jandyr Travassos

IAHS 10:30-12:00, Club A

H501b Changes in Flood Risk and Perception in Catchments and Cities

H501b

Chair: Haifeullah Alksoy (Turkey)

10:30 Understanding sensitivities along the flood risk chain (#IUGG-0181)

Solicited Speaker: Bruno Merz (Germany)

11:00 Flood protection effect of the existing and projected reservoirs in the Amur River basin: evaluation by the hydrological modeling system (#IUGG-0053)

Yuri Motovilov (Russia)

11:15 Two-dimensional hydrodynamic modeling of flooding of populated parts of Russian rivers valleys (#IUGG-0132)

Vitaly Belikov (Russia)

11:30 Effectiveness of water infrastructure for river flood management: Part 1 - Flood Hazard Assessment using hydrological models in Bangladesh (#IUGG-0062)

Maksym Gusyev (Japan)

IAHS 10:30-12:00, Club C

A19b ULF Waves: Space-Ground Coordination (Div. III)

A19b

10:30 Features of ULF waves as observed by CHAMP (#IUGG-1118)

Solicited Speaker: Hermann Lühr (Germany)

11:00 Study of daytime Pi2 pulsations using CHAMP and ground observations (#IUGG-0736)

Geeta Vichare (India)

11:15 Generation and propagation of long period (Pc5, Pi3) magnetic pulsations and associated ionospheric signatures (#IUGG-3875)

Solicited Speaker: Fred Menk (Australia)

11:45 The irregular geomagnetic Pi3 pulsations and its connection with fluxes of energetic particles (#IUGG-0652)

Valdimir Belakhovsky (Russia)

IAHS 10:30-12:00, Club B

HW08 Water Security in a Changing World

HW08b

Chair: Graham Jewitt (South Africa, Republic of)

10:30 Exploring implications of climate, land use and policy intervention scenarios on water resources, livelihoods and resilience (#IUGG-3023)

Solicited Speaker: Barry Croke (Australia)

11:00 Water dependency and water exploitation at global scale as indicators of water (in)security (#IUGG-4178)

Ad DeRoo (Italy)

11:15 Water security at southeast coastal zone in Vietnam by managing coastal aquifers (#IUGG-0838)

Kim Van Phan (Vietnam)

11:30 Exploring pressures applied on water resources in a changing socio-hydrological context. Case of the Vaud canton (Western Switzerland) (#IUGG-3024)

Marianne Milano (Switzerland)

IAHS 10:30-12:00, Club D

HW10 The Role of Sediment as an Indicator of Hydrological and Societal Change

HW10b

Chair: Adrian Collins (United Kingdom), Paolo Porto (Italy)

10:30 Long term impacts of severe wildfire and post-fire salvage logging on sediment production in the Oldman River Basin, Alberta (#IUGG-3480)

Michael Stone (Canada)

10:45 Gully erosion responses to past and current land management in a tropical savannah (#IUGG-4128)

Scott Wilkinson (Australia)

11:00 Importance of tile drainage and tillage practices in modifying phosphorus losses from agricultural fields in temperate climates with severe winters (#IUGG-4239)

Merrin Macrae (Canada)

11:15 Sediment storage in slope buffer zones – filling the gaps in sediment budgets and indicating land use changes (#IUGG-4745)

Vladimir Belyaev (Russia)

11:30 The impact of urban processes on suspended sediment transport systems: a challenge for the ‘First-Flush’ model (#IUGG-4841)

Damian Lawler (United Kingdom)

11:45 Transformation of suspended sediment yield under the influence of volcanic eruptions (Kamchatka, Russia) (#IUGG-5078)

Liudmila Kukisna (Russia)

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**IAGA 10:30-12:00, Terrace I**

**A15 Long-Term Trends in the Stratosphere, Mesosphere, Termosphere and Inosphere (Div. II-F/ICMA/SCOSTEP)**

A15b  
**Chair:** Gufran Beig (India)  
10:30 Antarctic meteor radar observations 2005-2014: mesospheric density change (#IUGG-2528)  
Iain Reid (Australia)  
10:45 Long-term tendencies of mesosphere/lower thermosphere prevailing winds at northern midlatitudes as seen from radar observations and modeling (#IUGG-1236)  
Christoph Jacob (Germany)  
11:00 Long-term trends in the ionosphere and thermosphere – progress report (#IUGG-0931)  
Solicited Speaker: Jan Lastovicka (Czech Republic)  
11:30 Global distribution of CO2 volume mixing ratio in the mesosphere and lower thermosphere and long-term changes observed by SABER (#IUGG-4637)  
Ladislav Rezac (Germany)  
11:45 Topside and bottomside electron density behavior obtained from long-duration Irkutsk incoherent scatter radar measurements (#IUGG-2608)  
Konstantin Ratovsky (Russia)  

**IAHS 10:30-12:00, Club E**

**HW02 Hydrological Model Intercomparison for Climate Impact Assessments**

HW02b  
**Chair:** Berit Alseimer (Sweden)  
10:30 Bridging the global and regional hydrological scales in climate impact assessment (#IUGG-4806)  
Fred Fokko Hattermann (Germany)  
10:45 Intercomparison of energy balance and hydrological models to simulate monthly evapotranspiration of the Blue Nile basin (#IUGG-4424)  
Tadesse Alemayehu (Belgium)  
11:00 Variability of eco-hydrological elements simulated with an eco-hydrological model integrating remotely sensed product from 1981 to 2012 over China (#IUGG-5371)  
Xingwu Mo (China)  
Guillaume Thirel (France)  
11:30 Characterizing and reducing uncertainties in hydrologic projection of Columbia river basin using objective multiple climate and hydrologic models (#IUGG-4629)  
Hamid Moradkhani (USA)  
11:45 Hydrological model intercomparison for climate impact assessments of two typical catchments of China (#IUGG-3401)  
Guoqing Wang (China)

**IAAMS 10:30-12:00, Club H**

**M10 Global Monsoons and Climate Change**

M10b  
**Chair:** Andrew Turner (United Kingdom)  
10:30 Improving seasonal prediction of East Asian summer monsoon by predictability sources from mid-high latitude forcings (#IUGG-5554)  
Jiaping Li (China)  
10:45 Extended-range forecast of tropical Asian summer monsoon: Focus on regional features (#IUGG-2645)  
Song Yang (China)  
11:00 Asian summer monsoon seasonal prediction skill in the Met Office GloSea5 model and its dependence on mean state biases (#IUGG-4362)  
Stephanie Bush (United Kingdom)  
11:15 Potential influence of the november-december Southern Hemisphere annular mode on the East Asian winter precipitation: a new mechanism (#IUGG-0222)  
Zhiwei Wu (China)  
11:30 Towards achieving potential predictability of Indian summer monsoon in climate forecast system model by addressing the physics errors (#IUGG-1133)  
Abhilash Sukumarapillai (India)  
11:45 Interannual variation of mid-summer heavy rainfall in the eastern edge of the Tibetan Plateau (#IUGG-1649)  
Xingwen Jiang (China)  

**IAHS 10:30-12:00, North Hall**

**IAGA 10:30-12:00, Terrace I**

**A01 Planetary Core Dynamics, Dynamos and Fundamental MHD Processes (Div. I)**

A01b  
**Chair:** Jan Simkanin (Czech Republic)  
10:30 Magnetic Rossby waves in dynamo simulations and implications for geomagnetic longitudinal drift (#IUGG-4595)  
Solicited Speaker: Kumiko Hori (United Kingdom)  
10:45 Coupled dynamics of the geomagnetic westward drift and Earth’s inner core super-rotation (#IUGG-2056)  
Julien Aubert (France)  
11:00 On magnetostrophic inertia-less waves in quasi-geostrophic models of planetary cores (#IUGG-3865)  
Dominique Jault (France)  
11:15 Quasi-Geostrophic models for fast dynamics in the Earth’s outer core (#IUGG-2155)  
Stefano Maffei (Switzerland)  
11:30 A generalized quasi-geostrophic model of thermal convection (#IUGG-2454)  
Mathieu Dumberry (Canada)  
11:45 Observational assessment of the magnetic field and geodynamo parameters beneath the surface of the Earth’s core (#IUGG-0735)  
Sergey Starichenko (Russia)
Tuesday, June 23

IAGA 10:30-12:00, Terrace II

A13 Solar-Related Variability of the Lower, Middle and Upper Atmosphere (Div. II-D/ IAMAS-ICMA/IAMAS-IRC)

A13b

**Chair: Katja Matthes (Germany)**

10:30 Impact of Energetic Particles on middle atmosphere chemistry and coupling to dynamics - contrasting to solar irradiance (#IUGG-1892)

*Solicted Speaker: Anna Seppälä (Finland)*

11:00 Asymmetric impact of the solar activity on the East Asian winter climate and its possible mechanism (#IUGG-0354)

*Ziniu Xiao (China)*

11:15 Changes in NAO correlation with solar and geomagnetic activity (#IUGG-0472)

*Gerardo L. Flores Bauld (Argentina)*

11:30 Relation of geomagnetic activity and northern annular mode during the 20th century (#IUGG-2965)

*Ville Malininen (Finland)*

11:45 Possible relation between inter-tropical convergence zone and the solar activity (#IUGG-0445)

*Anatoly Gusev (Russia)*

IAGA 10:30-12:00, Chamber Hall

A9 Geomagnetic Observatories, Varometers and Repeat Surveys: Instrumental and Operational Developments and Applications (Div. V)

A9b

**Chairs: Jürgen Matzka (Germany), Bill Worthington (USA)**

10:30 The long-term monitoring of geo-electric fields at the UK geomagnetic observatories (#IUGG-1522)

*Solicted Speaker: Alan Thomson (United Kingdom)*

11:00 The US geological survey induction-hazards project (#IUGG-4785)

*Carol Finn (USA)*

11:15 New concept for marine magnetotelluric studies based on sea surface scalar magnetic field measurements (#IUGG-4842)

*Alexey Kuvshinov (Switzerland)*

11:30 Improvement of geomagnetic observatories in Russia towards INTERMAGNET standard (#IUGG-3261)

*Anatoly Soloviev (Russia)*

11:45 Bukhov Observatory news (#IUGG-2774)

*Michal Vlk (Czech Republic)*

IAHS 10:30-12:00, South Hall 1

HW13 Hydrological Predictions in Ungauged Basins

HW13b

**Chair: Roger Mousa (France)**

10:30 New insights for analysing projected changes in the water cycle (#IUGG-0332)

11:00 Simulation of hydrologic responses to landuse and climate change in Lower Bhavani River Basin using soft computing technique (#IUGG-0208)

*Esther Jegathambal (India)*

11:15 Modelling of snow dynamic of an andean watershed using a distributed energy balance model (#IUGG-0209)

*Aleandra Stehr (Chile)*

11:30 Prediction of basin-scale runoff using an Ensemble Kalman Filter framework based on global hydrometeorological datasets (#IUGG-5566)

*Harald Kunstmann (Germany)*

11:45 An analysis of the relative roles of catchment dispersion mechanisms through numerical experiments (#IUGG-4501)

*Elena Volpi (Italy)*

IAAG 10:30-12:00, South Hall 2


A43b

**Chair: Archana Bhattacharyya (India)**

10:30 Prompt penetration electric fields and their impact on low latitude ionosphere-thermosphere system (#IUGG-0647)

*Solicted Speaker: Dibyendu Chakrabarty (India)*

11:00 Sweeping effect of storm-time neutral wind (#IUGG-0197)

*Balan Nanan (Japan)*

11:30 Electric field at nightside low latitude observed by HF Doppler sounder during substorms (#IUGG-5591)

*Kumiko Hashimoto (Japan)*

11:45 This is my abstract title: Influence of nitric oxide cooling effect on thermospheric density during geomagnetic storms and mode correction (#IUGG-4348)

*Shushi Liu (China)*

IAMAS 10:30-12:00, South Hall 3

M05 Observations and Modelling of Cloud Condensate and Water Vapour Variability

M05b

10:30 Tropical and subtropical humidity and cloud organization by thermodynamic and dynamic states using AIRS, MODIS, and MERRA reanalysis data (#IUGG-3511)

*Solicted Speaker: Brian Kahn (USA)*

11:00 Characteristics of cloud vertical structure over the Tibetan Plateau and its neighboring areas (#IUGG-0702)

*Yimin Liu (China)*

11:15 Global cloud height variability since 2000 observed using Stereophotogrammetry from MISR on the Terra Satellite (#IUGG-4765)

*Roger Davies (New Zealand)*

11:30 Global analysis of ice microphysics and ice super-saturation from CloudSat, CALIPSO and AIRS (#IUGG-5026)

*Najime Okamoto (Japan)*

11:45 On the frequency of warm rain over West Africa using CloudSat and European geostationary satellite observations (#IUGG-3328)

*Matthew Young (United Kingdom)*

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IAGA 13:30-15:00, Forum Hall

A08 Time Variation of Magnetic Field over Millenial Timescales and Longer (Div. I)

A08c 13:30 Reversals and excursions in geodynamo simulations: a statistical approach (#IUGG-2184)
Solicited Speaker: Domenico Meduri (Italy)
14:00 Palaeointensity and Brunhes palaeomagnetic field models (#IUGG-1934)
Valerii Shcherbakov (Russia)
14:15 Models of the archaeomagnetic field using prior information from dynamo simulations (#IUGG-4664)
Sarina Sanchez (Brazil)
14:30 Holocene southern Atlantic Earth’s magnetic field variations (#IUGG-2059)
Monika Korte (Germany)
14:45 The geomagnetic field for 0-100 ka: an evaluation of paleosecular variation activity (#IUGG-5407)
Catherine Constable (USA)

IAMAS 13:30-15:00, Meeting Hall I

M21 Decadal Climate Dynamics and Prediction

M21a 13:30 Decadal predictions of the North Atlantic with the high-resolution HiGEM model (#IUGG-5380)
Jon Robson (United Kingdom)
13:45 Impact of observed North Atlantic multi-decadal variations to European summer climate: A quasi-geostrophic pathway (#IUGG-1910)
Cheng Sun (China)
14:15 Potential sources of multidecadal climate variability over southern Africa (#IUGG-2974)
Yushi Morioka (Japan)
14:30 Assessing the decadal predictability of West African monsoon precipitation in a multi-model ROM downscaling experiment (#IUGG-4981)
Michael Warschser (Germany)
14:45 Evaluation of decadal predictions using a satellite simulator for the Tropical Rainfall Measuring Mission precipitation radar (#IUGG-4389)
Thomas Spangehl (Germany)

Joint Inter-Association Symposia 13:30-15:00, Panorama Hall

JC02/C13 Cold Regions Cryosphere and Hydrosphere (IACS, IAHS/ICSIH, IAMAS, IPA)

JC02c 13:30 Permafrost distribution in the maritime Southern Alps, New Zealand (#IUGG-0529)
Solicited Speaker: Katrin Sattler (New Zealand)
14:00 Birth of rock glaciers from debris-covered glaciers: New insights from the central Andes of Chile (#IUGG-2772)
Sébastien Monnier (Chile)
14:15 Estimating non-conductive heat flow leading to intra-permafrost talik formation in an ice-rich rock glacier (#IUGG-1492)
Rachel Luthi (Switzerland)
14:30 Characteristics of mountain permafrost at multiple scales in western and eastern Canada (#IUGG-5469)
Antoni Lewkowicz (Canada)
14:45 Heterogeneous snow distribution determines small scale variability of rock wall temperatures (#IUGG-3245)
Anna Haberkorn (Switzerland)

IAMAS 13:30-15:00, Meeting Hall IV

M04 Numerical Models for Climate Studies and Forecasting at High Latitudes

M04c 13:30 The response of the ACCESS climate model to recent ozone change over Antarctica and the Southern Ocean (#IUGG-1628)
Sibhan G’Farrell (Australia)
13:45 Climate variability over West Antarctica: What has happened and what’s to come (#IUGG-0998)
Scott Haskins (United Kingdom)
14:00 Surface energy balance over Larsen C Ice Shelf as represented in three high-resolution atmospheric regional models (#IUGG-1788)
John King (United Kingdom)
14:15 Föhn over the Larsen Ice Shelf - a comparison of measurements and model simulations (#IUGG-2000)
Amelie Kirchgässner (United Kingdom)
14:30 Meteorological change in the Ross sea region and its link to Antarctic sea ice trends (#IUGG-4258)
Adrian McDonald (New Zealand)
14:45 Sensitivity study of the blowing snow horizontal flux with a regional climate model (#IUGG-5133)
Hubert Gallée (France)
Tuesday, June 23

**IAGA 13:30-15:00, Meeting Hall V**

**A21 Wave and Particle Dynamics in the Radiation Belts and Ring Current (Div. III)**

**A21a**
13:30 Statistics of wave properties of plasmaspheric hiss (#IUGG-3096)  
*Solicited Speaker: Craig Kletzing (USA)*

13:45 Wave Coherency Properties of Plasmaspheric Hiss and Chorus (#IUGG-1079)  
*Bruce Tsunoda (USA)*

14:00 Coherent nature of plasmaspheric hiss (#IUGG-1269)  
*Danny Summers (Canada)*

14:15 Dynamical behavior of whistler mode waves in the radiation belts (#IUGG-1762)  
*Ondrej Santolik (Czech Republic)*

14:30 Whistler wave generation by magnetic reconnection at the dayside magnetopause (#IUGG-5683)  
*Daniel Graham (Sweden)*

14:45 Whistler-mode waves driven by temperature anisotropy in the Outer Radiation Belt (#IUGG-4968)  
*Clare Watt (United Kingdom)*

**IACS 13:30-15:00, Small Theatre**

**C02 Advances in Estimating and Measuring Glacier Ice Thicknesses**

**C02b**

13:30 Peering into deep blue ice: achievements and challenges (#IUGG-1979)  
*Solicited Speaker: Kenny Matsuoka (Norway)*

14:00 Bed topography of fast-flowing glaciers and fine-resolution mapping of internal layers (#IUGG-0198)  
*Sivaprasad Gogineni (USA)*

14:15 Ice thickness measurements and volume estimates of Elbrus glaciers (Caucasus) using airborne radio-echo sounding (#IUGG-1344)  
*Ivan Lavrentiev (Russia)*

14:30 Time series of measured mountain glacier volumes from Little Ice Age to today as a playground for model validation (#IUGG-2796)  
*Kay Hoffricht (Austria)*

14:45 Modeling ice thickness and Bedrock topography using surface velocities and slope (#IUGG-0545)  
*Prateek Gantayat (India)*

**IAHS 13:30-15:00, Club A**

**HS01 Changes in Flood Risk and Perception in Catchments and Cities**

**HS01c**

13:30 Flood-rich flood-poor periods of the last 500 years in Europe: A recent overview (#IUGG-0125)  
*Solicited Speaker: Andrea Kiss (Austria)*

14:00 A European Flood Database: Facilitating research on flood processes and associated flood regime changes beyond catchment and country boundaries (#IUGG-0068)  
*Julia Hall (Austria)*

14:15 Changes in flood risk in lower Niger – Benue catchments (#IUGG-0129)  
*Shakirudeen Odunuga (Nigeria)*

14:30 Investigation into impacts of land-use changes on floods in the upper Huanghe River basin, China (#IUGG-0070)  
*Meixiu Yu (China)*

14:45 Potential of satellite rainfall products to understand and predict Niger river recent flood increase in Niamey (#IUGG-0079)  
*Casse Claire (France)*

**IAGA 13:30-15:00, Club B**

**A19 ULF Waves: Space-Ground Coordination (Div. III)**

**A19c**

13:30 Spatially localized ULF waves in the magnetotail (#IUGG-3737)  
*Solicited Speaker: Martin Volwerk (Austria)*

14:00 Transformation of standing poloidal Alfven wave to toroidal Alfven wave due to the field line curvature (#IUGG-0536)  
*Dmitri Klimushkin (Russia)*

14:15 A study of magnetosphere-ionosphere coupling using Swarm and ground ULF wave observations (#IUGG-3810)  
*Georgios Balasis (Greece)*

14:30 Spatial analysis of two predawn ulf-wave events (#IUGG-0747)  
*Busola Olugbon (Nigeria)*

14:45 Ultra-low frequency waves in the solar wind and on the ground peaked in the declining phase of solar cycle 23 (#IUGG-0790)  
*Reko Hynonen (Finland)*
<table>
<thead>
<tr>
<th>Session</th>
<th>Time</th>
<th>Room</th>
<th>Title</th>
<th>Chairs/Authors</th>
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<tr>
<td>HW09a</td>
<td>13:30</td>
<td>Club C</td>
<td>Hydrology Education in the Classroom</td>
<td>Thorsten Wagener (United Kingdom), Denis Hughes (South Africa, Republic of), Stefan Uhlenbrook (Netherlands), Dominic Mazvimavi (South Africa, Republic of), Servat Eric (France), Valerie Barrell (France)</td>
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<tr>
<td>HW09</td>
<td>13:45</td>
<td>Club C</td>
<td>Sand-box model as a toll to enhance the knowledge of groundwater dynamics</td>
<td>Branka Bracic Zeleznik (Slovenia)</td>
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<tr>
<td>HW09</td>
<td>14:00</td>
<td>Club C</td>
<td>Are female students less self-confident in their skills and what can we do about it?</td>
<td>Tiao Chang (USA)</td>
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<tr>
<td>HW09</td>
<td>14:15</td>
<td>Club C</td>
<td>Establishing the cathedral peak research catchments, South Africa, as a living laboratory</td>
<td>Peter Molnar (Switzerland)</td>
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<tr>
<td>HW09</td>
<td>14:30</td>
<td>Club C</td>
<td>Water policy and legislation in malawi education system</td>
<td>Louis Nyirongo (Malawi)</td>
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<tr>
<td>HW11a</td>
<td>13:30</td>
<td>Club D</td>
<td>Sediment fingerprinting: not quite ready for prime time!</td>
<td>Ian Foster (United Kingdom)</td>
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<tr>
<td>HW11a</td>
<td>13:45</td>
<td>Club D</td>
<td>Towards identifying and shortlisting potential tracers for sediment source ascription</td>
<td>Adrian Collins (United Kingdom)</td>
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<tr>
<td>HW11a</td>
<td>14:00</td>
<td>Club D</td>
<td>Characterizing the fingerprints of surficial sediment sources: Some potential problems and their implications</td>
<td>Desmon Ward (United Kingdom)</td>
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<tr>
<td>HW11a</td>
<td>14:15</td>
<td>Club D</td>
<td>Signals of climate variability in sediment fingerprints from a large river basin</td>
<td>Scott Wilkinson (Australia)</td>
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<td>HW11a</td>
<td>14:30</td>
<td>Club D</td>
<td>Effects of different sampling strategies when using 137Cs and 210Pbex to fingerprint sediment sources in a catchment in southern Italy</td>
<td>Paolo Porto (Italy)</td>
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<td>HW11a</td>
<td>14:45</td>
<td>Club D</td>
<td>The identification of uncertainties when using mineral magnetic signatures to fingerprint historically deposited sediment sources in the Karoo, South Africa</td>
<td>Simon Pulley (South Africa, Republic of)</td>
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<tr>
<td>HW11b</td>
<td>13:30</td>
<td>Club D</td>
<td>Fingerprinting Techniques: Evaluating Methodological Approaches, Problems and Uncertainty</td>
<td>Paolo Porto (Italy), Adrian Collins (United Kingdom)</td>
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<tr>
<td>HW11b</td>
<td>13:45</td>
<td>Club D</td>
<td>Signals of climate variability in sediment fingerprints from a large river basin</td>
<td>Scott Wilkinson (Australia)</td>
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<td>HW20c</td>
<td>13:30</td>
<td>Club E</td>
<td>Hydrological Model Intercomparison for Climate Impact Assessments</td>
<td>Alexander Gelfan (Russia)</td>
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<tr>
<td>HW20c</td>
<td>13:45</td>
<td>Club E</td>
<td>Comparison of different models for future low flows estimation in Xiangjiang River basin</td>
<td>Ye Tian (China)</td>
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<tr>
<td>HW20c</td>
<td>14:00</td>
<td>Club E</td>
<td>Using data-based elasticity estimates to assess the capacity of hydrological models to predict the hydrological impact of climatic changes</td>
<td>Vazken Andreassian (France)</td>
</tr>
<tr>
<td>HW20c</td>
<td>14:15</td>
<td>Club E</td>
<td>Consideration and interpretation of multiple sources of uncertainty in modelling future hydrometeor in south-eastern Australia</td>
<td>Francis Cheiew (Australia)</td>
</tr>
<tr>
<td>HW20c</td>
<td>14:30</td>
<td>Club E</td>
<td>Hydrological sensitivity analysis to statistically downscaled climate values on Western Mediterranean catchments</td>
<td>Benjamin Grosjean (France)</td>
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<tr>
<td>HW20c</td>
<td>14:45</td>
<td>Club E</td>
<td>Frequency Bias Correction (FBC) - A new approach for correcting low frequency bias for water resources climate change impact assessment</td>
<td>Ashish Sharma (Australia)</td>
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<tr>
<td>M10c</td>
<td>13:30</td>
<td>Club H</td>
<td>Global Monsoons and Climate Change</td>
<td>Tianjun Zhou (China)</td>
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<tr>
<td>M10c</td>
<td>13:45</td>
<td>Club H</td>
<td>Linkages between the South and East Asian Summer Monsoons</td>
<td>Ye-Won Seo (Korea, Republic of Korea)</td>
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<tr>
<td>M10c</td>
<td>14:00</td>
<td>Club H</td>
<td>Relative roles of ENSO and IOD in determining the seasonal mean monsoon rainfall over India</td>
<td>V. Krishnamurthy (USA)</td>
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<tr>
<td>M10c</td>
<td>14:15</td>
<td>Club H</td>
<td>Long-term variation of the principal mode of boreal spring Hadley circulation linked to SST over the Indo-Pacific warm pool</td>
<td>Juan Feng (China)</td>
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<tr>
<td>M10c</td>
<td>14:30</td>
<td>Club H</td>
<td>Probabilistic changes in precipitation due to anthropogenic climate change</td>
<td>Kenneth Speber (USA)</td>
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<tr>
<td>M10c</td>
<td>14:45</td>
<td>Club H</td>
<td>Changes in latent heating over South China Sea and surrounding regions and influences on Asian summer climate under global warming</td>
<td>Bian He (China)</td>
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</table>
### IAGA 13:30-15:00, North Hall

**A15 Long-Term Trends in the Stratosphere, Mesosphere, Termosphere and Inosphere (Div. II-F/ICMA/SCOSTEP)**  

**A15c**  
**Chair:** Michaela Hegglin (United Kingdom)  
**13:30** Model simulations of long-term trends in the upper atmosphere and ionosphere ([#IUGG-2191](#IUGG-2191))  
*Solicited Speaker: Liying Qian (USA)*  
**14:00** Long-term trend of the mesosphere and thermosphere simulated by a whole atmosphere-ionosphere coupled model (GAIA) ([#IUGG-1283](#IUGG-1283))  
*Yasunobu Miyoshi (Japan)*  
**14:15** The whole atmosphere response to century-scale changes in the Earth’s magnetic field ([#IUGG-2810](#IUGG-2810))  
*Ingrid Cnossen (United Kingdom)*  
**14:30** Estimation of solar and geomagnetic activity contributions to solar cycle variations of ionospheric characteristics ([#IUGG-2609](#IUGG-2609))  
*Konstantin Ratovsky (Russia)*  
**14:45** Nighttime F2 layer trend analysis ([#IUGG-0612](#IUGG-0612))  
*Ana G. Elias (Argentina)*

### IAGA 13:30-15:00, Terrace I

**A01 Planetary Core Dynamics, Dynamos and Fundamental MHD Processes (Div. I)**  

**A01c**  
**Chair:** Mathieu Dumberry (Canada)  
**13:30** Dynamo driven by inertial instabilities, application to the moon ([#IUGG-5757](#IUGG-5757))  
*Solicited Speaker: David Cebron (France)*  
**13:45** Can the Fe-snow regime explain a present-day dynamo in Ganymede’s core? ([#IUGG-5388](#IUGG-5388))  
*Tina Rückriemen (Germany)*  
**14:00** Could giant-basin forming impacts have killed Martian dynamo? ([#IUGG-5255](#IUGG-5255))  
*Weijia Kuang (USA)*  
**14:15** Magnetic and velocity field structures at low Prandtl, Ekman and magnetic Prandtl numbers ([#IUGG-1753](#IUGG-1753))  
*Jan Simkanin (Czech Republic)*  
**14:30** Double-buoyancy convection in rotating spherical shells ([#IUGG-5323](#IUGG-5323))  
*Luis Silva (United Kingdom)*  
**14:45** A dynamic inner core boundary condition for terrestrial dynamo simulations ([#IUGG-4483](#IUGG-4483))  
*Johannes Wicht (Germany)*

### IAGA 13:30-15:00, Terrace II

**A13 Solar-Related Variability of the Lower, Middle and Upper Atmosphere (Div. II-D/ IAMAS-ICMA/IAMAS-IRC)**  

**A13c**  
**Chair:** Nicholas Pedatella (USA)  
**13:30** Response of the polar atmosphere to solar events ([#IUGG-0577](#IUGG-0577))  
*Irina Mironova (Russia)*  
**13:45** A connection between the solar sunspot cycle and water vapor in the Upper Troposphere/Lower Stratosphere? ([#IUGG-1895](#IUGG-1895))  
*Gabriele Stiller (Germany)*  
**14:00** Long-term variability of the quasi-two-day wave at southern low latitude ([#IUGG-2339](#IUGG-2339))  
*Lourivaldo Mota Lima (Brazil)*  
**14:15** Ionospheric ionization calculated from combined SolACES-SDO/EVE solar EUV spectra and comparison with delayed global TEC ([#IUGG-1908](#IUGG-1908))  
*Christoph Jacobi (Germany)*  
**14:30** A probe of magnetosphere-ionosphere coupling using Very Low Frequency (VLF) radio signal ([#IUGG-0637](#IUGG-0637))  
*Victor Nwankwo (India)*  
**14:45** Prolonged minima of solar activity and temperature in relation to the solar inertial motion during the first millennium BC ([#IUGG-1518](#IUGG-1518))  
*Ivanka Charvátová (Czech Republic)*

### IAGA 13:30-15:00, Chamber Hall

**A39 Geomagnetic Observatories, Variometers and Repeat Surveys: Instrumental and Operational Developments and Applications (Div. V)**  

**A39c**  
**Chair:** Bhaskarapantula Veenadhari (India)  
**13:30** Numerical evaluation of general DI-flux schemes and application to absolute measurements at shallow geomagnetic inclinations ([#IUGG-2141](#IUGG-2141))  
*Heinz-Peter Brunke (Germany)*  
**13:45** Accuracy considerations of definitive geomagnetic field data ([#IUGG-4963](#IUGG-4963))  
*Bill Worthington (USA)*  
**14:00** Baseline adaptation based on weighted cubic smoothing splines ([#IUGG-0501](#IUGG-0501))  
*Igor Mandic (Croatia)*  
**14:15** Observatory data processing operations at the British Geological Survey ([#IUGG-1721](#IUGG-1721))  
*Sarah Reay (United Kingdom)*  
**14:30** Improving temperature stability of the 1-second fluxgate variometer ([#IUGG-0492](#IUGG-0492))  
*Andriy Marusenkov (Ukraine)*  
**14:45** Filtering of geomagnetic observations by using the methods of the local approximation models ([#IUGG-0459](#IUGG-0459))  
*Roman Sidarov (Russia)*
**Tuesday, June 23**

**IAHS**
**HW13 Hydrological Predictions in Ungauged Basins**

**HW13c**

- **Chairs:** Yangbo Chen (China)

  - **13:30** Regional patterns of water balance variability across the United States: a newtonian-darwinian synthesis (#IUGG-5312)
    - Solicited Speaker: Murugesu Sivapalan (USA)
  - **14:00** Regional model for flood prediction in river basins characterized by poor or null information (#IUGG-2170)
    - Mauro Fiorentino (Italy)
  - **14:15** New morphometric properties for channel networks comparison and classification using the graph theory and DEMs (#IUGG-2692)
    - Roger Moussa (France)
  - **14:30** Large-scale predictions of multiple ungauged basins, using open data and process-based modelling across continents (#IUGG-3350)
    - Berit Arheimer (Sweden)
  - **14:45** Improving the bayesian joint inference through the inclusion of hydrological state variables in the residuals dependence model (#IUGG-3515)
    - Mario R. Hernández (Spain)

**IAAG**

**A43c**

- **Chair:** Hisao Takahashi (Brazil)

  - **13:30** ELF/VLF observations at subauroral latitudes for understanding high-energy electron acceleration/loss processes in the inner magnetosphere (#IUGG-3773)
    - Solicited Speaker: Kazuo Shiokawa (Japan)
  - **14:00** The high-latitude ionosphere structures during the magnetic storms from multi-satellite and ground-based observations (#IUGG-5253)
    - Alexander Karpachev (Russia)
  - **14:15** Partial Ring Current (PRC) importance and its contribution to main phase of the Geomagnetic Storm (#IUGG-0707)
    - Sandeep Kumar (India)
  - **14:30** Longitudinal and seasonal variabilities of the equatorial electrojet electric fields in Brazil and Peru during solar minimum (2001-2010) (#IUGG-0752)
    - Juliano Moro (Brazil)
  - **14:45** The NANOSATC-BR1 launching at Yasny - Russia & First Results - The INPE-UFSM’s NANOSATC-BR, cubesat development program (#IUGG-0688)
    - Nelson Schuch (Brazil)

**IAMAS**
**M05 Observations and Modelling of Cloud Condensate and Water Vapour Variability**

**M05c**

- **13:30** Probing clouds in 3D using scanning radars and shortwave spectral radiances (#IUGG-3684)
    - Solicited Speaker: Jui-Yuan Christine Chiu (United Kingdom)
  - **14:15** A modified scheme that parameterizes depositional growth of ice crystal: A modeling study (#IUGG-0273)
    - Xiaofan Li (China)
  - **14:30** A new estimation of the atmospheric moisture residence time (#IUGG-2470)
    - Alexander Laederach (Switzerland)
  - **14:45** Giga-LES of Hector the Convecto keeping the tallest updrafts undiluted (#IUGG-3337)
    - Jean-Pierre Chaboureau (France)

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**Poster sessions (p. 221)**

**Opening Ceremony**

**Poster sessions (p. 221)**
Wednesday, June 24

Union Symposia 8:30-10:00, Congress Hall

U02 Integrated Disaster Risk Science: Accounting for Extremes

U02a
Chair: John Labrecque (USA)

- 8:30 Integrating research to reduce risk and gain the benefits for development (#IUGG-4422)

Solicited Speaker: Gordon McBean (Canada)

- 9:00 The GGOS initiative to improve disaster early warning and response (#IUGG-0413)

Solicited Speaker: Chris Rizos (Australia)

- 9:30 A call for improved disaster response through an international real time data network for data sharing (#IUGG-5561)

Solicited Speaker: David Green (USA)

IAHS 8:30-10:00, Forum Hall

HS03 Precipitation: measurements, instrumentation, statistics, modeling and predictions at all scales

HS03a
8:30 Using model combination to improve rainfall estimates by merging radar and gauge measurements (#IUGG-2549)

Ashish Sharma (Australia)

8:45 Drop by drop radar observations of a 50 x 50 x 50 m³ volume: a numerical experiment (#IUGG-4794)

Daniel Schertzer (France)

9:00 Radars and multifractal precipitation variability: data uncertainties and nowcast predictability (#IUGG-5000)

Daniel Schertzer (France)

9:15 Weather system-wise evaluation of satellite precipitation observation (#IUGG-5097)

Hyungki Lee (USA)

9:30 Dynamic bias correction of commercial microwave links by remote rain gauges (#IUGG-5369)

Martin Fend (Czech Republic)

Joint Inter-Association Symposia 8:30-10:00, Meeting Hall I

JH03/JG03 Assessment of Climate and Anthropogenic Changes Impacts on the Terrestrial Hydrosphere (IAHS, IAMAS) / Variations of the Hydrosphere from Satellite Gravity Missions (IAG, IAHS)

JH03a
8:30 Can GRACE observe an intensification of the global water cycle? (#IUGG-2778)

Annette Eicker (Germany)

8:45 Estimating fine-resolution terrestrial water storage changes over Central Congo Basin By Integrating GRACE, PALSAR, and altimetry (#IUGG-0316)

Hyongki Lee (USA)

9:00 Minimizing signal loss due to filtering of GRACE observed total water storage change (#IUGG-0738)

Hyungki Lee (USA)

9:15 Applications of energy balance and regional gravity modeling approach on improved GRACE estimates of terrestrial water storage changes (#IUGG-5728)

C.K. Shum (USA)

9:30 Changing water systems and the Tryranny of small problems: Socio-hydrology (#IUGG-5319)

Murugesu Sivapalan (USA)

IAHAM 8:30-10:00, Panorama Hall

M21 Decadal Climate Dynamics and Prediction

M21b
Chair: Lisa Goddard (USA)

- 8:30 The Pacific decadal oscillation, revisited (#IUGG-4643)

Matthew Newman (USA)

- 8:45 The connection between decadal variability in the Pacific Subtropical Cells and sea surface height in the western Tropical Pacific (#IUGG-1182)

Goro Yamamaki (Japan)

- 9:00 Structure and dynamics of decadal anomalies in the wintertime midlatitude North Pacific ocean-atmosphere system (#IUGG-1862)

Xiao-Qun Yang (China)

- 9:15 Where are we in understanding the early-2000s hiatus of global warming? (#IUGG-5475)

Jerry Meehl (USA)

- 9:30 Investigating tropical model initial drift in seasonal hindcasts (#IUGG-2623)

Jon Shonk (United Kingdom)

- 9:45 The impact of stratospheric aerosol on multyear seasonal and decadal predictions (#IUGG-4011)

Holger Pohlmann (Germany)
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**IAHS**

**HW18 Advances in Remote Observation of Snow**

**HW18a**

8:30  Snow depth mapping via UAV borne laser scanning (#IUGG-2910)

Alexander Prokop (Austria)

8:45  Airborne laser scanning: a basis for hydrological model studies in glacierized catchments (#IUGG-2472)

Kay Helfricht (Austria)

9:00  Optimizing a high resolution snow redistribution model in sub alpine terrain using multi-temporal airborne lidar (#IUGG-5695)

Andrew Hedrick (USA)

9:15  Mapping thin snow cover from small aircraft with LiDAR and SFM photogrammetry (#IUGG-5101)

Christopher Larsen (USA)

9:30  Using terrestrial laser scanner to analyze snow depth distribution at very long distances: validation and identification of drivers of variability (#IUGG-1534)

Juan Ignacio López-Moreno (Spain)

9:45  Quantifying snow depth uncertainty in repeat terrestrial laser scanning of avalanche starting zones (#IUGG-5701)

Jeffrey Beems (USA)

**IAHS**

**HW11 Fingerprinting Techniques: Evaluating Methodological Approaches, Problems and Uncertainty**

**HW11b**

8:30  Sediment sources and ages of channel sediment by combining short-lived radionuclides with the sediment fingerprinting approach (#IUGG-0202)

Allen Gellis (USA)

8:45  Uncertainties of using the CSSI technique to indentify sediment sources in three pond catchments, Three Gorge Area, China (#IUGG-0338)

Xinbao Zhang (China)

9:00  Changing suspended sediment dynamics over two flood events: an application of sediment source tracing in the Vuuvu River, South Africa (#IUGG-1712)

Kate Rowntree (South Africa, Republic of)

9:15  Identification of sediment sources using sediment fingerprinting methods in small catchments in the Kruger National Park, South Africa (#IUGG-1145)

Jordan Miller (South Africa, Republic of)

9:30  Exploring the use of fallout radionuclides to identify sediment sources in a small experimental catchment in southern Italy (#IUGG-4426)

Paolo Porto (Italy)

9:45  Distinguishing sediment sources in a New Zealand catchment using sediment fingerprinting approaches (#IUGG-0200)

Simon Vale (New Zealand)

**IAHS**

**HW14 Advancing Water Quality Prediction at the Catchment Scale: New Theories and Approaches**

**HW14a**

8:30  Cross-fertilisation between process and data-based approaches for modelling sediment load dynamics (#IUGG-4204)

Scott Wilkinson (Australia)

8:45  Assessment of climate change impacts on water quality of the Geum River, Republic of Korea (#IUGG-1935)

Dongil Seo (Korea, Republic of Korea)

9:00  Land use induced pattern of continues in-stream assimilatory nitrate uptake rates from high frequency sensor measurements (#IUGG-2412)

Michael Rode (Germany)

9:15  Assessing catchment-scale benefits of best management practices: An integrated modelling approach with field observations and remotely sensed data (#IUGG-4976)

In-Young Yeo (Australia)

9:30  Assessment and prediction of river runoff, water quality and sediment contamination in the Selenga-Baikal basin (#IUGG-5121)

Sergey Chalov (Russia)

9:45  A model framework for simulating water quality evolution within complex aquatic landscapes (#IUGG-5784)

Matthew Hipsey (Australia)

**IAMAS**

**M10 Global Monsoons and Climate Change**

**M10d**

8:30  Exacerbation of South Asian monsoon biases in GCMs using when using coupled ocean models (#IUGG-4924)

Solicited Speaker: Andrew Turner (United Kingdom)

9:00  Convection and its upsacle effects in the Indian Monsoon: Insights from convection-permitting multi-day simulations over Indian Subcontinent (#IUGG-4573)

Peter Willetts (United Kingdom)

9:15  Overview of global monsoons modeling inter-comparison project : GMMIP (#IUGG-5504)

Tianjun Zhou (China)

9:30  Changes in precipitation over East Asia projected by Global Atmospheric Models with 20-km and 60-km grid sizes (#IUGG-1008)

Shoji Kusunoki (Japan)

9:45  The decadal variability of the tropical Indian Ocean SST-the South Asian High relation: CMIP5 model study (#IUGG-0666)

Gang Huang (China)
Wednesday, June 24

IAGA 8:30-10:00, North Hall

A20 ULF waves in the inner magnetosphere (Div. III)
A20a
Chairs: Kazue Takahashi (USA), Peter Chi (USA)
8:30 Multipoint observations of ULF waves at low-Earth-orbit by the SWARM satellites (#IUGG-2446)
Solicited Speaker: Balázs Heilig (Hungary)
8:45 Correspondence between the Pc5 wave power latitudinal distribution and auroral oval (#IUGG-4042)
Solicited Speaker: Viacheslav Pilipenko (Russia)
9:00 Spatiotemporal Behavior of ULF waves excited by interplanetary shock and solar wind dynamic pressure impulses in the magnetosphere (#IUGG-4673)
Qiugang Zong (China)
9:15 The influence of solar wind variability on magnetospheric ULF wave power (#IUGG-5478)
Dimitry Pokhotelov (United Kingdom)
9:30 On the external sources of EMIC waves in the magnetosphere (#IUGG-3406)
Dong-Hun Lee (Korea, Republic of Korea)
9:45 Global Simulation of Externally Driven EMIC waves at Earth (#IUGG-4266)
Jay Johnson (USA)

IAGA 8:30-10:00, Terrace I

A21 Wave and Particle Dynamics in the Radiation Belts and Ring Current (Div. III)
A21b
8:30 Progress in Understanding Plasma Waves of the Inner Magnetosphere from the Van Allen Probes and MMS missions (#IUGG-2263)
Solicited Speaker: David Malaspina (USA)
8:45 Simulation of VLF chorus emissions in the magnetosphere and comparison with THEMIS spacecraft data (#IUGG-0723)
Andrei Demekhov (Russia)
9:00 Connections between linear properties of whistler waves and characteristic frequencies of chorus (#IUGG-3478)
Xin Tao (China)
9:15 Growth, Propagation, and Effects of Electromagnetic Ion Cyclotron (EMIC) Waves (#IUGG-2223)
Richard Denton (USA)
9:30 RBSP, NOAA, and ground observations of an intense Pc 1 wave event and its resulting depletion of ultrarelativistic electrons (#IUGG-1812)
Mark Engbrodtson (USA)
9:45 Effects of solar wind variations on the occurrence of EMIC waves (#IUGG-2991)
Sung-Hwan Lee (Korea, Republic of Korea)

IAGA 8:30-10:00, Terrace II

A14 Equatorial Spread-F, Equatorial Ionization Anomaly (EIA) and F3-Layer Studies During Geomagnetic Quiet and Disturbed Periods (Div. II-E)
A14a
Chair: Paulo Roberto Fagundes (Brazil)
8:30 Mechanisms of different aspects of EIA during space weather (#IUGG-0188)
Solicited Speaker: Balan Nanan (Japan)
9:00 Formation mechanisms for low-latitude and equatorial F region ionospheric and plasmaspheric disturbances during geomagnetic storms (#IUGG-0815)
Maxim Klimenko (Russia)
9:15 Ionospheric storm at the sub-equatorial ionization anomaly (SEIA) area in the Eastern Asian region (#IUGG-1225)
Solicited Speaker: Biqiang Zhao (China)
9:45 On the periodic characteristics of Equatorial spread-F plume structures observed in Southeast Asia (#IUGG-1282)
Baiqi Ning (China)

IAGA 8:30-10:00, Chamber Hall

A39 Geomagnetic Observatories, Variometers and Repeat Surveys: Instrumental and Operational Developments and Applications (Div. V)
A39d
Chair: Bill Worthington (USA)
8:30 Preliminary working experiences with an Automatic Baseline Controlling Delta I - Delta D magnetometer (#IUGG-4061)
Laszlo Hegymegi (Hungary)
8:45 Complex software solution package for geomagnetic observatories (#IUGG-2011)
Petr Kubasta (Czech Republic)
9:00 Comparison of the Regional Magnetic Index Ksa designed for South America with the Global Magnetic Index Kp (#IUGG-1806)
Clezio De Nardin (Brazil)
9:15 Modern geodetic solutions for the deployment of geomagnetic observatories in Russia (#IUGG-3993)
Solicited Speaker: Roman Krasnoperov (Russia)
Wednesday, June 24

IAHS

HW13 Hydrological Predictions in Ungauged Basins
HW13d

Chair: Elena Volpi (Italy)

8:30 Liuxihe Model and applications in catchment flood forecasting (#IUGG-1903)
Yangbo Chen (China)

8:45 A new physically-based analytical model for the prediction of stream temperature in ungauged basins (#IUGG-2038)
Aurelien Gallice (Switzerland)

9:00 Baseflow index regressed on hydrometeorological variables for ungauged hydrological subcatchments (#IUGG-5184)
Hafzullah Aksoy (Turkey)

9:15 Simulating stream runoff by the VIP eco-hydrological model for data-scare basins in Tibet Plateau (#IUGG-5374)
Suxia Liu (China)

9:30 Parameterization of rainfall-runoff models for almost ungauged catchments (#IUGG-5567)
Laure Lebecherel (France)

IAGA

A43d

Chair: Inez S. Batista (Brazil)

8:30 On the Importance of Data Assimilation for the Thermosphere Ionosphere System (#IUGG-1542)
Solicited Speaker: Mihail Codrescu (USA)

Hisao Takahashi (Brazil)

9:00 Development of a multimodel ensemble prediction system to specify ionospheric weather (#IUGG-5024)
Xiaoqing Pi (USA)

9:15 Patterns of global electron content during the space weather storms (#IUGG-1433)
Feza Arikan (Turkey)

9:45 Solar Activity Dependence of the E-Region Electric Field in the Brazilian Sector Equatorial (#IUGG-1803)
Clezio De Nardin (Brazil)

IAGA

A41 Lithospheric Field Modeling, the WDMAM and Tectonic Implications (Div. V)
A41a

8:30 A study of satellite magnetic anomalies over Chinese mainland by spherical cap harmonic model (#IUGG-0358)
Yan Feng (China)

8:45 Geomagnetic patterns along the Neogene to Quaternary volcanism of East Carpathians (#IUGG-0632)
Lucian Buștitu (Romania)

9:00 Curie isotherm map of Scotia Arc from near surface magnetic anomaly data (#IUGG-0985)
Manuel Catalán (Spain)

9:15 Sensitivity of satellite and airborne data to synthetic models of magnetization for the Fennoscandian lithosphere (#IUGG-1676)
Eidar Baykjev (Norway)

9:30 Crustal architecture and tectonic evolution of the Antarctic continent as unveiled from a decade of aeromagnetic exploration (#IUGG-1820)
Solicited Speaker: Fausto Ferraccioli (United Kingdom)

Union Lectures

UL01 Union Lectures 1

Chair: Harsh Gupta (India)

10:30 Transformation of human society for sustainable future
Keynote Speaker: Yuan Tseh Lee (Taiwan - China)

11:00 The whole-system approach to extreme space weather
Keynote Speaker: Janet Kozyra (USA)

11:30 Challenges of Educating hydrologists for the Global South, the case of southern Africa
Keynote Speaker: Dominic Mazvimavi (South Africa, Republic of)

Union Symposia

U02 Integrated Disaster Risk Science: Accounting for Extremes
U02b

Chair: Kuniyoshi Takeuchi (Japan)

13:30 Changing risks caused by severe weather events (#IUGG-4236)
Solicited Speaker: Peter Hoepppe (Germany)

14:00 A hard rain’s a-gonna fall - Changes in flood risk (#IUGG-1568)
Solicited Speaker: Zbigniew Kundzewicz (Poland)
### IAHS

**HS03 Precipitation: measurements, instrumentation, statistics, modeling and predictions at all scales**

**HS03b**

- **13:30** Rainfall in the Andean Páramo—New Insights from High-Resolution Monitoring in Southern Ecuador (#IUGG-1684)
  - Ryan Padrón (Ecuador)
- **13:45** Orographic precipitation observation in Jeju Island, Korea (#IUGG-2147)
  - Dong-In Lee (Korea, Republic of Korea)
- **14:00** Major precipitation patterns in Kochi, Japan by tropical and extratropical cyclones (#IUGG-5004)
  - Koji Sassa (Japan)
- **14:15** Precipitation trends as a basis for developing adaptation to increased flood risk from flash floods in Serbia (#IUGG-3128)
  - Aleksandra Ilie (Serbia)
- **14:30** On the reproduction of correlation structure and extremes at high temporal resolutions by stochastic precipitation disaggregation models (#IUGG-3316)
  - Peter Molnar (Switzerland)
- **14:45** Using X band radar data for flooding management in urban areas (#IUGG-5248)
  - Daniel Schertzer (France)

### Joint Inter-Association Symposia

**JH03/JG03 Assessment of Climate and Anthropogenic Changes Impacts on the Terrestrial Hydrosphere (IAHS, IAMAS) / Variations of the Hydrosphere from Satellite Gravity Missions (IAG, IAHS)**

**JH03b**

- **13:30** Fully coupled atmosphere-hydrology modeling: Approaches and case studies for different climate regions (#IUGG-4604)
  - Harald Kunstmann (Germany)
- **13:45** Assessing long-term impact of urbanization on runoff using a remote sensing supported hydrological model (#IUGG-4545)
  - H. Zhang (China)
- **14:15** Glacier hazards evolution during deglaciation: What Cordillera Blanca portends about 21st-22nd century Alaska, the Himalaya, and Patagonia (#IUGG-5465)
  - Jeffrey Kargel (USA)
- **14:30** Basin management under the global climate change (#IUGG-5747)
  - Shuguang Liu (China)
- **14:45** Sediment provenance and climate changes of lower Yangtze River during the last 130 years, and potential impacts from human (#IUGG-5607)
  - Yan Zheng (China)

### IAMAS

**M08/M09 Comparative Planetary Atmospheres within and beyond the Solar System / Solar System Exploration of Atmospheres with Ground-Based and Space-Based Platforms**

**M08a**

- **Chairs:** Sanjay Limaye (USA), Leigh Fletcher (UK)
- **13:30** Saturn’s seasonal atmosphere from solstice to solstice (#IUGG-2942)
  - Leigh Fletcher (United Kingdom)
- **13:45** Simulation of Jupiter’s stratosphere: new radiation code and impacts on the dynamics (#IUGG-2232)
  - Takeshi Kuroda (Japan)
- **14:00** Inferring the depth of the atmospheric circulation on Jupiter and Saturn through gravity measurements by Juno and Cassini (#IUGG-3731)
  - Eli Galanti (Israel)
- **14:15** Comparative origin of the Gas Giant Planets and their volatiles (#IUGG-1435)
  - Sushil Atreya (USA)
- **14:30** Superrotation in Held & Suarez-like flows with weak surface temperature gradient (#IUGG-2338)
  - Inna Polichtchouk (United Kingdom)
- **14:45** Possible solar effects on cloud cover at low and high altitudes: Sun versus solar wind (#IUGG-5336)
  - Mirela Voiculescu (Romania)

### M02 Advances in Atmospheric Dynamics Including Topographic Forcing

**M02b**

- **Chair:** Thomas Spengler (Norway)
- **13:30** Recent developments in the theory of Rossby waves and their interaction with the mean flow (#IUGG-4497)
  - Noboru Nakamura (USA)
- **14:00** The role of planetary waves in determining the location of the tropospheric jet (#IUGG-4890)
  - Richard Scott (United Kingdom)
- **14:15** Formation and maintenance mechanism of the tropospheric jet stream (#IUGG-4531)
  - Yuhji Kuroda (Japan)
- **14:30** Roles of barotropic and baroclinic eddy feedbacks in the atmospheric response to the lower tropospheric thermal forcing (#IUGG-3628)
  - Yang Zhang (China)
- **14:45** Global circulation regimes in the presence of stationary planetary wave forcing (#IUGG-4804)
  - Nili Harnik (Israel)
Wednesday, June 24

IAG 13:30-15:00, Meeting Hall V

G05 GNSS++: Emerging Technologies and Applications

G05a

Chairs: Guenther Retscher (Austria), Kefei Zhang (Australia)

13:30 Geodetic Stereo SAR - 4-D coordinate retrieval of persistent scatterers from TerraSAR-X radar observations (#IUGG-1525)
Christoph Gisinger (Austria)

13:45 Robust spatial approximation of lasercanner point clouds by means of free-form surface approaches (#IUGG-3594)
Johannes Bureick (Germany)

14:00 Noise modelling for geo-referencing of a TLS-based multi-sensor system using low-cost GNSS (#IUGG-3703)
Jens-André Paffenhöhol (Germany)

14:15 Multi-sensor point cloud generation with small unmanned aerial vehicles (#IUGG-0239)
Dorota Grojner-Brzezinska (USA)

14:30 Sensing aircraft attitude and velocity by LiDAR (#IUGG-0240)
Charles Toth (USA)

14:45 Single-epoch BDS/GPS Attitude Determination with Length Constrained LAMBDA Method (#IUGG-2300)
Wanke Liu (China)

Joint Inter-Association Symposia 13:30-15:00, Small Hall

JG01 Dynamics of the Cryosphere from Geometric and Gravimetric Observations (IAG, IACS)

JG01a

13:30 Observing ice-volume change in Greenland and Antarctica using CryoSat-2 altimetry (#IUGG-2259)
Solicited Speaker: Veit Helm (Germany)

13:45 CryoSat-2 calibration/validation in Antarctica: Quantifying uncertainties utilising different satellite, airborne and ground-based techniques (#IUGG-1901)
Christoph Knöfel (Germany)

14:00 Inter-annual ice mass variations over Antarctica combining grace gravimetry and envisat altimetry (#IUGG-3629)
C.K. Shum (USA)

14:15 Trends and interannual changes of the Antarctic ice sheet from radar altimetry and satellite gravimetry (#IUGG-2771)
Solicited Speaker: Anthony Memin (France)

14:30 Mass balance of Greenland from combined estimation with GRACE, satellite altimetry and airborne lidar (#IUGG-5573)
Rene Forsberg (Denmark)

14:45 IceSat-2: The next generation laser altimeter mission for polar research (#IUGG-2944)
Thomas Neumann (USA)

IACS 13:30-15:00, Small Theatre

C04 Modelling of Mountain Glaciers, Past and Future

C04b

Chair: Joseph Shea (Nepal)

13:30 Modeling strategies to assess the response of western Canadian glaciers to past and future climate change (#IUGG-4272)
Solicited Speaker: Brian Menoounas (Canada)

14:00 High Mountain Asia contribution to sea level rise by 2100 (#IUGG-1622)
John Moore (China)

14:15 Dynamic response of Urumqi Glacier No.1, Eastern Tianshan, to climate forcing over the last decade (#IUGG-1268)
Christoph Schneider (Germany)

14:30 Future projection of the surface mass balance of Altai Glaciers Using WRF Meteorological Data and CMIPS models (#IUGG-1660)
Yong Zhang (China)

14:45 The energy and mass balance of tropical Lewis Glacier, Mount Kenya, and its sensitivity to climate (#IUGG-3959)
Rainer Prinz (Austria)

IAHS 13:30-15:00, Club A

HS01 Changes in Flood Risk and Perception in Catchments and Cities

HS01e

Chair: Michelle Kooy (China)

13:30 Flood risk changes over centuries in Rome: An empirical study (#IUGG-0005)
Solicited Speaker: Giuliano Di Baldassarre (Sweden)

14:00 Decreasing flood risk perception in Porto Alegre - Brazil and its influence on water resource management decisions (#IUGG-0130)
Daniel Allasia (Brazil)

14:15 Integration of uncertainties in water and flood risk management (#IUGG-0035)
Britta Hoellermann (Germany)

14:30 Living with floods, household perception and satellite observations in the Barotse Floodplain, Zambia (#IUGG-0042)
Xueliang Cai (South Africa, Republic of)

14:45 Operational tools to help stakeholders to protect and alert municipalities facing uncertainties and changes in karst flash floods (#IUGG-0155)
Valerie Borrell Estupina (France)
Wednesday, June 24

**IAGA**

**A30 Multi-Spectral Studies of Solar Flares (Div. IV)**

**A30b**

13:30 Observational signatures of magnetic reconnection and particle acceleration in twisted coronal loops (#IUGG-0755)

*Solicited Speaker: Mykola Gordovskyy (United Kingdom)*

14:00 Hard X-Ray-producing electrons in flaring coronal loops and turbulent pitch-angle scattering (#IUGG-5254)

*Eduard Kontar (United Kingdom)*

14:15 Solar flare continuum emissions in the terahertz range of frequencies (#IUGG-1308)

*Solicited Speaker: Pierre Kaufmann (Brazil)*

14:45 Enhancement of Hydrogen emission during flare onset and main phase, with radiative-hydrodynamic simulations and their diagnostics from multi-wavelength observations (#IUGG-0988)

*Malcolm Druett (United Kingdom)*

**IAHS**

**HW18 Advances in Remote Observation of Snow**

**HW18b**

13:30 Combining ground-based observations, distributed models, and remotely sensed data for real-time SWE estimates (#IUGG-4377)

*Noah P. Molotch (USA)*

13:45 Quantifying the sub-pixel relationship between terrain roughness, remotely-sensed fractional snow covered area and snow depth (#IUGG-4291)

*Noah P. Molotch (USA)*

14:00 Snowmelt dynamics and streamflow response in an alpine catchment (#IUGG-4047)

*Tristan Braunli (Switzerland)*

14:15 Multi-sensor observation of snowfall during CLACE 2014 in the central Swiss Alps (#IUGG-4162)

*Jacopo Graziani (Switzerland)*

14:30 Using time-lapse photography to investigate processes related to avalanche release (#IUGG-4939)

*Alec van Herwijnen (Switzerland)*

14:45 Improving snow canopy interception modelling using aerial LiDAR data (#IUGG-3259)

*David Moeser (Switzerland)*

14:30 Spatial and temporal variation of surface water effect on groundwater recharge in Taihang Mountains, North China (#IUGG-1686)

*Koichi Sakakibara (Japan)*

14:45 Some isotopic investigation of water sources situated along the border Romania – Bulgaria, in the danube area (#IUGG-5711)

*Mary-Jeanne Adler (Romania)*

**IAHS**

**HW15 Tracer Methods for Understanding the Response of Hydrological Systems to Transient Contamination Inputs**

**HW15a**

13:30 From precipitation to groundwater recharge: Challenges in estimating transit times using environmental isotope approaches (#IUGG-2256)

*Solicited Speaker: Christine Stumpp (Germany)*

14:00 Transport of ideal tracers in highly heterogeneous porous media at different flow velocities in a laboratory scale experiment (#IUGG-2775)

*Bastian Kraor (Germany)*

14:15 Use of deuterium excess in hydrological studies of arid regions (#IUGG-4689)

*Zhonghe Pang (China)*

14:30 Spatial and temporal variation of surface water effect on groundwater recharge in Taihang Mountains, North China (#IUGG-1686)

*Koichi Sakakibara (Japan)*

14:45 Some isotopic investigation of water sources situated along the border Romania – Bulgaria, in the danube area (#IUGG-5711)

*Mary-Jeanne Adler (Romania)*

**IAHS**

**HW01 Exchange Processes at Aquatic Boundaries and Their Effects on Ecosystems**

**HW01a**

13:30 Characterization of groundwater and surface water interactions along Kirmir Stream using field measurements and thermal remote sensing (#IUGG-3235)

*Koray Yilmaz (Turkey)*

13:45 Eco-hydrological modelling of wetland processes in a restored river system in Denmark (#IUGG-3646)

*Michael Butts (Denmark)*

14:00 Finite element modelling to assess the spatial and temporal variation in subsurface flow across the coast north of Chennai, India (#IUGG-0363)

*Elongo Lakishmanan (India)*

14:15 Nutrients in groundwater and associated processes in the coastal zone of the Pearl River Delta, China (#IUGG-0407)

*Jianyao Chen (China)*

14:30 Prediction of saltwater-freshwater interface in the coastal region of the eastern Niger delta of Nigeria (#IUGG-3123)

*Enuvie Akpokodje (Nigeria)*
Wednesday, June 24

IAMAS 13:30-15:00, Club H

M10 Global Monsoons and Climate Change
M10e

Chair: Serge Janicot (France)

13:30 Variability and Predictability of the Northern Hemisphere Summer Tropical-Extratropical Teleconnection: The mid-1970s shift (#IUGG-2762)
June-Yi Lee (Korea, Republic of Korea)

13:45 Interdecadal variability of the South American monsoon in observations and model (#IUGG-0783)
Alice Grimm (Brazil)

14:00 Role of multidecadal Pacific variability for the 1950-1999 Indian summer monsoon drying (#IUGG-3935)
Marc Salzmann (Germany)

14:15 Oceanic influence of Asian monsoon observed from space (#IUGG-3620)
Xiaoxu Xie (USA)

14:30 Variations of Broad-scale Asian summer monsoon circulation and possible causes (#IUGG-0276)
Zhiyan Zuo (China)

14:45 Trends in pre-summer frontal and diurnal rainfall activities during 1982-2012 over Taiwan and Southeast China (#IUGG-0020)
Wan-Ru Huang (Taiwan - China)

IAGA 13:30-15:00, North Hall

A20 ULF waves in the inner magnetosphere (Div. III)
A20b

Chairs: Masahito Nose (Japan), Emma Bland (Australia)

13:30 Resonators for the poloidal ULF waves in the Earth's magnetosphere (#IUGG-0451)
Dmitri Klimushkin (Russia)

13:45 On the characteristics of the poloidal Alfvén wave in 3D dipole geometry (#IUGG-3330)
Jiwon Choi (Korea, Republic of Korea)

14:00 Modeling ULF waves in the magnetosphere with a global gyrokinetic model (#IUGG-4273)
Solicited Speaker: Jay Johnson (USA)

14:15 Hybrid gyrofluid-kinetic electron simulations of kinetic-scale Field Line Resonances (#IUGG-4776)
Peter Damiano (USA)

14:30 In Situ Statistical Observations of Pc1 Pearl Pulsations and Unstructured EMIC Waves Using the Van Allen Probes (#IUGG-0939)
Solicited Speaker: Kristoff Paulson (USA)

14:45 Nonlinear wave energy cascade as a source of seed fluctuations for electromagnetic ion cyclotron waves in Earth’s magnetosphere (#IUGG-3671)
Mark Engelbrecht (USA)

IAGA 13:30-15:00, Terrace I

A21 Wave and Particle Dynamics in the Radiation Belts and Ring Current (Div. III)
A21c

13:30 Barrier to ultra-relativistic electrons in the Van Allen radiation belt (#IUGG-4375)
Daniel N. Baker (USA)

13:45 Delicate balance between radiation belt acceleration and loss: Impacts of magnetopause shadowing and plasmasheet sources during enhanced ULF wave power (#IUGG-2248)
Ian Mann (Canada)

14:00 Access of plasma sheet particles to the inner magnetosphere during the october 2, 2013 geomagnetic storm (#IUGG-5655)
Scot R. Elkingston (USA)

14:15 Acceleration of magnetospheric particles by inductive electric fields (#IUGG-0995)
Raluca Ilie (USA)

14:30 ULF waves and plasmapause evolution's effect on relativistic electron acceleration and losses from the radiation belts (#IUGG-0857)
Marina Georgiou (Greece)

14:45 Effects of magnetic drift shell splitting on electron diffusion in the radiation belts (#IUGG-4216)
Anthony Chan (USA)

IAGA 13:30-15:00, Terrace II

A14 Equatorial Spread-F, Equatorial Ionization Anomaly (EIA) and F3-Layer Studies During Geomagnetic Quiet and Disturbed Periods (Div. II-E)
A14b

Chair: Maxim Klimenko (Russia)

13:30 Equatorial anomaly characteristics and dynamics during high solar activity according to the Interkosmos-19 topside sounding data (#IUGG-3954)
Solicited Speaker: Alexander Karpachev (Russia)

14:00 Horizontal velocities of spread F over Northern Argentina and Taiwan (#IUGG-1155)
Jaroslav Chum (Czech Republic)

14:15 Strong range spread-F: a new type of ionospheric spread-F at low latitudes (#IUGG-1038)
Jiankui Shi (China)
IAGA 13:30-15:00, Chamber Hall

A37 Geophysical and Geomagnetic Diagnosis of the Sun and Near-Earth Space (Div. V/Div. III)

A37a
Chair: Paola DeMichelis (Italy)

13:30 The Large-Scale Current System During Auroral Substorms (#IUGG-2238)
Solicited Speaker: Jesper Gjerloev (USA)

13:45 The configuration of the Earth magnetotail inferred from the low-altitude isotropic boundaries (#IUGG-0997)
Raluca Ilie (USA)

14:00 Ionospheric Storm: Fascinating geophysical phenomena and a potential threat for GNSS-based communication (#IUGG-3798)
Solicited Speaker: Elvira Astafyeva (France)

14:15 Observations of natural and artificial disturbances in the auroral ionosphere (#IUGG-2145)
Solicited Speaker: Alexander Kozlovsky (Finland)

14:30 Effects of solar wind high-speed streams on the high-latitude ionosphere: Superposed-epoch study (#IUGG-2989)
Maxime Grandin (Finland)

14:45 Comparative study of geoeffectiveness associated with CME for ascending phase of solar cycle 23 and 24 (#IUGG-0638)
Selvakumaran Ravindran (India)

IAG 13:30-15:00, South Hall 2

G03 Variations of the Gravity Field

G03a

13:30 The GRACE Mission status and future directions (#IUGG-3084)
Byron Tapley (USA)

13:45 A regularized sliding window time-variable gravity field from GRACE (#IUGG-1366)
Carly Sakumura (USA)

14:00 Improved methods for estimating Earth’s time variable gravity from GRACE using Bayesian constraints and surface spherical cap mascons (#IUGG-1588)
David Wiese (USA)

14:15 GRACE mascon solutions: Validation and applications to hydrology, glaciers and earthquakes (#IUGG-2356)
Philip Moore (United Kingdom)

14:30 Improved GRACE preprocessing methodologies: Impact on monthly gravity field solutions (#IUGG-3287)
Beate Klinger (Austria)

14:45 Time-variable gravity field from SLR and combined GRACE-SLR solutions (#IUGG-4896)
Krysztof Sosnica (Switzerland)

IAGA 13:30-15:00, South Hall 3

A41 Lithospheric Field Modeling, the WDMAM and Tectonic Implications (Div. V)

A41b

13:30 Magnetic and gravity anomalies over Germany and southern Africa (#IUGG-2110)
Monika Korte (Germany)

13:45 A candidate to the World Digital Magnetic Anomaly Map version 2 (WDMAM-v2) (#IUGG-2434)
Solicited Speaker: Vincent Lesur (France)

14:00 Compilation and leveling of a new global marine magnetic anomaly data set (#IUGG-2819)
Takemi Ishihara (Japan)

14:15 Estimating crustal heat production under the Greenland Ice Cap using the CMS model of the Earth’s magnetic field (#IUGG-3794)
Michael Purucker (USA)

14:45 The deep structure of the Seiland Igneous Province (Norway): 3D gravity and magnetic modelling (#IUGG-4006)
Zeudia Pastore (Italy)

15:00-16:30, Poster Area (Foyer)

Poster sessions (p. 221)

Union Symposia

U02 Integrated Disaster Risk Science: Accounting for Extremes

U02c
Chair: Vladimir Kassobakov (Russia)

16:30 Anticipating and addressing the global risk associated with very large volcanic eruptions (#IUGG-4736)
Solicited Speaker: Hans-Peter Plag (USA)

17:00 Advanced seismic hazard assessment to cope with complexities of the largest seismic potential and risks for public safety (#IUGG-0258)
Solicited Speaker: Giuliano Panza (Italy)

17:30 Measuring community wellbeing during a disaster recovery: lessons following the 2010-2011 Canterbury earthquake sequence (#IUGG-5763)
Solicited Speaker: David Johnston (New Zealand)
Wednesday, June 24

IAHS
16:30-18:00, Forum Hall

HS03 Precipitation: measurements, instrumentation, statistics, modeling and predictions at all scales

16:30 Modelling and prediction of rainfall in Kinshasa using Fourier Transform and Autoregressive Integrated Moving Average (ARIMA) model Techniques (#IUGG-0315)
Dedetemo Kimilita Patrick (Democratic Republic of Congo)

Masayuki Maki (Japan)

17:00 Development of rapid method for inland inundation risk using machine learning (#IUGG-2067)
Kohin Hirano (Japan)

17:15 One and a half centuries of precipitation variability over Africa (#IUGG-1414)
Sharon Nicholson (USA)

17:45 Uncertainty analysis in building ensemble of precipitation from RCMs in semiarid South East of Spain (#IUGG-5132)
Sandra G. García Galiano (Spain)

Joint Inter-Association Symposia
16:30-18:00, Meeting Hall I

JH03/JG03 Assessment of Climate and Anthropogenic Changes Impacts on the Terrestrial Hydrosphere (IAHS, IAMAS) / Variations of the Hydrosphere from Satellite Gravity Missions (IAG, IAHS)

16:30 Recent climate change and its possible impacts on water resources in the Northwest China (#IUGG-4292)
Yaning Chen (China)

16:45 Evaluations of anthropogenic impacts on groundwater temperature (#IUGG-3446)
Makoto Taniguchi (Japan)

17:00 A synoptic-typing bias correction method for considering the impacts of climate change on IDF relationships (#IUGG-2504)
Ashish Sharma (Australia)

17:15 Improving models and methods for assessing climate change-forced impacts to water resources in the United States (#IUGG-4579)
Jeffrey R. Arnold (USA)

17:30 Simulating the spatiotemporal impacts of large-scale reservoir operation on the 2011 Thai flood inundation through a combined modeling framework (#IUGG-1832)
Cherry May Mateo (Japan)

17:45 A detailed assessment of hydrological processes acting on anthropogenic surfaces in urban areas (#IUGG-2448)
Thomas Redfern (United Kingdom)

IAMAS
16:30-18:00, Panorama Hall

M08/M09 Comparative Planetary Atmospheres within and beyond the Solar System / Solar System Exploration of Atmospheres with Ground-Based and Space-Based Platforms

16:30 Titan's chemical composition evolution with time from the Cassini mission (#IUGG-0986)
Athena Coustenis (France)

16:45 Origin and evolution of Titan's atmosphere, as revealed by the Cassini-Huygens Mission (#IUGG-1434)
Sushil Atreya (USA)

17:00 Internal gravity wave processes on Earth and Mars (#IUGG-1196)
Erdal Yigit (USA)

17:15 Constraints on past climate on Mars from the North Polar layered deposits (#IUGG-5122)
Christine S. Hvidberg (Denmark)

17:30 Exploring the atmospheric composition over Pakistan during last decade and the changing climate (#IUGG-0633)
Muhammad Fahim Khokhar (Pakistan)

17:45 Utilization of satellite data as a tool for assistance in decision making of cloud seeding operations (#IUGG-0329)
Sohrab Hejjam (Iran)

IAMAS
16:30-18:00, Meeting Hall IV

M02 Advances in Atmospheric Dynamics Including Topographic Forcing

16:30 Declining Trend in Simulated Snow Water Equivalent over the Highlands of Turkey (#IUGG-1740)
Baris Önl (Turkey)

16:45 Structural and environmental characteristics of extratropical cyclones that cause a tornado outbreak (#IUGG-2889)
Eigo Tochimoto (Japan)

17:00 Synoptic-scale flow structures associated with extreme precipitation events in northern Switzerland (#IUGG-2415)
Paraskevi Giannakaki (Switzerland)

17:15 Stratospere-troposphere-exchange in the vicinity of Southern Hemispheric cyclones – measurement, model analysis, and climatology (#IUGG-2860)
Peter Hoorn (Germany)

17:30 Diabatic PV anomalies related to clouds and precipitation in an idealized extratropical cyclone (#IUGG-2951)
Bas Cree (Switzerland)

17:45 Dynamics of the January 2013 Gong Storm: A sting jet offshore Portugal (#IUGG-3872)
Pedro Miranda (Portugal)
IAG 16:30-18:00, Meeting Hall V

G05b: Emerging Technologies and Applications

16:30 Weighted mean temperature model for Turkey using GNSS observables (#IUGG-0725)
Cetin Mekik (Turkey)

16:45 Real-time retrieval of precipitable water vapor from GPS and BeiDou observations (#IUGG-0787)
Cuixian Lu (Germany)

17:00 GNSS tomography: technique resolving vertical structure of severe weather (#IUGG-1932)
Witold Rohm (Poland)

17:15 Evaluation of multi-GNSS real-time atmospheric parameters using microwave radiometer and numerical weather model (#IUGG-4413)
Xingxing Li (Germany)

17:30 Quality assessment and screening of GPS ZTD estimates (#IUGG-3117)
Pierre Bosser (France)

Joint Inter-Association Symposia 16:30-18:00, Small Hall

JG01b: Dynamics of the Cryosphere from Geometric and Gravimetric Observations (IAG, IACS)

16:30 Using geodetic measurements to improve estimates of Antarctica’s GIA and present-day mass balance (#IUGG-3536)
Solicited Speaker: Brian Gunter (USA)

16:45 Re-assessing present day global mass transport and glacial isostatic adjustment from altimetry, gravity, ocean bottom pressure and GPS observations (#IUGG-3984)
Yan Jiang (Canada)

17:00 Glacial isostatic adjustment in Antarctica: a new regional estimate derived from space-geodetic data (ESA-STSE Project REGINA) (#IUGG-1942)
Ingo Sasgen (Germany)

17:15 The Antarctic Peninsula Mass Balance from the altimetry approach, the gravimetry approach and the input-output approach (ESA STSE Project APMB) (#IUGG-4810)
Martin Horwath (Germany)

17:30 13 Year Space Gravimetry Record of Graham Land and Palmer Land Mass Imbalance and Inferences for GIA Models and Corrections (#IUGG-4477)
Erik Ivins (USA)

IACS 16:30-18:00, Small Theatre

C03: Glacier Monitoring from In-Situ and Remotely Sensed Observations

16:30 Efforts to improve glacier monitoring from in situ and remotely sensed observations in different mountain regions: Strategies and datasets (#IUGG-3487)
Solicited Speaker: Martin Hoelzle (Switzerland)

17:00 Present changes in extent and thermal regime of Swedish glaciers (#IUGG-2231)
Per Holmlund (Sweden)

17:15 Reanalysing Norwegian long-term mass balance series (#IUGG-2180)
Liss Marie Andreassen (Norway)

17:30 Adequate representation of snow accumulation distribution in a mass balance series re-analysis (#IUGG-2704)
Lea Sold (Switzerland)

17:45 Evolution of Ossoue glacier (Pyrenees, Southwest Europe) since the end of the Little Ice Age (#IUGG-1537)
Renaud Marti (France)

IAHS 16:30-18:00, Club A

HS01f: Changes in Flood Risk and Perception in Catchments and Cities

16:30 Simplified graphical tools for assessing flood-risk change over large flood-prone areas (#IUGG-0056)
Francesca Carta (Italy)

16:45 Extensive Spatial-Temporal Assessment of flood events by Application of Pair-Copulas (#IUGG-0076)
Andreas Schumann (Germany)

17:00 Evaluating extreme flood characteristics in small mountainous basins of Northern Caucasus in past and future (#IUGG-0172)
Olga Semenova (Russia)

17:15 Crash-tests for forward-looking flood control in the city of Zürich (Switzerland) (#IUGG-0034)
Massimiliano Zappa (Switzerland)

17:30 Using subseasonal-to-seasonal (S2S) extreme rainfall forecasts for extended-range flood prediction in Australia (#IUGG-0036)
Christopher White (Australia)
Wednesday, June 24

**IAGA 16:30-18:00, Club B**

### A30 Multi-Spectral Studies of Solar Flares (Div. IV)

**A30c**

16:30 Energy release mechanisms of solar flares studied by microwave emission (#IUGG-5215)

*Solicited Speaker: Ayumi Asai (Japan)*

17:00 New enhancements of the GX_Simulator: 3D data-driven modeling of flaring loops and simulation of associated microwave and X-ray emission maps (#IUGG-4725)

*Gelu Nita (USA)*

17:15 Study of energy partitions and evolution in a purely thermal solar flare with microwave imaging and spectroscopy (#IUGG-4335)

*Gregory Fleshman (USA)*

17:30 Relations between fluxes of high-energy protons near Earth and microwave bursts (#IUGG-0692)

*Valentin Ksanov (Russia)*

17:45 Quasi-periodic pulsations with varying period in multi-wavelength observations of an x-class flare (#IUGG-5620)

*Jing Huang (China)*

**IAHS 16:30-18:00, Club C**

### HW18 Advances in Remote Observation of Snow

**HW18c**

Chair: Ernesto Trujillo (Switzerland)

16:30 Continuous and non-destructive snow information for remote areas based on the Global Navigation Satellite System (GNSS) (#IUGG-3960)

*Franziska Koch (Germany)*

16:45 Measurement of snow properties using upward-looking GPR applying (1) a combination with GPS technology and (2) full-waveform inversion (#IUGG-3939)

*Lino Schmid (Switzerland)*

17:00 Measuring snowmelt rates using a mobile GPR setup (#IUGG-4257)

*Tobias Jonas (Switzerland)*

17:15 Evaluating the above-ground cosmic-ray neutron sensor for measuring snow water equivalent at a multi-sensor snow research site (Kaunertal, Austrian Alps) (#IUGG-2337)

*Paul Schattan (Austria)*

17:30 Progresses of monitoring snow covered area by observing effective solar UV albedo (#IUGG-3126)

*Luca Egli (Switzerland)*

**IAHS 16:30-18:00, Club D**

### HW15 Tracer Methods for Understanding the Response of Hydrological Systems to Transient Contamination Inputs

**HW15b**

Chairs: Christine Stumpf (Germany), Zhonghe Pang (China)

16:30 Groundwater ages and hydrogeological dynamics in the Empordà basin (NE Spain) (#IUGG-3058)

*Josep Mas-Pla (Spain)*

16:45 Analyzing trace element information from a regional hydrogeological system (Empordà basin, NE Spain) (#IUGG-1857)

*Josep Mas-Pla (Spain)*

17:00 Hydrograph separation using ionic concentration measurement (#IUGG-2236)

*Miroslav Tesar (Czech Republic)*

17:15 Dynamics of radium cesium released by Fukushima NPP accident in groundwater, surface water and spring water in the headwater catchments (#IUGG-3483)

*Makoto Tsujimura (Japan)*

17:30 Effects of surface water on groundwater with high salinity during flood season in Taiy Island region, Mekong Delta, Vietnam (#IUGG-3380)

*Thu Thi Nguyen (Vietnam)*

17:45 Investigation the polluting effect of heavy elements on underground water in Behbahan Plain, south west Zagros (#IUGG-3508)

*Rezvan Khavari (Iran)*

**IAHS 16:30-18:00, Club E**

### HW01 Exchange Processes at Aquatic Boundaries and Their Effects on Ecosystems

**HW01b**

Chairs: Jim Butler (USA), David Hannah (United Kingdom), Dan Rosbjerg (Denmark), Makoto Taniguchi (Japan)

16:30 Impact of exchange and evolution process across aquatic and marine boundaries on coastal Wetland ecosystems (#IUGG-0697)

*Rajendra Patury (India)*


*Yi Lin (China)*

17:00 The transport of suspended matter in estuarine zones (#IUGG-3074)

*Ludmila Demina (Russia)*

17:15 Spatial and seasonal fluxes of greenhouse gases in the River Tay, Scotland: Hotspots of emission (#IUGG-3098)

*Kate Heal (United Kingdom)*

17:30 Monitoring water stress and flood impacts on riparian vegetation in an Alpine river by terrestrial photography (#IUGG-3144)

*Peter Molnar (Switzerland)*
Wednesday, June 24

IAGA 16:30-18:00, Terrace II

A20 ULF waves in the inner magnetosphere (Div. III)
A20c

Chairs: Balázs Heilig (Hungary), Kristoff Paulson (USA)

16:30 Global magnetohydrodynamic simulations of resonant ultra-low frequency mode coupling in the inner magnetosphere and plasmasphere (#IUGG-3231)

Solicited Speaker: Seth Claudepierre (USA)

16:45 Multipoint visualization of ULF oscillations using the Super Dual Auroral Radar Network (#IUGG-0713)

Solicited Speaker: Emma Bland (Australia)

17:00 Pc4-5 ULF waves observed by the TIGER SuperDARN radars near the plasmapause (#IUGG-3877)

Fred Menk (Australia)

17:15 Latitudinal distribution of quarter-wave length standing Alfvén modes (#IUGG-3870)

Yuki Obana (Japan)

17:30 Formation of the oxygen torus in the inner magnetosphere: Van Allen Probes observations (#IUGG-3034)

Solicited Speaker: Masahito Nose (Japan)

17:45 Statistical Studies of Magnetospheric Mass Density (#IUGG-2220)

Richard Denton (USA)

IAGA 16:30-18:00, North Hall

A21 Wave and Particle Dynamics in the Radiation Belts and Ring Current (Div. III)

A21d

16:30 Storm Time Injections and Decay In The Inner Zone and Slot Region: MagEIS Observations (#IUGG-1827)

Joseph Fennell (USA)

16:45 Investigating MeV electron enhancements and relationship to ULF waves using Van Allen Probes data in conjunction with LFM simulation results (#IUGG-4825)

Allison Jaynes (USA)

17:00 Van Allen Probes observations of wave-particle interactions in the Earth’s radiation belts (#IUGG-3068)

Seth Claudepierre (USA)

17:15 Ultra-relativistic electrons in the earth’s radiation belts: Observations by the relativistic electron-proton telescope onboard the van allen probes mission (#IUGG-5109)

Shrikant Kanekal (USA)

17:30 The ring current particles and their relation to theDst index – revisited using Van Allen Probes measurements (#IUGG-4718)

Xinlin Li (USA)

17:45 Position of the polar boundary of outer electron radiation belt and equatorial boundary of the auroral oval (#IUGG-3477)

Maria Riazantseva (Russia)

IAGA 16:30-18:00, Terrace I

A24 Equatorial Spread-F, Equatorial Ionization Anomaly (EIA) and F3-Layer Studies During Geomagnetic Quiet and Disturbed Periods (Div. II-E)

A24c

Chairs: Bigiang Zhao (China),

16:30 Connection of plasma blobs with plasma bubbles and traveling ionospheric disturbances (#IUGG-5252)

Hyosub Kim (USA)

16:45 Application of the Method of Transverse Displacements for high frequency radio paths calculation in low-latitude ionosphere during geomagnetic storms (#IUGG-0816)

Igor Nosikov (Russia)

17:00 F3-layer studies at magnetically conjugate locations over Brazil (#IUGG-1438)

Solicited Speaker: Inez S. Batista (Brazil)

17:30 Merging of equatorial plasma bubbles – case studies based on OI 630.0 nm imaging observations (#IUGG-0397)

Lakshmi Narayanan Viswanathan (India)

17:45 Observations of ionospheric F-layer multiple stratifications near equatorial region (#IUGG-0581)

Paulo Roberto Fagundes (Brazil)
Wednesday, June 24

**IAGA 16:30-18:00, Chamber Hall**

**A37 Geophysical and Geomagnetic Diagnosis of the Sun and Near-Earth Space (Div. V/Div. III)**

**A37b**

**Chair:** Kalevi Mursula (Finland)

16:30 Interplanetary magnetic field polarity inferred from subauroral geomagnetic variations (#IUGG-0624)

**Solicited Speaker:** Mikhail Vokhmyanin (Russia)

16:45 A new method to estimate contributions of coronal mass ejections and high-speed streams to geomagnetic activity (#IUGG-1651)

Lauri Holappa (Finland)

17:00 Spectral analysis of K-index behaviour during solar cycle phases (#IUGG-0187)

Pieter Kotze (South Africa, Republic of)

17:15 Long-term variation and solar wind drivers of energetic particle precipitation (#IUGG-3170)

Timo Asikainen (Finland)

17:30 Adverse effects of large IMF By and northward Bz conditions on IAGA PC index (#IUGG-3208)

Peter Stauning (Denmark)

17:45 Automated recognition of jumps in GOES satellite magnetic data (#IUGG-4554)

Anatoly Soloviev (Russia)

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**IAG 16:30-18:00, South Hall 2**

**G03 Variations of the Gravity Field**

**G03b**

16:30 Orbit and Gravity Field Solutions from Swarm GPS Observations (#IUGG-2386)

Adrian Jäggi (Switzerland)

16:45 A high resolution map of linear trends in mass redistribution from DMT-2: computation and evaluation (#IUGG-2433)

Hassan Hashemi Farahani (Netherlands)

17:00 Validation of GRACE time-variable gravity field by ICESat, GPS, WGHM and altimetry satellites orbits (#IUGG-2501)

Christian Gruber (Germany)

17:15 Small-scale hydrological signals: In-orbit validation by GRACE level 18 observations (#IUGG-1886)

Anne Springer (Germany)

17:30 A comparison of seasonal and inter-annual crustal displacements from GPS and GRACE observations over Northern Indian region (#IUGG-1207)

Virendra M. Tiwari (India)

17:45 Establishment of the International Geodynamics and Earth Tide Service (IGETS) (#IUGG-3013)

Jean-Paul Boy (France)

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**IAGA 16:30-18:00, South Hall 3**

**A41 Lithospheric Field Modeling, the WDMAM and Tectonic Implications (Div. V)**

**A41c**

16:30 Lithospheric Magnetic Field: New insights from magnetic gradient observations taken by the CHAMP and Swarm satellites (#IUGG-4185)

Adrian Jäggi (Switzerland)

17:00 High-resolution aeromagnetic survey over the plate boundary in the northern Suruga Bay, central Japan (#IUGG-4623)

Shigo Okuma (Japan)

17:15 Future of the World Digital Magnetic anomaly (#IUGG-4786)

Solicited Speaker: Jerome Dyment (France)

17:45 The World digital magnetic anomaly map - version 2: project and evaluation (#IUGG-5524)

Manuel Catalán (Spain)

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**Joint Inter-Association Symposia 18:00-19:30, Terrace I**

**PD03 Science in Support of Climate Services**

**Moderators:** Tom Beer (Australia), Arthur Askew (Switzerland)

18:00 PD3 Discussion

Tom Beer (Australia)

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**Poster sessions (p. 221)**
Thursday, June 25

Union Symposia 8:30-10:00, Congress Hall

U08 Geo-Monitoring in the 21st Century

U08a

Chair: Hansjorg Kutterer (Germany)

8:30 Monitoring the dynamic Earth with geodetic observing systems (#IUGG-4275)
Solicited Speaker: Richard Gross (USA)

9:00 The role of geomagnetic field monitoring in understanding Earth system processes (#IUGG-5738)
Solicited Speaker: David Kerridge (United Kingdom)

9:30 The challenges of atmospheric monitoring in the 21st century (#IUGG-5414)
Solicited Speaker: James Drummond (Canada)

Joint Inter-Association Symposia 8:30-10:00, Forum Hall

JA01 Joint Inversion and Mutually Constrained Inversion of Geophysical Observations (IAGA, IAG, IASPEI) (IAGA, IAG, IASPEI)

JA01a

Chairs: Pavel Novák (Czech Republic), Oliver Ritter (Germany), Malcom Sambridge (Australia)

8:30 Application of Helmit Variance Component Estimation in the joint inversion of rupture process (#IUGG-1377)
Cajun Xu (China)

8:45 New anisotropic teleseismic body-wave tomography code AniTomo to illuminate heterogeneous anisotropic upper mantle (#IUGG-2114)
Helena Munzarova (Czech Republic)

9:00 Magnetotelluric data with phases >90° and peculiar induction vectors: Electrical anisotropy or 3D structures? (#IUGG-3605)
Ute Weckmann (Germany)

9:15 Joint Analysis of GOCE Gravity Gradients Data with Seismological and Geodynamic Observations to Infer Mantle Properties (#IUGG-1704)
Marianne Greff-Lefftz (France)

9:30 Topographic uplift of the Southern African Plateau from the African Superwell deduced through petrologically-consistent thermo-chemical modelling (#IUGG-5105)
Alan Jones (Ireland)

9:45 Characterization of Sao Francisco Basin, Brazil - joint inversion of MT, gravity and magnetic data (#IUGG-4628)
Flora Solon (Brazil)

Joint Inter-Association Symposia 8:30-10:00, Meeting Hall I

JH01 Extreme Hydrological Events (IAHS, IACS, IAG)

JH01a

Chairs: Alberto Viglione (Austria), Zongxue Xu (China)

8:30 Modern and historical floods in Prague: comparison of causes and characteristics of 2002 and 2013 floods to historical extreme events (#IUGG-0089)
Jan Danhelka (Czech Republic)

8:45 Hidden behind Magdalena: flood extremes in 1342 and 1343 in Europe (#IUGG-0147)
Andrea Kiss (Austria)

9:00 The extreme 2014 flood in South-Western Amazon basin (#IUGG-0022)
Jhan Carlo Espinoza (Peru)

9:15 Trends in European droughts (#IUGG-0105)
Lukas Gudmundsson (Switzerland)

9:30 Comparative assessment of climate extreme variability and human activities on regional hydrological droughts in the Weihe River basin, North China (#IUGG-0154)
Hongren Shen (China)

9:45 Trends of glacier retreats induced by climate change and Its impacts on water resource in Mongolia (#IUGG-0118)
Orkhonselenge Alyeksandr (Mongolia)

Joint Inter-Association Symposia 8:30-10:00, Panorama Hall

JA04 Results from SWARM, Ground Based Data and Earlier Satellite Missions - Recognition of Eigel Friis-Christensen (IAHA, IAG, IAMAS)

JA04a

Chair: Rune Floberghagen (Italy)

8:30 Swarm, one year of operations: data quality and instrument status update (#IUGG-0289)
Giuseppe Ottaviani (Italy)

8:45 Swarm satellite constellation mission: From data to first scientific results (#IUGG-4186)
Bruno Nils Olsen (Denmark)

9:00 A lithospheric magnetic field model derived from the Swarm satellite measurements (#IUGG-3215)
Erwan Thebault (France)

9:15 A preliminary model of the electrical conductivity of the Earth’s mantle from the Swarm mission (#IUGG-1299)
Jakub Velimsky (Czech Republic)

9:30 First results from the Swarm SCARF Dedicated Ionospheric Field Inversion chain (#IUGG-4097)
Arnaud Chulliat (USA)

9:45 Precise orbit determination and neutral density retrieval for the Swarm satellites (#IUGG-1429)
Pieter Visser (Netherlands)
### Thursday, June 25

#### IAEG

**JG01 Dynamics of the Cryosphere from Geometric and Gravimetric Observations (IAG, IACS)**

**JG01c**

- **8:30** Observation of a glacier surge of Bivachny Glacier, Pamir Mountains, by means of repeated high-resolution interferometric digital elevation models (#IUGG-4978)  
  Anja Wendt (Germany)
- **8:45** Winter speed-up signals detected at surge-type glaciers of two distinct settings: implications for the glacier surge mechanisms (#IUGG-4607)  
  Masato Furuya (Japan)
- **9:00** Interpreting horizontal GPS rates in Antarctica using a 3D Glacial Isostatic Adjustment Model (#IUGG-3294)  
  Pippa Whitehouse (United Kingdom)
- **9:15** Post-seismic deformation of East Antarctica following the 1998 great Antarctic Plate earthquake (#IUGG-3534)  
  Matt King (Australia)
- **9:30** Cryospheric dynamics cause crustal deformations at the Southern Patagonian Icefield (#IUGG-3428)  
  Ludwig Schröder (Germany)

#### IACS

**C03 Glacier Monitoring from In-Situ and Remotely Sensed Observations**

**C03b**

- **8:30** In-situ Glacial Monitoring Network in Northwestern China (#IUGG-0903)  
  Solicited Speaker: Huilin Li (China)
- **9:00** Changes in glaciation of Balkhash-Alakol basin over the past 60 years (#IUGG-3411)  
  Larissa Kogutenko (Kazakhstan)
- **9:15** Mass balance reconstruction for Glacier Number 354, Inner Tien Shan, from 2003 to 2014 (#IUGG-2146)  
  Marlene Kronenborg (Switzerland)
- **9:30** Characteristics of surge-type glaciers in the Karakoram (#IUGG-4267)  
  Nico Mölg (Switzerland)

#### IAMAS

**M02 Advances in Atmospheric Dynamics Including Topographic Forcing**

**M02d**

- **8:30** The impact of tropical convection and interference on the extratropical circulation (#IUGG-2087)  
  Solicited Speaker: Steven Feldstein (USA)
- **9:00** Sensitivity of the downstream impact to the eddy kinetic energy budget of transitioning tropical cyclones (#IUGG-2923)  
  Julia Keller (Germany)
- **9:15** Nadine the unseen: How a north Atlantic hurricane dropped the predictability over the Mediterranean (#IUGG-3393)  
  Jean-Pierre Chaboureau (France)
- **9:30** Idealized numerical experiments of cyclone development in the tropical, subtropical and extratropical environments (#IUGG-2646)  
  Wataru Yanase (Japan)
- **9:45** Phenomenology of summer blocking and links with surface heatwaves over the Eurasian sector (#IUGG-3321)  
  Giacomo Masato (United Kingdom)
Thursday, June 25

IAGA 8:30-10:00, Club B
A10 Paleomagnetism and Magnetic Fabrics Applied to Tectonic and Volcanic Processes (Div. I)
A10a

Chairs: Baocching Huang (China), Pedro Silva (Portugal)

8:30 Gondwana: Paleomagnetism, Paleogeography and Plumes (#IUGG-0184)
Solicited Speaker: Trond Torvik (Norway)

9:00 Paleomagnetic study of the Toumilline diapir (south of the Central High Atlas, Morocco): Geometrical reconstruction and evolutionary implications (#IUGG-4524)
Pablo Calvin (Spain)

9:15 New insights into the tectonic history of the external dinarides based on mesozoic paleomagnetic results (#IUGG-2994)
Emo Marton (Hungary)

9:30 Paleomagnetic evidence for post-collisional Miocene clockwise rotation in the Serbian segment of the Vardar Zone and the Danubicum (#IUGG-1324)
Vesna Lesic (Serbia)

9:45 Tectonic signatures of the Maria Madre Island and Puerto Vallarta late-Cretaceous plutons (Mexico): Insights from palaeomagnetic and magnetic anisotropy investigations (#IUGG-2020)
Vicente Carlos Ruiz-Martinez (Spain)

IAHS 8:30-10:00, Club C
HW05a

Chairs: Barry Croke (Australia), Jim Butler (USA), Corinna Abesser (United Kingdom)

8:30 Theoretical perspectives on flexible and adaptive institutions for effective peri-urban groundwater management (#IUGG-1209)
Sharlene Gomes (Netherlands)

9:00 Global Food Production: the Contribution of Groundwater and Depleting Aquifers (#IUGG-1598)
Aditya Sood (Sri Lanka)

9:15 Impacts of coal mining and coal seam gas extraction on groundwater in Australia (#IUGG-2703)
David Post (Australia)

9:30 Protection of the groundwater tappings from qualitative point of view in Romania – legislative issues and principles (#IUGG-5712)
Mary-Jeanne Adler (Romania)

9:45 Transboundary aquifer mapping and management in Africa – an on-going process (#IUGG-1432)
Yvan Alchanko (South Africa, Republic of)

IAHS 8:30-10:00, Club D
HW04a

Chair: Barry Croke (Australia)

8:30 Optimal adaptation level in current and future climate (#IUGG-3292)
Dan Rosbjerg (Denmark)

8:45 Should the design flood change in a global warming scenario? Design intensities, spatio-temporal patterns and antecedent conditions revisited (#IUGG-2279)
Ashish Sharma (Australia)

9:00 Predicting runoff under changing climatic conditions: using Pareto approaches to identify robust models (#IUGG-0667)
Keirnan Fowler (Australia)

9:15 A characteristic of estimated downward short wave radiation by general circulation model in Japan (#IUGG-5544)
Takuya Okumura (Japan)

9:30 Assessing impacts of environmental change on hydrological cycle in terms of three-sources and uncertainty evaluation in catchment scale (#IUGG-3888)
Yanli LIU (China)

9:45 Statistical exploration of changes in rainfall in parts of Northern Nigeria (#IUGG-0314)
Olubunmi Adegun (Nigeria)

IAHS 8:30-10:00, Club E
HW19a

Chairs: Bob Su (Netherlands), Christopher Neale (USA)

8:30 Statistical assessment and bias correction of remotely-sensed precipitation products: Case studies over South Asia and the African Continent (1998–2012) (#IUGG-0219)
Khandu Khandu (Bhutan)

8:45 Interpolation of daily rain gauge data for hydrological modeling in data sparse regions using pattern information from satellite data (#IUGG-5768)
Simon Stisen (Denmark)

9:00 Uncertainty analysis of a nonparametric approach for satellite retrieval of terrestrial evapotranspiration with multi-temporal and multi-sensor data (#IUGG-4347)
Yuanbo Liu (China)

9:15 Use of remotely sensed actual evapotranspiration to parameterize a SWAT model for a basin in East Africa (#IUGG-4393)
Ashish Sharma (Australia)

9:30 The quest for an improved remotely sensed global soil moisture dataset: A model combination approach (#IUGG-2617)
Tadesse Alemeayehu (Belgium)

9:45 The use of satellite data to implement a distributed dynamic vegetation model in a Mediterranean catchment (#IUGG-2705)
Guimar Ruiz-Perez (Spain)
Thursday, June 25

IAMAS

M12 Tropical Dynamics

M12a

Chair: Nicholas Klingaman (United Kingdom)

8:30 Mechanisms of tropical/extra-tropical circulation change due to anthropogenic forcing (#IUGG-0470)
Brian Soden (USA)

8:45 The role of low cloud feedback in the recent warming hiatus (#IUGG-3833)
Robert Burgman (USA)

9:00 Tropical temperature trends in AGCMs - the role of convection distribution and uncertainties in observed SSTs (#IUGG-4187)
Stephan Fueglistaler (USA)

9:15 Mechanisms of interannual variability in the Sahel and eastern Africa (#IUGG-1413)
Sharon Nicholson (USA)

9:30 The structure of the ITCZ with and without cumulus parameterization in a tropical channel model in an "aquapatch" configuration (#IUGG-1078)
David S. Nolan (USA)

IAGA

A35 High Resolution Data for Space Plasma Turbulence, and Applications to Space Weather and Space Climate (Div. V/Div. IV/Div. III)

A35a

Chair: Giuseppe Consolini (Italy)

8:30 A renormalization-group interpretation of the connection between scaling near criticality and multifractals.* (#IUGG-3818)
Solicited Speaker: Tien Chang (USA)

9:00 Magnetospheric turbulence and characteristics of main magnetospheric domains (#IUGG-0976)
Elizaveta Antonova (Russia)

9:15 Dynamical complexity in the magnetosphere: A recurrence perspective (#IUGG-2070)
George Balasis (Greece)

9:30 Whistler turbulence in the magnetic reconnection region (#IUGG-2193)
Navin Kumar Dwivedi (Austria)

9:45 Investigation of solar wind turbulence with rank ordered fractals (#IUGG-5418)
Marius Echim (Belgium)

IAGA

A38/A40 Geomagnetic Observations under a Quiet Sun: the 50th Anniversary of the "International Year of the Quiet Sun" (Div. V/Div. II/Div. III/Div. IV) / Use of Indices and Recovered Analogue Records in Geophysical Data Analysis (Div. V)

A38a

Chair: Veenadhari Bhaskarapantula (India)

8:30 Dynamics of magnetospheric currents systems revealed using modeling and ground based observations (#IUGG-0999)
Raluca Ilie (USA)

8:45 New geomagnetic indices alpha with 15 minutes time resolution (#IUGG-3899)
Audre Chambodut (France)

9:00 An application of machine learning to geomagnetic index prediction: Aiding human space weather forecasting (#IUGG-4329)
Laurence Billingham (United Kingdom)

9:15 PC index as a new ground-based means for exploration of short-term changes in space weather and magnetosphere state (#IUGG-4421)
Oleg Troshichev (Russia)

9:30 Long-term variation in the upper atmosphere as seen in the geomagnetic solar quiet daily variation (#IUGG-0425)
Solicited Speaker: Atsuki Shinbori (Japan)

A26 High-Latitude Electrodynamics and the Polar Cap (Div. III)

A26a

Chair: Steve Milan (United Kingdom)

8:30 Cause and Effect linkages from Solar wind input to thermospheric response: energy deposition transients with quasi-global consequences (#IUGG-2375)
Herbert Carlson (USA)

8:45 Polar cap density enhancements during sustained dayside reconnection (#IUGG-1450)
Lasse Clausen (Norway)

9:00 Joule heating hot spot at high latitudes in the afternoon sector (#IUGG-3191)
Lei Cai (Finland)

9:15 Spatial structures in polar rain electrons (#IUGG-4675)
Yongliang Zhang (USA)

9:30 Effect of escaping photoelectrons on the polar wind outflows (#IUGG-5102)
Naritoshi Kitamura (Japan)

9:45 A decomposition of northern polar external magnetic fields using the method of Empirical Orthogonal Functions (#IUGG-2442)
Robert Shore (United Kingdom)
A06/A07 Applied Rock Magnetism (Div. I) / Theoretical and Experimental Rock Magnetism (Div. I)

A06a
Chair: Ramon Egli (Austria)

8:30 Archeointensity study on baked clay samples taken from the reconstructed ancient kiln: implication for validity of the Tsunakawa-Shaw paleointensity method (IUGG-2546)
Yuhji Yamamoto (Japan)

8:45 Modeling of Arai-Nagata plots for CRM as a carrier of NRM (IUGG-2629)
Valerii Shcherbakov (Russia)

9:00 How to uncover paleolatitudes from partially remagnetized strata – example of lower Eocene volcanics in the India-Asia collision belt (IUGG-3581)
Mark Dekkers (Netherlands)

9:15 Viscous remanent magnetization dating of cataclysmic floods in Iceland (IUGG-0503)
Thomas Berndt (United Kingdom)

9:30 Rock magnetic properties and mineral microstructure in high-remanence samples from ultramafic intrusions (IUGG-4074)
Nathan Church (Norway)

IAG 8:30-10:00, South Hall 2

G03 Variations of the Gravity Field

G03c
8:30 A global assessment of accelerations in surface mass transport (IUGG-3206)
Xiaoping Wu (USA)

8:45 Land-ocean leakage effects on Glacier melting estimation in Antarctica from GRACE measurements (IUGG-0825)
Shuanggen Jin (China)

9:00 Comparison of Antarctic basin scale mass change from GRACE/GOCE and CryoSat-2 (IUGG-2050)
Johannes Bouman (Netherlands)

9:15 Advanced analysis of mass balance of the Greenland Ice Sheet from GRACE and surface mass balance modelling (IUGG-4495)
Akbar Shabanloui (Germany)

9:30 Glacier mass variations via filtered and leakage-reduced GRACE solutions evaluated by in-situ data in the Canadian Arctic (IUGG-4542)
Iliana Tsalis (Greece)

9:45 Potential use of InSAR techniques for estimating mass variations in the Siberian permafrost region (IUGG-4888)

IAVCEI 8:30-10:00, Meeting Room 2.2

VW05 Models in Volcanology

VW05a
Chair: Sam Poppe (Belgium)

8:30 Colorful images and beyond: Monitoring methods for quantitative analysis of analogue models of lithospheric deformation (IUGG-2800)
Solicited Speaker: Karen Leever (Germany)

Javier Pacheco (Costa Rica)

8:30 Wide-band monitoring of Aso Volcano with seismometer, tiltmeter and continuous GPS from 2010 to 2014 (IUGG-5264)
Jieming Niu (United Kingdom)

Union Symposia

U08 Geo-Monitoring in the 21st Century

U08b
Chair: Hansjorg Kutterer (Germany)

10:30 Creating a federated European data center that serves the widest amount of seismic data (IUGG-2866)
Solicited Speaker: John Clinton (Switzerland)

11:00 Water spies in the sky (IUGG-5785)
Solicited Speaker: Flavia Tauro (Italy)

11:30 Gravitational geodesy as basis for geo-monitoring: progress in relativistic geodesy and gravimetry with quantum sensors (IUGG-5427)
Solicited Speaker: Jakob Flury (Germany)
Thursday, June 25

**Joint Inter-Association Symposia**

**JA01 Joint Inversion and Mutually Constrained Inversion of Geophysical Observations (IAGA, IAG, IASPEI)**

**JA01b**

10:30 Joining waveform modeling, optimized data selection, and waveform tomography for multi-scale mantle structure (#IUGG-5266)

Solicited Speaker: Tarje Nissen-Meyer (United Kingdom)

11:00 Sparse geophysical inversion (#IUGG-2699)

Malcolm Sambridge (Australia)

11:15 Joint 3D inversion of multiple electromagnetic data sets (#IUGG-3204)

Naser Meqbel (Germany)

11:30 Creation of the earth crust and upper mantle 3D models based on joint inversion (#IUGG-3434)

Petr Martysheko (Russia)

11:45 Effect of ray and speed perturbations on ionospheric tomography by over-the-horizon radar: A new method (#IUGG-5029)

Giovanni Occhipinti (France)

**Joint Inter-Association Symposia**

**JA04 Results from SWARM, Ground Based Data and Earlier Satellite Missions - Recognition of Eigil Friis-Christensen (IAG, IAG, IAMAS)**

**JA04b**

10:30 The swarm electric field instruments: Status and science (#IUGG-4835)

David Knudsen (Canada)

10:45 Field-aligned current distribution deduced from Swarm dual-satellite observations (#IUGG-1110)

Hermann Lühr (Germany)

11:00 Swarm satellite and EISCAT radar observations of evening sector aurora (#IUGG-3517)

Anita Aikio (Finland)

11:15 Monitoring the plasmapause by SWARM (#IUGG-3792)

Balazs Heilig (Hungary)

11:30 Comparing Swarm electron density data using COSMIC GPS radio occultation observations (#IUGG-2661)

Nicholas Pedatella (USA)

11:45 On the Importance of SWARM measurements for space weather (#IUGG-1541)

Mihail Codrescu (USA)

**Joint Inter-Association Symposia**

**JA04 Effective Communication Tools: What Can Volcanology Learn from Other Hazards?**

**JA04b**

10:30 The Science of Natural Hazards: Visual Communication Using Infographics (#IUGG-2802)

Emma Hudson-Doyle (New Zealand)

11:00 Three examples of how to use social science to develop new warning systems for natural hazards (#IUGG-3204)

Petra Martysheko (Russia)

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<table>
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<tr>
<th>Session</th>
<th>Time</th>
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<tr>
<td><strong>IACS</strong></td>
<td>10:30-12:00, Small Hall</td>
<td><strong>C08 Ice Cores and Climate</strong></td>
<td><strong>C08a</strong></td>
<td>10:30 Results from the recent Greenland deep drill project NEEM (IUGG-4492)</td>
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<td>Solicited Speaker: Thomas Blunier (Denmark)</td>
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<td><strong>11:15</strong> The debate on the basal age of Kilimanjaro’s plateau glaciers (IUGG-1383)</td>
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<td><strong>11:30</strong> Decapitation of high-altitude glaciers on the Tibetan Plateau revealed by ice core tritium and mercury records (IUGG-0886)</td>
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<td><strong>11:45</strong> Arsenic concentration variability in West Antarctic ice core and its relationship with copper mining in Chile (IUGG-0203)</td>
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<td><strong>IACS</strong></td>
<td><strong>C03 Glacier Monitoring from In-Situ and Remotely Sensed Observations</strong></td>
<td><strong>C03c</strong></td>
<td>10:30 Geodetic mass balances of Himalayan glaciers from SPOT5, Pléiades and ASTER stereo-images (IUGG-3714)</td>
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<td><strong>11:15</strong> Snow and ice melt contributions from a temperature index model and an energy balance model in the Hunza River basin (IUGG-4880)</td>
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<td><strong>11:30</strong> Changes of glaciers and lake on Tibetan Plateau using GRACE and ICESat data (IUGG-0788)</td>
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<td><strong>11:45</strong> Comparison of measured glacier mass balance data in the Tian Shan and Pamir Mountains, Central Asia (IUGG-1691)</td>
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<td><strong>IAMAS</strong></td>
<td><strong>M02 Advances in Atmospheric Dynamics Including Topographic Forcing</strong></td>
<td><strong>M02e</strong></td>
<td>10:30 Isentropic analysis of polar cold air mass streams in the northern hemispheric winter (IUGG-4399)</td>
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<td>Solicited Speaker: Lukas Papritz (Switzerland)</td>
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<td><strong>11:00</strong> The dynamics of polar lows in reverse shear (IUGG-3887)</td>
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<td><strong>11:15</strong> Easterly Gap winds over the Antarctic Peninsula – Observations, Modelling, and the impact on Aircraft operations (IUGG-2267)</td>
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<td><strong>11:30</strong> Topographic control of stratified flows: Blocking, upstream jets, isolating layers and downslope flows (IUGG-1248)</td>
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<td><strong>11:45</strong> The interaction between coastal topography and midlatitude cyclones in a regional climate model (IUGG-1067)</td>
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<td><strong>IAGA</strong></td>
<td><strong>A10 Paleomagnetism and Magnetic Fabrics Applied to Tectonic and Volcanic Processes (Div. I)</strong></td>
<td><strong>A10b</strong></td>
<td>10:30 Progress in non-standard AMS methods (IUGG-5705)</td>
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<td>Solicited Speaker: Frantisek Hrouda (Czech Republic)</td>
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<td><strong>11:15</strong> Paleoflow directions from a subaqueous lahar deposit around the Miocene Keserus Hill (North Hungary) by using photo-statistics and AMS (IUGG-0751)</td>
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<td><strong>11:30</strong> Towards an integrated reconstruction of the deformation field from simultaneous magnetic and mesotectonic data (IUGG-1601)</td>
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<td><strong>11:45</strong> Interpreting inverse magnetic fabric in dikes from Eastern Iceland (IUGG-5015)</td>
</tr>
</tbody>
</table>
## IAHS HW05 Societal Relevance of Groundwater: Ever Increasing Demands on a Limited Resource

** HW05b  
**Chairs: Barry Croke (Australia), Jim Butler (USA), Corinna Abesser (United Kingdom)**

- **10:30** Geogenic sources for fluoride rich groundwater and induced recharge through dug well for mitigation ([#IUGG-0298](#IUGG-0298))  
  Elango Lakshmanan (India)
- **10:45** Performance evaluation of percolation tanks in groundwater recharge using hydrogeochemical tracers and environmental isotopes ([#IUGG-0011](#IUGG-0011))  
  Esther Jegathambal (India)
- **11:00** Estimating groundwater availability at catchment scale using streamflow recession and instream flow requirements of rivers in South Africa ([#IUGG-1470](#IUGG-1470))  
  Girma Yimer Ebrahim (South Africa, Republic of)
- **11:15** Mapping irrigation potential from renewable groundwater in Africa – a quantitative approach ([#IUGG-1431](#IUGG-1431))  
  Yvan Altchenko (South Africa, Republic of)
- **11:30** Cross comparison of groundwater quality in coastal parts of Cauvery river basin, India and Mhlathuze river basin, South Africa ([#IUGG-5587](#IUGG-5587))  
  Vetrimurugan Elumalai (South Africa, Republic of)

## IAHS HW04 Hydrological Change in Statistical Perspective

** HW04b  
**Chair: Ebru Eris (Turkey)**

- **10:30** The role of time-dependence in return period estimation ([#IUGG-3626](#IUGG-3626))  
  Elena Volpi (Italy)
- **10:45** Analysis on the joint distribution of low flows based on the Kendall distribution function under a changing environment ([#IUGG-0992](#IUGG-0992))  
  Zishen Chen (China)
- **11:00** A non-stationary Bayesian clustering framework for identifying regional hydro-climate trends from large scale data ([#IUGG-4489](#IUGG-4489))  
  Xun Sun (USA)
- **11:15** Comparison of different approaches to trend analysis of flow and precipitation in Polish and Norwegian conditions ([#IUGG-1770](#IUGG-1770))  
  Hadush Kidane Meresa (Poland)

## IAHS HW19 Remote Sensing Retrievals of Precipitation and Evapotranspiration

** HW19b  
**Chair: Simon Stisen (Denmark), Ian Cluckie (UK)**

- **10:30** Climatic water balance analysis of the Zala River Basin ([#IUGG-1708](#IUGG-1708))  
  Zoltan Gribovszki (Hungary)
- **10:45** Remote sensing of evapotranspiration: a review of models and applications ([#IUGG-5767](#IUGG-5767))  
  Christopher Neale (USA)
- **11:00** Merging and correction of Satellite rainfall estimate with in-situ data for the Northern of Tunisia ([#IUGG-0819](#IUGG-0819))  
  Saoussen Dhib (Tunisia)
- **11:15** Estimation of actual and potential evapotranspiration using remote sensing in northern Tunisia ([#IUGG-0678](#IUGG-0678))  
  Nesrine Abid (Tunisia)
- **11:30** Big river flood forecasting by coupling quantitative precipitation prediction with distributed hydrological model ([#IUGG-4503](#IUGG-4503))  
  Yangbo Chen (China)

## IAMAS M12 Tropical Dynamics

** M12b  
**Chair: Brian Soden (USA)**

- **10:30** Updating the paradigm of convectively coupled equatorial waves and the madden julian oscillation ([#IUGG-4677](#IUGG-4677))  
  Prashant Sardeshmukh (USA)
- **10:45** Dynamics of convectively coupled Kelvin waves in tropics ([#IUGG-1426](#IUGG-1426))  
  Tim Li (USA)
- **11:00** Evaluation of vertical momentum transports associated with moist convection and gravity waves in a minimal model of QBO-like oscillation ([#IUGG-1295](#IUGG-1295))  
  Shigeo Yoden (Japan)
- **11:15** Convective activity associated with the planetary 5-day wave in re-analysis and Coupled Model Inter-comparison Project phase 5 data ([#IUGG-2351](#IUGG-2351))  
  Malcolm King (Australia)
- **11:30** The mechanism of the eastward-propagation of unstable disturbances with convection in the tropics: Eigenvalue problem ([#IUGG-2359](#IUGG-2359))  
  Michiya Hayashi (Japan)
- **11:45** Convectively coupled Kelvin waves: structure and variability analysis with different aquachannel configurations ([#IUGG-1077](#IUGG-1077))  
  Joaquin Blanco (USA)
Thursday, June 25

IAGA High Resolution Data for Space Plasma Turbulence, and Applications to Space Weather and Space Climate (Div. V/Div. IV/Div. III)

A35b

10:30
Quantitative characterization of plasma turbulence across magnetohydrodynamic and kinetic scales: observation and simulation (#IUGG-1345)

Kirsten Chapman (United Kingdom)

11:00
Study of intermittent dynamics in the geomagnetic fluctuations of different geomagnetic latitudes (#IUGG-4441)

Peter Kovacs (Hungary)

11:15
Probability density functions for non-equilibrium space plasmas (#IUGG-1765)

Solicited Speaker: Zoltan Vörös (Austria)

11:45
Statistical and spectral properties of high frequency ion flux fluctuations in the solar wind (#IUGG-2390)

Maria Riazantseva (Russia)

IAGA Geomagnetic Observations under a Quiet Sun: the 50th Anniversary of the “International Year of the Quiet Sun” (Div. V/Div. II/Div. III/Div. IV) / Use of Indices and Recovered Analogue Records in Geophysical Data Analysis (Div. V)

A38b

10:30
The solar and interplanetary causes of the recent minimum in geomagnetic activity (MGA23) explained (#IUGG-1303)

Solicited Speaker: Bruce Tsurutani (USA)

11:00
Hemispheric asymmetry of solar cycle activities (#IUGG-5077)

Solicited Speaker: Kanya Kusano (Japan)

11:30
Long-term variation of coronal mass ejection activity and its space weather consequences (#IUGG-5618)

Solicited Speaker: Nat Gopalswamy (USA)

IAGA High-Latitude Electro dynamics and the Polar Cap (Div. III)

A26b

10:30
Birkeland currents and the convection cycle (#IUGG-1738)

Steve Milan (United Kingdom)

10:45
IMF By effects in the plasma flow at the polar cap boundary (#IUGG-2574)

Renata Lukianova (Russia)

11:00
Electrodynamic structure of the morning trough region (#IUGG-3008)

Heikki Vanhamaki (Finland)

11:15
Issues concerning polar cap electric potential saturation (#IUGG-3372)

Robert Clauer (USA)

11:30
Use of PC Index as Input Parameter in Empirical Auroral Precipitation Model “OVATION-prime” (#IUGG-4043)

Vera Nikolaeva (Russia)

11:45
Plasma outflow from the earth’s upper atmosphere (#IUGG-0614)

Timothy David (United Kingdom)

IAGA High Rock Magnetism (Div. I) / Theoretical and Experimental Rock Magnetism (Div. I)

A06b

10:30
Rock-magnetic properties to untangle magmatic processes and hydrothermal alteration of superfast spreading ocean crust at ODP/IODP site 1256 (#IUGG-2947)

Mark Dekkers (Netherlands)

10:45
The case for remagnetized carbonates and their hysteresis parameters “fingerprint”: exploring old and new examples (#IUGG-4332)

Jaume Dinand-Turrell (Italy)

11:00
Magnetic minerals in unmetamorphosed argillaceous rock; a promising tool? (#IUGG-0392)

Solicited Speaker: Charles Aubourg (France)

11:15
Thermomagnetic behavior of magnetic susceptibility – heating rate and sample mass effects (#IUGG-0569)

Neli Jordanova (Bulgaria)

11:30
Advantages and limits of out-of-phase susceptibility in magnetic granulometry: Examples from various loess/paleosol sections (#IUGG-4813)

Martin Chadima (Czech Republic)

11:45
Rock-magnetic approach for evaluation of factors affecting genesis of volcanic soils (#IUGG-1724)

Hana Grison (Czech Republic)

IAHS Socio-Hydrology: The Dynamic Interplay between Water and Human Systems

HW06a

10:30
Spiral Co-evolution of Humans and Water: A Case Study of Irrigation Efficiency Paradox in Bayingola, Xinjiang, China (#IUGG-4321)

Solicited Speaker: Murugesu Sivapalan (USA)

11:00
Conceptualising human-flood interactions through models: comparison to data (#IUGG-4572)

Alberto Viglione (United Kingdom)

11:15
Optimizing phosphorus flows in a two-sector economy (#IUGG-3588)

Johanna Grimes (Austria)

11:30
Roots and branches of adaptive delta management (#IUGG-4909)

Jos Timmermans (Netherlands)
Thursday, June 25

IAG 10:30-12:00, South Hall 2

**G03 Variations of the Gravity Field**

**G03d**

10:30 Water storage changes and Climate variability in the Mekong River Basin (#IUGG-0466)  
Shengnan Ni (China)

10:45 Gravity change during water impoundment to high water level in Three Gorges Reservoir (#IUGG-1178)  
Wei Wang (China)

11:00 News from the local hydrological correction of the SG gravity record at Moxa (#IUGG-1717)  
Adelheid Weise (Germany)

11:15 Modeling surface water variations from altimetry and remote sensing and comparison with GRACE (#IUGG-3161)  
Jean-Paul Boy (France)

11:30 Is it possible to infer large scale hydrological variations using superconducting gravimeters? (#IUGG-3897)  
Michal Mikolaj (Germany)

IAVCEI 10:30-12:00, South Hall 3

**VW05 Models in Volcanology**

**VW05b**  
Moderator: Sam Poppe (Belgium)  
Chair: Audray Delcamp (Belgium)

10:30-12:00, Meeting Room 2.2

**VW04 Remote Sensing and Modelling of Volcanic Ash in Latin America**

**VW04b**  
10:30 A system to forecast ash dispersion and deposition from Tungurahua volcano, Ecuador (#IUGG-3804)  
Solicited Speaker: Rene Parra (Ecuador)

10:30 Dynamics, sedimentation and impact of the 2011 eruption of Cordón Caulle volcano (Chile) (#IUGG-4591)  
Solicited Speaker: Costanza Bonadonna (Switzerland)

IAVCEI 10:30-12:00, Meeting Room 3.3

**VW06 New Processing and Interpretation Methods in Volcano Seismology**

**VW06b**

13:30-15:00, Congress Hall

**Union Symposia**

**U10 Sea Level Change and Variability: Past, Present and Future**

**U10a**  
Chair: Ian Allison (Australia)

13:30 Steric contributions to sea level change and variability: recent progress and future challenges (#IUGG-5726)  
Susan Wijffels (Australia)

14:00 Glacier mass change between 1900 and 2100 (#IUGG-1021)  
Solicited Speaker: Ben Marzeion (Austria)

14:30 Contribution of the Antarctic and Greenland ice sheets to sea-level change from observations and glaciological modeling (#IUGG-5124)  
Solicited Speaker: Philippe Huybrechts (Belgium)

Joint Inter-Association Symposia 13:30-15:00, Forum Hall

**JA02 Modelling of Space Weather Effects: Solar, Magnetospheric and Earth Resistivity Constraints (IAGA, IAMAS)**

**JA02a**  
Chairs: Alan Thomson (United Kingdom), Larissa Trichtchenko (Canada)

13:30 Space weather modelling for end users (#IUGG-1050)  
Larissa Trichtchenko (Canada)

13:45 Observatory locations for ground based monitoring of space weather (#IUGG-3612)  
Ellen Clarke (United Kingdom)

14:00 Near real-time geomagnetic maps of the continental United States (#IUGG-4671)  
E. Joshua Rigler (USA)

14:15 Reproducing Electric Field Observations during Magnetic Storms by means of Rigorous 3-D Modelling and Distortion Matrix Co-estimation (#IUGG-1947)  
Christoph Püth (Switzerland)

14:30 Sensitivity of geomagnetically induced currents to varying auroral electrojet and conductivity models (#IUGG-2246)  
Ciaran Beggan (United Kingdom)

14:45 Level crossings and complex bursts: a classic approach to a modern problem (#IUGG-5578)  
Nicholas Watkins (United Kingdom)

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Welcome Messages

Host – About the IUGG Committees Practical Information

A-Z

Social Programme

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Union Lectures Overview

Instructions for Oral / Poster Presenters and Chairs

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Programme Overview Day by Day – By Room

Programme Overview Day by Day – By Association

Programme Overview

Detailed Scientific Programme

Poster Sessions Overview – By Presenting Day

Poster Sessions Overview – By Association

Poster Sessions in Detail

Convenors Co-Convenors Floorplans

Posters Plan

Exhibition
Joint Inter-Association Symposia

### JH01 Extreme Hydrological Events (IAHS, IACS, IAG)
#### JH01c
**Chairs:** Paul Pilon (Switzerland), Markus Stoffel (Switzerland)

- **13:30** The role of seasonal and occasional floods in origin of extreme hydrological events (IUGG-0112)
  - Maria Kireeva (Russia)
- **13:45** Combining morphological observations, chemical analyses of surface waters and hydrological model to improve knowledge on flash karst floods genesis (IUGG-0101)
  - Valerie Borell Estupina (France)
- **14:00** Estimating extreme flood events – assumptions, uncertainty and error (IUGG-0048)
  - Stewart Franks (Australia)
- **14:15** Interdisciplinary approach to hydrological hazard mitigation and effects of climate change on the occurrence of flood severity in central Alaska (IUGG-0027)
  - Yekaterina Kontar (USA)
- **14:30** Mixture distribution for modelling extreme precipitation in United Arab Emirates (IUGG-0049)
  - Ju-Young Shin (Korea, Republic of Korea)
- **14:45** How are estimations of design floods influenced by one wet hydrological year: large floods in 2014 in Slovenia (IUGG-0107)
  - Nejc Bezek (Slovenia)

### VW03 Effective Communication Tools: What Can Volcanology Learn from Other Hazards?
#### VW03c
**Chairs:** Shuanggen Jin (China), Adrian Jäggi (Switzerland)

- **13:30** A perspective on geomagnetic research and discovery (IUGG-2317)
  - Robert Clauer (USA)
- **13:45** On the relevance of levelling magnetic data for studying ionospheric currents (IUGG-1888)
  - Claudia Stolle (Germany)
- **14:00** Estimating statistical maps of Birkeland currents from Swarm magnetometer measurements represented in apex coordinates (IUGG-3489)
  - Karl Magnus Laundal (Norway)
- **14:15** Small scale field-aligned currents generated by acoustic gravity waves commonly observed by SWARM (IUGG-2003)
  - Yoshitaka Iyemori (Japan)
- **14:30** Relationship between PC index and magnetospheric field-aligned currents measured by swarm satellites (IUGG-4023)
  - Oleg Trushichev (Russia)
- **14:45** Investigating the benefit of a low-inclination Delta satellite for ESA’s Swarm mission (IUGG-3980)
  - Gauthier Hulot (France)

### IVACEI
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  - Gauthier Hulot (France)
Thursday, June 25

IAG

C03 Glacier Monitoring from In-situ and Remotely Sensed Observations

C03d
13:30 Ultra-wideband microwave radar for measurements of snow accumulation rate (IUGG-0201)
Sivaprasad Gogineni (India)
13:45 Potential of Moderate Resolution satellite imagery from MODIS and VIIRS for monitoring of perennial snow ice cover over land (IUGG-1049)
Alexander Trischchenko (Canada)
14:00 A high-resolution sensor network for monitoring glacier dynamics at the Helheim glacier, south-east Greenland (IUGG-3357)
Stuart Edwards (United Kingdom)
14:15 Freeboard changes on Drygalski and Mertz ice tongue, east Antarctica from altimetry data (IUGG-4953)
Xianwei Wang (China)

IAMAS

M02 Advances in Atmospheric Dynamics Including Topographic Forcing

M02f
Chair: Vanda Grubisic (USA)
13:30 DEEPWAVE 2014; Observing Gravity Waves from the Troposphere to the Mesosphere (IUGG-2270)
Solicited Speaker: Ronald Smith (USA)
14:00 Deep vertical propagation of mountain waves above Scandinavia (IUGG-3950)
Markus Rapp (Germany)
14:15 Simulations of 3D tomographic measurements of gravity waves with the infrared limb sounder GLORIA (IUGG-2412)
Isabell Kirsch (Germany)
14:30 Can inertia-gravity waves persistently alter the tropopause inversion layer? (IUGG-2779)
Daniel Kunkel (Germany)
14:45 Equatorial mountain torques, equatorial angular momentum and cold surges in a general circulation model (IUGG-3012)
Francois Lott (France)

IAGA

A04 Magnetic Stratigraphy: Polarity Reversals, Relative Paleointensity and Excursions (Div. I)

A04a
13:30 Geochronological accuracy around the Cretaceous-Paleogene boundary interval: Insights and challenges to the age of Chron C29r and intervening events (IUGG-3042)
Jaime Dinarte-Turell (Italy)
13:45 Magnetostratigraphy of the upper Tithonian - lower Berriasian interval at Le Chouet, (South East France) (IUGG-4998)
Petr Schnabl (Czech Republic)
14:00 Paleomagnetism and rock magnetic cyclostratigraphy of Ediacaran strata: Potential implications for the origins of a major carbon isotope excursion (IUGG-5055)
Daniel Minguez (USA)
14:15 Quaternary stratigraphy through relative paleointensity (RPI), oxygen isotopes, and magnetic excursions (IUGG-1216)
James Channell (USA)
14:30 SHRIMP U-Pb zircon age calibration of the Matuyama-Brunhes boundary in a sedimentary sequence with a high-resolution oxygen isotope record (IUGG-1100)
Yusuke Suganuma (Japan)

IAHS

HW12 Using Environmental Observatories in Catchment Studies and Management

HW12a
13:30 A novel optical-based measurement station for the observation of flood events in the Tiber River (IUGG-1460)
Flavia Tauro (Italy)
13:45 Monitoring of water level variations in inundation areas within the Pantanal Wetland (IUGG-1697)
Denise Dettmering (Germany)
14:00 Land use/land cover dynamics and future implications on environmental resource in Epe, Nigeria (IUGG-2148)
Amidu Owoibi Ayeni (Nigeria)
14:15 Remote sensing and GIS contribution to the investigation of karst landscapes in W-Morocco (IUGG-0018)
Barbara Theilen-Willige (Germany)
14:30 Low flow regime description and its dependence on monitoring timing for the Ciciriello experimental catchment (IUGG-3573)
Antonia Longobardi (Italy)
14:45 Implementation of the Fourier series model to study the impact of evapotranspiration on discharges during dry periods (IUGG-3768)
Pavel Kovar (Czech Republic)

IAHS

HW03 Multivariate Analysis in Hydrological Modelling

HW03a
13:30 How can we best utilize spatially distributed data for the calibration of physically-based hydrologic models? (IUGG-4233)
Solicited Speaker: Thorsten Wagener (United Kingdom)
14:00 Toward reduction of model uncertainty in operational hydrologic forecasting within a bayesian framework: A combination of multivariate analysis and multi-modeling (IUGG-4698)
Solicited Speaker: Hamid Moradkhani (USA)
14:15 Multivariate implementation of the Fourier series model based on the lumped hydrologic method (IUGG-2618)
Syota Sasaki (Japan)
**Thursday, June 25**

**IAHS**

**13:30-15:00, Club E**

**HW16 Observations and Modelling of Land–Atmosphere–Society Interactions in Hydrology**

**HW16a**

13:30 The consideration of land–atmosphere–society interactions in large scale agricultural developments in sub-saharan Africa (IUGG-4639)

Graham Jewitt (South Africa, Republic of)

13:45 Water, energy and carbon balance research: Recovery trajectories for oil sands reclamation and disturbed watersheds in the western boreal forest (IUGG-4322)

Richard Petrone (Canada)

14:00 Hydrological sensitivity of land use scenarios for climate mitigation (IUGG-4747)

Eva Boegh (Denmark)

14:15 Eco-hydrological responses to climate variability and management over the North China Plain (IUGG-5061)

Xingguo Mo (China)

14:30 Environmental risk of climate change and groundwater abstraction on stream ecological conditions (IUGG-0211)

Lauren Paige Seaby (Denmark)

**IAIMAS**

**13:30-15:00, Club H**

**M12 Tropical Dynamics**

**M12c**

Chair: David S. Nolan (USA)

13:30 Vertical structure and physical processes of the Madden-Julian oscillation: Medium-range hindcasts and project synthesis (IUGG-1572)

Nicholas Klingaman (United Kingdom)

13:45 Eastward-propagating vs. eastward-decaying intraseasonal convective events (IUGG-2261)

Charlotte Delmott (USA)

14:00 Intraseasonal variability of the moist static energy budget over the eastern Maritime Continent during CINDY2011/DYNAMO field campaign (IUGG-5345)

Satoru Yokoi (Japan)

14:15 Moistening processes for Madden-Julian Oscillations (IUGG-1185)

Chung-Hsiung Sui (Taiwan - China)

14:30 Relationship between cumulus activity and environmental moisture during the CINDY2011/DYNAMO field experiment as revealed from convection-resolving simulations (IUGG-4901)

Tetsuya Takemi (Japan)

14:45 Breaking down the CINDY2011/DYNAMO Madden-Julian oscillation event reproduced by NICAM (IUGG-5042)

Tomoki Miyakawa (Japan)

**IAGA**

**13:30-15:00, North Hall**

**A23 Different Response Modes of the Magnetosphere to Solar Wind Driving (Div. III)**

**A23a**

Chair: Jonathan Rae (United Kingdom)

13:30 Magnetosphere response to solar wind driving: PC-index (IUGG-4446)

Oleg Troshichev (Russia)

13:45 The effect of varying interplanetary magnetic field orientation on the transfer of energy from the solar wind to the ionosphere (IUGG-5071)

Ramón Lopez (USA)

14:00 Examining the transfer of energy from the solar wind to the magnetotail and its release during substorms (IUGG-4760)

Colin Forsyth (United Kingdom)

14:15 Estimates of the response time of magnetotail twisting to interplanetary magnetic field variations (IUGG-3742)

Timo Pulkkinen (Sweden)

14:30 A new three-dimensional asymmetric magnetopause model from global MHD simulation (IUGG-5050)

Jianyong Lu (China)

14:45 External versus internal triggering of substorms: An information-theoretical approach (IUGG-4222)

Jay Johnson (USA)

**IAGA**

**13:30-15:00, Terrace I**

**A09/A05 Open Symposium on Paleomagnetism and Rock Magnetism (Div. I) / Paleomagnetic reference models, Apparent Polar Wander Paths, and their use in Global and Regional Tectonics (Div. I)**

**A09a**

Chair: Ana María Sinito (Argentina)

13:30 Biomagnetization and magnetism of magnetotactic bacteria: Implications for the identification of magnetofossils (IUGG-1293)

Solicited Speaker: Jinhua Li (China)

14:00 IRD characterization, provenance and age in the Galician Interior Basin (IUGG-0619)

Maider Plaza-Morlote (Spain)

14:15 Relict Vertisols from Bulgaria – genesis and evolution assessed through rockmagnetic and geochemical investigation (IUGG-0563)

Neli Jordanova (Bulgaria)

14:30 Technogenic magnetic particles in soils as an evidence of historical human activity (IUGG-1093)

Maria Mendakiewicz (Poland)

14:45 Floodplain history reconstruction using geophysical techniques (IUGG-3751)

Jaroslav Kadlec (Czech Republic)
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
<th>Chair</th>
<th>Presenters</th>
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</thead>
</table>
| 13:30  | A03 Electromagnetic Imaging from the Near-Surface, Lithosphere-Asthenosphere, to the Core: Results and Interpretations (Div. I) | Terrace II       | Ian Ferguson (Canada), Ajay Manglik (India)            | Geophysical study for development purposes at El-Nubariya -Wadi El-Natrun, West Nile Delta, Egypt (#IUGG-4227)  
Gad El-Qady (Egypt)  
Magnetotelluric and controlled-source electromagnetic study of the Canadian Aquistore CO2 sequestration site, Estevan, Saskatchewan (#IUGG-3182)  
Ian Ferguson (Canada)  
Joint magnetotelluric seismic interpretation for hydrocarbon reservoir exploration (#IUGG-0320)  
Isa Mansoori Kermanshah (Iran)  
Kirovograd experiment: The latest results in the interpretation of the MV and MT data in SW Russia (#IUGG-4434)  
Svetlana Kovacikova (Czech Republic)  
Estimation of tipper and horizontal Tensor at remote sites in the Northern Indian Ocean (#IUGG-0766)  
Nandini Nagarajan (India) |
| 13:30  | A07 Applied Rock Magnetism (Div. I) / Theoretical and Experimental Rock Magnetism (Div. I) | Terrace II       | Hana Grison (Czech Republic)                           | Efficiency of soil magnetometry for assessment of chemical degradation caused by dust deposition (#IUGG-3000)  
Tadeusz Majerka (Poland)  
Ferromagnetic techniques applied to study the accumulation time period of urban/industrial dust in lichens (#IUGG-0296)  
Ana Maria Sinto (Argentina)  
Rock-magnetic and geochemical signature of the Lake Van sediments: paleoclimatic and environmental record of the last 600 ka (#IUGG-1754)  
Luigi Viapiani (Italy)  
The use of FORC diagrams in environmental magnetism: Recent developments (#IUGG-2812)  
Ramon Egli (Austria)  
Analyzing remanent magnetization by adaptive Preisach mapping (#IUGG-5245)  
Erik Nilsson (Sweden)  
Unmixing of magnetic mineral components of sediment rocks by continuous wavelet transform of coercive force spectra (#IUGG-1785)  
Valeri Shcherbakov (Russia) |
| 13:30  | Social-Hydrology: The Dynamic Interplay between Water and Human Systems | South Hall 2     | Shin-Chan Han (Australia)                             | On modeling social dilemmas and interplay in sociohydrological systems (#IUGG-2001)  
Solicited Speaker: Racheta Muneeperekul (USA)  
Change in vulnerability of companies in Germany (#IUGG-2154)  
Solicited Speaker: Heidi Kreibich (Germany)  
Socio-hydrological dynamics in the Lake Chad District in Chad – outlining hydrological vulnerabilities of the agricultural economy (#IUGG-4134)  
Erik Nilsson (Sweden)  
Dualistic water cycle simulation in Luan River basin (#IUGG-5506)  
Zhuo Zhou (China) |
| 13:30  | Variations of the Gravity Field | South Hall 2     | Shin-Chan Han (Australia)                             | A feasibility study on measuring gravitational perturbations of seismic and tsunami waves from inter-satellite ranging data of GRACE and GRACE-FO (#IUGG-5221)  
Shin-Chan Han (Australia)  
Oceanographic validation of time variable gravity solutions from GRACE (#IUGG-4281)  
Jean-Michel Lemoine (France)  
Storm surge in the German Bight: Are they detectable as gravity field variations at the Geodynamic Observatory in Thuringia, Germany? (#IUGG-1715)  
Thomas Jahh (Germany)  
Gravity effects from non-tidal water mass changes in the Baltic Sea (#IUGG-2565)  
Lars Ledmann (Germany)  
Temporal variation of tidal parameters in superconducting gravimeter time series (#IUGG-2301)  
Bruno Meurers (Austria)  
Swedish repeated absolute gravity observations in the Fennoscandian land uplift region (#IUGG-2872)  
Per-Anders Olsson (Sweden) |
| 13:30  | Models in Volcanology | South Hall 3     | Olivier Roche (France)                               | Dimensional analysis, scaling, and similarity: An overview of the methods and their application to investigate volcanic processes (#IUGG-4460)  
Solicited Speaker: Olivier Roche (France)  
The three youngest Plinian eruptions of Pelee, Martinique (P1, P2 & P3): Constraining eruptive conditions from field and experimental studies (#IUGG-4431)  
Solicited Speaker: Ulrich Kueppers (Germany) |
Thursday, June 25

**IAVCEI 13:30-15:00, Meeting Room 2.2**

VW04 Remote Sensing and Modelling of Volcanic Ash in Latin America

Moderator: Maria Soledad Osores (Argentina)

**IAVCEI 13:30-15:00, Meeting Room 3.3**

VW06 New Processing and Interpretation Methods in Volcano Seismology

Moderator: Maria Soledad Osores (Argentina)

**Poster sessions (p. 221)**

**Union Symposia 16:30-18:00, Congress Hall**

**U10 Sea Level Change and Variability: Past, Present and Future**

U10b

*Chair: Pippa Whitehouse (United Kingdom)*

16:30 Sensitivity of estimates of sea-level rise and ice-sheet mass balance to uncertainties in vertical land movement (#IUGG-2931)

Matt King (Australia)

17:00 Quantifying internal variability of land-ocean mass exchange and global mean sea level (#IUGG-4846)

Solicited Speaker: Felix Landerer (USA)

17:30 What have we learned about global and regional sea level change in the satellite era? (#IUGG-4166)

Solicited Speaker: Steve Nerem (USA)

**Joint Inter-Association Symposia 16:30-18:00, Forum Hall**

**JA02 Modelling of Space Weather Effects: Solar, Magnetospheric and Earth Resistivity Constraints (IAGA, IAMAS)**

JA02b

*Chairs: Larisa Trichtchenko (Canada), Alan Thomson (United Kingdom)*

16:30 Progress in the development of operational space weather forecasts at the Met Office (#IUGG-1730)

Solicited Speaker: David Jackson (United Kingdom)

17:00 An extreme coronal mass ejection and consequences for the Magnetosphere and Earth (#IUGG-1252)

Bruce Tsunetani (USA)

17:15 Analysis of parameters of coronal mass ejections available in near real-time for operational space weather forecasting (#IUGG-3929)

Gemma Kelly (United Kingdom)

17:30 The analysis of long-term trends of drag effect on model LEO satellites due to upper atmospheric influence by solar/geomagnetic activity (#IUGG-0654)

Victor Nwankwo (India)

**Joint Inter-Association Symposia 16:30-18:00, Meeting Hall I**

**JH01 Extreme Hydrological Events (IAHS, IACS, IAG)**

JH01d

*Chairs: Annette Eicker (Germany), Christophe Cudennec (France)*

16:30 Bayesian spatial modeling of extreme flood recurrence interval (#IUGG-4555)

Hamid Moradkhani (USA)

16:45 Climate change track in river floods in Europe (#IUGG-0178)

Zbigniew Kundzewicz (Poland)

17:00 Climate noise effect on uncertainty of hydrological extremes: numerical experiments with hydrological and climate models (#IUGG-0100)

Alexander Gelfan (Russia)

17:15 Sub-daily extreme events distribution and changes in Northeastern Brazil in the 20th century (#IUGG-0148)

Daniel Allasia (Brazil)

17:30 Exploring the relationship between flood occurrence and the change of polar motion (#IUGG-0158)

Suxia Liu (China)

17:45 Modelling the interaction between flooding events and economic growth (#IUGG-0021)

Johanna Grames (Austria)

**Joint Inter-Association Symposia 16:30-18:00, Panorama Hall**

**JA04 Results from SWARM, Ground Based Data and Earlier Satellite Missions - Recognition of Eigil Friis-Christensen (IAGA, IAG, IAMAS)**

JA04d

*Chair: Rune Floberghagen (Italy)*

16:30 Investigation of vector gradient combinations from Swarm constellation for the determination of Earth’s lithospheric field (#IUGG-3805)

Stavros Kotsiaros (Denmark)

16:45 Estimating susceptibility and magnetization within the Earth’s continental crust: Petrophysical and Satellite approaches (#IUGG-2695)

Michael Purucker (USA)

17:00 Sensing the conductivity of the upper mantle and lithosphere using ocean tidal magnetic field satellite measurements: Model studies and observations (#IUGG-3790)

Neesha Schnepf (USA)

17:15 A regional geomagnetic reference field model over the North Atlantic (#IUGG-0395)

F. Javier Pavón-Carrasco (Italy)

17:30 Swarm accelerometer data: Temperature dependence & GPS orbits: First gravity field solutions (#IUGG-2874)

Ales Bezděk (Czech Republic)

17:45 Performance of Swarm satellites as gravity probes (#IUGG-3296)

Norbert Zehentner (Austria)
Thursday, June 25

**IVACEI** 16:30-18:00, Meeting Hall IV

**VW03 Effective Communication Tools: What Can Volcanology Learn from Other Hazards?**

**VW03d**

**IAG** 16:30-18:00, Meeting Hall V

**G05 GNSS++: Emerging Technologies and Applications**

**G05f**

*Chairs: Jinling Wang (Australia), Xiaohong Zhang (China)*

- **16:30** Multi-GNSS, multi-frequency PPP-RTK analysis for mixed-receiver network and user scenarios (#IUGG-3470)
  - Peter Teunissen (Australia)
- **16:45** Real-time precise point positioning with extended precise orbit/clock products (#IUGG-5431)
  - Yang Gao (Canada)
- **17:00** Enhancing precise point positioning with ionospheric stochastic modelling (#IUGG-5507)
  - Jinling Wang (Australia)
- **17:15** A new method for estimation of relative inter-frequency Bias in GLONASS receivers: A Particle Filter Approach (#IUGG-5338)
  - Yumiao Tian (Germany)
- **17:30** Variometric approach for real-time GNSS navigation: first demonstration of Kin-VADASE capabilities (#IUGG-4655)
  - Mara Branzanti (Italy)
- **17:45** Investigation of consistency between frequencies for GPS and BDS using an efficient raw data processing strategy (#IUGG-3584)
  - Hua Chen (China)

**IACS** 16:30-18:00, Small Hall

**C08 Ice Cores and Climate**

**C08c**

*Chair: Kumiko Goto-Azuma (Japan)*

- **16:30** A precise ice-core chronology from Antarctica for the past 31,000 years (#IUGG-1396)
  - Michael Sigl (Switzerland)
- **16:45** The WAIS Divide ice core: the phasing of the bipolar seesaw inferred from high-resolution climate records (#IUGG-0853)
  - Solicited Speaker: Eric Steig (USA)
- **17:15** Atmospheric teleconnections between the tropics and high southern latitudes during millennial climate change (#IUGG-4551)
  - Bradley Marker (USA)
- **17:30** Can we use 20th Century climate reanalysis products to support Antarctic ice core interpretation? (#IUGG-2783)
  - Ailie Gallant (Australia)

**IACS** 16:30-18:00, Small Theatre

**C05 Impacts of Dust and Black Carbon on Snow and Glaciers**

**C05a**

*Chairs: Teruo Aoki (Japan), Maria Shahgedanova (United Kingdom), Ramesh Singh (USA)*

- **16:30** Multi isotope approach to dynamics of impurities in snow and ice on the Greenland Ice Sheet (#IUGG-2328)
  - Solicited Speaker: Nozomu Takeuchi (Japan)
- **16:45** The recent darkening of the Greenland Ice Sheet from space and modelling (#IUGG-0914)
  - Marie Dumont (France)
- **17:00** Long range transport of dust and soot from Indo-Gangetic Plains and their impacts on Himalayan snow and glaciers (#IUGG-1238)
  - Ramesh Singh (USA)
- **17:15** Mineral dust and spectral reflectance of snow and glacier ice in the Caucasus and northern Tien Shan (#IUGG-5355)
  - Maria Shahgedanova (United Kingdom)
- **17:30** Light absorbing snow impurity concentrations measured at Sapporo, Japan during the 2007–2013 winters (#IUGG-2302)
  - Teruo Aoki (Japan)
- **17:45** Glacier mass balance modelling: Improvements using imaging spectroscopy derived ice surface material composition and spectral albedo (#IUGG-1066)
  - Kathrin Naegeli (Switzerland)

**IAMAS** 16:30-18:00, Club A

**M02 Advances in Atmospheric Dynamics Including Topographic Forcing**

**M02g**

*Chair: Evelyne Richard (France)*

- **16:30** Origin and history of air parcels in orographic banner clouds (#IUGG-2979)
  - Volkmar Wirth (Germany)
- **16:45** A convection-based model for the generation of atmospheric internal waves by explosive volcanic eruptions (#IUGG-2437)
  - Peter Baines (Australia)
- **17:00** Dynamics of rotor formation in single-layer mountain flows (#IUGG-4338)
  - Johannes Sachsberger (Austria)
- **17:15** A numerical study of atmospheric Karman vortex shedding from Jeju Island (#IUGG-5256)
  - Junshi Ito (Japan)
- **17:30** Accounting for topographic and frictional forcings in a unified theory of the nocturnal low-level jet (#IUGG-4494)
  - Alan Shapiro (USA)
- **17:45** Sensitivity of orographic precipitation in Switzerland to atmospheric processes – simulations with the high-resolution numerical model COSMO (#IUGG-4082)
  - Nicolas Piaget (Switzerland)
Thursday, June 25

**IAGA** 16:30-18:00, Club B

**A04 Magnetic Stratigraphy: Polarity Reversals, Relative Paleointensity and Excursions (Div. I)**

**A04b**

16:30 New data on the Matuyama-Brunhes reversal record in the Sulmona Basin. How long was the transition of the geomagnetic pole? (IUGG-1943)
Leonardo Sagnotti (Italy)

16:45 Natural remanent magnetization acquisition through sediment mixing: Theory and implications for relative paleointensity (IUGG-3003)
Ramon Egli (Austria)

17:00 Reversal records from intrusions and implications for the reversal process (IUGG-4585)
Mike Fuller (USA)

17:15 Magnetic susceptibility data and astronomically-tuned cyclicity as a new tool for stratigraphy (IUGG-0580)
Alena Rybkina (Russia)

17:30 The search for corroborative evidence of geomagnetic spikes within cosmoneuclide records (IUGG-3614)
Phil Livermore (United Kingdom)

**IAHS** 16:30-18:00, Club C

**HW12 Using Environmental Observatories in Catchment Studies and Management**

**HW12b**

16:30 Quantifying ecosystem resilience to climate change in the Western Boreal Plains (IUGG-3116)
Laura Chasmer (Canada)

16:45 Estimating periphyton dynamics in a temperate catchment using a hydrological simulation (IUGG-3015)
Kengo Watanabe (Japan)

17:00 Evaluation of CryoSat-2 performance over inland water bodies (IUGG-3546)
Shirzad Roohi (Germany)

**IAHS** 16:30-18:00, Club D

**HW03 Multivariate Analysis in Hydrological Modelling**

**HW03b**

16:30 Dimension reduction techniques in multivariate hydroclimatic forecasting models (IUGG-3431)
Solicited Speaker: Varvara Vetrova (New Zealand)

17:00 Multi-fidelity stochastic collocation of a groundwater model (IUGG-1120)
Solicited Speaker: Michael Asher (Australia)

17:30 Copula-Based seasonal Flood Frequency Analysis (FFA) - for dependant seasonal maxima (IUGG-0321)
Stas Debele (Poland)

17:45 Spatio-temporal synthesis of long continuous precipitation series for urban hydrological applications (IUGG-2194)
Ana Claudia Callau Poduje (Germany)

**IAHS** 16:30-18:00, Club E

**HW16 Observations and Modelling of Land–Atmosphere–Society Interactions in Hydrology**

**HW16b**

16:30 Modelling framework for regional climate adaptation in the Nile River Basin (IUGG-3154)
Michael Butts (Denmark)

16:45 Coupled component modelling for inter- and transdisciplinary climate change impact research: Dimensions of integration and examples of interface design (IUGG-1392)
Ulrich Strasser (Austria)

17:00 Co-innovation and co-development for improved water management outcomes – A case study (IUGG-3217)
MS Srinivasan (New Zealand)

17:15 Large scale water budget of the Ganga River Basin, India (IUGG-0921)
Srinivasa Rao Narakula (India)

17:30 Quantifying the effects of climate and landuse changes on the hydrology in the subtropical Africa: A process-based distributed modelling approach (IUGG-4453)
Markus Meinhardt (Germany)

**IAMAS** 16:30-18:00, Club H

**M12 Tropical Dynamics**

**M12d**

16:30 Robust responses of the Madden-Julian Oscillation to extreme climate changes (IUGG-5350)
Da Yang (USA)

16:45 Coupled impacts of the diurnal cycle of sea surface temperature on the Madden-Julian oscillation (IUGG-5536)
Hyoeae Seo (USA)

17:00 Diagnosing resolution sensitivity over the Maritime Continent in the MetUM (IUGG-4386)
Stephanie Bush (United Kingdom)

17:15 What determines tropical convection in a cloud resolving model? (IUGG-5608)
Guang Zhang (USA)

17:30 Precipitation associated with convergence lines (IUGG-2620)
Michael Reeder (Australia)

17:45 A characterization of cold pools in the West African Sahel (IUGG-0476)
Miroslav Provod (United Kingdom)
### Thursday, June 25

#### A23 Different Response Modes of the Magnetosphere to Solar Wind Driving (Div. III)

**A23b**  
**Chair:** Timo Pitkänen (Sweden)  
**16:30** The role of substorms in radiation belt changes (IUGG-4374)  
**Daniel N. Baker** (USA)  
**16:45** How special are sawtooth substorms? A spatio-temporal analysis from ground-based magnetic data (IUGG-3235)  
**Robert Shore** (United Kingdom)  
**17:00** The substorm onset arc: Diagnosing the magnetotail instability from the ground (IUGG-0861)  
**Jonathan Rae** (United Kingdom)  
**17:15** Determining the substorm onset instability using ground and space based measurements (IUGG-5479)  
**Jonathan Rae** (United Kingdom)  
**17:30** Dual current sheet formation during the substorm growth phase: Bursty bulk flows and substorm expansion (IUGG-3377)  
**Antonius Otto** (USA)  
**17:45** Increases in plasma sheet temperature with solar wind driving during substorm growth phases (IUGG-0810)  
**Colin Forsyth** (United Kingdom)

#### A09/A05 Open Symposium on Paleomagnetism and Rock Magnetism (Div. I) / Paleomagnetic reference models, Apparent Polar Wander Paths, and their use in Global and Regional Tectonics (Div. I)

**A09b**  
**Chair:** Pedro Silva (Portugal)  
**16:30** Absolute plate motion reconstruction from paleomagnetism: methodology and the Matlab toolbox ’PMTec’ (IUGG-1245)  
**Solicited Speaker:** Lei Wu (Canada)  
**17:00** The Rio de la Plata craton and the Precambrian continents and supercontinents (IUGG-0310)  
**Augusto Rapalini** (Argentina)  
**17:15** Paleointensity of Proterozoic magmatic rocks from South America using the Preisach method, preliminary results (IUGG-2976)  
**Anita Di Chiara** (Brazil)  
**17:30** A rock- and paleomagnetic study of the ultramafic rocks of the Reinfjord intrusion, Northern Norway (IUGG-0418)  
**Geertje ter Maat** (Norway)  
**17:45** Paleoarchic volcanic phases in Prague Basin – What do paleomagnetic and rock magnetic data reveal (IUGG-4285)  
**Tiitu Elbro** (Czech Republic)

#### A03 Electromagnetic Imaging from the Near-Surface, Lithosphere-Asthenosphere, to the Core: Results and Interpretations (Div. I)

**A03b**  
**Chairs:** Ajay Manglik (India), Ian Ferguson (Canada)  
**16:30** Growth of Tibetan Plateau affect the tectonics of Eastern China by channel flows Evidence from MT data (IUGG-3059)  
**Denghai Bai** (China)  
**16:45** A thick sedimentary sequence in the foreland basin of the central Himalaya (IUGG-0708)  
**Ajay Manglik** (India)  
**17:00** Electromagnetic imaging used to delineate the lithospheric geoelectrical structure and earthquake generation mechanism in Vrancea subduction zone (IUGG-1393)  
**Dumitru Stanica** (Romania)  
**17:15** Geoelectrical signatures over Major Proterozoic Volcanics in the Singhbhum Region, Eastern India (IUGG-1138)  
**Ved Maurya** (India)  
**17:30** Crustal conductors in a complex accretionary Svecofennian orogen in Fennoscandia (IUGG-3775)  
**Toivo Korja** (Finland)  
**17:45** Metallogenic evolution of proterozoic dalma volcanics in the eastern indian craton (IUGG-4511)  
**Shalivahan Srivastava** (India)

#### A06/A07 Applied Rock Magnetism (Div. I) / Theoretical and Experimental Rock Magnetism (Div. I)

**A06d**  
**Chair:** Ramon Egli (Austria)  
**16:30** Modelling remanence time-decay curves for ensembles of magnetite-maghemite particles of variable volumes: implications for magnetic granulometry (IUGG-5443)  
**Martin Chadima** (Czech Republic)  
**16:45** Measurement of dynamic magnetization in time domain and frequency domain: Proposal for a new rock magnetism approach (IUGG-1640)  
**Kazuto Kodama** (Japan)  
**17:00** Development of a 0.5 Tesla transverse-field alternating field demagnetizer (IUGG-2222)  
**Walter Schillinger** (USA)  
**17:15** Development and calibration of scanning SQUID microscope (IUGG-4120)  
**Hirokuni Oda** (Japan)  
**17:30** Estimating the magnetization distribution within rectangular rock samples (IUGG-1853)  
**Vanderlei Oliveira Jr** (Brazil)  
**17:45** MERRILL: An open-source finite element micromagnetic modeling package for rock magnetism (IUGG-4728)  
**Karl Fabian** (Norway)
Thursday, June 25

### IAHS

**HW06 Socio-Hydrology: The Dynamic Interplay between Water and Human Systems**

**HW06c**

16:30 Of dikes, tides and rice - co-evolution of a vulnerable African community and its environment into an intricate socio-hydro-eco-technological system

*Solicited Speaker* Piete van der Zaag (Netherlands)

17:00 Understanding the dynamics interplay between hydrological and social processes in the southwest coastal region of Bangladesh

Md Ruknul Ferdous (Netherlands)

17:15 Bringing together methodologies and epistemologies: Experiences of joint research in the Cordillera Blanca region, Peru

Martina Neuburger (Germany)

### IAG

**G03 Variations of the Gravity Field**

**G03f**

16:30 Crustal and Lithospheric structures of Himalaya, Tibet and Indian Subcontinent based on space and ground gravimetric techniques

Ravikumar Muppidi (India)

16:45 Long-Term Gravity Changes Caused By Crustal Movement in Tibet Region

Jian Fang (China)

17:00 First Detection of Coseismic Gravity Change of a Deep-focus Earthquake by Satellite Gravimetry: The 2013 Okhotsk Sea earthquake (M8.3)

Kosuke Heki (Japan)

17:15 Spectral-finite element approach to post-seismic relaxation in a spherical compressible Earth: application to the 2004 Sumatra-Andaman earthquake

Yoshiyuki Tanaka (Japan)

17:30 Results of IAG JWG 2.4: geodetic and geophysical observations and their interpretations over Tibet, Xinjiang and Siberia (TibXS)

Cheinway Hwang (Taiwan - China)

17:45 Final report of the Global Geodynamics Project (1997-2015) that established a database of high precision relative gravity measurements

David Crossley (USA)

### IAVCEI

**VW05 Models in Volcanology**

**VW05d**

Moderator: Sam Poppe (Belgium)

**VW04 Remote Sensing and Modelling of Volcanic Ash in Latin America**

**VW04d**

Moderator: Maria Soledad Osores (Argentina)

**VW06 New Processing and Interpretation Methods in Volcano Seismology**

**VW06d**

18:00-19:30, Poster Area (Foyer)

Poster sessions (p. 221)
Union Symposia 8:30-10:00, Congress Hall

U06 Data Assimilation and Inverse Problems in Geophysical Sciences

U06a

Chairs: Craig Bishop (USA), Richard Essery (United Kingdom), Alik Ismail-Zadeh (Germany)

8:30 Data Assimilation: Past, Present and Future (#IUGG-1555)

Solicited Speaker: Michael Ghil (France)

9:00 Scale-dependent ensemble covariance localization for ensemble-variational data assimilation (#IUGG-3103)

Solicited Speaker: Mark Buehner (Canada)

9:30 Snow data assimilation for numerical weather prediction (#IUGG-2912)

Solicited Speaker: Patricia de Rosnay (United Kingdom)

IAHS 8:30-10:00, Forum Hall

HS02 Hydrologic Non-Stationarity and Extrapolating Models to Predict the Future

HS02a

Chairs: Denis Hughes (South Africa), Jai Vaze (Australia)

8:30 On the effects of wind and other atmospheric drivers on transpiration in contrast to "potential evaporation" (#IUGG-0087)

Solicited Speaker: Stanislaus Schymanski (Switzerland)

9:00 Assessing evapotranspiration losses in a warmer climate (#IUGG-0097)

Stewart Franks (Australia)

9:15 The need of the change of the conceptualisation of hydrologic processes under extreme conditions—taking reference evapotranspiration as an example (#IUGG-0151)

Suxia Liu (China)

9:30 Accounting for hydro-climatic and water use variability in the assessment of past and future water balance at the basin scale (#IUGG-0037)

Julie Fabre (France)

9:45 Ability of a land surface model to predict climate induced changes in northern Russian river runoff during the 21st century (#IUGG-0041)

Olga Nasonova (Russia)

Joint Inter-Association Symposia 8:30-10:00, Meeting Hall I

JS02/JS01/JA03 Physics and Chemistry of Earth and Planetary Interiors with Implications for their Structure, Process and Evolution (IASPEI, IAVCEI, IAGA, SEDI, IACS) / Planetary Physics (IASPEI, IACS) / Geophysical Constraints on Geodynamical Processes (IAGA, SEDI, IASPEI, IAVCEI)

JS02a

Chairs: Catherine Constable (USA), Renaud Deguen (France)

8:30 Building a regime diagram for Earth’s inner core (#IUGG-4522)

Solicited Speaker: Renaud Deguen (France)

8:45 Iron snow, crystal floats and inner core growth: Modes of core solidification and implications for dynamos in terrestrial bodies (#IUGG-5413)

Doris Breuer (Germany)

9:00 Two spatiotemporal scales of mantle dynamics (#IUGG-4353)

Solicited Speaker: Adam Dziewonski (USA)

9:15 SS precursor imaging of mantle transition zones with curvelet filtering (#IUGG-5612)

Robert van der Hilst (USA)

9:30 Attenuation and Q-values in the crust and upper mantle beneath Uturuncu Volcano, Bolivia (#IUGG-4855)

Stephen McNutt (USA)

9:45 Testing the geocentric axial dipole hypothesis using regional paleomagnetic intensity records from 0-300~ka (#IUGG-5209)

Catherine Constable (USA)

Joint Inter-Association Symposia 8:30-10:00, Panorama Hall

JM02/JM01 Climate Variability and Earth Systems Modelling (IAMAS, IAPSO, IACS) / Earth Systems Dynamics, Predictability and Probabilistic Forecasting (IAMAS, IAG, IAGA, IAPSO, IASPEI)

JM02a

Chair: Scott Hosking (United Kingdom)

8:30 Towards understanding and modeling the atmosphere-ocean-ice sheet system of Glacial-Interglacial cycles (#IUGG-5699)

Solicited Speaker: Ayako Abe-Ouchi (Japan)

8:45 Impact of the springtime Himalayan-Tibetan Plateau on the onset of the Indian summer monsoon in coupled forecasts (#IUGG-4003)

Yvan Orsolini (Norway)

9:00 Summer-to-winter sea-ice linkage between the Arctic Ocean and the Okhotsk Sea through atmospheric circulation (#IUGG-4184)

Meiji Honda (Japan)

9:15 Atmospheric response to anomalou sea ice in the Sea of Okhotsk (#IUGG-4125)

Kazuhiko Nishii (Japan)

9:30 Investigation of the atmospheric mechanisms related to the autumn sea ice and winter circulation link in the Northern Hemisphere (#IUGG-1530)

Martin King (Norway)

9:45 Robust Arctic sea-ice influence on the frequent Eurasian cold winters in past decades (#IUGG-1638)

Masato Morit (Japan)
IAGA 8:30-10:00, Meeting Hall IV

A18 Sun-Earth System Response to Extreme Solar Events and Space Weather (Div. II/Div. III)

A18a

Chairs: Balan Nanan (Japan), Daniel N. Baker (USA)

8:30 Extreme solar events: Then and now (#IUGG-5203)

Solicited Speaker: Edward W. Cliver (USA)

9:00 Interplanetary conditions leading to superintense (Dst = -250 nT) geomagnetic storms (#IUGG-2257)

Ezequiel Echer (Brazil)

9:15 The structure of the compression front in Carrington Class CMEs (#IUGG-1281)

Solicited Speaker: Christopher Russell (USA)

9:45 Comparison between measurements and calculated geomagnetically induced currents in a Brazilian transmission line (#IUGG-0789)

Cleiton Barbosa (Brazil)

IGA 8:30-10:00, Meeting Hall V

G05 GNSS++: Emerging Technologies and Applications

G05g

Chairs: Allison Kealy (Australia), Jacek Paziewski (Poland)

8:30 GNSS accuracy and integrity issues in transport and mobility services (#IUGG-3497)

Vassilis Gikas (Greece)

8:45 Differential Wi-Fi – A new approach for Wi-Fi Positioning using lateration (#IUGG-0562)

Guenther Retscher (Austria)

9:00 The Effects of the April 1st, 2014 GLONASS Outage on GNSS Receivers (#IUGG-4748)

Frederick Blume (USA)

9:30 New methodologies for real-time GNSS and MEMS accelerometer data combination in structural and ground monitoring (#IUGG-5700)

Elisa Benedetti (Italy)

IACS 8:30-10:00, Small Hall

C09 Water Stable Isotopes as Tools to Elucidate Atmosphere, Hydrosphere and Cryosphere Interactions

C09a

8:30 The influence of boundary layer stability on Greenland Ice Sheet accumulation (#IUGG-5170)

Max Berkelhammer (USA)

8:45 Stable water isotopes in an idealised extratropical cyclone (#IUGG-2800)

Marina Duetsch (Switzerland)

9:00 Stable isotopes and precipitation mechanisms at Dome Fuji and Dome Concordia, Antarctica (#IUGG-1164)

Elisabeth Schlosser (Austria)

9:15 An investigation of local and synoptic-scale processes driving deuterium excess variability in continental near-surface atmospheric water vapour (#IUGG-2709)

Franziska Aemisegger (Switzerland)

9:30 Deciphering influences of temperature, moisture sources, post-deposition effects and stratospheric inputs in records of stable isotopes in East Antarctic snow (#IUGG-0892)

Alexandra Touzeau (France)

9:45 The annual change in the isotopic composition of wet precipitation on the territory of Altai (South-West Siberia, Russia) (#IUGG-4701)

Tatayna Papina (Russia)

IACS 8:30-10:00, Small Theatre

C11 Climate Downscaling for Modelling Glacier Mass Balance

C11a

Chair: Marlis Hofer (Austria)

8:30 Interactively coupled, high-resolution modelling of the atmosphere and alpine glaciers at the regional scale (#IUGG-3835)

Solicited Speaker: Emily Collier (Netherlands)

9:00 Modelling the surface mass balance of South Georgia glaciers using a high-resolution atmospheric model (#IUGG-1769)

John King (United Kingdom)

9:15 First steps towards the nesting of a glacier mass balance algorithm in the Canadian regional climate model (#IUGG-1855)

Shawn Marshall (Canada)

9:30 Monsoon energy fluxes for snow and ice melt at Yala Glacier, Langtang Valley, Nepal (#IUGG-0721)

Joseph Shea (Nepal)

9:45 Surface Mass Balance of Renland Ice Cap, East Greenland using very high resolution regional climate modelling from HIRHAM5 (#IUGG-5038)

Ruth Mottram (Denmark)
Friday, June 26

**IAMAS 8:30-10:00, Club A**

**M14 Middle Atmosphere Science**

*M14a*

*Chair: Michaela Hegglin (United Kingdom)*

- **8:30** UTLS transport by Asian Summer Monsoon and North American Monsoon (#IUGG-1409)
  - **Solicited Speaker: Laura Pan (USA)**
- **8:45** Variability and trends in UTLS temperatures and water vapor (#IUGG-0866)
  - **Karen Rosenlof (USA)**
- **9:00** The climate impact of past changes in halocarbons and CO2 in the tropical UTLS region (#IUGG-3665)
  - **Ted Shepherd (United Kingdom)**
- **9:15** What causes intermodel difference in the upwelling in the tropical tropopause layer among CMIP5 models? (#IUGG-3655)
  - **Kohei Yoshida (Japan)**
- **9:30** The flushing of the northern lower stratosphere and the influence of the monsoon: Results from TACTS/ESMVal 2012 (#IUGG-2848)
  - **Peter Hoor (Germany)**
- **9:45** Dynamical and radiative forcing of tropical lower stratospheric temperatures 1980-2012 (#IUGG-4212)
  - **Stephan Fueglistaler (USA)**

**IAGA 8:30-10:00, Club B**

**A24 The Plasmasheet - Ionosphere, a Coupled System: Sinks, Sources, Transport and the Roles of Field-Aligned Currents and Ion Outflow (Div. III/Div. II)**

*A24a*

*Chairs: Simon Wing (USA), Jay Johnson (USA)*

- **8:30** This is my abstract title: Outflow of Low Energy O+ Ion Beams Observed During Non-Substorm Times (#IUGG-1611)
  - **George Parks (USA)**
- **8:45** Solar zenith angle dependence of H+, He+, and O+ ion outflows (#IUGG-3379)
  - **Solicited Speaker: Naritoshi Kitamura (Japan)**
- **9:00** The effect of ionospheric outflow and magnetospheric composition on ring current formation and evolution (#IUGG-0996)
  - **Raluca Ilie (USA)**
- **9:15** Hot and cold ion outflow, from the ionosphere to the plasmasheet and back (#IUGG-1840)
  - **Solicited Speaker: Hans Nilsson (Sweden)**
- **9:45** Cluster observations of the auroral density cavity - Density distribution and altitudinal extent (#IUGG-1014)
  - **Solicited Speaker: Love Alm (Sweden)**

**IAMAS 8:30-10:00, Club C**

**M11 Tropical Cyclones**

*M11a*

*Chair: Patrick Harr (USA)*

- **8:30** A new local moist available potential energy framework to quantify mechanisms of tropical cyclone intensification (#IUGG-4310)
  - **Remi Tailleux (United Kingdom)**
- **8:45** Intensity-dependence of tropical cyclone intensification in a simplified dynamical system (#IUGG-3392)
  - **Yuqing Wang (USA)**
- **9:00** Adaptive mesh refinement for tropical cyclone prediction: idealized simulations using a spectral element shallow water model (#IUGG-1930)
  - **Erick Hendricks (USA)**
- **9:15** Numerical simulation of genesis and intensification of tropical cyclone over Arabian Sea using Global Forecast System model (#IUGG-0732)
  - **Medha Deshpande (India)**
- **9:30** Interactions between Super Typhoon Megi (2010) and the Monsoon Gyre (#IUGG-1408)
  - **Melinda Peng (USA)**
- **9:45** Extended-range forecast of tropical cyclogenesis in the western north Pacific using a global nonhydrostatic atmospheric model (#IUGG-3318)
  - **Masuo Nakano (Japan)**

**IAVCEI 8:30-10:00, Club D**

**VS25/VS09 Remotely Sensed Mapping of Volcanic Regions / Statistics in Volcano Remote Sensing**

*VS25a*

- **8:30** Ground vs. space, when are we blind, and when are we deaf? (#IUGG-5661)
  - **Benoit Taisne (Singapore)**
- **8:45** Topographic change at Reventador Volcano, Ecuador, 2000-2010: Comparison of field and satellite radar measurement (#IUGG-0822)
  - **Maria Naranjo (Ecuador)**
- **9:00** Post glacial mapping of holocene basaltic lavas in Iceland through the integrated proximal and remote sensing approach (#IUGG-4498)
  - **Annamaria Pinton (Italy)**
- **9:15** Mapping lava surfaces of Nyamuragira volcano by means of spectral mixture analysis (#IUGG-1488)
  - **Long Li (Belgium)**
- **9:30** Mapping and measuring lava flow volume of the 2012-13 Tolbachik, Kamchatka fissure eruption using double differential SAR interferometry (#IUGG-5075)
  - **Julia Kubarek (Germany)**
Joint Inter-Association Symposia

**JG02 Modelling the Atmosphere and Ionosphere by Space Measurements (IAG, IAGA, IAMAS, IACS)**

**JG02a**

**Chairs:** Marcelo Santos (Canada), Jens Wickert (Germany)

**8:30** Satellite observations of gravity waves in the middle atmosphere: seasonal variations and vertical coupling (#IUGG-2158)

*Solicited Speaker:* Manfred Err (Germany)

**9:00** Gravity waves resolved by the high resolution European Centre for medium-range weather forecasts analysis data (#IUGG-5379)

*Peter Preuss* (Germany)

**9:15** Observation of non-migrating tides in the ionosphere and thermosphere (#IUGG-1117)

*Solicited Speaker:* Hermann Lühr (Germany)

**9:45** Gravity waves and their seasonal variation from high resolution WACCM simulations (#IUGG-3056)

*Hanli Liu* (USA)

**IAVCEI**

**VS15/VS30/VS34 Water and Magma / Volcaniclastic Sediments: Modern Applications for Marine and Earth Sciences / Effects of Water on Subaerial Volcanic Eruptions and Ash Dispersal**

**VS15a**

**Chairs:** Alexa Van Eaton (Canada), Martin Jutzeler (United Kingdom), James D.L. White (New Zealand), Magnus T. Gudmundsson (Iceland)

**8:30** Interpreting water contents of submarine pumice: attempting to see through the veil of hydration (#IUGG-1023)

*Solicited Speaker:* Iona McIntosh (Japan)

**9:00** Contrasting mechanisms of magma fragmentation and degassing during coeval magmatic and hydromagmatic activity revealed by dissolved volatile concentrations (#IUGG-2563)

*Emma Liu* (United Kingdom)

**9:15** Hyaloclastite fragmentation below the glass transition: example from El Barronal submarine volcanic complex (Spain) (#IUGG-5012)

*Massimiliano Porreca* (Italy)

**9:30** The fracture behavior of volcanic glass and relevance to quench fragmentation and formation of hyaloclastite (#IUGG-2847)

*Raymond Cas* (Australia)

**9:45** Thermal modeling of the large Pleistocene subglacial fissure eruption of Snæb*llishei*i, Iceland (#IUGG-4977)

*James D.L. White* (New Zealand)

**IAGA**

**A17 The Earth’s Plasmasphere: Remote Sensing and Modelling (Div. II-VERSIM)**

**A17a**

**Chair:** Iannis Dandouras (France)

**8:30** The Earth’s Plasmasphere: Historical Keynotes (#IUGG-4535)

*Solicited Speaker:* Joseph Lemaire (Belgium)

**9:00** Plasmaspheric his properties: Observations from polar (#IUGG-1123)

*Bruce Tsurutani* (USA)

**9:15** Plasmaspheric electron densities and plasmasphere models for space weather investigations (#IUGG-5552)

*Janos Lichtenberger* (Hungary)

**9:30** Some characteristics of bursts of unusually high-frequency VLF radio emissions observed in Northern Finland at L=5.3 (#IUGG-4699)

*Jyrki Manninen* (Finland)

**9:45** Investigation of guided propagation of VLF transmitter signals using satellite and ground based measurements (#IUGG-5555)

*David Koronczay* (Hungary)

**IAPSO**

**P08 MOC and Deep Currents**

**P08a**

**Chair:** Christopher Meinen (USA)

**8:30** Advances in the understanding of the Atlantic meridional overturning circulation (#IUGG-4193)

*Solicited Speaker:* Torsten Kanzow (Germany)

**9:00** Observations of the North Atlantic meridional overturning circulation (#IUGG-3136)

*Solicited Speaker:* David Smeed (United Kingdom)

**9:30** North Atlantic heat transport at 26.5°N: New insights from synthesis of RAPID array observations with a high resolution ocean GCM (#IUGG-2364)

*Ben Moat* (United Kingdom)

**9:45** Heat and freshwater convergence anomalies in the Atlantic Ocean inferred from observations (#IUGG-1477)

*Kathryn Kelly* (USA)

**IAGA**

**A16 Energetic Particle Precipitation into the Atmosphere: Sources and Atmospheric Impacts (Div II-D/IAGA Div II-VERSIM/ICMA)**

**A16a**

**Chair:** Bernd Funke (Spain)

**8:30** Medium energy proton/electron detector differential flux retrievals and electron channel contamination correction (#IUGG-0686)

*Solicited Speaker:* Ethan Peck (USA)

**9:00** Validating POES/MEPED electron precipitation fluxes through ground based AARDVARK observations (#IUGG-1247)

*Craig Rodger* (New Zealand)

**9:15** Spectral riometry measurement of energetic particle precipitation (#IUGG-2105)

*Antti Kero* (Finland)

**9:30** Efficient detection of satellite conjunctions in physical and magnetic coordinates: Application to mapping of relativistic electron precipitation (#IUGG-1416)

*Steven Morley* (USA)

**9:45** Determining lower energy cutoffs of EMIC driven electron precipitation using satellite and ground-based observations (#IUGG-0537)

*Aaron Hendry* (New Zealand)
Friday, June 26

IAGA 8:30-10:00, Chamber Hall

A28/A29 New advances in Solar and Interplanetary Physics (Div. IV) / Wave and Turbulence in the Solar Atmosphere and Solar Wind (Div. IV)

A28a
8:30 IRIS the First 2 Years (#IUGG-1385)
Solicited Speaker: Alan Title (USA)

9:00 A penumbral mini-flare observed with IRIS and SDO (#IUGG-3822)
Costas Alissandrakis (Greece)

9:15 Winding and unwinding motions observed in a prominence (#IUGG-5553)
Xing Li (United Kingdom)

9:30 Coronal magnetometry using multi-wavelength polarimetry (#IUGG-3701)
Solicited Speaker: Sarah Gibson (USA)

IASPEI 8:30-10:00, South Hall 1

S01c Seismological Observation and Interpretation: Triggered and Induced Seismicity

S01ca
8:30 Investigation of Reservoir Triggered Earthquakes through Deep Scientific Drilling at Koyna, India (#IUGG-1720)
Solicited Speaker: Harsh Gupta (India)

9:00 Seismological investigations related to scientific drilling at Koyna, India (#IUGG-0510)
Shashidhar Dodda (India)

9:15 Scientific drilling in Koyna, India to study reservoir triggered earthquakes: heat flow, subsurface temperatures and implications for seismogenesis (#IUGG-0933)
Sukanta Roy (India)

9:30 Alteration in cyclicity of reservoir induced seismicity in Koyna-Warna area in relation with relative strong earthquakes (#IUGG-1955)
Maria Potanina (Russia)

9:45 A unique Borehole seismic network to study the continued seismicity in Koyna-Warna region, Western India (#IUGG-0509)
Subramanya Satyanarayana Hari Venkata (India)

IAG 8:30-10:00, South Hall 2

G03 Variations of the Gravity Field

G03g
8:30 Status of the GRACE Follow-On Mission (#IUGG-2201)
Felix Landerer (USA)

8:45 European Gravity Service for Improved Emergency Management - a new Horizon2020 project to improve the accessibility to gravity field products (#IUGG-2467)
Christian Gruber (Germany)

9:00 Ground-satellite comparisons of time variable gravity : issues and on-going projects for the null test in arid regions (#IUGG-1727)
Jacques Hinderer (France)

9:15 De-aliasing of ocean tide error in future dual-pair satellite gravity missions (#IUGG-2063)
Wei Liu (Germany)

9:30 Study of post-processing methods for future gravity satellite missions (#IUGG-1087)
Siavash Iran Pour (Germany)

9:45 What can be expected from the GRACE-FO Laser Ranging Interferometer for Earth Science applications? (#IUGG-2209)
Christian Gruber (Germany)

IAGA 8:30-10:00, South Hall 3

A32 Studies of the Quiet Sun and Active Regions (Div. IV)

A32a
Chair: Gregory Flaishman (USA)

8:30 Modeling and observing the Quiet Sun: current status and prospects (#IUGG-0880)
Solicited Speaker: Maria Loukitcheva (Russia)

9:00 High resolution optical diagnostics of solar plasma in the quiet sun photosphere (#IUGG-0345)
Solicited Speaker: Valentina Abramenko (Russia)

9:30 Unresolved structure of photospheric magnetic fields and its role in flare energy transport (#IUGG-0741)
Mykola Gordovskyy (United Kingdom)

9:45 Effect of horizontally inhomogeneous heating on flow and magnetic field in the chromosphere of the sun (#IUGG-3809)
Paul Song (USA)

Union Lectures

UL02 Union Lectures 2

UL02
Chair: Harsh Gupta (India)

10:30 Sea level change in the anthropocene
Keynote Speaker: Jonathan Gregory (United Kingdom)

11:00 Earthquake dynamics and seismic radiation
Keynote Speaker: Raoul Madariaga (France)

11:30 Volcanic ash and aviation safety
Keynote Speaker: Thomas Casadevall (USA)
Union Symposia

U06 Data Assimilation and Inverse Problems in Geophysical Sciences

U06b

Chairs: Salvatore Grimaldi (Italy), Pavel Novák (Czech Republic), Jeroen Tromp (USA)

13:30 Variational assimilation of satellite observations and multiple river flow data in distributed flood forecasting modeling (#IUGG-3834)
Solicited Speaker: Fabio Castelli (Italy)

14:00 Time-varying gravity field and large-scale mass redistribution inferred from GNSS and Satellite Altimetry (#IUGG-0594)
Solicited Speaker: Shuanggen Jin (China)

14:30 Twenty years of global seismic tomography using time domain waveform inversion: a review and recent progress (#IUGG-1205)
Solicited Speaker: Barbara Romanowicz (France)

IAHS

HS02 Hydrologic Non-Stationarity and Extrapolating Models to Predict the Future

HS02b

Chairs: Vaclav Andreassian (France), Denis Hughes (South Africa)

13:30 Assessing uncertainties in climate change impacts on runoff in various meso-scale catchments from the Western Mediterranean (#IUGG-0075)
Denis Ruehl (France)

13:45 Using historical climatic signals to better predict the future: case of the water cycle in Central Sahel (#IUGG-0166)
Crystele Leauthaud (France)

14:00 Symmetry in performance of different streamflow prediction methods: effect of non-stationarity in catchment processes (#IUGG-0176)
Margarta Saft (Australia)

14:15 Assessment and modelling fire impact on runoff formation processes in mountainous landscapes of Siberia and Far East of Russia (#IUGG-0142)
Olga Semenova (Russia)

14:30 Scenario forecasting changes in the water balance components of the Olenek and Lindigirka river basins due to possible climate change (#IUGG-0009)
Evgeny Gusev (Russia)

Joint Inter-Association Symposia

JS02/JS01/JA03 Physics and Chemistry of Earth and Planetary Interiors with Implications for their Structure, Process and Evolution (IASPEI, IAVCEI, IAGA, SEDI, IAC5) / Planetary Physics (IASPEI, IACS) / Geophysical Constraints on Geodynamical Processes (IAGA, SEDI, IASPEI, IAVCEI)

JS02b

Chairs: Ian Jackson (Australia), Jiuhua Chen (USA)

13:30 Development of a rotational Drickamer apparatus (RDA) and its applications to the deep mantle processes (#IUGG-1472)
Shun-ichiro Karato (USA)

13:45 The lower mantle water reservoir (#IUGG-4614)
Solicited Speaker: Shun-ichiro Karato (USA)

14:00 Proton conduction and hydrogen diffusion in olivine: Implications for the role of grain boundary diffusion in enhancing conductivity (#IUGG-5460)
Lin Wang (Germany)

14:15 Pressure and temperature dependence of dislocation mobility in the [100][010] and [001][010] slip systems is comparable in olivine (#IUGG-5491)
Solicited Speaker: Jiuhua Chen (China)

14:30 Slab stagnation and buckling in the mantle transition zone: Petrology, rheology, and the geodynamics of trench migration (#IUGG-4488)
Craig Bina (USA)

14:45 Numerical modeling of viscous behavior of a rock sample from Alamkooh in Iran (#IUGG-0286)
Solicited Speaker: Iman Ziaie (Iran)

Joint Inter-Association Symposia

JM02/JM01 Climate Variability and Earth Systems Modelling (IAMAS, IAPSO, IACS) / Earth Systems Dynamics, Predictability and Probabilistic Forecasting (IAMS, IAG, IAGA, IAPSO, IASPEI)

JM02b

Chair: Tim Woollings (United Kingdom)

13:30 Factors influencing atmospheric circulation anomalies in middle latitudes (#IUGG-1794)
Solicited Speaker: Richard Greatbatch (Germany)

14:00 Latest developments of the met office global and regional ensemble prediction system (#IUGG-2718)
Richard Swinbank (UK)

14:15 Predictability of atmospheric circulation regimes at extended range (#IUGG-4790)
Laura Ferranti (UK)

14:30 An investigation of the dynamics of forecast uncertainty in global atmospheric model forecasts (#IUGG-4933)
Solicited Speaker: Jiuhua Chen (China)

14:45 Understanding the non-Gaussian probability distributions of large-scale atmospheric and oceanic variables and their implications for predictability (#IUGG-5295)
Solicited Speaker: Prashant Sardeshmukh (USA)
### IAGA

**A18 Sun-Earth System Response to Extreme Solar Events and Space Weather (Div. II/Div. III)**

**A18b**

*Chairs: Andrew Yau (Canada), Takashi Kikuchi (Japan)*

- **13:30** Satellite observations of thermospheric response to magnetic storms (#IUGG-1119)
  *Solicited Speaker: Hermann Lühr (Germany)*

- **14:00** Connection between neutral densities and geomagnetic activity - A case study based on airglow modeling (#IUGG-0604)
  *MV Sunil Krishna (India)*

- **14:15** Space weather monitoring and forecast by using FORMOSAT-3/COSMIC and FORMOSAT-7/COSMIC (#IUGG-5373)
  *Solicited Speaker: I.Y. Liu (Taiwan - China)*

- **14:45** Global TEC response to October 29-30, 2003 "Halloween Storms": A comparison between the CODE data and the global empirical model (#IUGG-1027)
  *Dora Pancheva (Bulgaria)*

### IACS

**C07 Understanding Linkages between Different “Elements” of the High-Latitude Cryosphere**

**C07a**

*Chair: Rob Massom (Australia)*

- **13:30** Characterization of feedbacks in the Arctic from models and observations (#IUGG-1391)
  *Solicited Speaker: Julienne Stroeve (USA)*

- **14:00** Researches on linkages between Greenland ice sheet and sea ice in the Baffin Bay (#IUGG-5161)
  *Nuerasimuguli Alimasi (Japan)*

- **14:15** Influences of the changing Arctic terrestrial freshwater on Arctic sea ice (#IUGG-2199)
  *Hotaek Park (Japan)*

- **14:30** Arctic lake ice in a changing climate: radar remote-sensing and numerical modelling data analysis (#IUGG-1053)
  *Cristina Surdu (Canada)*

- **14:45** Cryospheric contribution of small lakes in climate models (#IUGG-2251)
  *Diana Verseghy (Canada)*

### IAMS

**M14 Middle Atmosphere Science**

**M14b**

*Chair: Laura Pan (USA)*

- **13:30** Recent changes in the composition of the stratosphere due to and despite the Montreal Protocol (#IUGG-2124)
  *Solicited Speaker: Martyn Chipperfield (United Kingdom)*

- **13:45** Simultaneous spatial and temporal analysis of long-term ozone data sets (#IUGG-1546)
  *Robert Damadeo (USA)*

- **14:00** On the recovery of stratospheric ozone (#IUGG-3974)
  *Sophie Godin-Beekmann (France)*

- **14:15** Future evolution of tropical ozone under different emission scenarios (#IUGG-1954)
  *Stefanie Meul (Germany)*

- **14:30** Partitioning of ozone changes between chemistry and transport in the quasi-biennial oscillation simulated by a chemistry-climate model (#IUGG-5001)
  *Kiyotaka Shibata (Japan)*

- **14:45** Contrasting the impacts of ozone-depleting substances and well-mixed greenhouse gases on Antarctic and Arctic ozone and temperature trends (#IUGG-1775)
  *Harald Rieder (Austria)*
Friday, June 26

IAGA 13:30-15:00, Club B

A24 The Plasmasheet - Ionosphere, a Coupled System: Sinks, Sources, Transport and the Roles of Field-Aligned Currents and Ion Outflow (Div. III/Div. II)

A24b
Chairs: Jay Johnson (USA), Simon Wing (USA)

13:30 The auroral current circuit: A review (#IUGG-3089)
Solicited Speaker: Octav Marghitu (Romania)

13:45 Structure of magnetospheric plasma domains and auroral oval mapping (#IUGG-0748)
Solicited Speaker: Elizaveta Antonova (Russia)

14:00 Auroral particle precipitation characterized by the substorm cycle (#IUGG-2739)
Simon Wing (USA)

14:15 Driving the inner Magnetosphere with Alfvén Waves (#IUGG-1081)
Solicited Speaker: Christopher Chaston (Australia)

14:30 Observational and modeling study of subauroral polarization streams (SAPS) during substorms and their impact on ionosphere and thermosphere (#IUGG-4076)
Solicited Speaker: Shasha Zou (USA)

14:45 Long-term variations of ion composition in the plasma sheet and its possible effect on substorm occurrence (#IUGG-2587)

IAMAS 13:30-15:00, Club C

M11 Tropical Cyclones

M11b
Chair: Julia Keller (Germany)

13:30 Effects of Vertical Wind Shear on Inner-Core Thermodynamics of an Idealized Simulated Tropical Cyclone (#IUGG-2074)
Jian-Feng Gu (China)

13:45 Secondary Eyewall Formation in tropical cyclones: Unbalanced dynamics within and just above the Boundary Layer (#IUGG-1047)
Chun-Chieh Wu (Taiwan - China)

14:00 The impacts of recurring tropical cyclones on extended-range predictability of midlatitude weather patterns (#IUGG-5644)
Patrick Harr (USA)

14:15 Lightning activity variation during the evolution of severe tropical cyclones in the South Pacific region (#IUGG-0342)
Ashneel Chandra (Fiji)

14:30 The inner-core asymmetric precipitation structure of landfalling tropical cyclones in South China (#IUGG-3080)
Ruifen Zhan (China)

14:45 Intensified impact of east Indian ocean sea surface temperature anomaly on tropical cyclone genesis frequency over the western north Pacific (#IUGG-3619)

IAVCEI 13:30-15:00, Club D

VS25/VS09 Remotely Sensed Mapping of Volcanic Regions / Statistics in Volcano Remote Sensing

VS25b
13:45 Photogrammetric mapping and parameters estimation for the current dome growth at Molodoy Shiveluch Volcano, Kamchatka (#IUGG-0306)
Alina Shvetchenko (Russia)

14:00 Application of Structure from Motion technology to three dimensional mapping of volcanic and intrusive features (#IUGG-2039)
Fabrizio Alfano (USA)

14:15 Evaluating the convergent photogrammetry with historical data for determination of volumetric changes in volcanic areas (#IUGG-3019)
Cristina Torrecillas (Spain)

14:30 Semi-automatic mapping of volcanic landforms based on object-based image analysis and geomorphometry (#IUGG-1029)
Gro B. M. Pedersen (Denmark)

Joint Inter-Association Symposia 13:30-15:00, Club E

JG02 Modelling the Atmosphere and Ionosphere by Space Measurements (IAG, IAGA, IAMAS, IACS)

JG02b
Chairs: Marcelo Santos (Canada), Hanli Liu (USA)

13:30 Low-latency global modeling of the total electron content from space observations and localizing B-splines (#IUGG-3849)
Michael Schmidt (Germany)

13:45 Two-dimensional Imaging of Sporadic E with a Dense GNSS Array (#IUGG-2489)
Kosuke Heki (Japan)

14:00 A proposed approach for correcting the S4 scintillation index from multipath effects (#IUGG-0922)
Eniuce Menezes de Souza (Brazil)

14:30 Neutral atmosphere and geodesy (#IUGG-3595)
Solicited Speaker: Johannes Böhm (Austria)
Friday, June 26

IAGA 13:30-15:00, North Hall

**A17 The Earth’s Plasmasphere: Remote Sensing and Modelling (Div. II-VERSIM)**

*A17b*

**Chair:** Colin Waters (Australia)

13:30 The plasmaspheric wind and Cluster measurements related to the plasmasphere (#IUGG-3606)

Inannis Dandouras (France)

13:45 Plasmaspheric plume analysis during the 2013 Cluster close separation campaign (#IUGG-1772)

Fabien Darrouzet (Belgium)

14:00 SpacePy: Open-source software for space science data analysis and modelling (#IUGG-1415)

Steven Morley (USA)

14:15 Radiation belt energetic electron modeling and the importance of model inputs and boundary conditions (#IUGG-5227)

Reinhard Friedel (USA)

14:30 Statistical Properties of the Plasmapause (#IUGG-2221)

Richard Denton (USA)

14:45 Specification of the plasmasphere by combining models with observations in a data assimilation framework (#IUGG-5114)

Anders Jorgensen (USA)

**IAPSO 13:30-15:00, Terrace I**

**P08 MOC and Deep Currents**

*P08b*

**Chair:** Sybren Drijfhout (Netherlands)

13:30 Estimating the Atlantic overturning at 26°N using satellite altimetry (#IUGG-5135)

Eleanor Frajka-Williams (United Kingdom)

13:45 Eddy-induced variability of the meridional overturning circulation in a model of the North Atlantic (#IUGG-1042)

Xiaozhi Zhai (United Kingdom)

14:00 Recent changes in the Atlantic meridional overturning circulation: A thermohaline perspective (#IUGG-4035)

Dafydd Evans (United Kingdom)

14:15 The influence of high frequency atmospheric forcing on the circulation and deep convection of the Labrador sea (#IUGG-5040)

Paul Myers (Canada)

14:30 Meridional propagation of meridional volume transport anomalies in an idealised model (#IUGG-4777)

Ed Doddridge (United Kingdom)

14:45 Variability, instabilities and eddies in a Snowball ocean (#IUGG-2758)

Yosef Ashkenazy (Israel)

**IAGA 13:30-15:00, Terrace II**

**A16 Energetic Particle Precipitation into the Atmosphere: Sources and Atmospheric Impacts (Div II-IAGA Div II-VERSIM/ICMA)**

*A16b*

**Chair:** Mark Clilverd (United Kingdom)

13:30 The effects of energetic electron precipitation seen in mesospheric hydroxyl and ozone (#IUGG-2849)

Solicited Speaker: Monika Andersson (Finland)

14:00 Electron precipitation into the mesosphere and upper stratosphere: Quantification of ionization rates constrained by trace gas observations (#IUGG-2653)

Miriam Sinhuber (Germany)

14:15 The impact of energetic electron precipitation on mesospheric OH during weak to moderate recurrent storms in 2008 (#IUGG-4942)

Hilde Nesse Tyssøy (Norway)

14:30 SCIAMACHY long-term measurements of NO in the mesosphere and lower thermosphere (#IUGG-2941)

Miriam Sinhuber (Germany)

14:45 27-day solar rotational effect on auroral mesospheric nighttime OH and O3 observations induced by geomagnetic activity (#IUGG-2402)

Tilo Fytterer (Germany)
Friday, June 26

IAGA 13:30-15:00, Chamber Hall

**A28/A29 New advances in Solar and Interplanetary Physics (Div. IV) / Wave and Turbulence in the Solar Atmosphere and Solar Wind (Div. IV)**

**A28b**

13:30 Tracing the origins of solar magnetic eruptions (#IUGG-5230)

*Solicited Speaker: Manolis K. Georgoulis (Greece)*

14:00 Origin and Evolution of Coronal Mass Ejections Revealed by SDO and STEREO (#IUGG-1707)

*Solicited Speaker: Xin Cheng (China)*

14:30 The exceptional X-class Flares of Solar Active Region 2192 Lacking Coronal Mass Ejections (#IUGG-1592)

*Julia Thalmann (Austria)*

14:45 Solar Tornadoes - Implications for atmospheric energy transport and prominence eruptions (#IUGG-4956)

*Sven Wedemeyer Bohm (Norway)*

IASPEI 13:30-15:00, South Hall 1

**S01c Seismological Observation and Interpretation: Triggered and Induced Seismicity**

**S01cb**

*Chairs: Beata Orlecka-Sikora (Poland), Sukanta Roy (India)*

13:30 Analyses of surface structural trends at Koyna-Warna region, Deccan Volcanic Province Western India with reference to trends of subsurface active faults (#IUGG-1959)

*Kusumita Arora (India)*

14:00 A constrained 3D density model of the upper crust beneath koyna-warna seismicity region, western India (#IUGG-4059)

*Virendra M. Tiwari (India)*

14:30 Induced seismicity during reinjection of waste water in a geothermal field at Hengill, southwest Iceland (#IUGG-4241)

*Sigrudur Kristjansdottir (Iceland)*

14:45 Examples of induced/triggered seismicity in Italy: State of the art and perspectives (#IUGG-3832)

*Thomas Braun (Italy)*

IAG 13:30-15:00, South Hall 2

**G03 Variations of the Gravity Field**

**G03h**

13:30 Science and user requirements for a future gravity field mission constellation (#IUGG-1494)

*Roland Pail (Germany)*

13:45 Accuracy required by future satellite gravity missions to resolve mass signals at glacier-scale and along oceanic fronts (#IUGG-1928)

*Don Chambers (USA)*

14:00 Mission objectives for a next generation gravity mission (#IUGG-0661)

*Michael Murboeck (Germany)*

14:15 ESA’s studies of next generation gravity mission concepts (#IUGG-1600)

*Christian Stennes (Netherlands)*

14:30 Which electrostatic accelerometers for the next gravity missions? (#IUGG-2722)

*Bernard Foulon (France)*

14:45 Attitude determination and its impact on the current and future inter-satellite ranging missions (#IUGG-2734)

*Tamara Bandikova (Germany)*

IAGA 13:30-15:00, South Hall 3

**A32 Studies of the Quiet Sun and Active Regions (Div. IV)**

**A32b**

*Chair: Thomas Wiegelmann (Germany)*

13:30 Radio observations of the quiet sun (#IUGG-1617)

*Solicited Speaker: Kyoto Shibasaki (Japan)*

14:00 Long-term SSRT observations of quiet and active solar features at 5.7 GHz (#IUGG-4254)

*Alexey Kochanov (Russia)*

14:15 The Fine-Structure of Coronal Loops (#IUGG-1692)

*Solicited Speaker: Eamon Scullion (Ireland)*

14:45 Solar ALMA observations - A revolutionizing new view of our host star (#IUGG-4958)

*Sven Wedemeyer Bohm (Norway)*

15:00-16:30, Poster Area (Foyer)

Poster sessions (p. 221)

Union Symposia (p. 221)

**U06 Data Assimilation and Inverse Problems in Geophysical Sciences**

**U06c**

*Chairs: Konstantin Belyaev (Russia), Alexandre Fournier (France), Alik Ismail-Zadeh (Germany)*

16:30 Data assimilation in global mantle circulation models: theory and applications (#IUGG-2296)

*Solicited Speaker: Hans-Peter Bunge (Germany)*

17:00 Variational data assimilation in geomagnetism: Towards imaging the interior structure of planetary cores (#IUGG-2757)

*Solicited Speaker: Kuan Li (Switzerland)*

17:30 General Discussion (#IUGG-5778)

*Solicited Speaker: Alik Ismail-Zadeh (Germany)*
Friday, June 26

**Joint Inter-Association Symposia**

**JS02/JS01/A03 Physics and Chemistry of Earth and Planetary Interiors with Implications for their Structure, Process and Evolution (IASPEI, IAVCEI, IAGA, SEDI, IACS) / Planetary Physics (IASPEI, IACS) / Geophysical Constraints on Geodynamical Processes (IAGA, SEDI, IASPEI, IAVCEI)**

**JS02c**

**Chairs:** Tilman Spohn (Germany), Philippe Lognonné (France)

16:30  
Seismic constraints on mixing and melting in Earth’s mantle (#IUGG-5356)  
Sebastian Rost (United Kingdom)

16:45  
Last news from Planetary seismology: From the Moon and toward Mars (#IUGG-5072)  
Philippe Lognonné (France)

17:00  
On the possible detection of a region with good electrical conductors at the bottom of the mantle (#IUGG-1666)  
Dominique Jault (France)

17:15  
Spatial and temporal variation in Sr-Nd-Pb isotopic composition of Cenozoic alkaline basaltic rocks of the Bohemian Massif (#IUGG-1852)  
Vladislav Rapprich (Czech Republic)

17:30  
HP-cubed, a Heat Flow Probe for Mars onboard the NASA InSight mission (#IUGG-5311)  
Tilman Spohn (Germany)

17:45  
Dawn arrives at ceres: initial results (#IUGG-1271)  
Christopher Russell (USA)

**IAPSO**

**P13 Internal waves dynamics in world oceans: from remote sensing, in situ monitoring to numerical modelling**

**P13a**

**Chairs:** Qiang Li (China), Walter Munk (USA)

16:30  
Internal waves (#IUGG-5721)  
**Solicited Speaker:** Walter Munk (USA)

17:00  
Numerical internal tide scattering, diffraction, and dissipation on the tasman continental slope (#IUGG-5657)  
Jody Klymak (Canada)

17:15  
Propagation and dissipation of nonlinear internal waves around dongsha in the South China Sea (#IUGG-0606)  
Yankun Gong (China)

17:30  
Effects of mesoscale circulation on nonlinear internal waves in the South China Sea from observation and simulation (#IUGG-5022)  
Jae-Hun Park (Korea, Republic of Korea)

17:45  
Internal wave generation and propagation in a geostrophic front (#IUGG-1573)  
Qiang Li (China)

**IAGA**

**A18 Sun-Earth System Response to Extreme Solar Events and Space Weather (Div. II/Div. III)**

**A18c**

**Chairs:** Yoshiharu Omura (Japan), Dora Pancheva (Bulgaria)

16:30  
Response of the magnetosphere-ionosphere coupled system to the storm sudden commencements -experiments and theoretical model- (#IUGG-4297)  
**Solicited Speaker:** Takashi Kikuchi (Japan)

17:00  
Robust features of likelihood distributions of geomagnetic storm burst size distributions in geomagnetic indices (#IUGG-1520)  
Sandra Chapman (United Kingdom)

17:15  
New perspectives of topside ionospheric ion outflows from CASSIOPE/e-POP observations (#IUGG-3269)  
**Solicited Speaker:** Andrew Yau (Canada)

17:45  
Solar cycle distribution of great geomagnetic storms and the properties of the corresponding solar wind parameters (#IUGG-3415)  
Guiming Le (China)

**IAG**

**G07 Geohazards Monitoring**

**G07a**

**Chairs:** Ramon Hanssen (Netherlands), Ladislav Brimich (Slovak Republic)

16:30  
Assessment of the consistency of GPS and strong-motion records of the Mw9.0 Tohoku-Oki 2011 earthquake (#IUGG-5280)  
Panagiotis Psimoulis (United Kingdom)

16:45  
Latest geodetic findings on ismetpasa segment of North Anatolian fault (#IUGG-1235)  
Celin Melek (Turkey)

17:00  
Multidisciplinary studies along seismically active Naga-Disang Thrust Belt in NE India (#IUGG-1485)  
Atsun Kumar (India)

17:15  
Remote Sensing and GIS Contribution to the Detection of Areas Susceptible to Earthquake Hazards, The Case Study of Northern Greece (#IUGG-1763)  
Barbara Thellen-Willige (Germany)

17:30  
Seismology-based identification of dam-forming landslide events (#IUGG-2929)  
Wei-An Chao (Taiwan - China)

17:45  
Real-time Earthquake Magnitude Estimation by the GEONET real-time analysis system: REGARD (#IUGG-2543)  
Satoshi Kawamoto (Japan)

18:00  
Imaging geodesy: monitoring centimetric ground displacements using slant-range TerraSAR-X measurements (#IUGG-5724)  
Mattia Crespi (Italy)
Friday, June 26

**IACS 16:30-18:00, Small Hall**

**C07 Understanding Linkages between Different “Elements” of the High-Latitude Cryosphere**

**C07b**
- Chair: Rob Massom (Australia)
- 16:30 Climate, sea ice, and ocean precursors to the Larsen Ice Shelf disintegrations (#IUGG-3366) (USA)
- 17:00 Coincident circumpolar mapping of Antarctic coastal polynyas and landfast sea ice: their relationship and linkage (#IUGG-2583) (Japan)
- 17:15 Landfast sea ice: A key factor affecting sea ice production in Antarctic coastal polynyas (#IUGG-3188) (Japan)
- 17:30 Change in snow distribution patterns over an Antarctic ice floe following a snow storm event (#IUGG-4096) (Switzerland)
- 17:45 Small scale variability of snow density on Antarctic sea ice (#IUGG-1095) (Switzerland)

**IACS 16:30-18:00, Small Theatre**

**C12 Coupling Processes between the Atmospheric Boundary-Layer and Snow/Ice Surfaces: Observations and Modelling**

**C12a**
- Chair: Rebecca Mott (Switzerland)
- 16:30 Downscaling regional wind forecasts to high resolution snow model forcings (#IUGG-2968) (USA)
- 17:00 Numerical simulations of drifting snow and drifting snow sublimation in the turbulent boundary layer (#IUGG-3621) (China)
- 17:15 3-D simulations of snow transport, erosion and deposition using a Large Eddy Simulation coupled with a Lagrangian Stochastic Model (#IUGG-4752) (Switzerland)
- 17:30 High-resolution large eddy simulation of snow accumulation in alpine terrain (#IUGG-3242) (France)
- 17:45 How to quantify particle numbers and mass flux in drifting snow? (#IUGG-4761) (Switzerland)

**IAMAS 16:30-18:00, Club A**

**M14 Middle Atmosphere Science**

**M14c**
- Chair: Martyn Chipperfield (United Kingdom)
- 16:30 Vertically resolved long-term changes in stratospheric water vapour (#IUGG-2178) (United Kingdom)
- 16:45 The role of tropical SST in modulating lower-stratospheric water vapor (#IUGG-5429) (Japan)
- 17:00 Impact of Stratospheric Major Warmings and the Quasi-Biennial Oscillation on Variability of Stratospheric Water Vapor (#IUGG-2643) (Germany)
- 17:15 Global HCFC-22 measurements with MIPAS: Retrieval, validation, climatologies and trends (#IUGG-2717) (Germany)
- 17:30 HCl observations in the middle atmosphere as revealed by the Superconducting Submillimeter-Wave Limb-Emission Sounder (SMILES) (#IUGG-4821) (Japan)
- 17:45 Stratospheric NOy: Global budget and variability in 2002-2012 from MIPAS observations (#IUGG-1701) (Spain)

**IAGA 16:30-18:00, Club B**

**A24 The Plasmasheet - Ionosphere, a Coupled System: Sinks, Sources, Transport and the Roles of Field-Aligned Currents and Ion Outflow (Div. III/Div. II)**

**A24c**
- Chairs: Simon Wing (USA), Jay Johnson (USA)
- 16:30 Magnetic reconnection localized in the current direction without the normal component of the magnetic field: Fluid case (#IUGG-4037) (Japan)
- 16:45 Kelvin-helmholtz instability in planetary magnetospheres (#IUGG-4247) (USA)
- 17:00 Transport mechanisms for formation of cold-dense plasma sheet (#IUGG-1241) (China)
- 17:15 Plasma sheet important role in magnetosphere-ionosphere coupling, its dependence on solar wind and substorms (#IUGG-1690) (Russia)
- 17:30 Energy budgets near the energy conversion site of dipolarization fronts (#IUGG-1776) (China)
- 17:45 Localized strong energy conversion regions and their use for identifying reconnection sites (#IUGG-2441) (Sweden)
**Friday, June 26**

### M11 Tropical Cyclones

**M11c**  
*Chair: Erick Hendricks (USA)*

- **16:30** Land convection impact on near-coastal formation of tropical cyclone (#IUGG-5596)  
  *Byungsook Park (Korea, Republic of Korea)*

- **16:45** Do West African thunderstorms predict the intensity of Atlantic hurricanes? (#IUGG-1033)  
  *Colin Price (Israel)*

- **17:00** Influence of equatorial wave disturbances on the genesis of super typhoon Haiyan (2013) (#IUGG-1316)  
  *Shoujuan Chu (Shoujuan Chu)*

- **17:15** Cluster analysis of synoptic environments associated with tropical cloud cluster formation in the western north Pacific (#IUGG-3367)  
  *Hsufeng Tang (Taiwan - China)*

- **17:30** Developing and non-developing tropical cyclones and their large-scale environment in the West Pacific (#IUGG-5448)  
  *Shuyi Chen (USA)*

- **17:45** A dipole in pre-monsoon Bay of Bengal tropical cyclone intensification induced by ENSO (#IUGG-3305)  
  *Gregory Foltz (USA)*

### IAVCEI 16:30-18:00, Club D

**VS25/VS09 Remotely Sensed Mapping of Volcanic Regions / Statistics in Volcano Remote Sensing**

**VS25c**

- **16:30** Volcano monitoring with an infrared camera: first insights from Villarrica Volcano (#IUGG-5481)  
  *Florencia Rossa Sotomayor (Chile)*

- **16:45** Sampling of volcanogenic gases and aerosols with unmanned aircraft: validation of data and models derived from the ASTER Volcano Archive (#IUGG-4878)  
  *David Pieri (USA)*

- **17:00** The Mt. Etna Volcanic Plumes Detection by GPS (#IUGG-2638)  
  *Simona Scallo (Italy)*

- **17:15** Remote sensing mapping of ash fall impact on vegetation: The Oldoinyo Lengai 2007-08 eruption (#IUGG-2122)  
  *Matthieu Kervyn (Belgium)*

**Joint Inter-Association Symposia 16:30-18:00, Club E**

**JG02 Modelling the Atmosphere and Ionosphere by Space Measurements (IAG, IAGA, IAMAS, IACS)**

**JG02c**

- **16:30** Water vapor tomographic modeling and performance evaluation using multi-sensor data in Hong Kong (#IUGG-1340)  
  *Zhizhao Liu (China)*

- **16:45** COST Action ES1206: Advanced Global Navigation Satellite Systems tropospheric products for monitoring severe weather events and climate (GNSS4DWEA) (#IUGG-0972)  
  *Solicited Speaker: Jan Dousa (Czech Republic)*

- **17:15** Remote sensing mapping of volcanic regions / statistics in volcano remote sensing

**IAVCEI 16:30-18:00, Club H**

**VS15/VS30/VS34 Water and Magma / Volcaniclastic Sediments: Modern Applications for Marine and Earth Sciences / Effects of Water on Subaerial Volcanic Eruptions and Ash Dispersal**

**VS15c**

- **16:30** Volcaniclastic sediments as an archive of arc volcanic history: Montserrat and Guadeloupe, Lesser Antilles (#IUGG-4256)  
  *Stuart Hatter (United Kingdom), Martin Jutzeler (Iceland), Chairs: Michael Ort (USA), Martin Jutzeler (United Kingdom), Magnus T. Gudmundsson (Iceland), Fabrizio Alfano (USA)*

- **16:45** Marine sediments as an archive of arc volcanic history: Montserrat and Guadeloupe, Lesser Antilles (#IUGG-4256)  
  *Stuart Hatter (United Kingdom), Martin Jutzeler (Iceland)*

- **17:00** Submarine pumice lapilli-ash offshore Montserrat: products of submarine eruption, raft deposit, or hot density currents that travelled over the sea? (#IUGG-1678)  
  *Martin Jutzeler (United Kingdom)*

- **17:15** ‘Dry’ explosive rootless littoral eruptions: a new kind of volcanic activity? (#IUGG-0775)  
  *Shoujuan Chu (Shoujuan Chu)*

- **17:30** Palaeocene-Eocene volcanism in the Arctic: Basin development and continental breakup constrained by ash layers in Svalbard (#IUGG-4284)  
  *Morgan Jones (Norway)*

- **17:45** Architecture, structural control, and hazards associated with the formation of the Aljouza and Tectuitlapa axalapazos (maars), Eastern Mexican Volcanic Belt (#IUGG-2307)  
  *Gregorio Carrasco (Mexico)*
Friday, June 26

**IAGA**

**A17 The Earth’s Plasmasphere: Remote Sensing and Modelling (Div. II-VERSIM)**

*Chair: Janos Lichtenberger (Hungary)*

16:30 Conjugated observations of ELF/VLF quasi-periodical emissions at the ground station in Athabasca, Canada and Van Allen Probes A (#IUGG-4000) Claudia Martinez Calderon (Japan)

17:00 Magneto-seismic study of plasmaspheric plasma using observations with the Van Allen Probes (#IUGG-1130) Kazue Takahashi (USA)

17:15 Remote sensing the plasmasphere using ULF wave signatures (#IUGG-5498) Colin Waters (Australia)

17:30 Plasmaspheric dynamics observed by ground-based magnetometers in North America: Examples from the GOPHERS database (#IUGG-5450) Peter Chi (USA)

17:45 Longitudinal variability and geomagnetic storm response of the Ionosphere-Plasmasphere System (#IUGG-0911) Maxim Klimenko (Russia)

**IAPSO**

**P08 MOC and Deep Currents**

*Chair: Eugene Morozov (Russia)*

16:30 The Meridional Overturning Circulation in global coupled models: current understanding of its variability and predictability and remaining challenges (#IUGG-2577) Solicited Speaker: Rym Msadek (USA)

17:00 Changes in ocean vertical heat transport with global warming (#IUGG-5676) Jan Zika (United Kingdom)

17:15 Evolution of Atlantic water masses since the Last Glacial Maximum based on a transient run of a global climate model (#IUGG-0411) Lawrence Mysak (Canada)

17:30 Millennium timescale variability of the meridional overturning circulation: The Dansgaard-Oeschger oscillation (#IUGG-4661) Lorenzo Peltier (Canada)

17:45 Energy transfer of surface wind induced currents to the deep ocean via resonance with the Coriolis force (#IUGG-3010) Yosef Ashkenazy (Israel)

**IAGA**

**A16 Energetic Particle Precipitation into the Atmosphere: Sources and Atmospheric Impacts (Div II-D/IAGA Div II-VERSIM/ICMA)**

*A16c Chair: Craig Rodger (New Zealand)*

16:30 Solar proton events and sudden stratospheric warmings: effects on odd nitrogen and ozone in the polar middle atmosphere (#IUGG-2667) Sanna-Mari Päivärinta (Finland)

16:45 Solar proton events over the stratospheric Southern Hemisphere (#IUGG-0660) Marta M. Zossi (Argentina)

17:00 Impact of gravity wave parameterization on the transport of nitrogen oxides (#IUGG-3252) Katharina Meraner (Germany)

17:15 Modification to the loss cone of energetic particles (#IUGG-4380) Jay Johnson (USA)

17:30 The influence of the plasmapause on energetic electron precipitation fluxes during space weather events (#IUGG-1221) Mark Clilverd (UK)

17:45 Evidence for solar wind modulation of lightning (#IUGG-5298) Christopher Scott (United Kingdom)

**IAGA**

**A28/A29 New advances in Solar and Interplanetary Physics (Div. IV) / Wave and Turbulence in the Solar Atmosphere and Solar Wind (Div. IV)**

*A28c* 16:30 Wave dynamics in the solar atmosphere and wind (#IUGG-4177) Solicited Speaker: Tom Van Doorsselaere (Belgium)

17:00 Observations and numerical modelling of fast magnetoacoustic wave trains in the solar corona (#IUGG-4343) Giuseppe Nistico’ (United Kingdom)

17:15 X-ray and EUV observations of a simultaneous short and long period decaying oscillations in hot coronal arcade loops (#IUGG-0359) Pankaj Kumar (Republic of Korea)

17:30 HXR, hydrogen, white light emission and sunquakes in hydrodynamic flaring atmospheres heated by particle beams (#IUGG-5346) Valentina Zharkova (United Kingdom)

17:45 Large-scale mapping of magnetic field lines between the Sun and Earth (#IUGG-2081) Iver Cairns (Australia)
IASPEI 16:30-18:00, South Hall 1

**S01c Seismological Observation and Interpretation: Triggered and Induced Seismicity**

**S01cc**

Chairs: Sukanta Roy (India), Thomas Braun (Italy)

16:30 Violations of Gutenberg-Richter relation in anthropogenic seismicity and their consequences for seismic hazard assessment (IUGG-1782)
Solicited Speaker: Stanislaw Lasocki (Poland)

17:00 A study on the criteria for discerning natural from induced seismicity: The larderello-travale geothermal Field (IUGG-3797)
Gilberto Saccorotti (Italy)

17:15 Can we consider the 1951 Caviaga (Northern Italy) earthquakes as non-induced events? (IUGG-1532)
Stefania Danesi (Italy)

17:45 Discriminating seismic sources (mining-induced seismicity, fluid injection induced seismicity, and tectonic earthquakes) in central Utah, USA (IUGG-3700)
Kristine Pankow (USA)

IAG 16:30-18:00, South Hall 2

**G06 Unifying Height Systems**

**G06a**

Chair: Yanming Wang (USA)

16:30 Investigation of the south-north slope of australian height datum using satellite altimetry data and the earth gravitational model (IUGG-0313)
Armin Agha Karimi (Australia)

16:45 Resilience of New Zealand Vertical Datum 2009 in response to the Canterbury earthquake sequence 2010 – 2011 (IUGG-4466)
Michael Amos (New Zealand)

17:00 Realization of a vertical reference system for South America as a densification of an International Height Reference System (IUGG-3110)
Laura Sanchez (Germany)

17:15 Study of vertical datum unification in North America (IUGG-5546)
Michael Sideris (Canada)

17:30 Unification of height reference frames in Europe (IUGG-2572)
Gunter Liebsch (Germany)

17:45 Local W0 computation: a case study for Bulgaria (IUGG-0420)
Stanislava Valcheva (Bulgaria)

IAGA 16:30-18:00, South Hall 3

**A32 Studies of the Quiet Sun and Active Regions (Div. IV)**

**A32c**

Chair: Vasyl Yurchyshyn (USA)

16:30 Advanced modelling of the coronal magnetic field (IUGG-4099)
Solicited Speaker: Thomas Wiegelmann (Germany)

17:00 Coronal rain - implications for the heating and the magnetic structure of the Corona (IUGG-2856)
Solicited Speaker: Patrick Antolin (Japan)

17:30 New enhancements of the GX_Simulator: 3D data-driven modeling of active regions and simulation of associated microwave and EUV emission maps (IUGG-4123)
Gelu Nita (USA)

18:00-19:30, Poster Area (Foyer)

**Poster sessions (p. 221)**

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Saturday, June 27

Union Symposia 8:30-10:00, Congress Hall

U11 Early Career Scientists Symposium
U11a

Chair: Michael Sideris (Canada)
8:30 Glaciers between Little Ice Age and Anthropocene: causes of the global meltdown (IUGG-1020)
   Solicited Speaker: Ben Marzeion (Austria)
9:00 Melting glaciers: from process understanding to global impacts (IUGG-1988)
   Solicited Speaker: Matthias Huss (Switzerland)
9:30 Human influences on climate: Representing climate-society feedbacks in models (IUGG-2132)
   Solicited Speaker: Ben Kravitz (USA)

Joint Inter-Association Symposia 8:30-10:00, Forum Hall

JM02/JM01 Climate Variability and Earth Systems Modelling (IAMAS, IAPSO, IACS) / Earth Systems Dynamics, Predictability and Probabilistic Forecasting (IAMAS, IAG, IAGA, IAPSO, IASPEI)
JM02c

Chair: Hisashi Nakamura (Japan)
8:30 Extratropical air-sea interaction: Kuroshio frontal eddies, Pacific storm track and climate variability (IUGG-3026)
   Solicited Speaker: Ping Chang (USA)
8:45 Wintertime atmospheric response to decadal SST anomalies in the North Pacific frontal zone and its relationship to atmospheric internal variability (IUGG-4129)
   Satoru Okajima (Japan)
9:00 The atmospheric response to a realistic shift in the Oyashio sea surface temperature front (IUGG-4644)
   Matthew Newman (USA)
9:15 Impact of warm ocean currents on the three-dimensional cloud structure from space (IUGG-3817)
   Akira Yamauchi (Japan)
9:30 Separated imprints of the Kuroshio Extension and Oyashio fronts on the wintertime atmospheric boundary layer (IUGG-3539)
   Ryusuke Masunaga (Japan)
9:45 The response of the lower troposphere to ocean sea surface temperature fronts and eddies (IUGG-5307)
   Niklas Schneider (USA)

Joint Inter-Association Symposia 8:30-10:00, Meeting Hall I

JS06/JP06 Array Techniques for Monitoring the State of the Earth (IASPEI, IAPSO, IAGA) / Acoustical Oceanography (IAPSO, IASPEI)
JS06a

Chair: Silvia Blanc (Argentina)
8:30 The electrical lithospheric structure of southern Australia derived from 3D inversions of the AusLAMP magnetotelluric data (IUGG-4695)
   Stephan Thiel (Australia)
8:45 Combining EarthScope long period magnetotelluric data with geomagnetic observatories: hypothetical events at continental scale (IUGG-5417)
   Gary Egbert (USA)
9:00 The 2011 Tohoku Tsunami detected by an array of ocean bottom electro-magnetometers (IUGG-1387)
   Hisashi Utada (Japan)
9:15 Advances on analysis and signal processing of acoustic scattering responses by phytoplanktonic species (IUGG-0311)
   Mariano Cinquini (Argentina)
9:30 Ocean state estimation in the Philippine Sea combining acoustic and non-acoustic data (IUGG-0758)
   Solicited Speaker: Peter Worcester (USA)

Joint Inter-Association Symposia 8:30-10:00, Panorama Hall

JA05 Physical Processes Prior to and During Earthquakes, Reliability of Precursors (IAGA, IASPEI)
JA05a

Chairs: George Balasis (Greece), Valerio Tramutoli (Italy)
8:30 Natural time analysis of seismicity as critical phenomena (IUGG-1302)
   Seiya Uyeda (Japan)
8:45 The predictive value of short-term foreshocks (IUGG-5486)
   Gerassimos Papadopoulos (Greece)
9:00 Understanding fault failure (IUGG-1001)
   Malcolm Johnston (USA)
9:15 Geoelectrical signals in seismotectonic areas: Knowns and unknowns (IUGG-3229)
   Solicited Speaker: Vincenzo Lapenna (Italy)
9:45 New evidences confirming the relationships between electromagnetic precursors and intermediate depth earthquakes, Vrancea zone (IUGG-1162)
   Dumitru Stanica (Romania)
Saturday, June 27

### IAGA
#### A18 Sun-Earth System Response to Extreme Solar Events and Space Weather (Div. II/Div. III)
**A18d**

**Chair:** J.Y. Liu (Taiwan - China), Christopher Russell (USA)

- 8:30 The solar eruptive event in July 2012: Defining extreme space weather scenarios (IUGG-4365)  
  **Solicited Speaker:** Daniel N. Baker (USA)
- 9:00 Role of geophysical parameters in the response of power grids to extreme space weather event (IUGG-1051)  
  **Larisa Trichtchenko** (Canada)
- 9:15 CME front and severe space weather (IUGG-0189)  
  **Solicited Speaker:** Balan Nanan (Japan)
- 9:45 Is Kp = 9 a useful classification of extreme geomagnetic storms when predicting potential damage to power grids (IUGG-4246)  
  **Gemma Kelly** (United Kingdom)

### IAG
#### G07 Geohazards Monitoring
**G07b**

**Chair:** Claudio De Luca (Italy), Wei-An Chao (Taiwan - China)

- 8:30 Regional Crustal Stability Assessment Using Geodetic Observing System (IUGG-2297)  
  **Yamin Dang** (China)
- 8:45 Signatures of droughts and floods in soil moisture and GRACE Data in the La Plata Basin in South America (IUGG-0869)  
  **Sarah Abelen** (Germany)
- 9:00 An on-demand web tool for automated Earth's surface displacement time series generation from spaceborne DinSAR data (IUGG-4764)  
  **Claudio De Luca** (Italy)
- 9:15 Velocity field of Cocos, Caribbean, Panama and Nazca plates in southern Central America (IUGG-5283)  
  **Marino Protti** (Costa Rica)
- 9:30 On the performance of terrestrial laser scanner for natural hazard assessment in Indonesia (IUGG-0191)  
  **Hasanuddin Z. Abidin** (Indonesia)
- 9:45 Motus inter corpora relativus tantum est: a guide on the analysis and interpretation of InSAR time series data (IUGG-5222)  
  **Ramon Hanssen** (Netherlands)

### IAHS
#### C12 Coupling Processes between the Atmospheric Boundary-Layer and Snow/Ice Surfaces: Observations and Modelling
**C12b**

**Chair:** Michael Lehning (Switzerland)

- 8:30 GABLS4: an inter-comparison case to study the stable boundary layer on the Antarctic plateau (IUGG-5200)  
  **Solicited Speaker:** Eric Bazile (France)
- 9:00 Assessment of turbulent flux parameterizations over snow using different stability corrections (IUGG-2615)  
  **Schlögl Sebastian** (Germany)
- 9:15 Snow Surface Roughness Quantification from Geometry Using Various Methods (IUGG-182B)  
  **Steven Fassnacht** (USA)
- 9:30 Seasonal variations of the air-snow drag coefficients in coastal Adélie land, East Antarctica (IUGG-1363)  
  **Charles Amory** (France)
- 9:45 TERRA-SNOW: An improved snow cover scheme for high-resolution numerical weather prediction models (IUGG-2853)  
  **Sascha Bellaire** (Australia)

### IAMAS
#### M14 Middle Atmosphere Science
**M14d**

**Chair:** David Siskind (USA)

- 8:30 The relation of sporadic meteors and the chemistry of the mesosphere (IUGG-4116)  
  **Solicited Speaker:** Diego Janches (USA)
- 8:45 Morphology of the iron layer in the upper polar atmosphere (IUGG-3145)  
  **Timo Viehl** (Germany)
- 9:00 WACCM-D: Modelling mesospheric ion chemistry for particle precipitation studies (IUGG-2738)  
  **Monika Andersson** (Finland)
- 9:15 Ten years of SCIAMACHY atomic oxygen measurements in the mesopause region (IUGG-2541)  
  **Martin Kaufmann** (Germany)
- 9:30 The importance of mesopause region airglow “bright nights” (IUGG-0796)  
  **Juergen Scheer** (Argentina)
- 9:45 Longitudinal features of temperature in the mesopause region from middle-latitude measurements of OH emission (IUGG-2581)  
  **Irina Medvedeva** (Russia)

### IAHS
#### HS02 Hydrologic Non-Stationarity and Extrapolating Models to Predict the Future
**HS02c**

**Chairs:** Francis Chiew (Australia), Jai Vaze (Australia)

- 8:30 Floods in a non-stationary world (IUGG-0167)  
  **Solicited Speaker:** Günter Blöschl (Austria)
- 9:00 Frequency of floods in a changing climate. A case study from the Red River in Manitoba, Canada (IUGG-0078)  
  **Peter Rasmussen** (Canada)
- 9:30 Non-stationary hydrological frequency analysis based on the reconstruction of extreme hydrological series (IUGG-0145)  
  **Yiming Hu** (China)
- 9:45 Non-stationary flood frequency analysis with time-varying moment POT (POT-TVM) for Dongjiang Basin, South China (IUGG-0169)  
  **Xiaohong Chen** (China)

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**MESSAGE:**

- **26th IUGG, PRAGUE, CZECH REPUBLIC, JUNE 22 – JULY 2, 2015**

**SESSIONS:**

- **A – Z**
- **ASSOCIATION**
- **PRESENTING DAY**
- **PROGRAMME**
- **BY DAY – BY ROOM**
- **FOR ORAL**
- **OVERVIEW SESSIONS**
- **INFORMATION**
- **THE IUGG**
- **MESSAGES**
- **UNION LECTURES**
- **GUIDED TOURS FIELD TRIPS AWARDS BUSINESS**
- **INSTRUCTIONS**
- **IN DETAIL**
- **OVERVIEW – BY SCIENTIFIC OVERVIEW – BY PRESENTERS**
- **CONVENORS CO-CONVENORS FLOORPLANS POSTERS PLAN EXHIBITION**
- **AT A GLANCE**
- **FOR ORAL**
- **OVERVIEW – BY SCIENTIFIC OVERVIEW – BY PRESENTERS**
- **CONVENORS CO-CONVENORS FLOORPLANS POSTERS PLAN EXHIBITION**
- **AT A GLANCE**
IAGA 8:30-10:00, Club B
A33/A22/A31 Boundary Layers in the Heliosphere (Div. IV) / Magnetospheric Boundary Layers (Div. III) / Crossing the Heliopause into the Interstellar Medium (Div. IV)

A33a
8:30 Recent measurements of energetic particles at Voyager 1 and 2 (#IUGG-5654)
Solicited Speaker: Robert Decker (USA)

9:00 Whether Voyager-1 crossed the heliopause. Alternative MHD interpretation this is my abstract title (#IUGG-5154)
Vladimir Baranov (Russia)

9:15 The crossing of the heliopause (#IUGG-4455)
Klaus Scherer (Germany)

9:30 Interstellar Boundary Explorer observations and the thickness of the heliosheath (#IUGG-3203)
Stephen Fuselier (USA)

9:45 Solar Wind Interaction with the Local Interstellar Medium: Modeling Results vs. Spacecraft Observations (#IUGG-1683)
Nikolai Pogorelov (USA)

IAPSO 8:30-10:00, Club C
P01 General Topics on the Physical Science of the Oceans

P01a
Chair: Isabelle Ansorge (South Africa)
8:30 Regional sea level variability around the northern Australian coastline from tide gauges and satellite altimetry (#IUGG-0469)
Zahra Gharineiat (Iran)

8:45 Nonlinear shallow-water tides observed with excellent signal-to-noise ratio by two geodetic laser strainmeters at the Canfranc (Spain) Underground Laboratory (#IUGG-2123)
Antonella Amoruso (Italy)

9:00 Inverting Laplacians: a direct method for the determination of the World Ocean Circulation from Argo float displacements and temperature/salinity (#IUGG-1451)
Alain Colin de Verdiere (France)

9:15 Upper ocean variability at the Porcupine Abyssal Plain time series site during 2012-2013 from ocean gliders (#IUGG-5125)
Sollicitied Speaker: Karen Heywood (United Kingdom)

9:30 Automated ocean front detection: An Earth observation-based validation tool for basin and shelf scale ocean models (#IUGG-3286)
Benjamin Loveday (United Kingdom)

9:45 Revealing the timing of ocean stratification using remotely-sensed ocean fronts (#IUGG-5372)
Peter Miller (United Kingdom)

IAPSO 8:30-10:00, Club D
P13 Internal waves dynamics in world oceans: from remote sensing, in situ monitoring to numerical modelling

P13b
Chairs: Matthew Alford (USA), Roger Grimshaw (United Kingdom)
8:30 Observing the generation, propagation and dissipation of internal waves in the ocean (#IUGG-4138)
Sollicitied Speaker: Matthew Alford (USA)

9:00 Mode 2 internal waves in the sea: evidences from observations (#IUGG-0876)
Andrey Serebryany (Russia)

9:15 Hot-spots of internal solitary waves in the eastern arctic observed from space (#IUGG-5082)
Igor Kozlov (Russia)

9:30 Seasonal variation and spectrum analysis of internal tides in Northern South China Sea (#IUGG-0603)
Zheen Zhang (China)

IAVCEI 8:30-10:00, Club E
VS22 Volcanic Risk - Bridging Hazard Assessment, Modeling Volcanic Processes, and Society

VS22a
Chair: Karen Strethlow (UK)
8:30 Preparing for the next local volcanic eruption in Auckland, New Zealand (#IUGG-3815)
Jan Lindsay (New Zealand)

8:45 Enhancing scientific response to volcanic crises: Social, psychological and organisational evidence and NZ practice (#IUGG-1063)
Emma Hudson-Doyle (New Zealand)

9:00 Notes from a small island: response to the 2014 Hunga Tonga Hunga Ha’apai eruption, Tonga and challenges for aviation (#IUGG-4539)
Nicolas Fournier (New Zealand)

9:15 TephraProb: a toolbox for the probabilistic hazard assessment of ground tephra accumulation (#IUGG-2211)
Sebastien Bias (Switzerland)

9:30 Assessing vulnerability of infrastructure to volcanic tephra hazard: A methodology for quantitative interdisciplinary collaboration (#IUGG-2304)
Henry Odbert (United Kingdom)

9:45 Potential volcanic ash impacts on St Vincent, West Indies: Scenario planning (#IUGG-4824)
Susanna Jenkins (United Kingdom)
Saturday, June 27

**IAVCEI**
8:30-10:00, Club H

**VS08 Experimental Studies of Volcanic Systems**

**VS08a**
Chair: Amanda Clarke (USA)

8:30 The air-cushioning of pyroclastic flows ([#IUGG-3091](#IUGG-3091))
  Solicited Speaker: Gert Lube (New Zealand)

9:00 Transport and deposition processes in granular flows and their influence on pyroclastic density current dynamics ([#IUGG-5316](#IUGG-5316))
  Roberto Sulapizo (Italy)

9:15 The role of inertial particles and vent geometries in the rise and collapse of volcanic jets ([#IUGG-1767](#IUGG-1767))
  David Jessop (France)

9:45 Experimental constraints on the energy of steam-driven explosions: a case study on Solfatara crater, Campi Flegrei ([#IUGG-3452](#IUGG-3452))
  Cristian Montanaro (Italy)

**IAGA**
8:30-10:00, North Hall

**A28/A29 New advances in Solar and Interplanetary Physics (Div. IV) / Wave and Turbulence in the Solar Atmosphere and Solar Wind (Div. IV)**

**A28d**
Chair: Alexis Rouillard (France)

8:30 The relation between coronal pressure waves and solar energetic particle events ([#IUGG-5383](#IUGG-5383))
  Solicited Speaker: Sharon Vadas (USA)

9:00 Modelling of ion acceleration in large solar energetic particle events ([#IUGG-3151](#IUGG-3151))
  Solicited Speaker: Rami Vainio (Finland)

9:30 Evaluating the importance of coronal waves in solar energetic particle events with wide angular spread ([#IUGG-4867](#IUGG-4867))
  N.V. Nitta (USA)

9:45 Elemental Abundance Variations in Coronal Hole Structures ([#IUGG-2076](#IUGG-2076))
  Michael Hahn (USA)

**IAPSO**
8:30-10:00, Terrace I

**P08 MOC and Deep Currents**

**P08d**
Chair: Eleanor Frajka-Williams (United Kingdom)

8:30 Observations of the meridional overturning circulation in the Southern Ocean ([#IUGG-1465](#IUGG-1465))
  Solicited Speaker: Teresa Chereskin (USA)

9:00 Mechanisms of Meridional Overturing Circulation hysteresis in a Global Climate Model and the importance of hosing scenarios ([#IUGG-2550](#IUGG-2550))
  Laura Jackson (United Kingdom)

9:15 Abyssal volume and heat transport through the Samoan Passage: A 16-month timeseries based on recent observations ([#IUGG-4950](#IUGG-4950))

  Bruno Castaldi (Brazil)

9:45 The importance of wind and buoyancy forcing for the boundary density variations and the AMOC at 26ºN ([#IUGG-5480](#IUGG-5480))
  Jon Robson (United Kingdom)

**IAGA**
8:30-10:00, Terrace II

**A12 Coupling Processes in the Atmosphere-Ionosphere System (Div. II-C/ICMA/SCOSTEP)**

**A12a**
Chair: Petra Koucka Knizova (Czech Republic)

8:30 Local and global changes to the thermosphere and ionosphere from the dissipation of gravity waves from deep convection ([#IUGG-4391](#IUGG-4391))
  Solicited Speaker: Sharon Vedas (USA)

9:00 Generation of gravity waves by winter polar stratosphere jet-streams ([#IUGG-2018](#IUGG-2018))
  Boris Shpynev (Russia)

9:15 Gravity wave characteristics derived from multispectral airglow observations over Europe ([#IUGG-2633](#IUGG-2633))
  Carsten Schmidt (Germany)

9:30 Lower atmospheric gravity waves as a source of variability in the upper atmosphere ([#IUGG-1195](#IUGG-1195))
  Erdal Yigit (USA)

9:45 Horizontal phase velocity distributions of gravity waves observed by Antarctic Gravity Wave Imaging/Instrument Network (ANGWIN), using 3-D spectral analysis technique ([#IUGG-5529](#IUGG-5529))
  Takuji Nakamura (Japan)
IASPEI 8:30-10:00, Chamber Hall

S02 50 Years of the ISC Service to Seismology

S02a
Chair: Bertrand Delouis (France)
8:30 The international seismological centre: Ancestry and origins (#IUGG-2841)
Roger M.W. Musson (United Kingdom)
8:45 Global data centres as a shared responsibility – a 50-year-long miracle at the International Seismological Centre (#IUGG-3050)
John Adams (Canada)
9:00 ISC 2015: Mission and rebuild of the bulletin (#IUGG-3951)
Dmitry Storchak (United Kingdom)
9:15 50 years and counting: Past and current collaborations between the International Seismological Centre and the National Earthquake Information Center (#IUGG-4480)
Paul Earle (USA)
9:30 ISC data - long-term fundamentals of seismological research in Prague (#IUGG-1951)
Jaroslava Plomerová (Czech Republic)
9:45 The role for the ISC in the 21st century (#IUGG-2821)
Istvan Bondar (Hungary)

IASPEI 8:30-10:00, South Hall 1

S01c Seismological Observation and Interpretation: Triggered and Induced Seismicity

S01cd
Chairs: Anderson do Nascimento (Brazil), Sukanta Roy (India), Thomas Braun (Italy)
8:30 Evolution of pore fluid pressures in the Basel EGS inferred from earthquake focal mechanisms (#IUGG-2083)
Toshiko Terakawa (Japan)
8:45 Stress field estimation from earthquakes focal mechanisms and back projection images (#IUGG-0966)
Sebastian Gomez Alba (Columbia)
9:00 Rupture process of the March 19, 2013, Rudna Mine (Poland) induced seismic event in view of moment tensor inversion (#IUGG-2329)
Grzegorz Lizurek (Poland)
9:15 Moment tensor inversion of microearthquakes induced by the Háje natural gas storage, Czech Republic (#IUGG-2410)
Zuzana Jechumtálová (Czech Republic)
9:30 Source parameters of induced earthquakes using regional earth models: Application to the 2013 sequence off the northeast coast of Spain (#IUGG-4025)
Antonio Villasenor (Spain)
9:45 Using posterior entropy for improving accuracy of location error estimation (#IUGG-4331)
Wojciech Debski (Poland)

IAG 8:30-10:00, South Hall 2

G06 Unifying Height Systems

G06b
Chair: Matt Amos (New Zealand)
8:30 GGOS Bureau of Products and Standards: Inventory of standards and conventions (#IUGG-1718)
Solicited Speaker: Detlef Angermann (Germany)
9:00 A new best estimate for the conventional value of W0 (#IUGG-2697)
Laura Sanchez (Germany)
9:15 Future of interactions between time and frequency metrology and geodesy (#IUGG-4225)
Solicited Speaker: Gérard Petit (France)
9:45 A proposal of geopotential determination using precise optical-atomic clocks onboard satellite and on ground based on Doppler cancellation system (#IUGG-2490)
WenBin Shen (China)

Joint Inter-Association Symposia 8:30-10:00, South Hall 3

JP01 Sea Level Change and Variability: Past, Present and Future (IAPSO, IAG, IACS)

JP01a
Chair: Gary T. Mitchum (USA)
8:30 Controls on time-mean coastal sea level: Consistency between models and observations, and the role of the Mediterranean infl ow (#IUGG-2053)
Chris Hughes (United Kingdom)
8:45 Time of emergence for regional sea-level change (#IUGG-1653)
Xuebin Zhang (Australia)
9:00 A fresh look at sea levels and sea-level trends (#IUGG-3216)
Mirko Orlic (Croatia)
9:15 High-frequency sea-level oscillations in the Mediterranean Sea: analysis and synoptic preconditioning (#IUGG-0556)
Ivica Vilibic (Croatia)
9:30 Measuring and quantifying geophysical causes of global sea-level rise (#IUGG-5729)
C.K. Shum (USA)
9:45 The dependence of extreme sea levels on the major modes of the climate system (#IUGG-2247)
Phil Woodworth (United Kingdom)
Saturday, June 27

Union Symposia 10:30-12:00, Congress Hall

U11 Early Career Scientists Symposium

U11b
Chair: Michael Sideris (Cadana)
10:30 The atmospheric fate and effects of organic aerosol particles: An interplay between natural sources and human activities (#IUGG-2657)
Solicited Speaker: Ilona Riipinen (Sweden)
11:00 The nonlinear local Lyapunov exponent method and its applications in predictability and ensemble prediction (#IUGG-1453)
Solicited Speaker: Ruqiang Ding (China)
11:30 Challenges and successes in ocean-atmosphere research over the past decade (#IUGG-3306)
Solicited Speaker: Gregory Foftz (USA)

Joint Inter-Association Symposia 10:30-12:00, Forum Hall

JM02/JM01 Climate Variability and Earth Systems Modelling (IAMAS, IAPSO, IACS) / Earth Systems Dynamics, Predictability and Probabilistic Forecasting (IAMAS, IAG, IAGA, IAPSO, IASPEI)

JM02d
Chair: Bo Qiu (USA)
10:30 Potential importance of midlatitude ocean fronts for the annular-mode variability: Inter-basin differences in the southern annular-mode signature (#IUGG-3289)
Hisashi Nakamura (Japan)
10:45 Variability of the Amundsen Sea Low and the Associated Regional Sea Ice Trends in the AQ-UMUKCA Model (#IUGG-1524)
Amna Jrrar (United Arab Emirates)
11:00 An atmospheric origin of the multi-decadal bipolar seesaw (#IUGG-5669)
Zhaoxin Wang (China)
11:15 Role of the mid-latitude oceanic front in the ozone-induced climate change in southern hemisphere as revealed in aqua planet experiments (#IUGG-2945)
Fumiaki Ogawa (Norway)
11:30 Seasonality of the subtropical high and storm-track over the South Indian Ocean and its influence on low-level clouds (#IUGG-2336)
Ayumu Miyamoto (Japan)
11:45 A 20-year climatology simulated by non-hydrostatic icosahedral atmospheric model NICAM (#IUGG-4169)
Chihiro Kodama (Japan)

Joint Inter-Association Symposia 10:30-12:00, Meeting Hall I

JS06/JP06 Array Techniques for Monitoring the State of the Earth (IASPEI, IAPSO, IAGA) / Acoustical Oceanography (IAPSO, IASPEI)

JS06b
Chair: Gary Egbert (USA)
10:30 Acoustic monitoring of the global ocean (#IUGG-5720)
Solicited Speaker: Walter Munk (USA)
11:00 Broadband acoustic propagation in shallow water waveguides with internal waves (#IUGG-5717)
Mohsen Badiey (USA)
11:15 GNSS buoy array in the ocean for a synthetic disaster mitigation (#IUGG-3233)
Tenyuki Kato (Japan)
11:30 The global tropical moored buoy array (#IUGG-5474)
Solicited Speaker: Michael McPhaden (USA)

Joint Inter-Association Symposia 10:30-12:00, Panorama Hall

JA05 Physical Processes Prior to and During Earthquakes, Reliability of Precursors (IAGA, IASPEI)

JA05b
Chairs: Takeshi Hashimoto (Japan), Malcolm Johnstone (USA)
10:30 Earthquakes: can be analyzed within similar mathematical framework with other extreme events? (#IUGG-2112)
George Balasis (Greece)
10:45 Electromagnetic pulses detected during and prior to earthquakes (#IUGG-1384)
Minoru Tsutsui (Japan)
11:00 Robust procedures for the characterization of earthquake-related seismo-electromagnetic signals (#IUGG-3596)
Agata Siniscalchi (Italy)
11:15 Using of geomechanical models with geodetic and seismological data for the stress state monitoring in order to earthquake prediction (#IUGG-3284)
Mikhail Gokhberg (Russia)
11:30 Evidences of electro-magnetic changes associated to earthquakes: the case of the seismic swarm of the Pollino area (Southern Italy) (#IUGG-2360)
Marianna Balasco (Italy)
11:45 Towards the identification of pre-seismic electric signals of VAN method in geoelectric data collected by the joint EMSEV-Bishkek RS-RAS Cooperation (#IUGG-2786)
Nicholas V. Sarlis (Greece)
IAGA 10:30-12:00, Meeting Hall IV

A18 Sun-Earth System Response to Extreme Solar Events and Space Weather (Div. II/Div. III)

A18e

10:30 Dynamic variation of radiation belts due to nonlinear wave-particle interactions during space weather events (IUGG-2676)
Solicited Speaker: Yoshiharu Omura (Japan)

11:00 Signatures in Schumann resonance signals in Europe from Giant Squall Lines in the Amazon Basin (IUGG-4423)
Joseph Lemaire (Belgium)

11:15 Estimation of interplanetary parameters of Severe Space weather events, observed at geomagnetic observatory, Colaba, India (IUGG-0936)
Solicited Speaker: Veenadhari Bhaskarapantula (India)

11:45 Data mining and pattern recognition of Geomagnetic Storm Sudden Commencement (IUGG-3222)
Muthusamy Sridharan (India)

IAG 10:30-12:00, Meeting Hall V

G08 Sea-Level Observation and Modelling

G08a

10:30 Upper limit for sea level projections by 2100 (IUGG-1511)
Solicited Speaker: Svetlana Jevrejeva (United Kingdom)

11:00 Global and regional sea level budgets from GRACE and altimetry (IUGG-1904)
Jürgen Kusche (Germany)

11:15 Regional sea level change in the North Sea since 1900 (IUGG-2964)
Saskia Esselborn (Germany)

11:30 A reconciled sea level budget from satellite gravity and altimetry (IUGG-0774)
Shuang Yi (China)

11:45 Refining satellite era estimates of global mean sea level rise (IUGG-4980)
Christopher Watson (Australia)

IACS 10:30-12:00, Small Hall

C12 Coupling Processes between the Atmospheric Boundary-Layer and Snow/Ice Surfaces: Observations and Modelling

C12c

Chair: Vincent Vionnet (France)

10:30 Enhanced heterogeneous nitrates photolysis on ice and potential impacts on NOx emissions (IUGG-5619)
Solicited Speaker: Patrick Ayotte (Canada)

10:45 The value of observations of atmospheric-snow chemical exchanges in the interpretation of boundary layer processes over Antarctica (IUGG-3694)
William Neff (USA)

11:00 Ultra-low surface temperatures in East Antarctica and boundary layer air and snow interaction: The coldest places on Earth (IUGG-3070)
Ted Scambos (USA)

11:15 Modelling the distribution of surface hoar layers (IUGG-3148)
Simon Horton (Canada)

11:30 Measurements and modelling of surface energy balance at a glacier in the Interior Mountains, British Columbia (IUGG-4667)
Valentina Radic (Canada)

11:45 Large-eddy simulation of downburst events over a mid-latitude Alpine valley glacier (IUGG-5299)
Tobias Sauter (Germany)

IAMAS 10:30-12:00, Small Theatre

M14 Middle Atmosphere Science

M14e

Chair: Daniel Marsh (USA)

10:30 Noctilucent clouds as tracers for dynamics at the mesopause: What and how do they tell us about the background atmosphere? (IUGG-0464)
Solicited Speaker: Gerd Baumgarten (Germany)

10:45 Global mesospheric and lower thermospheric response to major sudden stratospheric warming events (IUGG-4850)
Solicited Speaker: Varavut Limpasuvan (USA)

11:00 Impact of stratospheric sudden warming on the general circulation in the MLT region simulated by a whole atmosphere model (IUGG-0334)
Solicited Speaker: Yasunobu Miyoshi (Japan)

11:15 Impact of polar stratospheric ozone loss on vertical coupling of the middle atmosphere in the Southern Hemisphere (IUGG-0780)
Sandro Lubis (Germany)

11:30 Interannual variability in the Northern Hemisphere springtime middle atmosphere (IUGG-3630)
David Siskind (USA)

11:45 Short-term tidal variability in the mesosphere/lower thermosphere from SABER (IUGG-2365)
Solicited Speaker: Jens Oberheide (USA)
Saturday, June 27

IAHS

10:30-12:00, Club A

HS02 Hydrologic Non-Stationarity and Extrapolating Models to Predict the Future

**HS02d**

Chair: Vazken Andreassian (France), Denis Hughes (South Africa)

10:30 Progress in hydrological modelling of changing catchments: lessons from the common testing experiment at the 2013 IAHS general assembly (#IUGG-0043)

Guillaume Thirel (France)

10:45 Quantifying the uncertainties of climate change effects on the yield and performance characteristics of the Pong multi-purpose reservoir, India (#IUGG-0039)

Adebayo Adeloye (United Kingdom)

11:00 Generating non-stationary stochastic rainfalls by variable length block bootstrapping (#IUGG-0139)

John Ndiritu (South Africa, Republic of)

11:15 Hydrologic non-stationarity and extrapolating models to predict the future (#IUGG-0010)

Francis Chiew (Australia)

IAGA

10:30-12:00, Club B

A33/A22/A31 Boundary Layers in the Heliosphere (Div. IV) / Magnetospheric Boundary Layers (Div. III) / Crossing the Heliopause into the Interstellar Medium (Div. IV)

A33b

10:30 Plasma wave evidence that Voyager 1 has crossed the heliopause (#IUGG-4610)

Solicited Speaker: Iver Cairns (Australia)

11:00 ULF foreshock in global kinetic Vlasiator simulations compared to THEMIS observations and quasilinear theory (#IUGG-4450)

Rami Vainio (Finland)

11:15 Ion kinetic effects to nonlinear processes of the Kelvin-Helmholtz instability (#IUGG-0689)

Takayuki Umeda (Japan)

11:30 Before the boundaries form: Rosetta observations of the birth of a comet magnetostructure (#IUGG-1838)

Hans Nilsson (Sweden)

11:45 RPC-MAG in 67P/CG’s Wavy Wonderland (#IUGG-3838)

Martin Volwerk (Austria)

IAPSO

10:30-12:00, Club C

P01 General Topics on the Physical Science of the Oceans

P01b

Chair: Jonathan Durgadoo (Germany)

10:30 On the wind mechanical forcing of the ocean general circulation (#IUGG-1043)

Xiaoming Zhai (United Kingdom)

10:45 Towards downscaling changes of oceanic dynamics (#IUGG-2650)

Hans von Storch (Germany)

11:00 Inference of vertical velocities in a mid ocean anticyclonic mesoscale eddy (#IUGG-3302)

Barbara Barcelo (Spain)

11:15 A geometric decomposition of eddy-mean flow interactions (#IUGG-4967)

Stephanie Waterman (Canada)

11:30 Enhancement of primary production and deep mixing by a mesoscale mid ocean anticyclonic eddy (#IUGG-3448)

Pablo Sangrà (Spain)

IAPSO

10:30-12:00, Club D

P13 Internal waves dynamics in world oceans: from remote sensing, insitu monitoring to numerical modelling

P13c

Chairs: Andrey Serebryany (Russia), Qiang Li (China)

10:30 New look on the nonlinear internal waves (#IUGG-1250)

Tatiana Talipova (Russia)

10:45 Baroclinic tides in the Celtic Sea: A new look at a well know problem (#IUGG-3370)

Nataliya Stashchuk (United Kingdom)

11:00 Tidally-forced flow in a rotating, stratified, shoaling basin (#IUGG-1240)

Kraig Winters (USA)

11:15 Parametric subharmonic instability of internal modes (#IUGG-1264)

Bruce Sutherland (Canada)

11:30 Nature of near-Inertial motions in the upper ocean and a possible route towards high-frequency radar probing of subsurface stratification (#IUGG-5391)

Victor Shrira (United Kingdom)
Saturday, June 27

IAVCEI 10:30-12:00, Club E

VS22 Volcanic Risk - Bridging Hazard Assessment, Modeling Volcanic Processes, and Society

VS22b
Chair: Geoff Kilgour (New Zealand)

10:30 Volcanic hazard assessment support system and Asia-Pacific region earthquake and volcanic hazard mapping project (#IUGG-3845)
Shinji Takarada (Japan)

10:45 Colima volcano activity in the period 1999-2014 and updating volcanic hazard map (#IUGG-4127)
Carlos Suarez-Plascencia (Mexico)

11:00 Arriving at a new generation of volcanic hazard maps: The collaboration between VHub and el Servicio Geologico Colombiano (#IUGG-5169)
Jorge V. Bajo Sanchez (USA)

11:15 VOLCANBOX: a new software platform to minimise volcanic risk (#IUGG-5600)
Stefania Bartolini (Spain)

11:30 Gaining acceptance of hazard map by adding community knowledge: Canton Buenos Aires case study, at Santa Ana (llamatepec) Volcano (#IUGG-5153)
Jorge V. Bajo Sanchez (USA)

11:45 Numerical study of clast transport of 2014 Ontake eruption, Japan (#IUGG-4925)
Kae Tsunematsu (Japan)

IAVCEI 10:30-12:00, Club H

VS08 Experimental Studies of Volcanic Systems

VS08b
Chair: Kirsten Chojnicki (USA)

10:30 Entrainment in dilute pyroclastic density currents (#IUGG-3783)
Solicited Speaker: Michael Manga (USA)

11:00 Role of slope angle and substrate roughness on pore pressure generation in ash rich pyroclastic flows: Experimental insights (#IUGG-3633)
Corentin Chédeville (France)

11:15 Gas-driven filter pressing: Insights into melt segregation from crystal mushes (#IUGG-3038)
Kate Dobson (Germany)

11:30 Sloshing of a bubbly magma reservoir (#IUGG-2591)
Atsuko Namiki (Japan)

11:45 Experimental calibration of apatite as a tool for tracking multi-component fluids in volcanic systems (#IUGG-4046)
Jenny Riker (United Kingdom)

IAGA 10:30-12:00, North Hall

A28/A29 New advances in Solar and Interplanetary Physics (Div. IV) / Wave and Turbulence in the Solar Atmosphere and Solar Wind (Div. IV)

A28e
10:30 Solar Orbiter: the next European mission to the inner heliosphere (#IUGG-1722)
Solicited Speaker: Javier Rodriguez-Pacheco (Spain)

11:00 Pseudostreamers as the source of a separate class of CMEs (#IUGG-1590)
Solicited Speaker: Yi-Ming Wang (USA)

11:30 Temporal evolution of coronal hole properties and the associated solar wind ion composition during the declining phase of Cycle 23 (#IUGG-1482)
Yuan-Kuen Ko (USA)

11:45 Plasma properties of pseudostreamers and their solar wind streams (#IUGG-5758)
Mari Paz Miralles (USA)

IAPSO 10:30-12:00, Terrace I

P08 MOC and Deep Currents

P08e
Chair: Christopher Meinen (USA)

10:30 South Atlantic MOC observations: past, present, future (#IUGG-1784)
Solicited Speaker: Sabrina Speich (France)

11:00 Relationship between decadal variability of European and North American heat waves and South Atlantic Meridional heat transport (#IUGG-1312)
Hosmay Lopez (USA)

11:15 Flow of Antarctic bottom water into the Romancie fracture zone (#IUGG-0717)
Eugene Morozov (Russia)

11:30 The pathway of the deep circulation in the South Atlantic Ocean (#IUGG-4526)
Ricardo Matano (USA)

11:45 Variability of Deep Currents in the Western South Atlantic: Observations and modeling (#IUGG-1447)
Edmo Campos (Brazil)
Saturday, June 27

IAGA 10:30-12:00, Terrace II

A12 Coupling Processes in the Atmosphere-Ionosphere System (Div. II-C/ICMA/SCOSTEP)

A12b  Chair: William Ward (Canada)
10:30 Long-period oscillations derived from mesosphere/lower thermosphere meteor radar temperature measurements (#IUGG-1088)  
Christoph Jacobi (Germany)
10:45 Multi-annual oscillations in atmospheric temperatures (0-100 km) seen as self-sustained oscillators (#IUGG-2593)  
Dirk Offermann (Germany)
11:00 Filtering features of long acoustic-gravity waves in a windless atmosphere and its ionospheric manifestation (#IUGG-0687)  
Olga Savina (Russia)
11:15 Thermospheric structure and winds caused by ion-neutral interactions within the Earth’s equatorial ionization anomaly: Model development and comparison to observations (#IUGG-1808)  
James Clemmons (USA)
11:30 Absolute interhemispheric coupling in the middle atmosphere (#IUGG-5147)  
Erich Becker (Germany)
11:45 The role of ion-neutral coupling in the generation of the ionospheric evening anomalies (#IUGG-4997)  
Ludger Scherlis (USA)

IASPEI 10:30-12:00, Chamber Hall

S02 50 Years of the ISC Service to Seismology

S02b  Chair: Dmitry Storchak (United Kingdom)
10:30 Application of the data from the Bulletins of the International Seismological Centre to studies of the Earth’s three dimensional structure (#IUGG-2260)  
Solicited Speaker: Adam Dziewonski (USA)
11:00 Two sets of twenty-five years of ISC Delay times and their newly estimated uncertainties (#IUGG-3313)  
Guust Nolet (France)
11:15 Using ISC data to image Earth’s interior (#IUGG-2765)  
Stephen Myers (USA)
11:30 Studying collision and subduction mechanisms based on regional tomographic inversions of the ISC data (#IUGG-1176)  
Ivan Koulakov (Russia)
11:45 Origin of scattered phases in the coda of the core phases PKP(BC) and PKP(BCdiff) (#IUGG-1898)  
Barbara Romanowicz (France)

IASPEI 10:30-12:00, South Hall 1

S01c Seismological Observation and Interpretation: Triggered and Induced Seismicity

S01c  Chairs: Anderson do Nascimento (Brazil), Sukanta Ray (India)
10:30 Micro-earthquake detection and seismic hazard estimation for hydraulic stimulations using SeisComP3 (#IUGG-2384)  
Ulrich Wegler (Germany)
10:45 Interval estimation of seismic hazard parameters (#IUGG-2670)  
Beata Orlecka-Sikora (Poland)
11:00 Application of rate and state models to different types of induced seismicity (#IUGG-3583)  
Torsten Dahm (Germany)
11:15 Analysis of sources and possible effects of anthropogenic seismicity in Argentina, Colombia and Mexico (#IUGG-2524)  
Alexander Caneva (Colombia)
11:30 Epos thematic core service anthropogenic hazards – to facilitate the way of attaining excellence (#IUGG-1909)  
Beata Orlecka-Sikora (Poland)

IAG 10:30-12:00, South Hall 2

G06 Unifying Height Systems

G06c  Chair: Laura Sanchez (Germany)
10:30 Definition and realization of an international height reference system (#IUGG-2895)  
Solicited Speaker: Johannes Ihde (Germany)
11:00 How important is the demand for a unified world height system? (#IUGG-1232)  
Will Feathestone (Australia)
11:15 Scientific roadmap towards height system unification with GOCE (#IUGG-1159)  
Solicited Speaker: Thomas Gruber (Germany)
11:45 Relation between local (quasi)geoid models and mean dynamic topography estimated from the filtered GOCE-based static gravity field models (#IUGG-4772)  
Robert Cunderlik (Slovak Republic)

26th IUGG, PRAGUE, CZECH REPUBLIC, JUNE 22 – JULY 2, 2015
Joint Inter-Association Symposia 10:30-12:00, South Hall 3

**JP01 Sea Level Change and Variability: Past, Present and Future (IAPSO, IAG, IACS)**

**JP01b**

*Chair: Philip Woodworth (United Kingdom)*

10:30 Analysis and forecasting of sea level anomalies in the Pacific Ocean derived from satellite altimetry (#IUGG-0785)

Yi-Ching Chen (Taiwan - China)

10:45 Regional sea-level variations in the western Pacific Ocean (#IUGG-0809)

Wen-Hau Lan (Taiwan - China)

11:00 Detecting trends in ocean bottom pressure using hydrographic moorings and altimetry (#IUGG-1257)

Joanne Williams (United Kingdom)

11:15 A near-uniform fluctuation dominating sea level and ocean bottom pressure variations across the Arctic Ocean and the Nordic Seas (#IUGG-4487)

Ichiro Fukumori (USA)

11:30 Uncertainties in sea level reconstructions due to GIA corrections (#IUGG-2768)

Svetlana Jevrejeva (United Kingdom)

11:45 Rigorous statistical testing of model fits to global mean sea level time series (#IUGG-5060)

Gary T. Mitchum (USA)

Union Symposia 13:30-15:00, Congress Hall

**U11 Early Career Scientists Symposium**

**U11c**

*Chair: Michael Sideris (Canada)*

13:30 Hydrology: a science at the interface of atmosphere, biosphere and pedosphere (#IUGG-1464)

Solicited Speaker: Markus Hrachowitz (Netherlands)

14:00 Imaging the Earth across the scales (#IUGG-1350)

Solicited Speaker: Andreas Fichtner (Switzerland)

14:30 Contribution of consistent geodetic observations to Earth system sciences (#IUGG-3801)

Solicited Speaker: Mathis Blossfeld (Germany)

Joint Inter-Association Symposia 13:30-15:00, Forum Hall

**JM02/JM01 Climate Variability and Earth Systems Modelling (IAMAS, IAPSO, IACS) / Earth Systems Dynamics, Predictability and Probabilistic Forecasting (IAMAS, IAG, IAGA, IAPSO, IASPEI)**

**JM02e**

*Chair: Robert Marsh (United Kingdom)*

13:30 Interdecadal Pacific and Atlantic Ocean variability and the ongoing warming ‘hiatus’ (#IUGG-5144)

Solicited Speaker: Matthew England (Australia)

13:45 Impact of Solar variability of hemispheric climate changes on multilateral time scales (#IUGG-4546)

Ram Krishna Tiwari (India)

14:00 On the extreme 2013/2014 Boreal Winter: role of sea surface temperature and sea ice (#IUGG-2478)

Huang-Hsiung Hsu (Taiwan - China)

14:15 Impact of the winter NAO on the WP pattern in the following winter through Arctic sea ice and ENSO (#IUGG-4729)

Yoshihiro Tachibana (Japan)

14:30 Recent changes in the atmospheric energy transport of the northern high latitudes (#IUGG-3209)

Andrea Gabrielski (Germany)

14:45 Roles of internal and external processes in the Atlantic multidecadal variability (#IUGG-1400)

Solicited Speaker: Masahiro Watanabe (Japan)

Joint Inter-Association Symposia 13:30-15:00, Meeting Hall 1

**JC01 Sea Ice in the Arctic and Southern Oceans (IACS, IAMAS, IAPSO)**

**JC01a**

*Chair: Alexey Marchenko (Norway)*

13:30 Sea ice decrease in the arctic and increase in the Antarctic- discussions from the bi-polar perspectives (#IUGG-4809)

Hiroyuki Enomoto (Japan)

13:45 The dependence of Arctic sea ice albedo on its age (#IUGG-2610)

Aku Riihelä (Finland)

14:00 Internal Kelvin Waves in Ice-Covered Seas (#IUGG-4862)

Sergey Muzylev (Russia)

14:15 Damping of surface waves propagating below solid ice (#IUGG-5085)

Alexey Marchenko (Norway)

14:30 Anomalous dispersion of sea ice in the Fram Strait region (#IUGG-3209)

Andrea Gabrielski (Germany)

14:45 A wind-driven, hybrid latent and sensible heat Coastal Polynya at Barrow, Alaska (#IUGG-3453)

Daisuke Hirano (Japan)
Saturday, June 27

**Joint Inter-Association Symposia 13:30-15:00, Panorama Hall**

**JA05 Physical Processes Prior to and During Earthquakes, Reliability of Precursors (IAGA, IASPEI)**

**JA05c**

**Chairs:** Jacques Zlotnicki (France), Elvira Astafyeva (France)

- 13:30 On the possible origin of earth’s emitted anomalous transients observed by infrared satellite sensors in differently degassing earthquake’s prone areas (IUGG-2842)
  Valerio Tramutoli (Italy)

- 13:45 The relationship between ionospheric disturbances detected by HF Doppler observation and ground perturbations associated with earthquakes (IUGG-8464)
  Hiroyuki Nakata (Japan)

- 14:00 Monitoring of ULF electromagnetic noise as a component of earthquake prediction: perspectives and problems (IUGG-0419)
  Valchleslav Pilipenko (Russia)

- 14:15 Can the ionospheric plasma turbulence seen over the earthquake be distinguished from the turbulence with another origin? Results of DEMETER (IUGG-2782)
  Jan Blecki (Poland)

- 14:30 Multi-parameter integration of space and ground observations for detection pre-earthquake anomalies: Case of M6, Napa and other earthquakes in 2014 (IUGG-3142)
  Dimitar Ouzounov (USA)

- 14:45 Further development of ULF precursors detection method for short-term earthquake prediction (IUGG-2552)
  Valerii Korpanov (Ukraine)

**IAMAS 13:30-15:00, Meeting Hall V**

**M01a Clouds, Precipitation and Aerosols and their Influence on Climate at High Latitudes, including the Role of the Southern Ocean and Sea Ice**

**M01a**

**Chairs:** Tom Lachlan-Cope (United Kingdom), Maximilian Maahn (Germany)

- 13:30 What is the role of Sea Surface Temperature in modulating cloud and precipitation properties over the Southern Ocean? (IUGG-3537)
  Yi Huang (Australia)

- 13:45 Large sensitivity of cloud radiative effect to enhancement in cloud drop concentrations over low SST in the Southern Oceans (IUGG-2287)
  Daniel Rosenfeld (Israel)

- 14:00 High droplet number concentrations in Southern Ocean boundary layer clouds observed during the 4th HIAPER Pole-to-Pole Observations (HIPPO 4) campaign (IUGG-3240)
  Thomas Chubb (Australia)

- 14:15 In-situ observations of “warm ice” over the Southern Ocean (IUGG-2655)
  Steven Siems (Australia)

- 14:30 Ship-based ceilometer measurements of Clouds over the Southern Ocean (IUGG-3728)
  Adrian McDonald (New Zealand)

- 14:45 The southern ocean clouds, radiation, aerosol transport experimental study (socrates): determining role of clouds, aerosols and radiation in climate system (IUGG-0833)
  Greg McFarquhar (USA)

**IAG 13:30-15:00, Meeting Hall IV**

**G08 Sea-Level Observation and Modelling**

**G08b**

- 13:30 Quantifying water-level and land surface changes in coastal Bangladesh using Synthetic Aperture Radar (SAR) and SAR interferometry (IUGG-0848)
  Yuanyuan Jia (China)

- 13:45 Estimating extreme sea levels from satellite altimetry around northern Australian coasts (IUGG-3014)
  Xiaoli Deng (Australia)

- 14:15 Increasing flooding frequency and accelerating rate of sea level rise in Miami Beach, Florida (IUGG-4240)
  Shimon Wdowiński (USA)

- 14:30 Reconstruction of sea level change in the South China Sea for the period 1950-2013 (IUGG-2157)
  Dawei Li (China)

- 14:45 Regional and coastal long-term sea level change assessment from geodetic data (IUGG-5691)
  Luciana Fenoglio-Marc (Germany)

**IACS 13:30-15:00, Small Hall**

**C14a Snow: Physical Properties and Impact on the Cryosphere**

**C14a**

**Chair:** Martin Schneeberger (Switzerland)

- 13:30 Temporal trends of the ionic composition in the wintertime snow cover of two high alpine sampling sites over three decades (IUGG-0548)
  Marion Rothmueller (Austria)

- 13:45 Snow, vegetation, permafrost: On the relevance of snow processes and potential feedbacks in a thawing Arctic (IUGG-5749)
  Solicited Speaker: Florent Domine (Canada)

- 14:15 Snow microstructure and modelling in support of permafrost science (IUGG-0920)
  Martin Proksch (Switzerland)

- 14:30 Temporal evolution of weak layer and slab properties – and consequences for snow instability (IUGG-4992)
  Juerg Schneider (Switzerland)

- 14:45 Modelling snow as a granular material with a microstructure-based discrete element approach (IUGG-2228)
  Pascal Hagenmuller (France)
IAMAS 13:30-15:00, Small Theatre

M14 Middle Atmosphere Science

M14f
Chair: William Ward (Canada)
13:30 ROSMIC: A project within SCOSTEP's new VarSITI program (#IUGG-0971)
Solicited Speaker: Franz-Josef Luebken (Germany)
13:45 Long-term trends in the mesosphere-lower thermosphere region and related variables (#IUGG-0932)
Solicited Speaker: Jan Lastovicka (Czech Republic)
14:00 Simulation of secular temperature trends in the middle atmosphere (#IUGG-3417)
Rolando Garcia (USA)
14:15 Long-term observations of gravity wave activity in the lower stratosphere with GPS radio occultation data (#IUGG-1401)
Torsten Schmidt (Germany)
14:30 50 Years of Standard Phase Height measurements and Long-Term Variability over Europe (#IUGG-2430)
Dieter H.W. Peters (Germany)
14:45 Solar cycle and trends of CO and CO2 in the mesosphere and lower thermosphere (#IUGG-4722)
M. López-Puertas (Spain)

IAHS 13:30-15:00, Club A

HS02 Hydrologic Non-Stationarity and Extrapolating Models to Predict the Future

HS02e
Chairs: Vazken Andreassian (France), David Post (Australia)
13:30 Scientific and practical tools for dealing with water resource estimations for the future (#IUGG-0019)
Denis Hughes (South Africa, Republic of)
13:45 Modifications to rainfall-streamflow models to handle non-stationarity: IHACRES model applied to Bani River catchment, Africa (#IUGG-0024)
Barry Croke (Australia)
14:00 Modelling climate change impact on future runoff: uncertainty from climate projections, hydrological models and model calibration considerations (#IUGG-0027)
Francis Chiew (Australia)
14:15 Estimating inter-annual runoff variability from a global data set (#IUGG-0173)
Murray Peel (Australia)
14:30 Generalization of parameters in the storage-discharge relation for a low flow based on the hydrological analysis of sensitivity (#IUGG-0072)
Kazumasa Fujimura (Japan)

IAGA 13:30-15:00, Club B

A33/A22/A31 Boundary Layers in the Heliosphere (Div. IV) / Magnetospheric Boundary Layers (Div. III) / Crossing the Heliopause into the Interstellar Medium (Div. IV)

A33c
13:30 HFA’s or How Can the Solar Wind Turn Sunward? (#IUGG-2397)
Solicited Speaker: Antonius Otto (USA)
14:00 Recent advances in the physics of hot flow anomalies (#IUGG-4712)
Hui Zhang (USA)
14:15 Statistical study of hot flow anomalies at Earth’s bow shock using THEMIS satellite data (#IUGG-5453)
Christina Chu (USA)
14:30 Oscillations of energetic ions flux in the foreshock (#IUGG-2674)
Anatoli Petrukovich (Russia)
14:45 Foreshock phenomena and their imprint on the magnetosheath (#IUGG-5519)
Primoz Kajdic (Mexico)

IAPSO 13:30-15:00, Club C

P01 General Topics on the Physical Science of the Oceans

P01c
Chair: Isuffo Halo (Mozambique)
13:30 Fast wind-induced migration of Leddies in the South China Sea (#IUGG-0894)
Solicited Speaker: Doron Nof (USA)
14:00 A probabilistic eddying ocean simulation for climate: the global OCCIPUT ensemble (#IUGG-1030)
Solicited Speaker: Thierry Penduff (France)
14:15 Seasonal and interannual upwelling features off the Northwest Africa coast (#IUGG-1606)
Milena Menna (Italy)
14:30 Intra-seasonal variability of barotropic sea-level in the tropical Indian ocean (#IUGG-4691)
Solicited Speaker: Satheesh Shenoi (India)
14:45 Seasonality in sea surface salinity and relating sea surface variables (#IUGG-3682)
Masami Nonaka (Japan)
### Saturday, June 27

#### IAHS

**HW07 Control of Water Resource Systems**

**HW07a**
- Chair: Ronald van Nooijen (Netherlands)
- 13:30 Simulation of multisite daily inflows for reservoir systems considering climate change (#IUGG-2428)
  - Solicited Speaker: Uwe Haberlandt (Germany)
- 14:00 Climate change impact on water resources vulnerability and adaptive water management in major river basins in China (#IUGG-1586)
  - Jun Xia (China)
- 14:15 The effect of establishing boundary on Genetic algorithm (GA) for optimising reservoir operating rule curves (#IUGG-2032)
  - Adedayo Adeloye (United Kingdom)
- 14:30 Prospects and challenges for integrating reservoir operation in a global surface water dynamic modeling framework (#IUGG-5694)
  - Augusto Getirana (USA)

#### IAVCEI

**VS23 Rheological and Mechanical Influences on Volcanic Eruptions**

**VS23a**
- Chair: Jackie Kendrick (United Kingdom)
- 13:30 Effects of magma rheology changes and mechanical interactions with host rocks during magma ascent in volcanic conduits (#IUGG-2987)
  - Solicited Speaker: Antonio Costa (Italy)
- 14:00 Mobilizing magma mushes to produce the largest volcanic eruptions (#IUGG-3155)
  - Jen Truby (United Kingdom)
- 14:15 Taking the magma chamber to the IMAX: Quantifying dynamic rheology and strain localisation using high-speed x-ray tomography (#IUGG-4071)
  - Kate Dobson (Germany)
- 14:30 Rheology of bubble- and crystal-bearing magma: New analogue experimental data and an effective-medium model (#IUGG-3104)
  - Sebastian Mueller (Germany)
- 14:45 Viscosity measurements of crystallizing andesite from Tungurahua volcano (Ecuador) (#IUGG-1258)
  - Magdalena Oryaeile Cheval (Mexico)

#### IAHS

**A28/A29 New advances in Solar and Interplanetary Physics (Div. IV) / Wave and Turbulence in the Solar Atmosphere and Solar Wind (Div. IV)**

**A28f**
- 13:30 Proton kinetic effects in the turbulent solar wind (#IUGG-5760)
  - Solicited Speaker: Bogdan Hnat (United Kingdom)
- 14:00 Anisotropy and intermittency in inertial and kinetic range solar wind plasma turbulence (#IUGG-1773)
  - Sandra Chapman (United Kingdom)
- 14:15 Compressible scaling laws in low frequency turbulence of the fast solar wind (#IUGG-0800)
  - Supratik Banerjee (France)
- 14:30 Probabilistic model of beam-plasma interaction in the randomly inhomogeneous solar wind (#IUGG-4171)
  - Vladimir Krasnoselskikh (France)
- 14:45 Solar Wind ~20-200 keV Superhalo Electrons at Quiet Times (#IUGG-0193)
  - Linghua Wang (China)

#### IAPSO

**P09 The North Atlantic and Climate Change**

**P09a**
- Chair: Simon Josey (United Kingdom)
  - Solicited Speaker: Anne Marie Treguer (France)
- 14:00 Pathways of oceanic heat transport from the subtropical to the subpolar gyres in the North Atlantic (#IUGG-1220)
  - Nicholas Foukal (USA)
- 14:15 Mechanisms of heat content change in the subtropical and subpolar North Atlantic (#IUGG-1254)
  - Ric Williams (United Kingdom)
- 14:30 Circulation and water mass transport in the subpolar North Atlantic (#IUGG-1018)
  - Monika Rhein (Germany)
- 14:45 Impact of Arctic climate change on the North Atlantic ocean circulation: a model study (#IUGG-1202)
  - Bablu Sinha (United Kingdom)

#### IAGA

**A12 Coupling Processes in the Atmosphere-Ionosphere System (Div. II-C/ICMA/SCOSTEP)**

**A12c**
- Chair: Christoph Jacobi (Germany)
- 13:30 Modeling of vortex structures in continuous media (atmosphere, hydrosphere and plasma) (#IUGG-1135)
  - Solicited Speaker: Vasily Belashov (Russia)
- 14:00 Diurnal variability in the mesosphere and thermosphere during stationary planetary wave amplification (#IUGG-4210)
  - Ruth Lieberman (USA)
- 14:15 Nonlinear generation of zonal flows and large scale magnetic fields by ULF waves and their mutual transformation in the ionosphere (#IUGG-5244)
  - Khatuna Chargina (Georgia)
- 14:30 Dynamical perturbations of the thermosphere inferred from satellite observations of O(1D) nightglow (#IUGG-5489)
  - Marianna Shepherd (Canada)
- 14:45 The dynamics underlying correlations of airglow peak emission rate, altitude and temperature (#IUGG-4015)
  - Gordon Shepherd (Canada)
13:30-15:00, South Hall 1

**SO1d Seismological Observation and Interpretation: Macroseismology and Historical Earthquakes**

**SO1da**  
Chair: Paola Albini (Italy)  
13:30 Historical earthquake studies and document database in Japan (#IUGG-1945)  
Solicited Speaker: Kenji Satake (Japan)  
14:00 Maximum observed intensity map for the azores (Portugal) - preliminary results (#IUGG-4428)  
Joao Fontiela (Portugal)  
14:15 Intensity data and macroseismic maps of earthquakes in southwestern Germany (#IUGG-3295)  
Wolfgang Brüstle (Germany)  
14:30 Macroseismic Survey of the MLS5, 2014 Orkney Earthquake (#IUGG-2273)  
Vungunai Midzi (South Africa, Republic of)

**IAGA 13:30-15:00, South Hall 2**

**G07 Geohazards Monitoring**

**G07c**  
Chair: Andreas Wieser (Switzerland), Yen-Ru Lai (Taiwan - China)  
13:30 Multi-scale and temporal-stage integrated survey technology for site displacement and deformation monitoring in Geotechnical Engineering (#IUGG-0410)  
Yen-Ru Lai (Taiwan - China)  
14:00 Mitigation of atmospheric effects for monitoring dangerous alpine glaciers using ground-based radar interferometry (#IUGG-3158)  
Jemil Avers Butt (Switzerland)  
14:15 A multi-parameter monitoring system of a large French landslide: data, results and future perspectives (#IUGG-2347)  
Stella Coccia (France)  
14:30 Pit mine slope stability monitoring by high resolution tiltmeters (#IUGG-4378)  
Jan Mrčina (Czech Republic)  
14:45 3D analytical and numerical modeling of the surface displacement, strain and gravity changes in the vicinity of magmatic bodies (#IUGG-2424)  
Ladislav Brimich (Slovak Republic)

**Joint Inter-Association Symposia**

**JM03 Geochemical Process and Cycles (IAMAS, IAPSO, IAUC, IAHS, IACS)**

**JM03a**  
13:30 The southern hemisphere additional ozonesondes (SHADOZ, 1998) strategic ozonesonde network: Overview and scientific accomplishments (#IUGG-3345)  
Solicited Speaker: Anne Thompson (USA)  
14:00 Twenty years of ozone soundings from Easter Island (109 W, 27 S, 51 m.a.s.l.) (#IUGG-4086)  
Laura Gallardo (Chile)  
14:15 Photosensitized chemistry at the air/sea interface: Biology vs chemistry (#IUGG-3308)  
Christian George (France)  
14:30 Human impact on the role of dust as carrier of nutrients to the ocean (#IUGG-4828)  
Solicited Speaker: Maria Kanakidou (Greece)

**IAGA**

**A32 Studies of the Quiet Sun and Active Regions (Div. IV)**

**A32d**  
Chair: Sven Wedemeyer Bohm (Norway)  
15:00 Radio emission from solar active regions (#IUGG-0724)  
Solicited Speaker: Costas Alissandrakis (Greece)  
15:30 The Chromosphere above the sunspot umbra as seen in the New Solar Telescope and Interface Region Imaging Spectrograph (#IUGG-2345)  
Vasyl Yurchyshyn (USA)  
15:45 The 17 GHz active region number (#IUGG-0907)  
Caius Selhorst (Brazil)  
16:00 Time-evolution of the magnetic topology in a 3D MHD model of the corona above an active region (#IUGG-4749)  
Philippe-A. Boudin (Austria)  
16:15 Perspectives and challenges of 3D magnetic field diagnostics in solar active regions with microwave imaging spectropolarimetry (#IUGG-4286)  
Gregory Fleishman (USA)
Saturday, June 27

**Poster sessions (p. 221)**

### Union Symposia

**U11 Early Career Scientists Symposium**

**U11d**

Chair: Michael Sideris (Canada)

- 16:30 Numerical dynamo simulations and magnetic field observations of the Earth, Moon and planets to infer core dynamics (#IUGG-1274)
  
  Solicited Speaker: Futosh Takahashi (Japan)

- 17:00 Proterozoic Supercontinent Nuna (#IUGG-1168)
  
  Solicited Speaker: Johanna Salminen (Finland)

- 17:30 Towards multidisciplinary and open-access Earth and Space sciences (#IUGG-5131)
  
  Solicited Speaker: Adelina Geyer Traver (Spain)

### Joint Inter-Association Symposia

**JM02/JM01 Climate Variability and Earth Systems Modelling (IAMAS, IAPSO, IACS) / Earth Systems Dynamics, Predictability and Probabilistic Forecasting (IAMAS, IAG, IAGA, IAPSO, IASPEI)**

**JM02f**

Chair: Shang-Ping Xie (USA)

- 16:30 The influence of the Gulf Stream on European wintertime blocking: impacts and mechanism (#IUGG-5687)
  
  Solicited Speaker: Shoshiro Minobe (Japan)

- 16:45 Impact of oceanic front on the northern hemispheric coupled stratosphere/troposphere-system (#IUGG-5275)
  
  Nour-Eddine Omrani (Norway)

- 17:00 The effects of different sudden stratospheric warming types on the ocean (#IUGG-0231)
  
  Ame O’Callaghan (United Kingdom)

- 17:15 Influence of explosive cyclones on ocean in OGMs (#IUGG-2099)
  
  Akira Kusano-yoshida (Japan)

- 17:30 Deep ocean temperature variability - informing a strategy for Deep Argo temperature observations (#IUGG-0317)
  
  Freya Garry (United Kingdom)

- 17:45 Dynamical response of the North Pacific Ocean to the tropical variability (#IUGG-3314)
  
  Solicited Speaker: Masami Nonaka (Japan)

### Joint Inter-Association Symposia

**JC01 Sea Ice in the Arctic and Southern Oceans (IACS, IAMAS, IAPSO)**

**JC01b**

Chair: Hiroyuki Enomoto (Japan)

- 16:30 The significant increase of Southern Ocean sea ice extent during the satellite era (#IUGG-1253)
  
  John Turner (United Kingdom)

- 16:45 Sea ice production variability in the Antarctic coastal polynyas (#IUGG-1388)
  
  Takeshi Tamura (Japan)

- 17:00 Comparison of different sea ice product and data of drifting buoys (#IUGG-5632)
  
  Nataliya Marchenko (Norway)

- 17:15 Antarctic Sea Ice Response in CMIP5 Pre-industrial, Historical and Ozone Perturbation Simulations (#IUGG-1614)
  
  Siobhan O’Farrell (Australia)

- 17:30 Effect of a Maxwell-elastic-brittle rheology on the simulation of sea ice with NEMO-LIM3 (#IUGG-3320)
  
  Jonathan Raulier (Belgium)

- 17:45 Cyclone-induced rapid creation of extreme Antarctic sea ice conditions (#IUGG-4412)
  
  Zhaoxin Wang (China)

### Joint Inter-Association Symposia

**JA05 Physical Processes Prior to and During Earthquakes, Reliability of Precursors (IAGA, IASPEI)**

**JA05d**

Chair: Elvira Astafyeva (France), Jan Blecki (Poland)

- 16:30 Ionospheric precursors of the 11 March 2011 M9.0 Tohoku Earthquake (#IUGG-3184)
  
  J.Y. Liu (Taiwan - China)

- 16:45 Recent advances in remote sensing of natural hazards-induced atmospheric and ionospheric perturbations (#IUGG-3618)
  
  Solicited Speaker: Yu-Ming Yang (USA)

- 17:15 Ionospheric seismology : from Earth maturity with waveform modeling to Venus dreams (#IUGG-4851)
  
  P Lognonné (France)

- 17:30 Magnitude estimation by ionospheric detection of Rayleigh waves (#IUGG-5262)
  
  Giovanni Occhipinti (France)

- 17:45 Numerical simulations of co-seismic electromagnetic signals (#IUGG-5123)
  
  Qinghua Huang (China)

### IAMAS

**M01 Clouds, Precipitation and Aerosols and their Influence on Climate at High Latitudes, including the Role of the Southern Ocean and Sea Ice**

**M01b**

Chairs: Greg McFarquhar (USA), Steven Siems (Australia)

- 16:30 Simulations of Arctic Mixed-Phase Clouds: Impact of surface heterogeneities (#IUGG-1719)
  
  Katharina Weixler (Germany)

- 16:45 The microphysics of clouds over the Antarctic Peninsula – part one observations (#IUGG-2160)
  
  Tom Lachlan-Cope (United Kingdom)

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**Welcome 26th IUGG, PRAGUE, CZECH REPUBLIC, JUNE 22 – JULY 2, 2015**
17:00 The Microphysics of Clouds over the Antarctic Peninsula – Part Two Modelling (IUGG-2254)
Constantino Listowski (United Kingdom)
17:15 Observational efforts to understand aerosol-cloud interactions at high latitudes (IUGG-3134)
Gija de Boer (USA)
17:30 A comparison of observed cloud microphysical properties and evolution at high latitudes (IUGG-3432)
Solicited Speaker: Keith Bower (United Kingdom)
17:45 Southern and northern hemisphere cloud processing (IUGG-4686)
Jim Hudson (USA)

IAG
16:30-18:00, Meeting Hall V

G08 Sea-Level Observation and Modelling
G08c
16:30 Preliminary performance assessment of HY2 altimetry observations (IUGG-0352)
Solicited Speaker: Xiaoyan Wan (China)
16:45 Extraction of Geoid Heights from ship Borne GNSS measurements (IUGG-0365)
Dany Lavrov (Israel)
17:00 Mean dynamic topography in the partly ice-covered Southern Ocean based on ICESat laser altimetry data (IUGG-3631)
Joachim Schwab (Germany)
17:15 Airborne laser scanning determination of sea surface heights (IUGG-2707)
Artu Ellmann (Estonia)
17:30 Sea level variability in the tropical Atlantic during the last decade (IUGG-3102)
Saskia Esselborn (Germany)
17:45 Impacts of seismic mass redistribution on estimates of recent sea level rise from GRACE (IUGG-0534)
Jin Li (China)

IACS
16:30-18:00, Small Hall

C14 Snow: Physical Properties and Impact on the Cryosphere
C14b
Chair: Henning Lowe (Switzerland)
16:30 Stratigraphy and snow properties of polar snowpacks: requirements from a modelling perspective (IUGG-0616)
Solicited Speaker: Elizabeth Morris (United Kingdom)
17:00 Stratigraphy and microstructure of Antarctic snow (IUGG-3732)
Martin Schneebe (Switzerland)
17:15 Polar snow and firn – Linking in-situ data and model requirements (IUGG-3864)
Maria Hörhold (Germany)
17:30 Densification of layered firn of the ice sheet at Dome Fuji, Antarctica (IUGG-2908)
Shuji Fujita (Japan)
17:45 Linking snow microstructure to its macroscopic elastic properties: A 3D numerical homogenization method and its application to tomographic images (IUGG-4425)
Antoine Wautier (France)

IAMAS
16:30-18:00, Small Theatre

M14 Middle Atmosphere Science
M14g
Chair: Annika Seppälä (Finland)
16:30 Middle atmosphere chemical and dynamical variability arising from Energetic Particle Precipitation (IUGG-2631)
Solicited Speaker: Annika Seppälä (Finland)
16:45 Variability of high-latitude odd-nitrogen in the middle atmosphere: The relative roles of dynamics and energetic particle precipitation (IUGG-2277)
Daniel Marsh (USA)
17:00 Combined influences of westerly phase of the QBO and 11-year solar maximum on the Northern Hemisphere extratropical winter circulation (IUGG-1589)
Yousuke Yamashita (Japan)
17:15 Coupling by Dynamics in VarSITIROSMIC (IUGG-5032)
Solicited Speaker: Takuji Nakamura (Japan)
17:30 Stratosphere/mesosphere coupling during the winter/summer transition at Davis, Antarctica (IUGG-0440)
Franz-Josef Luebken (Germany)
17:45 Self-sustained oscillations of temperatures and winds in the atmosphere (0-100 km) (IUGG-2592)
Dirk Offermann (Germany)

IAHS
16:30-18:00, Club A

HS02 Hydrologic Non-Stationarity and Extrapolating Models to Predict the Future
HS02f
Chairs: Vazken Andreassian (France), Denis Hughes (South Africa), Francis Chiew (Australia), Jai Vaze (Australia)
16:30 Would inclusion of peak rainfall intensity add value to runoff predictions? (IUGG-0091)
Bofu Yu (Australia)
16:45 Assessing the reliability of conceptual model predictions in a cultivated, snowmelt-driven catchment of the semi-arid Andes (IUGG-0168)
Hubert Paul (France)
17:00 Snowpack trends and variability at long-term stations in Northern Colorado, USA (IUGG-0098)
Steven Fassnacht (USA)
17:15 Assessment of climate change effects on groundwater resource in transient conditions (IUGG-0082)
Dassargues Alain (Belgium)
17:30 Evaluation of drought impact on groundwater recharge rate by SWAT and Hydrus Model in an agricultural island, Western Japan (IUGG-0137)
Guangzhe Jin (Japan)
IAGA 16:30-18:00, Club B

A33/A31 Boundary Layers in the Heliosphere (Div. IV) / Magnetospheric Boundary Layers (Div. III) / Crossing the Heliopause into the Interstellar Medium (Div. IV)

A33d

16:30 THEMIS observations of mirror mode storms in the Earth’s magnetosheath (#IUGG-4156)
Solicited Speaker: Xochitl Blanco-Cano (Mexico)

17:00 Study of plasma fluctuations in the Earth’s magnetosheath with frequencies up to 10 Hz (#IUGG-3473)
Lidiudima Rakhmanova (Russia)

17:15 Initial measurements in the magnetospheric boundary layers with the magnetospheric multiscale mission (#IUGG-1266)
Christopher Russell (USA)

17:30 Dipole tilt control of bow shock location and flaring angle (#IUGG-5472)
Jianyong Lu (China)

17:45 The LLBL formation and thickness under sudden changes of IMF conditions (#IUGG-2837)
Jana Safrankova (Czech Republic)

IAPSO 16:30-18:00, Club C

P05 Southern Hemispheric Forcing of the MOC and Carbon Cycle in Past, Present, and Future Climate Change

P05a

16:30 Variability and change in the Southern Ocean during the instrumental period: what have we learned, and why does it matter? (#IUGG-0264)
Solicited Speaker: Michael Meredith (United Kingdom)

17:00 Role of mesoscale eddies in cross-frontal transport of carbon, oxygen and nutrients in the Southern Ocean (#IUGG-1818)
Carolina Dufour (USA)

17:15 Observations of a diapycnal shortcut to adiabatic upwelling of Antarctic Circumpolar Deep Water (#IUGG-4279)
Jess Mead Silverst (United Kingdom)

17:30 Southern ocean winds and precipitation at the LGM: The influence of state dependency and sea surface changes on CMIP5-PMIP3 results (#IUGG-5306)
Louise Sime (United Kingdom)

17:45 A four-year time series of Antarctic Circumpolar Current transport through Drake Passage from moored observations (#IUGG-5412)
Kathleen Donohue (USA)

IAHS 16:30-18:00, Club D

HW07 Control of Water Resource Systems

HW07b

16:30 The use of general irrigation calendars under different climate conditions (#IUGG-5389)
Solicited Speaker: Niels Schütze (Germany)

17:00 Development of operating rules for Hluhluwe Dam, South Africa (#IUGG-2932)
John Ndritu (South Africa, Republic of)

17:15 Drowning by numbers: excess water distribution in the Gezira irrigation scheme (#IUGG-4943)
Ronald van Nooijen (Netherlands)

IAVCEI 16:30-18:00, Club E

VS23 Rheological and Mechanical Influences on Volcanic Eruptions

VS23b

16:30 Magma flow dynamics and coupled host-rock deformation in a developing volcanic plumbing system (#IUGG-4400)
Solicited Speaker: Janine Kavanagh (United Kingdom)

17:00 Experimental permeability at volcanic temperatures and pressures: an insight into silicic magma degassing (#IUGG-2487)
Amy Chadderton (United Kingdom)

17:15 Going down the tubes: Complex kinematic indicators in tube pumices revealed by X-ray tomography (#IUGG-4072)
Kate Dobson (Germany)

17:30 How constant is mass flux at volcanic vents? (#IUGG-5527)
Matthias Hort (Germany)

17:45 Integrating geomechanical rock properties to monitor catastrophic collapse at an active volcano (#IUGG-0343)
Lauren Schaefer (USA)

IAGA 16:30-18:00, North Hall

A28/A29 New advances in Solar and Interplanetary Physics (Div. IV) / Wave and Turbulence in the Solar Atmosphere and Solar Wind (Div. IV)

A28g

16:30 Solar probe plus: a NASA mission to touch the sun (#IUGG-5742)
Solicited Speaker: Nicola Fox (USA)

17:00 How can the evolutionary effects during a CME propagation be simplified to better predict their internal properties at Earth? (#IUGG-4624)
Solicited Speaker: Neel Savani (USA)

17:30 Properties of interplanetary shocks and waves observed by STEREO (#IUGG-3964)
Xochitl Blanco-Cano (Mexico)

17:45 Statistical analysis of the structure of magnetic reconnection exhausts in the solar wind (#IUGG-2896)
Jakub Enzl (Czech Republic)
IAPSO 16:30-18:00, Terrace I

P09 The North Atlantic and Climate Change

P09b
Chair: Paul Myers (Canada)

16:30 North Atlantic freshwater and heat fluxes: An overview (#IUGG-4376)
Simon Josey (United Kingdom)

16:45 Association of synoptic variability in surface turbulent fluxes with cyclone characteristics in the North Atlantic (#IUGG-0791)
Serge Gulev (Russia)

17:00 Surface warming hiatus caused by increased heat uptake across multiple ocean basins; the role of the North Atlantic (#IUGG-2875)
Sybren Driftshout (Netherlands)

17:15 Extreme air-sea interaction over the North Atlantic subpolar gyre during the winter of 2013-14 and its sub-surface legacy (#IUGG-1737)
Robert Marsh (United Kingdom)

17:30 Comparative assessment of turbulent air-sea heat fluxes from reanalyses and satellite based products using flux probability density function concept (#IUGG-2436)
Serge Gulev (Russia)

17:45 Long-term changes in cloud cover and short wave radiation over the North Atlantic (#IUGG-2034)
Marina Aleksandrova (Russia)

IAGA 16:30-18:00, Terrace II

A12 Coupling Processes in the Atmosphere-Ionosphere System (Div. II-C/ICMA/SCOSTEP)
A12d
Chair: Erdal Yigit (USA)

16:30 Model simulation of ionospheric responses to sudden stratospheric warming events (#IUGG-0523)
Solicited Speaker: Tzu-Wei Fang (USA)

17:00 Ionosphere variability at mid latitudes during sudden stratosphere warmings (#IUGG-2659)
Solicited Speaker: Nicholas Pedatella (USA)

17:30 The role of internal gravity waves in the formation of large-scale ionospheric disturbances during sudden stratospheric warming events (#IUGG-3076)
Fedor Bessarab (Russia)

17:45 Dynamics of the solitary internal gravity waves and travelling ionospheric disturbances at heights of the F-region (#IUGG-1134)
Vasily Belashov (Russia)

IASPEI 16:30-18:00, Chamber Hall

S02 50 Years of the ISC Service to Seismology
S02d
Chair: Marcelo Assumpcao (Brazil)

16:30 The ISC-GEM catalogue: examples of application in global and regional contexts (#IUGG-5018)
Marco Pagani (Italy)

16:45 Using the ISC earthquake catalogue for earthquake hazard analysis (#IUGG-4317)
Gary Gibson (Australia)

17:00 The ISC data and temporary network observations (#IUGG-4351)
Vera Bykova (Russia)

17:15 Long-term detectability of teleseismic events and their relation to surface environment at Syowa Station, Antarctica (#IUGG-0302)
Masaki Kanao (Japan)

17:30 Use of ISC data to improve earthquake hypocentral locations: HinduKush and Indonesia (#IUGG-5781)
Shamita Das (United Kingdom)

17:45 Missing, duplicates and fakes: Not just macroseismic events (#IUGG-4381)
Josep Batlló (Spain)

IASPEI 16:30-18:00, South Hall 1

S01d Seismological Observation and Interpretation: Macroseismology and Historical Earthquakes

S01db
Chair: Josep Batlló (Portugal)

16:30 Historical earthquakes and the problem of catalogue completeness (#IUGG-2601)
Roger M.W. Musson (United Kingdom)

16:45 New insights on pre-1900 great earthquakes along the Peru-Chile trench (#IUGG-4065)
Fabio Luca Bonali (Italy)

17:00 Historical earthquakes attested to by sparse data: can the epicentre be determined? (#IUGG-2131)
Päivi Mantyniemi (Finland)

17:15 Calculation of historical earthquake magnitudes in Greece from empirical magnitude/intensity relations (#IUGG-5020)
Gerassimos Papadopoulos (Greece)

17:30 A statistical approach for determination of sourceparameters of historical earthquakes from historical seismic damage records (#IUGG-1201)
Tae-Kyung Hong (Korea, Republic of Korea)
**Saturday, June 27**

### IAG Reference Frames

**G01 Reference Frames**  
**G01a**  
16:30  Highlights of the German Research Group on Space-time Reference Systems (#IUGG-2595)  
Axel Nothnagel (Germany)

16:45  Twin Telescopes at Onsala and Wettzell and their contribution to the Very Long Baseline Interferometry Global Observing System (#IUGG-1544)  
Caroline Schoenberger (Austria)

17:00  Creation of a terrestrial reference frame via Kalman filtering of Very Long Baseline Interferometry data (#IUGG-0554)  
Benedikt Soja (Germany)

17:15  The ICRF-3: Status, plans, and progress on the next generation celestial reference frame (#IUGG-3648)  
Johannes Böhm (Austria)

17:30  Analysis strategies for the densification of the International Celestial Reference Frame with VLBA Calibrator Survey sources (#IUGG-3471)  
Hana Krasna (Austria)

17:45  Combination of session-wise VLBI solutions for generating individual celestial reference frames (#IUGG-2803)  
Andreas Iddink (Germany)

### Joint Inter-Association Symposia

**JM03 Geochemical Process and Cycles (IAMAS, IAPSO, IAVCEI, IAHS, IACS)**

**JM03b**  
16:30  Long-Term Monitoring of Carbon Monoxide with the MOPITT Instrument (#IUGG-4778)  
James Drummond (Canada)

16:45  Elucidating severe urban haze formation in China (#IUGG-4396)  
Renyi Zhang (USA)

17:00  The near-term potential of climate change mitigation through reduction in anthropogenic methane emissions (#IUGG-4323)  
Michael Gauss (Norway)

17:15  Measurements of CO2, CH4 and other pollutants from urban areas and natural gas operations in the eastern US (#IUGG-5697)  
Russell Dickerson (USA)

17:30  The Chemistry-Aerosol Mediterranean Experiment: Interplay between anthropogenic (especially shipping) and natural emissions in a complex system with high policy impact (#IUGG-4743)  
Matthias Beekmann (France)

17:45  Factors controlling the solubility of trace metals in atmospheric aerosols over the eastern Mediterranean (#IUGG-5590)  
Nikolaos Mihalopoulos (Greece)

18:00  Observing the anthropocene from space: Past achievements and challenges (#IUGG-5402)  
John Burrows (Germany)

18:00-19:30, Poster Area (Foyer)

**Poster sessions (p. 221)**
Sunday, June 28

Union Symposia 8:30-10:00, Congress Hall

U05 New Discoveries in Deep Interior of the Earth and Planets

U05a

**Chair:** Thorne Lay (USA)

- **8:30** Of mantle plumes and secondary scale convection: Insights from whole mantle seismic waveform tomography (#IUGG-1323)
- **Solicited Speaker:** Barbara Romanowicz (France)
- **9:00** Insights into mantle dynamics and thermo-chemical structure through joint inversions of seismic and geodynamic data (#IUGG-1825)
- **Solicited Speaker:** Stephen Grand (USA)
- **9:30** Mapping mantle electrical conductivity structure: progress status (#IUGG-2569)
- **Solicited Speaker:** Alexey Kuvshinov (Switzerland)

Joint Inter-Association Symposia 8:30-10:00, Forum Hall

JP05 Tsunamis (IAPSO, IASPEI)

JP05a

**Chair:** Vasily Titov (USA)

- **8:30** Tsunamis: bridging science, engineering and society (#IUGG-4829)
- **Utku Kanoglu** (Turkey)
- **8:45** Tsunami warnings for distributed decision making (#IUGG-4738)
- **Eddie Bernicky** (USA)
- **9:00** Concept of Tsunami hazard levels 1 and 2 for the reconstruction in Tohoku, Japan and its implementation (#IUGG-0473)
- **Fumihiko Imamura** (Japan)
- **9:15** Historical and geological evidence of recurrent large earthquake tsunamis in Japan (#IUGG-2019)
- **Kenji Satake** (Japan)
- **9:30** Historical mega-tsunamis in the World Ocean and their implication for coastal hazard assessment (#IUGG-2088)
- **Vladislav Gusliakov** (Russia)
- **Laura Kang** (USA)

Joint Inter-Association Symposia 8:30-10:00, Meeting Hall I

JS05 Glacier, Ice Sheet and Snow Seismology (IASPEI, IACS)

JS05a

**Chair:** Paul Winberry (USA)

- **8:30** Icequakes in the Cryosphere: a review (#IUGG-1141)
- **Solicited Speaker:** Evgeny A. Podolskiy (Japan)
- **9:00** Periodic, episodic, and complex behavior of glacial earthquakes (#IUGG-4662)
- **Paul Winberry** (USA)
- **9:15** Seismic monitoring of a moulin and its influence on the stick-slip flow of the Greenland ice sheet (#IUGG-3634)
- **Claudia Roeoesli** (Switzerland)
- **9:30** Tidally modulated cryoseismicity at a shear margin of the Fimbul Ice Shelf, Antarctica (#IUGG-2283)
- **Myrto Pirli** (Norway)
- **9:45** Characteristic cryoseismic waves associated with surface environmental variations in the Lützow-Holm Bay, East Antarctica (#IUGG-0301)
- **Masaki Kanao** (Japan)

Joint Inter-Association Symposia 8:30-10:00, Panorama Hall

JA06 Data on the Edge: Preservation and Utilization of Historical Data in the Geosciences (IAGA, IASPEI, IAMAS, IAG, IAHS, IACS)

JA06a

**Chair:** Edward W. Oliver (USA)

- **8:30** Historical data and solar activity (#IUGG-4947)
- **Solicited Speaker:** José Vaquero (Spain)
- **9:00** The atlas of the Earth’s magnetic field 1500–2010 (#IUGG-0575)
- **Alena Rybkina** (Russia)
- **9:15** Stormer’s auroral imagery: A space age perspective (#IUGG-2899)
- **Alv Egeland** (Norway)
- **9:30** Digitization and processing of historical geomagnetic observations from Prague Observatory (1839 – 1917) (#IUGG-3915)
- **Pavel Hejda** (Czech Republic)

IAGA 8:30-10:00, Meeting Hall IV

A12 Coupling Processes in the Atmosphere-Ionosphere System (Div. II-C/ICMA/SCOSTEP)

A12e

**Chair:** Sharon Vadas (USA)

- **8:30** Distribution of the migrating terdiurnal tide seen in sporadic E characteristics (#IUGG-2963)
- **Solicited Speaker:** Christina Arros (Germany)
- **9:00** Modeling of the ionosphere D region on the basis of coupled troposphere-stratosphere-mesosphere general circulation and plasma chemistry model (#IUGG-3668)
- **Dmitry Kulyamin** (Russia)
- **9:15** Thermospheric neutral wind response to geomagnetic storm: From mesoscale to global scale (#IUGG-3073)
- **Gang Lu** (China)
- **9:30** High electron temperature in high density region in topside ionosphere of the middle and low latitude during the daytime (#IUGG-3241)
- **Yoshihiro Kakinami** (Japan)
- **9:45** Simultaneous observation of large scale nightglow intensity perturbation and equatorial spread-F over the Indian dip equatorial station, Tirunelveli (#IUGG-0740)
- **Sukanta Sau** (India)
Sunday, June 28

**IAG 8:30-10:00, Meeting Hall V**

**G08 Sea-Level Observation and Modelling**

G08d

8:30 Error investigation in the reconstruction of global mean sea level by combining satellite altimetry and tide gauges (#IUGG-3868)
Taoyong Jin (China)

8:45 Quantification of Baltic Sea Region relative sea-level rise by using Multi-mission satellite altimetry data and tide gauge sea level series (#IUGG-0867)
Alve Libbusk (Estonia)

9:00 Application of the Multi Adaptive Regression Splines to integrate sea level data from altimetry and tide gauges (#IUGG-0468)
Zahra Gharniheit (Iran)

9:15 Investigation on spectral methods for tide-gauge data analyses (#IUGG-5585)
Mohsen Feizabadi (Turkey)

9:30 Sea level changes in the Black Sea using satellite altimetry and tide gauge observations (#IUGG-5582)
Nevin Betul Avsar (Turkey)

**IACS 8:30-10:00, Small Hall**

**C06 Ice Sheet and Ocean Interactions on Multiple Scales**

C06a

8:30 Coupled ice sheet-ocean simulations with the POPSICLES model (#IUGG-2864)
Solicited Speaker: Xylar Asay-Davis (Germany)

8:45 Ice sheet model intercomparison project for CMIP6 (#IUGG-3952)
Solicited Speaker: Tony Payne (United Kingdom)

9:00 A simple parameterisation of ice shelf basal melting and its implementation in the ice sheet model SICOPOLIS (#IUGG-2496)
Ralf Greve (Japan)

9:15 Modeling ice front Dynamics of Greenland outlet glaciers using ISM (#IUGG-3698)
Mathieu Morlighem (USA)

9:30 Modeling Greenland ice sheet present-day and near-future runoff contribution (#IUGG-0764)
Daniele Peano (Italy)

9:45 East Antarctic deglaciation and the link to global cooling during the Quaternary: Evidence from geomorphology of the Ser Rondane Mountains (#IUGG-3335)
Yusuke Suganuma (Japan)

**IAMAS 8:30-10:00, Small Theatre**

**M14 Middle Atmosphere Science**

M14h

Chair: Ulrike Langematz (Germany)

8:30 The precursor role of Blocking in Sudden Stratospheric Warmings (#IUGG-2237)
Solicited Speaker: David Barriopedro (Spain)

8:45 Sudden stratospheric warmings and anomalous upward wave activity flux (#IUGG-5164)
John Albers (USA)

9:00 Does the definition of Sudden Stratospheric Warmings matter? (#IUGG-0945)
Froila M. Palmeiro (Spain)

9:15 Reconciling contradictory results on the Central Pacific El Niño signal in the polar stratosphere: role of Stratospheric Sudden Warmings (#IUGG-0935)
Maddalen Iza (Spain)

9:30 Hemispheric asymmetries and seasonality of mean age of air in the stratosphere: Deep versus shallow branch of the Brewer-Dobson circulation (#IUGG-2330)
Paul Konopka (Germany)

9:45 The influence of the Quasi-biennial Oscillation on the three-dimensional Brewer-Dobson circulation (#IUGG-2129)
Axel Gabriel (Germany)

**IAHS 8:30-10:00, Club A**

**HW17 Hydrological Forecasting and Predictive Uncertainty: Advances and Challenges of Transferring Science into Operational Practice**

HW17a

Chair: Qingyun Duan (China)

8:30 Assimilation of remote sensing data into a conceptual rainfall-runoff model for hydrological forecasting applications (#IUGG-0812)
Rodolfo Alvarado Montero (Germany)

8:45 Ensemble forecasting of snowpack conditions and avalanche hazard (#IUGG-1565)
Matthieu Lafayse (France)

9:00 Exploration of Ensemble Kalman filter streamflow assimilation in snow dominated watersheds (#IUGG-4135)
Mabrouk Abaza (Canada)

9:15 Data assimilation of satellite-derived surface water extent into a global rainfall-runoff model (#IUGG-2061)
Beatriz Revilla-Romero (Italy)

9:30 Rainfall-runoff-inundation analysis of the 2011 Sri Lanka flood in the Mudenri Aru River basin (#IUGG-0215)
Giriraj Amarnath (Sri Lanka)

9:45 Assessment of ensemble forecast uncertainty with multi-models for a mountainous basin in Turkey (#IUGG-5537)
Gokcen Uysal (Turkey)
IAGA

A36 Planetary Magnetic Fields and Geomagnetic Secular Variation (Div. V/Div. I)

A36a

Chair: Mathieu Dumberry (Canada)

8:30 A model of the Hermean magnetic field using a quasi-hemispheric method (#IUGG-2464)

Ewan Thebault (France)

8:45 Rapid core field variations: New insights from magnetic spatial gradient measurements and swarm data (#IUGG-2973)

Chris Finlay (Denmark)

9:00 Derivation and use of core surface flows for forecasting secular variation (#IUGG-2100)

Ciaran Beggin (United Kingdom)

9:15 Decadal variability in core surface flows deduced from observatory monthly means (#IUGG-2886)

Kathy Whaler (United Kingdom)

9:30 Equatorial jets and torsional waves within the Earth’s core (#IUGG-1154)

Solicited Speaker: Nicolas Gillet (France)

IAPSO

P05 Southern Hemispheric Forcing of the MOC and Carbon Cycle in Past, Present, and Future Climate Change

P05b

Chairs: Shenfu Dong (USA), Gianluca Marino (Australia)

8:30 The role of topographically induced mixing in controlling the glacial carbon budget (#IUGG-0644)

Solicited Speaker: Agatha De Boer (Sweden)

8:45 Monitoring of the strength-stress-strain state for earthquake forecast (#IUGG-0261)

Igor Garagash (Russia)

9:00 Fault slip simulation using a spring-block model with a rate- and- state friction law (#IUGG-1734)

Gevorg Kocharyan (Russia)

9:15 Three dimensional earthquake sequences simulation incorporating the effects of the strain localization (#IUGG-1352)

Qingbiao Fan (China)

9:30 Synchronous Quantum Processes in Continuum with Shear and Rotation Strains (#IUGG-1915)

Roman Tossellere (Poland)

9:45 Reinvestigation of the coulomb failure model: Its modeling foundation and performance testing for the earthquake stress triggering (#IUGG-3334)

Jianju Wang (China)

IASPEI

S04 Earthquake Generation Process: Physics, Modeling and Monitoring for Forecast

S04a

Chair: Alexey Zavyalov (Russia)

8:30 Dynamic rupture in damage-breakage rheology model including rock dilation and isotropic radiation (#IUGG-0418)

Vladimir Lyakhovsky (Israel)

8:45 Monitoring of the strength-stress-strain state for earthquake forecast (#IUGG-0261)

Igor Garagash (Russia)

9:00 Fault slip simulation using a spring-block model with a rate- and- state friction law (#IUGG-1734)

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9:45 Reinvestigation of the coulomb failure model: Its modeling foundation and performance testing for the earthquake stress triggering (#IUGG-3334)

Jianju Wang (China)

IAVCEI

VS16 Mechanisms of Volcanic Ash Generation: from Lab to Field

VS16a

Chair: Emma Liu (United Kingdom)

8:30 Studying ash and ash deposits (#IUGG-2414)

Solicited Speaker: Raffaella Giani (Italy)

8:45 Bimodal stratigraphy of the Lake Owyhee volcanic field, Oregon: Implication for storage and eruption sites of Columbia River Basalt magmas (#IUGG-3848)

Martin Streck (USA)

9:00 Devolatilization of sedimentary rocks during LIP formation and the implications for past environmental crisis (#IUGG-4917)

Solicited Speaker: Dougal Jerrom (Norway)

9:30 Estimating the impact of the cryptic degassing of Large Igneous Provinces: A mid-Miocene case-study (#IUGG-5174)

Solicited Speaker: David Armstrong McKay (United Kingdom)

IUGG, PRAGUE, CZECH REPUBLIC, JUNE 22 – JULY 2, 2015
Sunday, June 28

IAGA
8:30-10:00, North Hall

A34 Division IV Reporter Reviews
A34a
Chair: Xing Li (UK)
8:30 Dynamics and thermodynamics of coronal structures revealed from total solar eclipse observations across two solar cycles (#IUGG-2071)
Shadia Habbal (USA)
9:00 Wave heating of the solar corona (#IUGG-2080)
Michael Hahn (USA)

IAPSO
8:30-10:00, Terrace I

P09 The North Atlantic and Climate Change
P09c
Chair: Serge Gulev (Russia)
8:30 How the North Atlantic Ocean affects upon the climate of Eurasia (#IUGG-0242)
Ilya Serykh (Russia)
8:45 A simple model of the response of the Atlantic to the North Atlantic Oscillation (#IUGG-1044)
Xiaoming Zhai (United Kingdom)
9:00 Seasonal cycle and annual destruction of Eighteen Degree Water (#IUGG-4473)
Sam Billheimer (USA)
9:15 Variability of North Atlantic ocean ventilation (#IUGG-5052)
Graeme MacGilchrist (United Kingdom)
9:30 Can the big drop of winter NAO index of 2000/2001 be related to a shift of the Labrador Current? (#IUGG-2781)
Zeliang Wang (Canada)
9:45 Impact of climate change on European weather extremes (#IUGG-3251)
Aurelie Duchez (United Kingdom)

IASPEI
8:30-10:00, Chamber Hall

S05 Source Rupture Kinematics and Dynamics: Observation and Inversion
S05a
8:30 A Mogi Doughnut preceding the Mw 8.1 2014 Northern Chile earthquake (#IUGG-5308)
Bernd Schurr (Germany)
8:45 Diversity of the Iquique’s aftershocks a clue about the complex rupture process of a Mw 8.1 earthquake (#IUGG-4091)
Sergio Ruiz (Chile)
9:00 Preparation phase and consequences of large foreshocks: the Aguilhas Return Current front (#IUGG-1944)
Tomoki Tazuka (Japan)
9:15 Immediate response of the ocean to MJO wind bursts and potentials for long-lasting feedbacks (#IUGG-5041)
Solicited Speaker: James Moum (USA)
9:30 Recent advances in the understanding of the Northern Indian Ocean variability (#IUGG-1978)
Jérôme Vialard (France)
9:45 The Surface Diurnal Warm Layer in the Indian Ocean during CINDY/DYNAMO (#IUGG-2218)
Karen Heywood (United Kingdom)

IASPEI
8:30-10:00, South Hall 1

S01b Seismological Observation and Interpretation: 3D Velocity Models for Seismic Observatory Applications
S01b
Chair: Stephen Myers (USA), Istvan Bondar (Hungary)
8:30 Algorithm for Calculating the Seismic Moment Tensor of Strong Earthquakes of Azerbaijan for the Period 2012-2014 YY (#IUGG-2512)
Gurban Yetirmishli (Azerbaijan)
8:45 Anomalious long-period later phase developed by seawater during the 2005 off-Tohoku outer-rise earthquake (#IUGG-1844)
Shinako Noguchi (Japan)
9:00 Consistent phase picking for high-resolution body wave tomography in Montenegro and vicinity (#IUGG-0651)
Ljiljana Vucic (Montenegro)
9:15 Automatic event detection in Southwest Iceland using seismic migration in a three dimensional velocity model (#IUGG-070)
Fredric Wagner (Sweden)
9:30 Earthquake ground truth location from ambient seismic noise and its implication for testing accuracy of 3D earth models (#IUGG-5271)
Sidao Ni (China)
Sunday, June 28

**IAG Reference Frames**

**G01b**

8:30 The IGS contribution to ITRF2014 (**IUGG-1403**)
  Paul Rebischung (France)

8:45 The ILRS contribution to the development of the ITRF2014 (**IUGG-4687**)
  Vincenzo Luceri (Italy)

9:00 Evaluation of ITRF2014 with ILRS data and products (**IUGG-4433**)
  Erricos C. Pavlis (USA)

9:15 Impact of station-dependent, satellite-dependent SLR observations on global geodetic parameters (**IUGG-2690**)
  Toshimichi Otsubo (Japan)

9:30 Geocenter motion from space geodetic observations (**IUGG-4605**)
  Minkang Cheng (USA)

9:45 DTRF2014: The 2014 ITRS Realization of DGFI (**IUGG-2188**)
  Mathis Blossfeld (Germany)

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**IAGA Auroral Processes (Div. III)**

**A25a**

8:30 Generation of Alfvénic double layers and charge holes and a unified theory of formation of quasi-static and Alfvénic discrete auroras (**IUGG-4830**)
  Yan Song (USA)

8:45 Altitude dependent polarization electric field in the ionospheric E-region (**IUGG-2516**)
  Heikki Vanhamaki (Finland)

9:00 Cluster in-situ observations from the auroral acceleration region (**IUGG-2536**)
  Solicited Speaker: Tomas Karlsson (Sweden)

9:30 Auroral electron acceleration at inertial scales in strongly inhomogeneous plasma (**IUGG-4552**)
  Robert Rankin (Canada)

9:45 Ion temperature effects on electron energization in broadband aurora (**IUGG-5208**)
  Peter Damiiano (USA)

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**Union Symposia**

**U05 New Discoveries in Deep Interior of the Earth and Planets**

**U05b**

10:30 What can we learn about mantle dynamics using satellite gravity? (**IUGG-1843**)
  Solicited Speaker: Isabelle Panet (France)

11:00 East-west mantle geochemical hemispheres and its implications for a coupled supercontinent-mantle-core dynamics (**IUGG-2295**)
  Solicited Speaker: Hikaru Iwamori (Japan)

11:30 ULVZ locations can provide insight into their cause (**IUGG-1629**)
  Solicited Speaker: Allen McNamara (USA)

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**Joint Inter-Association Symposia**

**JP05 Tsunamis (IAPSO, IASPEI)**

**JP05b**

10:30 Tsunami magnitude as measure of potential impact (**IUGG-4515**)
  Vasily Titov (USA)

10:45 A new algorithm for real-time near-field tsunami inundation forecast using a dense offshore tsunami observation network (**IUGG-2320**)
  Naotaka YAMAMOTO (Japan)

11:00 Real-time tsunami inundation forecasting and damage estimation method by fusion of real-time crustal deformation monitoring and high-performance computing (**IUGG-4417**)
  Shinichi Kashimura (Japan)

11:15 T3, a real-time tsunami forecasting tool for Australia (**IUGG-2870**)
  Stewart Allen (Australia)

11:30 Development of tsunami Green’s function database based on linear dispersive-wave theory for real-time forecasting of near-field tsunami (**IUGG-4922**)
  Hiroyuki Tsushima (Japan)

11:45 Performance evaluation of the Indonesian tsunami early warning during a decade after the 2004 Indian Ocean Tsunami (**IUGG-0428**)
  Abdul Muhari (Indonesia)
Sunday, June 28

Joint Inter-Association Symposia

JS05 Glacier, Ice Sheet and Snow Seismology (IASPEI, IACS)

JS05b  
Chair: Alec van Herwijnen (Switzerland)  
10:30 Local glacial seismicity study using automatic processing of single three component station data (#IUGG-1824)  
Andrey Fedorov (Russia)  
10:45 Continuously imaging sub-ice shelf geomorphology with the vibroseismic method (#IUGG-1700)  
Olaf Eisen (Germany)  
11:00 Seismological contribution to the study of snow avalanches (#IUGG-1921)  
Solicited Speaker: Emma Surinach (Spain)  
11:30 Inferring avalanche run-out and flow regimes from seismic measurements (#IUGG-2029)  
Cristina Perez-Guillen (Spain)  
11:45 Towards the automatic detection of avalanches in seismic data using Hidden Markov Models (#IUGG-3863)  
Matthias Heck (Switzerland)

Joint Inter-Association Symposia

JA06 Data on the Edge: Preservation and Utilization of Historical Data in the Geosciences (IAGA, IASPEI, IAMAS, IAG, IAHS, IACS)

JA06b  
Chair: Dieter Blitza (USA)  
10:30 Documentary evidence in historical climatology and hydrology in Central Europe (#IUGG-2068)  
Solicited Speaker: Rudolf Brázda (Czech Republic)  
11:00 Out of archives: using historical sources of data in the atmospheric sciences (#IUGG-1198)  
Solicited Speaker: Kristine Harper (USA)  
11:30 Unlocking the archive(s) of historical glacier fluctuation data (#IUGG-0609)  
Solicited Speaker: Michael Zemp (Switzerland)

IAGA

A12 Coupling Processes in the Atmosphere-Ionosphere System (Div. II-C/ICMA/SCOSTEP)

A12f  
Chair: Christina Arras (Germany)  
10:30 The dynamics of the neutral thermosphere project: Coordinated observations of dynamical signatures in the Arctic polar mesosphere and thermosphere (#IUGG-5630)  
William Ward (Canada)  
10:45 Rocket and ground-based observations of medium-scale traveling ionospheric disturbances (MSTID) over Japan (#IUGG-4982)  
Mamoru Yamamoto (Japan)  
11:00 An overview of the Limb-imaging Ionospheric and Thermospheric Extreme-ultraviolet Spectrograph (LITES) and its science goals (#IUGG-4811)  
Supriya Chakrabarti (USA)  
11:15 Simultaneous observations of Ca+ density profiles in the E region of the ionosphere and MSTIDs in the F region (#IUGG-4782)  
Mitsumu Ejiri (Japan)  
11:30 Space-borne imaging observation of the mesosphere, the thermosphere and the ionosphere by ISS-IMAP mission (#IUGG-4884)  
Akinori Saito (Japan)  
11:45 Recent observations and studies of the middle and upper atmosphere at Syowa Station (39.6E, 69S) (#IUGG-5658)  
Takujii Nakamura (Japan)

IAG

G02 Static Gravity Field Models and Observations

G02a  
Chair: Rene Forsberg (Denmark)  
10:30 Elementary potentials and Galerkin’s matrix for an ellipsoidal domain in the recovery of the gravity field (#IUGG-5236)  
Petr Holota (Czech Republic)  
10:45 A numerical study of up- and downward continuation effects in the solution of the Geodetic Boundary Value Problem (#IUGG-2484)  
Bernhard Heck (Germany)  
11:00 Second geodetic boundary-value problem with the geocentric reference ellipsoidal surface as the boundary: A spherical approximation solution (#IUGG-1260)  
Ziqing Wei (China)  
11:15 Uncorrelated a priori noise in gravity data: A study by Restricted Maximum Likelihood (REML) and cross-validation (#IUGG-3283)  
Wojciech Jarmolowski (Poland)  
11:30 Numerical solution of the geodetic boundary value problem using the finite element method (#IUGG-5540)  
David Mráz (Czech Republic)  
11:45 The upwind scheme of the oblique derivative boundary condition in GBVP (#IUGG-4852)  
Marek Macák (Slovak Republic)

IACS

C17 Challenges in Cryospheric Sciences: Past, Present and Future

C17a  
Chair: Geiris Fugman (Norway)  
10:30 Challenges in the study of cryospheric changes and their impacts (#IUGG-0216)  
Solicited Speaker: Cunde Xiao (China)  
11:00 Sea ice studies from the bi-polar perspectives and mid-high latitude connections (#IUGG-5237)  
Hiroyuki Enomoto (Japan)  
11:15 Ice sheet responses to external forcing: Are we observing weather or climate? (#IUGG-4144)  
Jonathan Bamber (United Kingdom)  
11:30 The present and future challenges of modeling ice sheets in a changing climate (#IUGG-5782)  
Solicited Speaker: Mathieu Morlighem (USA)
IAMAS 10:30-12:00, Small Theatre

M14 Middle Atmosphere Science

M14i

Chair: Paul Konopka (Germany)

10:30 Evolution of stratospheric temperatures during 1979-2014 from combined SSU and SABER data (#IUGG-2607)
William Randel (USA)

10:45 Quantifying the effects of mixing and residual circulation on trends of stratospheric mean age of air (#IUGG-3114)
Felix Ploeger (Germany)

11:00 Is the Brewer-Dobson circulation increasing, or moving upward? (#IUGG-2134)
Sophie Oberländer-Hayn (Germany)

11:15 Long-term Evolution of 3D Residual Circulation in ERA-Interim (#IUGG-1807)
Deniz Demirhan Bari (Turkey)

11:30 Comparison of the Quasi-biennial Oscillation amplitudes among several reanalysis data (#IUGG-2817)
Yoshio Kawatani (Japan)

11:45 Latent heat contribution to dynamics of the middle atmosphere particularly to the forcing of stationary planetary waves (#IUGG-0754)
Tatiana Ernakova (Russia)

IAHS 10:30-12:00, Club A

HW17 Hydrological Forecasting and Predictive Uncertainty: Advances and Challenges of Transferring Science into Operational Practice

HW17b

Chair: Fredrik Wetterhall (United Kingdom)

10:30 User-defined development priorities for global scale flood forecasting (#IUGG-5305)
Solicited Speaker: Elisabeth Stephens (United Kingdom)

10:45 Testing a real-time operational procedure for rapid risk assessment in Europe (#IUGG-2018)
Milan Kalas (Italy)

11:00 Assessing the use of reforecast climatology in global flood forecasting (#IUGG-2042)
Feyera Hirpa (Italy)

11:15 Improved use of weather and climate information in managing wine, fish, and water in California’s Russian River Basin (#IUGG-3481)
Roger Pulwarty (USA)

11:30 Verification of ensemble inflow forecasts for decision support on the sediments flushing of aimores hydropower dam (#IUGG-0214)
Fernando Mainardi Fan (Brazil)

IAGA 10:30-12:00, Club B

A36 Planetary Magnetic Fields and Geomagnetic Secular Variation (Div. V/Div. I)

A36b

Chair: Mathieu Dumberry (Canada)

10:30 An integrated model explaining Jupiter’s internal dynamics (#IUGG-3439)
Solicited Speaker: Thomas Gastine (Germany)

11:00 Using a two-dimensional approach to model the short timescale zonal flow in Earth’s core (#IUGG-3069)
Colin More (Canada)

11:15 Hidden localised jets inside the Earth’s core (#IUGG-2319)
Phil Livermore (United Kingdom)

11:30 Geomagnetic hindcasting and convective spin-ups in the Earth’s core (#IUGG-2241)
Julien Aubert (France)

11:45 About tau-ell diagrams for planetary cores and MHD-rotating turbulence (#IUGG-3207)
Henri-Claude Nataf (France)

IAPSO 10:30-12:00, Club C

P05 Southern Hemispheric Forcing of the MOC and Carbon Cycle in Past, Present, and Future Climate Change

P05c

Chairs: Gianluca Marino (Australia), Marylaine Krug (South Africa, Republic of)

10:30 Contribution of enhanced antarctic bottom water formation to antarctic warm events and millennial-scale atmospheric CO2 increase (#IUGG-1325)
Solicited Speaker: Laurie Menviel (Australia)

11:00 Role of Southern Ocean stratification in glacial atmospheric CO2 reduction (#IUGG-5681)
Hidetaka Kobayashi (Japan)

11:15 Using reconstructions of surface ocean conditions to test mechanisms of ocean carbon uptake during glacial inception (#IUGG-2292)
Karen Kohfeld (Canada)

11:30 A thermal threshold of the Atlantic meridional overturning circulation that triggers glacial abrupt climate changes (#IUGG-5666)
Akira Oka (Japan)
Sunday, June 28

IASPEI 10:30-12:00, Club D

S04 Earthquake Generation Process: Physics, Modeling and Monitoring for Forecast

S04b
Chair: Eleftheria Papadimitriou (Greece)

10:30 The impact of geology on the nucleation of 2009 L’Aquila earthquake via 3D numerical optimization model of ground deformation pattern
Raffaele Castaldo (Italy)

10:45 Coseismic stress evolution along the Mexican subduction zone: Comparison among inverted and theoretical slip distributions from recent large subduction earthquakes (#IUGG-4203)
Miguel A Santoyo (Mexico)

11:00 Analysis of two parameters rate-and-state equation for different critical stresses by Grassberger-Proccacia method (#IUGG-4439)
Sergey Turuntaev (Russia)

11:15 2D fully dynamic SEM earthquake cycle simulation for in-plane shear fault (#IUGG-4807)
Kazuro Hirahara (Japan)

11:30 Estimation of Interseismic Coupling at subduction zones using a Slab Model (#IUGG-5149)
Klaus Bataille (Chile)

11:45 Fracturing of pre-stressed water saturated sandstone samples by pore-pressure changes (#IUGG-1577)
Sibylle I. Mayr (Germany)

IAVCEI 10:30-12:00, Club E

VS16 Mechanisms of Volcanic Ash Generation: from Lab to Field

VS16b
Chair: Katharine Cashman (United Kingdom)

10:30 Why, when and how does magma fragment? Insights from experimental volcanology (#IUGG-5396)
Solicited Speaker: Bettina Sheu (Germany)

11:00 Reconstructing total grainsize distribution of explosive volcanic eruptions (#IUGG-5013)
Laura Pioli (Italy)

11:15 What can pyroclastic deposits really tell us? (#IUGG-4430)
Ulrich Kueppers (Germany)

11:30 The contrasting grain size distributions of the Hekla 3 and Hekla 4 eruptions, Iceland (#IUGG-2215)
John Stevenson (United Kingdom)

11:45 The precursors of Strombolian explosions and how they betray the shallow conduit characteristics (#IUGG-0382)
Damien Gaudin (France)

IAVCEI 10:30-12:00, Club H

VS03 LIPs: vents and volatiles

VS03b
Chair: Steve Self (United Kingdom)

10:30 High precision 40Ar/39Ar dating of the deccan traps and implications for volatile release at the cretaceous-paleogene boundary (#IUGG-4723)
Paul R. Renne (USA)

10:45 The effects of large igneous provinces on the global carbon and sulphur cycles: understanding the sources and the sinks (#IUGG-5110)
Dougal Jerram (United Kingdom)

11:00 Environmental effects of sulfur emitted by large-scale flood basalt eruptions (#IUGG-0484)
Solicited Speaker: Anja Schmidt (United Kingdom)

11:30 Quantifying sulfur emissions from Large Igneous Provinces: a new method based on clinopyroxene/melt sulfur partition coefficient (#IUGG-0983)
Solicited Speaker: Sara Callegaro (Italy)

IAGA 10:30-12:00, North Hall

A34 Division IV Reporter Reviews

A34b
Chair: Xing Li (UK)

10:30 From the solar wind to the local interstellar medium (#IUGG-3035)
Iver Cairns (Australia)

11:00 Advances in solar wind investigations (#IUGG-4192)
Zdenek Nemeccek (Czech Republic)

IAPSO 10:30-12:00, Terrace I

P09 The North Atlantic and Climate Change

P09d
Chair: Susan Lozier (USA)

10:30 Greenland Ice Sheet changes and North Atlantic variability: What are the connections? (#IUGG-4619)
Solicited Speaker: Fiammetta Straneo (USA)

11:00 Response of the subpolar North Atlantic to increasing Greenland Ice Sheet melting in a very high resolution ocean model (#IUGG-2957)
Erik Behrens (New Zealand)

11:15 Changes in Fresh Water Content in the Arctic Basin and their relationship with increased water infl ow from the North Atlantic (#IUGG-0550)
Andrey Balakin (Russia)

11:30 The arctic-subarctic sea ice system has entered the seasonal regime (#IUGG-3710)
Thomas Haine (USA)

11:45 Ocean circulation and marine terminating glaciers of the Canadian arctic archipelago and the Greenland ice sheet (#IUGG-5509)
Paul Myers (Canada)
Sunday, June 28

IAPSO 10:30-12:00, Terrace II

P12 IIOE to IIOE-2 - Five Decades of Indian Ocean Oceanography: Challenges in Physics and Biogeochemistry of Indian Ocean

P12b

Chair: Yukio Masumoto (Japan)

10:30 Volume transports of the Wyrtki Jets (IUGG-1262)

Solicited Speaker: Michael McPhaden (USA)

11:00 The interesting evolution of Indian Ocean climate research on the backdrop of IIOE-2 (IUGG-2843)

Swadhin Behera (Japan)

11:15 Freshening of the southeast Indian ocean during the argo period: Observations, causes, and impact on regional sea level change (IUGG-3495)

Tony Lee (USA)

11:30 Circulation of the south Indian Ocean (IUGG-4565)

Will de Ruijter (Netherlands)

11:45 Surface circulation and upwelling around Sri Lanka and formation of the Sri Lanka dome (IUGG-3094)

Charitha Pattiaratchi (Australia)

IASPEI 10:30-12:00, Chamber Hall

S05 Source Rupture Kinematics and Dynamics: Observation and Inversion

S05b

10:30 Unprecedented resolution for onshore GPS slip inversion of the 2009 Tohoku-Oki Earthquake (IUGG-2767)

Alon Ziv (Israel)

10:45 An effect of source rupture kinematics on ground motion prediction equations (IUGG-4831)

Kazuki Koketsu (Japan)

11:00 Seismic source spectra, stress drop and radiated energy, derived from cohesive-zone models of symmetrical and asymmetrical circular and elliptical ruptures (IUGG-0558)

Yoshihiro Kaneko (New Zealand)

11:15 Dynamic rupture simulation of roughness fault by curved grid finite-difference method (IUGG-2969)

Zhenguo Zhang (China)

11:30 Ground motions can help to understand the style of the supershear transition of dynamic ruptures (IUGG-0353)

Chao Liu (China)

IASPEI 10:30-12:00, South Hall 1

S01b Seismological Observation and Interpretation: 3D Velocity Models for Seismic Observatory Applications

S01bb

Chairs: Istvan Bondar (Hungary), Stephen Myers (USA)

10:30 A data-comprehensive seismic Earth model across the scales (IUGG-1693)

Michael Afanasiev (Switzerland)

10:45 Global 3-D tomographic imaging of the crust and mantle for enhanced seismic monitoring (IUGG-4618)

Nathan Simmons (USA)

11:00 3D Model of Iran from seismic and gravity observations (IUGG-2429)

Monica Maceira (USA)

11:15 Alternatives for computing seismic body-wave travel times using a 3-dimensional model (IUGG-2369)

Stephen Myers (USA)

IAG 10:30-12:00, South Hall 2

G01 Reference Frames

G01c


Solicited Speaker: Zuheir Altamimi (France)

11:00 100th anniversary of Einstein’s theory of general relativity - its impact on reference frames and geodetic tests of relativity (IUGG-4730)

Jürgen Müller (Germany)

11:15 The ITRF kinematic datum: rigid plates vs. global deformation model (IUGG-5415)

Hermann Drewes (Germany)

11:30 Initial realization of epoch Terrestrial reference frame (IUGG-0227)

Xiaoya Wang (China)

11:45 Global cooperation on Geodesy – Challenges in terms of organization and infrastructure (IUGG-3441)

Per Erik Opseth (Norway)

IAGA 10:30-12:00, South Hall 3

A25 Auroral Processes (Div. III)

A25b

Chair: Tomas Karlsson (Sweden)

10:30 Auroral fragmentation into patches (IUGG-3772)

Solicited Speaker: Kazuo Shikakawa (Japan)

11:00 Stormer’s auroral discoveries from a Space Age Perspective (IUGG-1158)

Alv Egeland (Norway)

11:15 Topological features of high latitude magnetosphere and formation of auroral arcs (IUGG-0973)

Elizaveta Antonova (Russia)

11:30 Multi-point observations of electric fields and field aligned currents adjacent to auroral arcs (IUGG-4469)

William Archer (Canada)

11:45 Measurements by the enhanced polar outflow probe of waves and particles in the auroral ionosphere (IUGG-4827)

Gordon James (Canada)
Sunday, June 28

Union Symposia 13:30-15:00, Congress Hall

**U05 New Discoveries in Deep Interior of the Earth and Planets**

**Chair:** Dominique Jault (France)

13:30 The geomagnetic field and life: New observations and insights (#IUGG-2675)

*Solicited Speaker:* Yongxin Pan (China)

14:00 Dynamos with no viscosity, an alternative to conventional dynamos (#IUGG-2972)

*Solicited Speaker:* Andrew Jackson (Switzerland)

14:30 Imaging Earth’s dynamo field from space (#IUGG-3820)

*Solicited Speaker:* Gauthier Hulot (France)

Joint Inter-Association Symposia 13:30-15:00, Forum Hall

**JP05 Tsunamis (IAPSO, IASPEI)**

**Chair:** Kenji Satake (Japan)

13:30 A global tsunami model (GTM) for coordinated tsunami hazard and risk assessment (#IUGG-4180)

*Finn Lovholt* (Norway)

13:45 Probabilistic tsunami design maps for US Pacific coastlines (#IUGG-5743)

*Yong Wei* (USA)

14:00 Tsunamis in straits: observations and modelling (#IUGG-0896)

*Alexander Rabinovich* (Russia)

14:15 Estimation of tsunami risk (including tides and storm surges) for the coasts of the Sea of Okhotsk (#IUGG-2616)

*Georgy Shevchenko* (Russia)

14:30 Estimation of coastal tsunami heights from 60 submarine faults in the Sea of Japan (#IUGG-2078)

*Aditya Gusman* (Japan)

14:45 Update of the U.S. states and territories national tsunami hazard assessment: Historical record and sources for waves (#IUGG-4520)

*Paula Dunbar* (USA)

Joint Inter-Association Symposia 13:30-15:00, Meeting Hall I

**JV03 Geophysical Imaging and Monitoring of Volcanoes (IAVCEI, IASPEI, IAGA)**

**Chairs:** Jacques Zlotnicki (France), Yoichi Sasai (Japan)

13:30 Long-term volcano-magnetic effects associated with phreatic eruptions (#IUGG-3407)

*Solicited Speaker:* Takeshi Hashimoto (Japan)

14:00 Eruptive activity at Etna inferred through borehole strainmeters (#IUGG-4265)

*Gilda Currenti* (Italy)

14:15 DinSAR deformation analysis of flank collapsing volcanoes: examples from Etna, Piton de La Fournaise and Fogo (#IUGG-2955)

*Solicited Speaker:* Giuseppe Solaro (Italy)

14:30 Filling/emptying of a shallow magma storage feeding the 26 October 2013 Etna paroxysm: Constraints from gravity and gps data (#IUGG-3028)

*Filippo Greco* (Italy)

14:45 Magnetic Fingerprint of Hydrothermal System at Vulcano Island (Italy) (#IUGG-2140)

*Rosalba Napoli* (Italy)

Joint Inter-Association Symposia 13:30-15:00, Panorama Hall

**JA06 Data on the Edge: Preservation and Utilization of Historical Data in the Geosciences (IAGA, IASPEI, IAMAS, IAG, IAHS, IACS)**

**Chair:** Roger M.W. Musson (United Kingdom)

13:30 History of monitoring Earth orientation (#IUGG-3628)

*Solicited Speaker:* Jan Vondrák (Czech Republic)

14:00 The future for global sea level data archaeology – A GLOSS perspective (#IUGG-2183)

*Elizabeth Bradshaw* (United Kingdom)

14:15 Value of original pictorial and cartographic materials for historical earthquakes’ studies (#IUGG-1679)

*Solicited Speaker:* Mikhail Nislevich (Russia)

14:30 Earth Science Database Project – ESDB (#IUGG-0600)

*Josep Batlle* (Spain)
M01 Clouds, Precipitation and Aerosols and their Influence on Climate at High Latitudes, including the Role of the Southern Ocean and Sea Ice

M01c

Chairs: Amelie Kirchgassner (United Kingdom), David Mitchell (USA)

13:30 Modeling of sea salt production from blowing snow on sea ice and comparison with data collected in the Weddell Sea (#IUGG-1099)
Xin Yang (United Kingdom)

13:45 Effects of arctic haze on surface cloud radiative forcing (#IUGG-4215)
Chuanfeng Zhao (China)

14:00 A marine biogenic source of atmospherically relevant ice nucleating particles (#IUGG-4485)
Theodore Wilson (United Kingdom)

14:15 Recent measurements of ice nucleating particles over oceans and from sea spray (#IUGG-4773)
Paul DeMott (USA)

14:30 Validation of GCOM-C1 satellite aerosol optical properties retrievals from sky radiometer measurements at High Latitudes (#IUGG-2763)
Kazuma Aoki (Japan)

14:45 Aerosol optical depth over Northern high latitudes from multi-year active and passive satellite observations (#IUGG-1277)
Alexander Trishchenko (Canada)

IAG 13:30-15:00, Meeting Hall V

G02 Static Gravity Field Models and Observations

G02b

Chair: Yan Ming Wang (USA)

13:30 Global static gravity field model obtained from combined processing of the GOCE and terrestrial gravity data using point masses modelling (#IUGG-4768)
Robert Cunderlik (Slovak Republic)

13:45 The spherical wavelet analysis of regional gravity field data (#IUGG-2818)
Hanjiang Wen (China)

14:00 Estimation of degree variances for covariance modeling by Monte Carlo simulated annealing (#IUGG-3911)
Lorenzo Rossi (Italy)

14:15 Impact of coloured noise in satellite altimetry data on a regional quasi geoid using spherical radial base functions (#IUGG-1111)
Hassan Hashemi Farahani (Netherlands)

14:30 Accurate Approximation of the Anomalous Vertical Gravity Gradient using point mass method (#IUGG-1227)
Dongming Zhao (China)

IACS 13:30-15:00, Small Hall

C17 Challenges in Cryospheric Sciences: Past, Present and Future

C17b

Chair: Andrew Mackintosh (New Zealand)

13:30 Global glacier mass balance modeling – how can we do better? (#IUGG-3730)
Solicited Speaker: Regine Hock (USA)

14:00 Mapping glaciers from space: Historical development and new challenges (#IUGG-5617)
Frank Paul (Switzerland)

14:15 News from the IACS Working group on Glacier ice thickness (#IUGG-0706)
Daniel Farinotti (Switzerland)

14:30 IACS working group MicroSnow - From quantitative stratigraphy to microstructure-based modelling of snow: Motivation, progress, future (#IUGG-4849)
Henning Lowe (Switzerland)

14:45 General discussion (#)
Charles Fierz (Switzerland)

IAMAS 13:30-15:00, Small Theatre

M14 Middle Atmosphere Science

M14j

Chair: Shigeo Yoden (Japan)

13:30 First results from comparisons of the ERA-Interim and MERRA reanalysis with long duration balloon observations from Google X Project Loon (#IUGG-4001)
Adrian McDonald (New Zealand)

13:45 High-resolution turbulence observations in the stratosphere with LITOS and comparison to radiosonde analysis (#IUGG-2383)
Andreas Schneider (Germany)

14:00 Investigation of weak and strong downward wave coupling in the northern hemisphere (#IUGG-3936)
Solicited Speaker: Katja Matthes (Germany)

14:15 The importance of the Stratosphere for North Atlantic climate variability (#IUGG-0743)
Sabine Haase (Germany)

14:30 Mechanisms of Northern Hemispheric response to future climate change (#IUGG-4870)
Nour-Eddine Omrani (Norway)

14:45 Dissection of the effect on the northern winter stratosphere from the ENSO-related SST anomalies over different tropical ocean basins (#IUGG-0579)
Jian Rao (China)

26th IUGG, PRAGUE, CZECH REPUBLIC, JUNE 22 – JULY 2, 2015
Sunday, June 28

**IAHS**

**HW17 Hydrological Forecasting and Predictive Uncertainty: Advances and Challenges of Transferring Science into Operational Practice**

**HW17c**  
Chair: Maria-Helena Ramos (France)  

13:30   A new post-processing approach to generate ensemble precipitation forecast for hydrolastic applications (IUGG-5070)  
Hamid Moradkhani (USA)  

13:45   Improved post-processing of operational precipitation forecasts in hydrologic catchments based on NCEP GEFS reforecast data (IUGG-1964)  
Huiing Yuan (China)  

14:00   Preserving temporal-spatial structure in ensemble precipitation predictions based on a modified empirical copula method (IUGG-5709)  
Yiming Hu (China)  

14:15   A new post-processing approach to generate ensemble precipitation forecast for hydrologic applications (IUGG-4062)  
Marie Courbariaux (France)  

**IAGA**

**A11 Electrodynamics and Energetics of the Middle Atmosphere Exploration with Ground and Space Experiments (Div. II-A)**

**A11a**  
Chair: Mitsuteru Sato (Japan)  

13:30   An overview of the electrodynamics of the middle atmosphere in the context of studies of atmospheric electricity, weather and climate (IUGG-1036)  

13:45   Influence of conductivity perturbations on ionospheric potential using time dependent global electric circuit model (IUGG-3262)  
Jaroslav Jansky (Czech Republic)  

14:00   Statistical study of lightning flash properties and thunderstorm charge structures inferred from the Lightning Mapping Array (IUGG-5327)  
Oscar van der Velde (Netherlands)  

14:15   Lightning related intracloud processes recorded by a prototype of the broad-band analyzer developed for the TARANIS satellite (IUGG-1783)  
Ivana Kolmasova (Czech Republic)  

14:30   Lightning leader altitude progression and source altitude in terrestrial gamma ray flashes (IUGG-3178)  
Steven Cummer (USA)  

14:45   Simultaneous observations of optical lightning and terrestrial gamma flash from space and radio signals on ground (IUGG-2030)  
Solicited Speaker: Nikolai Ostgaard (Norway)  

**IAPSO**

**P05 Southern Hemispheric Forcing of the MOC and Carbon Cycle in Past, Present, and Future Climate Change**

**P05d**  
Chairs: Karen Kohfeld (Canada), Shenfu Dong (USA)  

13:30   Western-controlled salinization of the South Atlantic during glacial terminations (IUGG-1129)  
Solicited Speaker: Paolo Scussolini (Netherlands)  

14:00   Southern Hemisphere tropical-subtropical oceanic teleconnection: Modulation of Agulhas leakage SST variability by tropical South Indian Ocean variability associated with ENSO (IUGG-4656)  
Dian Putrasahan (USA)  

14:15   A twenty-year time series of Agulhas Current transport from subsurface moorings and satellite altimeter data (IUGG-3212)  
Lisa Beal (USA)  

14:30   Brazil current transport variability at 34.5°S (IUGG-4522)  
Maria Paz Chidichimo (Argentina)  

14:45   Dynamic and impact of large Agulhas Current meanders on the shelf regions of the Southern Agulhas (IUGG-1484)  
Marjolaine Krug (South Africa, Republic of)  

**IASPEI**

**S04 Earthquake Generation Process: Physics, Modeling and Monitoring for Forecast**

**S04c**  
Chair: Tomas Lokajicek (Czech Republic)  

13:30   Generation mechanism of slow earthquakes: effects of dehydration reaction coupled with slip-induced dilatancy (IUGG-1100)  
Teruo Yamashita (Japan)  

13:45   Revealing the space region of a fracture nucleation site prior to its formation (IUGG-0715)  
Ekaterina Damaskinskaya (Russia)  

14:00   The Pattern of Acoustic Emission under Fluid Initiation of Failure from Laboratory Experiment (IUGG-2367)  
Vladimir Smirnov (Russia)  

14:15   Voids strengthen rock friction at subseismic slip velocity: A microscopic view of dilatancy effects (IUGG-2746)  
Eiichi Fukuyama (Japan)  

14:30   Seasonal modulation of seismicity: The competing/kollaborative effect of snow and ice load (IUGG-5366)  
Antonella Peresan (Italy)  

14:45   Cross-disciplinary observation of pre-earthquake signals and their validation. The LAIC approach (IUGG-2668)  
Dimitar Ouzounov (USA)
Sunday, June 28

**IAVCEI** 13:30-15:00, Club E

**VS21 Volcanic Ash Aggregation**

**Chair:** Costanza Bonadonna (Switzerland), Alexa Van Eaton (Canada), Adam Durant (USA), Corrado Cimarelli (Germany)

13:30 Volcanic lightning: In nature and in the lab (#IUGG-4754)
Corrado Cimarelli (Germany)

13:45 Volcanic lightning: Updated global observations and constraints on source mechanisms (#IUGG-3880)
Stephen McNutt (USA)

14:00 Gravitational instabilities and their role in enhancing fine-ash deposition (#IUGG-2195)
Solicited Speaker: Irene Manzella (Switzerland)

14:30 Volcanic ash aggregation in the lab - can we mimic natural processes? (#IUGG-2745)
Sebastian Müller (Germany)

14:45 Subsurface aggregation and sintering of rhyolitic ash within the 2011-12 Cordon Caulle vent drove prolonged ash emission from self-sealing nozzles? (#IUGG-3908)
Hugh Tuffen (United Kingdom)

**IAVCEI** 13:30-15:00, Club H

**VS06 Benchmarking Pyroclastic Density Current Models: Code Inter-Comparison and Field Validation**

**Chair:** Sylvain Charbonnier (USA)

13:30 A validation framework for pyroclastic density current models (#IUGG-3467)
Tomaso Esposti-Ongaro (Italy)

Solicited Speaker: Gert Lube (New Zealand)

14:00 Dilute experiments for benchmarking pyroclastic density current models (#IUGG-3779)
Solicited Speaker: Michael Manga (USA)

14:15 Modeling the dynamics and sedimentation of dilute pyroclastic density currents on Earth and Mars (#IUGG-3903)
Amanda Clarke (USA)

14:30 Investigating stratified turbulence and non-equilibrium dynamics of pyroclastic density current by a new fast-Eulerian model (#IUGG-4757)
Matteo Cerminara (Italy)

14:45 Constraining the role of topography, slope and confined-vs-unconfined flow on pyroclastic density current transport and depositional processes: Mt. St. Helens (#IUGG-0960)
Brittany Brand (USA)

**IAGA** 13:30-15:00, North Hall

**A42 Div. V Reporter Reviews (Div. V)**

**Chair:** Pieter Kotze (South Africa), Alan Thomson (United Kingdom)

13:30 Geomagnetic observatories, variometers, and repeat surveys (#IUGG-4029)
Solicited Speaker: Bill Worthington (USA)

14:00 Review of planetary magnetic fields and secular variation session A36 (#IUGG-2954)
Solicited Speaker: Chris Finlay (Denmark)

14:30 Magnetic anomalies - a review (#IUGG-4789)
Solicited Speaker: Jerome Dyment (France)

**IAPSO** 13:30-15:00, Terrace I

**P09 The North Atlantic and Climate Change**

**Chair:** Bablu Sinha (United Kingdom)

13:30 Overturning in the North Atlantic: The Lagrangian view (#IUGG-5054)
Solicited Speaker: Susan Lozier (USA)

14:00 Structural coherence and variation of North Atlantic sea level over the last two decades (#IUGG-2644)
Chris Wilson (United Kingdom)

14:15 Insights from Sustained Monitoring of the Atlantic circulation (#IUGG-2137)
Harry Bryden (United Kingdom)

14:30 Is an abrupt cooling over the North Atlantic a real eventuality or a sporadic model propensity? (#IUGG-4889)
Giovanni Spubin (France)

14:45 Intradecadal modulation of ENSO by the Atlantic Multidecadal Variability (#IUGG-3326)
Yohan Ruprich-Robert (USA)
IAPSO 13:30-15:00, Terrace II

P12 IOE to IOE-2 - Five Decades of Indian Ocean Oceanography: Challenges in Physics and Biogeochemistry of Indian Ocean

P12c
Chair: Raleigh Hood (USA)

13:30 Biogeochemistry of the Leeuwin Current and its Mesoscale Eddies in the South Eastern Indian Ocean (#IUGG-5340)
Solicited Speaker: Anya Waite (Germany)

14:00 Interannual chlorophyll variations in the Northern Arabian Sea (#IUGG-1143)
Marina Levy (France)

14:15 The dynamics of Ganga-Brahmaputra river plume: Seasonal variations (#IUGG-4005)
Shrikant Paragankar (India)

14:30 GEOTRACES highlights in the Indian Ocean and plans for the future (#IUGG-5523)
Ludmila Demina (Russia)

14:45 Climate Change and Bio geographical distribution of living resources in seas surrounding Lakshadweep Islands, India (#IUGG-0582)
Janardhanan Sundaresan Pillai (India)

IASPEI 13:30-15:00, Chamber Hall

S05 Source Rupture Kinematics and Dynamics: Observation and Inversion

S05c

13:30 Rupture Phase Diagram for a planar fault in 3D full space and half space (#IUGG-5446)
Xiaofei Chen (China)

13:45 Laboratory clues on earthquake friction and fracture energy (#IUGG-5031)
Solicited Speaker: Stefan Nielsen (United Kingdom)

14:15 Evolution of rupture style with total fault displacement: Insight from meter-scale direct shear experiments (#IUGG-3020)
Shiqing Xu (Japan)

14:30 Premonitory activity, rupture speed, radiation pattern and energy budget during stick-slip experiment in Westerly granite (#IUGG-3650)
François Passelègue (France)

14:45 The nucleation and dynamic rupture of laboratory earthquakes (#IUGG-5719)
Soumaya Latour (France)

IASPEI 13:30-15:00, South Hall 1

S01/S01f Seismological Observation and Interpretation: Open session, Seismic Time series Analysis

S01a

13:30 The European-Mediterranean RCMT Catalog: 18 years of data (#IUGG-3685)
Silvia Pondrelli (Italy)

13:45 A scheme to set preferred magnitudes in the ISC Bulletin (#IUGG-1112)
Domenico Di Giacomo (United Kingdom)

14:00 International Seismological Centre (ISC): Mission and products (#IUGG-3932)
Solicited Speaker: Dmitry Storchak (United Kingdom)

14:30 Costa Rica seismic catalogue from April 1984 until October 2014 (#IUGG-1851)
Ronnie Quintero (Costa Rica)

IAG 13:30-15:00, South Hall 2

G01 Reference Frames

G01d

13:30 Impact of in-situ meteorological data on station coordinates and terrestrial reference frame determined by very long baseline interferometry (#IUGG-2468)
Robert Heinikelmann (Germany)

13:45 Water vapor radiometer data in very long baseline interferometry data analysis (#IUGG-2590)
Tobias Nilsson (Germany)

14:00 GPS observations of seismo-ionospheric TEC disturbances: Cases study and characteristics (#IUGG-0699)
Shuanggen Jin (China)

14:15 Annual horizontal surface displacements observed by GPS and GRACE: a comparison and explanation (#IUGG-1879)
Na Wei (Luxembourg)

14:30 Atmospheric, non-tidal oceanic and hydrological loading effects observed with GPS measurements (#IUGG-2733)
Anthony Memin (France)

14:45 Consistency of parameters derived from global SLR, VLBI and GNSS solutions when using non-tidal loading deformation on the observation level (#IUGG-5381)
Daniela Thaller (Germany)

IAGA 13:30-15:00, South Hall 3

A27 Reporter Review for Div III

A27a
Chair: Clare Watt (United Kingdom)

13:30 Tall Dynamics (#IUGG-2266)
Solicited Speaker: Antonius Otto (USA)

14:00 Reporter Review: Auroral Phenomena (#IUGG-1483)
Solicited Speaker: David Knudsen (Canada)

14:30 Magnetospheric ULF Waves 2015 (#IUGG-1475)
Solicited Speaker: Andreas Keiling (USA)

14:45 Wave-particle interaction in the inner-magnetosphere - recent results from the Van Allen Probes Mission (#IUGG-5226)
Solicited Speaker: Reinhard Friedel (USA)
### Sunday, June 28

**15:00-16:30, Poster Area (Foyer)**

**Poster sessions (p. 221)**

**Union Symposia**

**U05 New Discoveries in Deep Interior of the Earth and Planets**

**U05d**

**Chair:** Satoru Tanaka  
(Japan)

16:30 Structure and dynamics of the Earth's inner core  
(Spoken in English)

**Solicited Speaker:** Arwen Deuss  
(Netherlands)

17:00 Vesta and ceres: Extant building blocks  
(Spoken in English)

**Solicited Speaker:** Christopher Russell  
(USA)

17:30 Why Earth-mass planets are unlikely to be Earth-like (even when they are in the habitable zone)**"  
(Spoken in English)

**Solicited Speaker:** David Stevenson  
(USA)

**Joint Inter-Association Symposia**

**JP05 Tsunamis (IAPSO, IASPEI)**

**JP05d**

**Chair:** Viacheslav Gusiakov  
(Russia)

16:30 Tsunami hazard assessment in the Augusta-Siracusa coastal area (eastern Sicily, Italy) through a worst-case scenario approach  
(Spoken in English)

**Stefano Tinti**  
(Italy)

16:45 Assessing probabilistic tsunami hazard due to submarine landslides in the Cook Strait canyon system  
(Spoken in English)

**William Power**  
(New Zealand)

17:00 Understanding tsunami hazard and risk in lakes: the case of western Lake Geneva  
(Spoken in English)

**Caroline Calpini**  
(Switzerland)

17:15 New insights on Tsunami Hazards in the Makran Subduction Zone, northwestern Indian Ocean  
(Spoken in English)

**Mohammad Heidarzadeh**  
(Japan)

17:30 Earthquake Scenario-Based Tsunami Wave Heights in the Eastern Mediterranean and Connected Seas  
(Spoken in English)

**Ocal Necmoglu**  
(Turkey)

17:45 Tsunami hazard analysis for Gulluk Bay Turkey  
(Spoken in English)

**Ahmet Cevdet Yalciner**  
(Turkey)

**Joint Inter-Association Symposia**

**JV03 Geophysical Imaging and Monitoring of Volcanoes (IAVCEI, IASPEI, IAGA)**

**JV03b**

**Chairs:** Takeshi Hashimoto  
(Japan), Malcolm Johnston  
(USA)

16:30 Magnetic evidence of magmatic intrusions during the March 1998 La Fournaise and the 2002-2003 Etna eruptions  
(Spoken in English)

**Rosalba Napoli**  
(Italy)

16:45 Shallow structure of Solfatara Volcano revealed by joining 2D seismic reflection and electric profiles with CO2 and soil temperature measurements  
(Spoken in English)

**Pier Paolo Bruno**  
(United Arab Emirates)

17:00 Piezomagnetic field produced by a spheroidal pressure source  
(Spoken in English)

**Yoichi Sasai**  
(Japan)

17:15 The 2010 seismovolcanic crisis at Taal Volcano (Philippines)  
(Spoken in English)

**Jacques Zlotnicki**  
(France)

17:30 On temporal variation of SP spatial distribution on Miyakejima Island before and after the 2000 summit eruption  
(Spoken in English)

**Makoto Uyeshima**  
(Japan)

17:45 Autopsy of the signatures of the electric field related to July 8, 2000 Miyakejima eruption (Japan)  
(Spoken in English)

**Jacques Zlotnicki**  
(France)

**Joint Inter-Association Symposia**

**JA06 Data on the Edge: Preservation and Utilization of Historical Data in the Geosciences (IAGA, IASPEI, IAMAS, IAG, IAHS, IACS)**

**JA06d**

**Chair:** Josep Batalla  
(Portugal)

16:30 Not only science not only culture: the preservation and use of historical data in seismology  
(Spoken in English)

**Solicited Speaker:** Graziano Ferrari  
(Italy)

17:00 Data in danger: The worldwide standard seismograph network  
(Spoken in English)

**Roger M.W. Musson**  
(United Kingdom)

17:15 Collection of instrumental parametric data from printed seismological stations bulletins  
(Spoken in English)

**Domenico Di Giacomo**  
(United Kingdom)

17:30 New information from old seismograms and intensity reports: A Canadian perspective  
(Spoken in English)

**John Adams**  
(Canada)

17:45 Digital filming of the Jakarta, Indonesia seismological archives: A pilot program  
(Spoken in English)

**Emile Okal**  
(USA)
### IAMAS 16:30-18:00, Meeting Hall IV

**M01 Clouds, Precipitation and Aerosols and their Influence on Climate at High Latitudes, including the Role of the Southern Ocean and Sea Ice**

**M01d**

**Chairs:** Paul DeMott (USA), Keith Bower (United Kingdom)

16:30 The seasonal dependence of climate on high latitude cirrus clouds (#IUGG-1418)  
David Mitchell (USA)

16:45 Investigating the impact of spaceborne radar blind zone on surface snowfall statistics in polar regions (#IUGG-2135)  
Maximilian Maahn (Germany)

17:00 Cloud and precipitation properties in East Antarctica: from ground-based remote sensing and in regional climate models (#IUGG-4793)  
Hubert Gallée (France)

17:15 Three-dimensional radiative effects in satellite remote sensing of clouds at high latitudes (#IUGG-5397)  
Tamas Varnai (USA)

17:30 The radiative response of cloud regimes to the Arctic Oscillation (#IUGG-5458)  
Erik Johansson (Sweden)

17:45 Observational evidence of strong hemispheric differences in the freezing efficiencies in stratiform mid-level clouds (#IUGG-4278)  
Patric Seifert (Germany)

### IAG 16:30-18:00, Meeting Hall V

**G02 Static Gravity Field Models and Observations**

**G02c**

**Chair:** Riccardo Barzaghi (Italy)

16:30 Precise geoid models from GOCE, terrain models, and airborne/surface gravimetry – challenges and results (#IUGG-5574)  
Rene Forsberg (Denmark)

16:45 Impact of geological surface density information and seismic 3D density models for high precision regional geoid computation (#IUGG-1288)  
Christian Pock (Austria)

17:00 Least squares downward continuation, fusion and gridding of airborne and terrestrial gravity observations (#IUGG-5085)  
Robert Kingston (Canada)

17:15 Fast computation of general direct gravitation problems (#IUGG-1650)  
Fabien Casenave (France)

17:30 Assessment of high-resolution digital terrain models in Turkey (#IUGG-4783)  
Bihter Erol (Turkey)

17:45 Determining astro-geodetic deflections of the vertical using digital zenith camera system (#IUGG-0930)  
Kerem Halicioglu (Turkey)

### IAGS 16:30-18:00, Small Hall

**C17 Challenges in Cryospheric Sciences: Past, Present and Future**

**C17c**

**Chair:** Ian Allison (Australia)

16:30 Experimental investigation on intermittent drifting snow (#IUGG-4598)  
Enrico Paterna (Switzerland)

16:45 Understanding and protecting snow in Antarctica: The goals SCAR Action Group "SnowAnt" (#IUGG-3678)  
Martin Schneebeli ( Switzerland)

17:00 Temporal dynamics of the snow cover in Russian Arctic (#IUGG-4407)  
Sergey Sokratov (Russia)

17:15 European network for a harmonised monitoring of snow for the benefit of climate change scenarios, hydrology and numerical weather prediction (#IUGG-0957)  
Ali Nadir Arslan (Finland)

17:30 General discussion (#)  
Ian Allison (Australia)

### IAMAS 16:30-18:00, Small Theatre

**M14 Middle Atmosphere Science**

**M14k**

**Chair:** Katja Matthes (Germany)

16:30 Stratosphere-troposphere dynamical coupling in the tropics associated with the equatorial QBO (#IUGG-1228)  
Solicited Speaker: Shigeo Yoden (Japan)

16:45 The Quasi-Biennial Oscillation effect on the troposphere and its modulation by the El Niño-Southern Oscillation (#IUGG-3946)  
Felicitas Hansen (Germany)

17:00 Impact of interactive ozone on climate reconstruction in an Earth system model: the case of Antarctica in mid-Holocene (#IUGG-2314)  
Satoshi Noda ( Japan)

17:15 A stratospheric role on negative phase shift of the winter annular mode by the Arctic sea ice loss (#IUGG-2499)  
Koji Yamazaki (Japan)

17:30 Role of the stratosphere for the time scale of the annular modes (#IUGG-1896)  
Thomas Reichler (USA)

17:45 Ensemble data assimilation to quantify the effect of the 2009 madden julian oscillation on the 2010 polar stratosphere (#IUGG-5267)  
Lisa Neef (Germany)
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**IAHS 16:30-18:00, Club A**

**HW17 Hydrological Forecasting and Predictive Uncertainty: Advances and Challenges of Transferring Science into Operational Practice**

**HW17d**

**Chair:** Massimiliano Zappa (Switzerland)

16:30 Hydrologic ensembles based on COSMO-DE-EPS precipitation forecasts for flash flood warnings at ungauged basins (IUGG-4774)

Julie Demargne (Netherlands)

16:45 Assessing the performance of ensemble streamflow forecasts produced by the rainfall forecasts from Australian numerical weather prediction models (IUGG-2728)

Bennett James (Australia)

17:00 Comparisons of Probabilistic Flood Prediction based on the ensemble weather prediction (IUGG-4078)

Linna Zhao (China)

17:15 Seasonal hydrological ensemble predictions over Europe (IUGG-4959)

Fredrik Wetterhall (United Kingdom)

17:30 E-HYPE: How variations in continental scale precipitation affect pan-European forecasts for flood warning, seasonal anomalies and inflows to seas (IUGG-3378)

Ilias Pechlivanidis (Sweden)

17:45 Ensemble forecasts of monthly streamflows out to 12 months using climate forecasts as inputs (IUGG-0217)

Bennett James (Australia)

**IAGA 16:30-18:00, Club B**

**A11 Electrodynamics and Energetics of the Middle Atmosphere Exploration with Ground and Space Experiments (Div. II-A)**

**A11b**

16:30 High-speed optical observations of sprite glow and beads (IUGG-3662)

Solicited Speaker: Hans Stenbaek-Nielsen (USA)

16:45 Modeling three negative sprites observed on 12 September 2014 (IUGG-3375)

Ningyu Liu (USA)

17:00 2.5-years observation of lightning and TLEs by JEM-GLIMS (IUGG-4885)

Mitsuteru Sato (Japan)

17:15 Updates on LEONA, the transient luminous event and thunderstorm high energy emission collaborative network in Latin America (IUGG-5723)

Fernanda Sao Sabbas (Brazil)

17:30 Characteristics of Standard and Long Recovery Early VLF Events (IUGG-4529)

Solicited Speaker: Robert Moore (USA)

**IAPSO 16:30-18:00, Club C**

**P05 Southern Hemispheric Forcing of the MOC and Carbon Cycle in Past, Present, and Future Climate Change**

**P05e**

**Chairs:** Marjolaine Krug (South Africa, Republic of), Lisa Beal (USA)

16:30 Turning the hot tap: Large-scale drivers of Agulhas leakage structure and variability (IUGG-2130)

Solicited Speaker: Benjamin Loveday (United Kingdom)

17:00 Decadal variability and centennial trend in Agulhas leakage impact (IUGG-2362)

Arne Blaustock (Germany)

17:15 Lagrangian approach to estimate Agulhas leakage in coupled climate models (IUGG-5444)

Yu Cheng (USA)

17:30 Southern ocean wind shifts and their affect on Agulhas Leakage and the Atlantic Meridional overturning circulation (IUGG-0849)

Neil Patel (USA)

17:45 The meridional overturning circulation in the south Atlantic from observations and numerical models (IUGG-3713)

Shenfu Dong (USA)

**IASPEI 16:30-18:00, Club D**

**S04 Earthquake Generation Process: Physics, Modeling and Monitoring for Forecast**

**S04d**

16:30 The emergence of coherent oscillations after the earthquakes (IUGG-0541)

Gennady Sobolev (Russia)

16:45 Areas prone to generation of strong earthquakes in the Andes (IUGG-4198)

Alexey Guvishani (Russia)

17:00 On new properties of aftershock's flow of the strong earthquakes (IUGG-0493)

Alexey Zaytcev (Russia)

17:15 Recurrence implied by California paleo-seismic data (IUGG-5456)

David Jackson (USA)

17:30 Dynamically triggered regional seismicity by 2014 Ms7.3 Yutian Earthquake, Xinjiang (IUGG-3479)

Qiong Wang (China)

17:45 Exploring aftershock properties to study stress magnitudes and frictional conditions (IUGG-1774)

Peter Shebalin (Russia)
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**IAVCEI** 16:30-18:00, Club E

**VS21 Volcanic Ash Aggregation**

**VS21b**

*Chairs: Costanza Bonadonna (Switzerland), Alexa Van Eaton (Canada), Adam Durant (USA), Corrado Cimarelli (Italy)*

16:30 PlumeMoM: A moments-based computational plume model with ash aggregation (#IUGG-3274)

**Solicited Speaker: Mattia de Michieli Vitturi (Italy)**

17:00 Aggregation of Volcanic Particles: Constraints Provided by Field and Numerical Investigations (#IUGG-1664)

**Gholamhossein Bagheri (Switzerland)**

17:15 New insights on modeling volcanic ash aggregation from field and numerical experiments (#IUGG-1289)

**Eduardo Rossi (Switzerland)**

17:30 Retrieving volcanic vent parameters by global inversion of Thermal Infrared videos of volcanic plumes (#IUGG-4751)

**Matteo Cerminara (Italy)**

17:45 Lidar monitoring of Etna volcanic plumes during lava fountain events (#IUGG-3192)

**Simona Scollo (Italy)**

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**IAVCEI** 16:30-18:00, Club H

**VS06 Benchmarking Pyroclastic Density Current Models: Code Inter-Comparison and Field Validation**

**VS06b**

*Chair: Tomasso Esposito-Ongaro (Italy)*

16:30 Field validation of pyroclastic density current (PDC) models: examples from Merapi and Soufriere Hills volcanoes (#IUGG-1142)

**Sylvain Charbonnier (USA)**

16:45 Titan2D simulations of pyroclastic flows emplaced on January 2001 at Popocatepetl volcano (Mexico) (#IUGG-2792)

**Lucia Capra (Mexico)**

17:00 Sequential plug formation, deintegration by vulcanian explosions, and the generation of granular pyroclastic density currents (#IUGG-5127)

**Minard L. Hall (Ecuador)**

17:15 Windsnapped and buried: Dynamic processes associated with tree trunk breakage by the 232 AD Taupo Ignimbrite, New Zealand (#IUGG-2685)

**Adrian Pittari (New Zealand)**

17:30 An integrated pTRM-charcoal reflectance approach to reconstruct the emplacement temperature of ignimbrites: the 4.6ka Fogo A sequence, São Miguel, Azores (#IUGG-2094)

**Alessandra Pens (Australia)**

17:45 Quaternary ignimbrites of Armenia: Petrology and stratigraphy (#IUGG-3610)

**Hripsime Gevorgyan (Armenia)**

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**IAGA** 16:30-18:00, North Hall

**A42 Div. V Reporter Reviews (Div. V)**

**A42b**

*Chairs: Pieter Kotze (South Africa), Alan Thomson (United Kingdom)*

16:30 Long-term variations of solar activity and geomagnetic phenomena - A review (#IUGG-3167)

**Solicited Speaker: Masahito Nose (Japan)**

17:00 Characterization of some ionospheric and magnetospheric processes from ground and satellite observations and their connection with space weather (#IUGG-1444)

**Solicited Speaker: Archana Bhattacharya (India)**

17:30 Geophysical and geomagnetic diagnosis of the sun and near-earth space (#IUGG-3921)

**Solicited Speaker: Renata Lukianova (Russia)**

17:45 High resolution data for space plasma turbulence and applications to space weather and space climate (#IUGG-4151)

**Solicited Speaker: Giuseppe Consolini (Italy)**

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**IAPSO** 16:30-18:00, Terrace I

**P09 The North Atlantic and Climate Change**

**P09f**

*Chair: Simon Josey (United Kingdom)*

16:30 Transports and storages of anthropogenic CO2 in the tropical North Atlantic (#IUGG-0828)

**Patricia Zunino (France)**

16:45 Regional scale climatology of global change carbon dioxide flux on the ocean surface for North Atlantic and the Arctic (#IUGG-4726)

**Iwona Wrobel (Poland)**

17:00 Structure and dynamics of the Lofoten eddy in the Nordic Seas from joint satellite and deep sea measurements (#IUGG-1466)

**Vladimir Ivanov (Russia)**

17:30 Changes in Arctic fresh water export: a new proxy from 30 years of hydrographic surveys in the Labrador Sea (#IUGG-0844)

**Cristian Florindo-Lopez (United Kingdom)**

17:45 Recent hydrographic variability in the Labrador, Nordic and Barents Seas and possible linkages (#IUGG-3111)

**Igor Yashayaev (Canada)**

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**IAPSO** 16:30-18:00, Terrace II

**P12 IIoE to IIoE-2 - Five Decades of Indian Ocean Oceanography: Challenges in Physics and Biogeochemistry of Indian Ocean**

**P12d**

*Chair: Satheesh Shenoi (India)*

16:30 Contribution of Observations from Space 50 years after International Indian Ocean Expedition (IIoE) (#IUGG-2052)

**W Timothy Liu (USA)**

16:45 Planning for the Second International Indian Ocean Expedition (IIoE-2) (#IUGG-3275)

**Nicolino D’Adamo (Australia)**

17:00 Role of the Indian Ocean Dipole dynamics in the evolution of mega El Ninos (#IUGG-4801)

**Saji Hameed (Japan)**

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158 26th IUGG, PRAGUE, CZECH REPUBLIC, JUNE 22 – JULY 2, 2015
17:15 Seaglider observations of equatorial Indian Ocean Rossby waves associated with the Madden-Julian Oscillation (#IUGG-4975)  
Ben Webber (United Kingdom)
17:30 Eastern Indian ocean upwelling research initiative (EIOURI) (#IUGG-5548)  
Yukio Masumoto (Japan)
17:45 Indian Ocean sea surface salinity: from occasional sections to weekly high-resolution maps from Aquarius/SAC-D (#IUGG-5217)  
Peter Hacker (USA)

IASPEI Source Rupture Kinematics and Dynamics: Observation and Inversion  
S05 Source Rupture Kinematics and Dynamics: Observation and Inversion  
S05d  
Chair: Vladimir Smirnov (Russia)
16:30 Modified Friction Law and Non-Linear Geodynamical analysis of rock failure (#IUGG-0280)  
Daya Shanker (India)
16:45 State of tectonic stress and b-value structure before and after the 2004 Andaman-Sumatra mega earthquake Mw 9.3 (#IUGG-0260)  
Jnana Ranjan Kayal (India)
17:00 Ten year recurrence time between two major earthquakes affecting the same fault segment (#IUGG-3522)  
Martin Vallee (France)
17:15 Seismological evidences of conjugated ruptures of the 2014 Ludian MW6.1 earthquake (#IUGG-3585)  
Jonas Chen (China)
Lenochka Zhang (China)

IASPEI 16:30-18:00, Chamber Hall

S01/S01f Seismological Observation and Interpretation: Open session, Seismic Time series Analysis  
S01b  
16:30 New integrated events location procedure in vast and irregular networks in a quasi real-time mode (#IUGG-3135)  
Lara Tiberi (Italy)
16:45 Extension of the ISC-GEM Global Earthquake Instrumental Catalogue, an update (#IUGG-1116)  
Domenico Di Giacomo (United Kingdom)
17:00 Role of the Egyptian National Seismological Network to Mitigate the Seismic Hazard in Egypt (#IUGG-0974)  
Abuoelela Amin Ahmed (Egypt)
17:15 Earthquake and tsunami hazards from potential earthquakes in South China Sea and its early warning implementation (#IUGG-1656)  
Nicolai Huang (Taiwan - China)
17:30 Seismic monitoring in the European Arctic: first results of a Cooperative project (#IUGG-0496)  
Yana Konechnaya (Russia)

IAG 16:30-18:00, South Hall 2

G01 Reference Frames  
G01e  
16:30 Geophysical interpretation of GPS surface displacements: a preliminary study over Europe (#IUGG-0435)  
Songyun Wang (China)
16:45 The IAG Working Group “Integration of Dense Velocity Fields in the ITRF”: Final Results and Conclusions (#IUGG-4337)  
Juliette Legrand (Belgium)
17:00 Analysis of the European velocity and deformation fields by a new approach (#IUGG-3658)  
Alfonso Vitti (Italy)
17:15 Assessment of weighted and un-weighted inner constraints on multi-session solutions for estimating station velocities in regional GNSS networks (#IUGG-5556)  
Christopher Kotsakis (Greece)
17:30 Comparison of frame alignment strategies in GNSS coordinate time series (#IUGG-5563)  
Miltos Chatzinikos (Greece)
17:45 A comparison of existing and new method for the analysis of nonlinear variations in coordinate time series (#IUGG-1918)  
Athanasios Dermanis (Greece)

IAGA 16:30-18:00, South Hall 3

A27 Reporter Review for Div III  
A27b  
Chair: Clare Watt (United Kingdom)
16:30 Reporter review: Magnetopause and boundary layer studies in 2013-2015 (#IUGG-0650)  
Solicited Speaker: Hiroshi Hasegawa (Japan)
17:00 Review of recent advances in Global Magnetospheric Dynamics (#IUGG-1739)  
Solicited Speaker: Steve Milan (United Kingdom)
17:30 Division III reporter: Magnetospheres of solar system bodies other than the Earth (#IUGG-5167)  
Solicited Speaker: Christopher Arridge (United Kingdom)

Poster sessions (p. 221)

18:00-19:30, Poster Area (Foyer)
Monday, June 29

Union Symposia 8:30-10:00, Congress Hall

U09 Revolutions in Earth Sciences: from Different Spheres to a Common Globe

U09a
8:30 Geophysics, patronage, and national needs: IAGA from its founding to the cold war (#IUGG-4228)
Solicited Speaker: Ronald E. Doel (USA)
9:00 From different spheres to the Global Geodetic Observing System (#IUGG-5211)
Solicited Speaker: Hermann Drewes (Germany)
9:30 Predicting the atmosphere and the progress toward Earth-system science (#IUGG-4341)
Solicited Speaker: Alan Thorpe (United Kingdom)

Joint Inter-Association Symposia 8:30-10:00, Forum Hall

JP05 Tsunamis (IAPSO, IASPEI)

JP05e
Chair: Stefano Tinti (Italy)
8:30 Losses due to historical tsunamis in the European-Mediterranean region (#IUGG-5487)
Gerassimos Papadopoulos (Greece)
8:45 A new source function of the 1964 Alaska tsunami based on the near-field numerical modeling and observations (#IUGG-0663)
Elena Suleimani (USA)
9:00 The current signal of the April 1, 2014 Chile tsunami as recorded in Crescent City, California (#IUGG-0882)
Amanda Admire (USA)
9:15 Tsunami waveform inversion for the 2011 Tohoku Earthquake: Importance of dispersion and source kinematics (#IUGG-5210)
Phil Cummins (Australia)
9:30 1755 Lisbon tsunami towards the French Atlantic coasts: propagation of uncertainties (#IUGG-1799)
Ekaterina Antoshchekova (France)
9:45 Historical tsunamis in the island volcanic complex of Thera (Santorini), Greece (#IUGG-5565)
Ioanna Triantafyllou (Greece)

IAG 8:30-10:00, Meeting Hall V

G02 Static Gravity Field Models and Observations

G02d
Chair: Thomas Gruber (Germany)
8:30 Mathematical foundations for the next generation of global gravity models from satellite gravity missions of CHAMP/GRACE types (#IUGG-1880)
Peiliang Xu (Japan)
8:45 Non-linear corrections in orbital perturbation equations for CHAMP-like satellite (#IUGG-0230)
Jinhai Yu (China)
9:00 Parameter estimation in dynamic orbit analysis of GOCE and GRACE satellite gravity missions (#IUGG-5602)
Dimitrios Tsoulis (Greece)
9:15 Analysis of GRACE line-of-sight gradiometry observable based on the Rosborough representation (#IUGG-5528)
Mohammad Ali Sharifi (Iran)
9:30 Resolvability of gravity field parameters in a repeat orbit – based on global ground track density (#IUGG-1549)
J Klokocnik (Czech Republic)

IAMAS 8:30-10:00, Small Hall

M18/M17 Past Climate Changes: a Key for the Future / Science of Adaptation to Climate Change

M18a
Chair: Alan Haywood (United Kingdom)
8:30 Assessing Late Pliocene warming and climate variability with multi-proxy data and climate model simulations (#IUGG-2726)
Solicited Speaker: Ulrich Salzmann (United Kingdom)
9:00 Strong chemistry-climate feedbacks in the Pliocene (#IUGG-1561)
Nadine Unger (USA)
9:15 Towards Greenland Glaciation: Cumulative or abrupt transition ? (#IUGG-3687)
Ning Tan (China)
9:30 Impact of seaways on AMOC strength during mid-Pliocene (#IUGG-3352)
Zhongshi Zhang (Norway)
9:45 The non-analogue nature of Pliocene temperature gradients (#IUGG-3914)
Daniel Hill (United Kingdom)
**M14 Middle Atmosphere Science**

**M14a**

Chair: Anne Smith (USA)

8:30 Satellite observations of gravity-wave mean-flow interactions (#IUGG-2268)

Solicited Speaker: Manfred Ern (Germany)

8:45 A regional study of atmospheric gravity waves using the USAArray Transportable Array (#IUGG-5231)

Michael Hedlin (USA)

9:00 Gravity wave momentum transport measurements in the mesosphere lower thermosphere/ionosphere region using partial reflection and meteor radar (#IUGG-5011)

Iain Reid (Australia)

9:15 A ship-borne imager: observing mesospheric gravity waves from the oceans (#IUGG-2495)

Tracy Moffat-Griffith (United Kingdom)

9:30 Lidar observations of gravity waves in the middle atmosphere over Lauder, New Zealand (#IUGG-3930)

Markus Rapp (Germany)

9:45 The lifecycle of instability features measured from the Andes Lidar Observatory over Cerro Pachon on March 24, 2012 (#IUGG-2217)

James Hecht (USA)

**VS32/VS33 Weather and Climate Effects of Volcanic Eruptions / VS33 Understanding Volcano-Climate Feedbacks**

**VS32a**

Chair: Anja Schmidt (United Kingdom)

8:30 How will climate change impact future explosive eruptions dynamics? (#IUGG-1213)

Thomas Aubry (Canada)

8:45 Late-Pleistocene glacier melting during lava dome growth at Nevado de Toluca volcano (Mexico): hazard implication at active, ice-capped volcanoes.20 (#IUGG-2327)

Lucia Capra (Mexico)

9:00 Toward a more realistic assessment of the climatic impacts of the 1257 eruption based on medieval sources, tree-rings and climate models (#IUGG-4771)

Christophe Corona (France)

9:15 Observed multivariable signals of late 20th and early 21st century volcanic activity (#IUGG-1937)

Solicited Speaker: Benjamin Santer (USA)

9:30 The influence of explosive volcanic activities on the climate system.20 (#IUGG-4356)

Matthew Toohey (Germany)

**M16 Radiation in the Climate System**

**M16a**

Chair: Werner Schmutz (Switzerland)

8:30 The activities of the International Radiation Commission (#IUGG-4388)

Werner Schmutz (Switzerland)

8:45 Changing aerosol properties near cloud; 3D or not 3D? (#IUGG-3239)

Alexander Marshak (USA)

9:00 Community radiative transfer intercomparisons: Continual Intercomparison of Radiation Codes (CIRC) and beyond (#IUGG-1411)

Lazaros Oreopoulos (USA)

9:15 GEWEX’s integrated global water and energy product - quality assessment (#IUGG-3342)

Solicited Speaker: Johannes Schmutz (Germany)

9:30 Challenges in the Global Energy Balance (#IUGG-1877)

Martin Wild (Switzerland)

**S04 Earthquake Generation Process: Physics, Modeling and Monitoring for Forecast**

**S04e**

Chair: Alexey Zavyalov (Russia)

8:30 Distinguishing artifacts of earthquake catalog errors from genuine seismicity patterns (#IUGG-2960)

Ilya Zaliapin (USA)

8:45 Synthetic earthquake catalogs simulating seismic activity in the Corinthis Gulf, Greece, fault system (#IUGG-0546)

Rodolfo Console (Italy)

9:00 Modelling of hydro-tremors generation and associated hazard in the Northern parts of India (#IUGG-0247)

Dya Shankar (India)

9:15 Time variations in tidal responses of a medium before the Great Japanese Earthquake (#IUGG-1019)

Mikhail Molodenskiy (Russia)

9:30 Microseismic study of blocked media response to external impacts (#IUGG-0977)

Galina Antonovskaya (Russia)

9:45 Seismogenic structure of the M6.3 Kangding earthquake sequence on 22 Nov. 2014, Southwestern China (#IUGG-1098)

Guixi Yi (China)
Monday, June 29

**IAVCEI 8:30-10:00, Club E**

**VS04 Collapse Calderas**

**VS04a**

**Chairs:** Adelina Geyer (Spain), Caroline Bouvet De Maisonneuve (Singapore), Nobuo Geshi (Japan), Olivier Bachmann (Switzerland)

8:30 Graben calderas: Examples from Mexico, Central America, and the Andes (#IUGG-1543)
Gerardo Aguirre-Diaz (Mexico)

8:45 Collapse calderas and their geothermal potential (#IUGG-4557)
Solicited Speaker: Joan Marti (Spain)

9:15 A sill intrusion model applied to volcanic calderas (#IUGG-5067)
Giovanni Macedonio (Italy)

9:30 Flow mechanism and discharge rate of the parent Peach Spring Tuff pyroclastic density currents during the Silver Creek caldera eruption (#IUGG-3022)
Olivier Roche (France)

9:45 Vent opening process of the Osumi pumice fall as the precursor for caldera collapse of Aira Caldera, Japan (#IUGG-1677)
Nobuo Geshi (Japan)

**IAVCEI 8:30-10:00, Club H**

**VS17 Dynamics of Eruption Clouds**

**VS17a**

8:30 Inter-comparison exercise of volcanic eruption column models (#IUGG-2642)
Yujiro Suzuki (Japan)

8:45 3-D numerical simulation of strong versus weak plumes – Results from the IAVCEI volcanic column model intercomparison exercise20 (#IUGG-4938)
Alexa Van Eaton (Canada)

9:00 Non-equilibrium processes in volcanic plumes: New insights from 3D multiphase flow simulations and open issues (#IUGG-3514)
Tomaso Esposti-Ongaro (Italy)

9:15 Three dimensional numerical simulations of volcanic plumes: particle non-equilibrium, turbulent entrainment and acoustics (#IUGG-4750)
Matteo Cermi (Italy)

9:30 An integral model for unsteady, wind affected volcanic plumes (#IUGG-5387)
Jeremy Phillips (United Kingdom)

9:45 A volcanic column model subject to external winds (#IUGG-4094)
Arnau Folch (Spain)

**IASPEI 8:30-10:00, North Hall**

**S08b/S08c Lithosphere Structure and Dynamics: Lithospheric Stress and Strain - Observations and Modelling, Plate Boundary Deformation at Lithospheric Scale**

**S08ba**

**Chair:** Kevin Furlong (USA)

8:30 Lithospheric structure in eastern Australia from seismic tomography (#IUGG-1975)
Nicholas Rawlinson (United Kingdom)

8:45 Do passive continental margins host aseismic plate boundaries? (#IUGG-3556)
Volodya Hafize (Brazil)

9:00 Brittle and ductile deformation in the Taiwan orogen (#IUGG-5727)
Francis Wu (USA)

9:15 The Crust beneath Morocco: From the Surface Topography to the Upper Mantle (#IUGG-2239)
Ramon Carbonell (Spain)

9:30 Rift structure and sedimentation history of the eastern continental margin of India (#IUGG-2949)
Krishna Kolluru (India)

9:45 Integrated geophysical GIS&RS models of the of Lithosphere - part Uzbekistan (#IUGG-0753)
Irina Sidorova (Uzbekistan, Republic of)

**IASPEI 8:30-10:00, Terrace I**

**VS26 Volcanic Landscapes across the Solar System: from Field to Remote Sensing Analysis**

**VS26a**

**Chairs:** Magdalena Oryaelle Chevrel (Mexico), David Baratoux (France)

8:30 Volcanism on Terrestrial Bodies Through Time and Space: A Comparison (#IUGG-1969)
Stephanie C. Werner (Norway)

8:45 Why do Martian scoria cones vary in shapes from terrestrial analogues? (#IUGG-1643)
Petr Broz (Czech Republic)

9:00 Granodiorite and alkaline suite at Gale crater: continental crust on Early Mars? (#IUGG-1558)
Solicited Speaker: Violaine Sautter (France)

9:15 A revised thermal evolution of Mars from remote-sensing chemistry and new experimental data in the 0.5-2.5 GPa pressure range (#IUGG-1436)
David Baratoux (France)

9:30 The Io Volcano Observer (IVO): A spacecraft mission proposed to the NASA Discovery program (#IUGG-1726)
Christopher Hamilton (USA)

9:45 Surface and subsurface cryovolcanism on Europa and other icy satellites (#IUGG-1574)
Solicited Speaker: Michael Manga (USA)
IUGG 8:30-10:00, Terrace II
VS13/VS05 Environmental and Health Effects of Natural Mineral Dusts / Recent Eruption Impacts and Mitigation within Urban Areas

VS13a

Chairs: David E. Damby (Germany), Jan Lindsay (New Zealand)

8:30 The worst result in the September 2014 eruption at Mount Ontake, Central Japan (#IUGG-2691)
Setyuza Nakada (Japan)

8:45 The 2014-2015 Fogo eruption, Cape Verde: Findings from the field (#IUGG-4826)
Susanna Jenkins (United Kingdom)

9:00 Evolution of environmentally-available elements in ash from the 2011 Puyehue-Cordon Caulle eruption: implications for agricultural systems (#IUGG-1804)
Heather Craig (New Zealand)

Maria Naranja (Ecuador)

9:30 Improving volcanic risk assessment through quantitative vulnerability assessment of critical infrastructure to volcanic hazards (#IUGG-1883)
Grant Wilson (New Zealand)

IAG 8:30-10:00, South Hall 2
G01 Reference Frames

G01f

8:30 Aligning a Regional Reference Frame to ITRF2008 using minimum constraints approach (#IUGG-1246)
Fumei Wu (China)

8:45 Practical and technical considerations for the replacement of U.S. national datum NAD 83 (#IUGG-5420)
Joe Evjen (USA)

9:00 Plate Model for Chinese Geodetic Coordinate System Application (#IUGG-1728)
Yingxin Cheng (China)

9:15 Development of a geodetic deformation model for Papua New Guinea (PNG) (#IUGG-2928)
Richard Stanaway (Australia)

9:30 SIRGAS: The core geodetic infrastructure in Latin America and the Caribbean (#IUGG-2919)
Laura Sanchez (Germany)

IASPEI 8:30-10:00, South Hall 3
S07 Seismic Hazard and Risk

S07a

Chair: John Schneider (Australia)

8:30 Canada’s 5th Generation Seismic Hazard Model for the 2015 National Building Code of Canada (#IUGG-2388)
John Adams (Canada)

9:00 The 2014 Update of the United States National seismic hazard models (#IUGG-3711)
Mark Petersen (USA)

9:15 Pshab: Probabilistic seismic hazard analysis for Brazil, a national map building effort (#IUGG-5194)
Marcelo Assumpcao (Brazil)

9:30 Renewal probabilistic seismic hazard assessment for Myanmar (#IUGG-2291)
Chung-Han Chan (Singapore)

9:45 New probabilistic seismic hazard analysis for Ecuador (#IUGG-5662)
Hugo Yepes (Ecuador)
Monday, June 29

Union Lectures 10:30-12:00, Congress Hall
UL03 Union Lectures 3
UL03
Chair: Harsh Gupta (India)
10:30 Contributions of geodesy to monitoring natural hazards and global change
Keynote Speaker: Harald Schuh (Germany)
11:00 Atmospheric chemistry in the anthropocene
Keynote Speaker: Laura Gallardo (Chile)
11:30 The global ocean carbon sink: Recent trends and variability
Keynote Speaker: Nicolas Gruber (Switzerland)

Union Symposia 13:30-15:00, Congress Hall
U09 Revolutions in Earth Sciences: from Different Spheres to a Common Globe
U09b
13:30 The 140 year voyage of ocean discovery (#IUGG-3808)
Solicited Speaker: John W. Gould (United Kingdom)
14:00 Megatrends in hydrology: Projecting the future from lessons learned from the past (#IUGG-3831)
Solicited Speaker: Günter Blöschl (Austria)
14:30 How climate modelling changed a discipline: Epistemic authority and marginalisation in climatology, 1960s to 1980s (#IUGG-5183)
Solicited Speaker: Dania Achermann (Denmark)

Joint Inter-Association Symposia 13:30-15:00, Forum Hall
JP05 Tsunamis (IAPSO, IASPEI)
JP05f
Chair: Alexander Rabinovich (Russia)
Solicited Speaker: Jedranke Sepic (Croatia)
13:45 Generation of meteotsunamis in south-western Australia due to the passage of frontal systems (#IUGG-3228)
Charitha Pattiaratchi (Australia)
14:00 Long-term drift characteristics of ocean-bottom pressure sensors of DONET (#IUGG-4651)
Reiuke Ariyoshi (Japan)
14:15 The influence of sediment source, inundation path, and deposition site on tsunami deposit characteristics (#IUGG-4865)
Yuichi Nishimura (Japan)
14:30 A new technique for tsunami numerical simulation using tsunami observations in a source region as an input (#IUGG-3359)
Yuichiro Tanioka (Japan)
14:45 Landslide on the eastern slope of Sakhalin Island as a possible tsunami source (#IUGG-3593)
Evgueni Kulikov (Russia)

Joint Inter-Association Symposia 13:30-15:00, Meeting Hall I
JV03 Geophysical Imaging and Monitoring of Volcanoes (IAVCEI, IASPEI, IAGA)
JV03c
Chair: Gilda Currenti (Italy), Malcolm Johnston (USA)
13:30 Correlation between magma chamber deflation and eruption cloud height during the 2011 Kirishima-Shinmoe-dake eruptions (#IUGG-4731)
Solicited Speaker: Tomofumi Kozono (Japan)
13:45 Hydrothermal system beneath the Jigokudani valley, Tateyama volcano, Japan, inferred from AMT surveys and hot spring water chemistry (#IUGG-2614)
Koari Seki (Japan)
14:00 3-D magnetotelluric studies of the actively deforming Aluto volcano, Ethiopia (#IUGG-2422)
Friedemann Samrock (Switzerland)
14:15 3 Dimensional Magnetization Srucre of Aogashima Volcano using Vector Magnetic Anomalies (#IUGG-4817)
Nobuhiro Isezaki (Japan)
14:30 Monitoring of volcanoes and geothermal processes using magnetotelluric time-lapse processing of electric and magnetic time series (#IUGG-5550)
Pascal Sailhac (France)
14:45 Analyzing temporal changes by electromagnetic transfer functions at active volcanoes (#IUGG-1094)
Borys Ladanivsky (Ukraine)

Joint Inter-Association Symposia 13:30-15:00, Panorama Hall
JS06/JP06 Array Techniques for Monitoring the State of the Earth (IASPEI, IAPSO, IAGA) / Acoustical Oceanography (IAPSO, IASPEI)
JS06c
Chair: Johannes Schweitzer (Norway)
13:30 Towards global monitoring of the ocean environment (#IUGG-0396)
Solicited Speaker: Guust Nolet (France)
14:00 Arctic watch: acoustic in an Arctic ocean observing system (#IUGG-5730)
Stein Sandven (Norway)
14:15 Ambient seismic, hydroacoustic and flexural-gravity wave noise on atabular iceberg (#IUGG-3943)
Emile Okal (USA)
14:30 Seismicity and fault structure in the northeastern Atlantic oceanic lithosphere from array processing of the deep Sea DOCTAR array (#IUGG-4300)
Frank Krüger (Germany)
14:45 Location of P-wave Microseism Sources Via Back-Projection of Large Aperture Seismic Array Data (#IUGG-3181)
Keith D. Koper (USA)
Monday, June 29

IAMAS 13:30-15:00, Meeting Hall IV

M22 Understanding and Predicting High-impact Weather and Climate Extremes

M22a

Chair: Richard Swinbank (UK)

13:30 Detection, attribution and extreme climate and weather events (#IUGG-3933)
Solicited Speaker: Francis Zwiers (Canada)

14:00 Attribution of extreme climate events (#IUGG-1594)
Solicited Speaker: Kevin Trenberth (USA)

14:30 Attribution of extreme temperature changes during 1951-2010 (#IUGG-5045)
Seung-Ki Min (Korea, Republic of Korea)

14:45 The timing of anthropogenic emergence in climate extremes (#IUGG-2278)
Andrew King (Australia)

IAG 13:30-15:00, Meeting Hall V

G02 Static Gravity Field Models and Observations

G02e

Chair: Johannes Bouman (Germany)

13:30 Calibration of GOCE accelerometers and SST gravity model by the combination of GRACE (#IUGG-2276)
Xiancai Zou (China)

13:45 Investigations on the Quality of the GOCE Level 1b Gradiometer Data around the Magnetic Poles (#IUGG-4816)
Spiros Paglialaakis (Canada)

14:00 A cascade filtering method for GOCE satellite gravity gradiometry data processing (#IUGG-1370)
Bo Zhong (China)

14:15 GOCE gradient transformation in the framework of In Orbit Validation (#IUGG-3052)
Phillip Brieden (Germany)

14:30 An alternative method for computing vertical and radial gravity gradient using GOCE observations (#IUGG-0293)
Xiaoyun Wan (China)

IAMAS 13:30-15:00, Small Hall

M18/M17 Past Climate Changes: a Key for the Future / Science of Adaptation to Climate Change

M18b

Chairs: Alan Haywood (United Kingdom), Kurt Lambeck (Australia), Michael MacCracken (USA), Qiuzhen Yin (Belgium)

13:30 Are models’ simulation of modern Arctic sea ice a reliable guide to their performance simulating past or future sea ice? (#IUGG-4405)
Fergus Howell (United Kingdom)

13:45 Lessons for the future from a past warm period, ocean oxygen content and carbon biogeochemistry in deep time (#IUGG-4251)
Jonny Williams (United Kingdom)

14:00 Simulation of Quaternary glacial cycles (#IUGG-2920)
Andrey Ganopolski (Germany)

14:15 Long term past and future climate sensitivity to orbital forcing (#IUGG-4447)
Gilles Ramstein (France)

14:30 Phasing of climate, sea-level, CO2, and insolation changes during the last two glacial terminations (#IUGG-5062)
Gianluca Marino (Australia)

IAMAS 13:30-15:00, Small Theatre

M14 Middle Atmosphere Science

M14m

Chair: Franz-Josef Luebken (Germany)

13:30 Observational constraints on gravity wave driving of the global circulation (#IUGG-3937)
Solicited Speaker: M. Joan Alexander (USA)

13:45 Influence of the observation geometry of TIMED-SABER on the estimation of gravity wave amplitudes (#IUGG-4268)
Sabine Wüst (Germany)

14:00 Contribution of different wave scales to the convective gravity wave spectrum based on satellite observations (#IUGG-4427)
Thai Trinh (Germany)

14:15 Expanded role for gravity wave parameterization in WACCM (#IUGG-3021)
Anne Smith (USA)

14:30 Isentropic expression of Eliassen-Palm flux and meridional circulation (#IUGG-4402)
Toshiki Iwasaki (Japan)

14:45 Impact of gravity waves on OH* (#IUGG-5146)
Erich Becker (Germany)
### Monday, June 29

#### IAVCEI 13:30-15:00, Club A

**VS32/VS33 Weather and Climate Effects of Volcanic Eruptions / VS33 Understanding Volcano-Climate Feedbacks**

**VS32b**

**Chair:** Alan Robock (USA)

- **13:30** Towards a coordinated modeling assessment of the climate response to strong volcanic eruptions ([#IUGG-0898](#IUGG-0898))
  - **Solicited Speaker:** Davide Zanchettin (Italy)

- **14:00** El Niño-Southern Oscillation Response to tropical stratospheric volcanism ([#IUGG-4442](#IUGG-4442))
  - **Solicited Speaker:** Myriam Khodri (France)

- **14:15** Investigating stratospheric warming due to the Nabro eruption with GPS radio occultation ([#IUGG-3528](#IUGG-3528))
  - **Riccardo Biondi** (Austria)

- **14:30** Long-range transport, air quality effects and regional climate impacts of volcanic sulfur emitted at Nornahraun (Bár*arbunga, Iceland) ([#IUGG-3174](#IUGG-3174))
  - **Anja Schmidt** (United Kingdom)

- **14:45** Volcanic eruptions as an analog for stratospheric geoengineering: Are we prepared for the next large volcanic eruption? ([#IUGG-3813](#IUGG-3813))
  - **Alan Robock** (USA)

#### IAMAS 13:30-15:00, Club B

**M16 Radiation in the Climate System**

**M16b**

**Chair:** Martin Wild (Switzerland)

- **13:30** Clouds and radiation ([#IUGG-3443](#IUGG-3443))
  - **Stefan Kinne** (Germany)

- **13:45** Quality assurance of solar UV irradiance measured with array spectroradiometer ([#IUGG-1223](#IUGG-1223))
  - **Luca Egli** (Switzerland)

- **14:15** The CERES geostationary enhanced diurnally complete flux product ([#IUGG-4333](#IUGG-4333))
  - **Solicited Speaker:** David Doelling (USA)

- **14:30** The NASA/GEWEX Surface Radiation Budget: Integrated data product with reprocessed radiance, cloud, and meteorology inputs ([#IUGG-4762](#IUGG-4762))
  - **Stephen Cox** (USA)

- **14:45** A new satellite-based surface solar radiation climate data record ([#IUGG-3760](#IUGG-3760))
  - **Uwe Pfeifroth** (Germany)

#### IAMAS 13:30-15:00, Club C

**M03/M15 Weather and the Global Atmospheric Electric Circuit / Electrical Charging and Discharging in Thunderclouds**

**M03a**

**Chair:** Matthew Lazzara (USA)

- **13:30** The Casey Station thunderstorm, East Antarctica ([#IUGG-3716](#IUGG-3716))
  - **Solicited Speaker:** Scott Carpentier (Australia)

- **14:00** The Global Atmospheric Circuit from Antarctic Plateau Electric Field Measurements at Vostok and Concordia ([#IUGG-2058](#IUGG-2058))
  - **Brian A. Tinsley** (USA)

- **14:15** Seasonal variations of lightning activity in southern Brazil ([#IUGG-5192](#IUGG-5192))
  - **Rodrigo Azambuja** (Brazil)

- **14:30** Japan winter upward lightning and their parent storm charge structure ([#IUGG-5492](#IUGG-5492))
  - **Daohong Wang** (Japan)

- **14:45** Modulation of UK lightning and the atmospheric electric circuit by heliospheric magnetic field polarity ([#IUGG-4645](#IUGG-4645))
  - **Matthew Owens** (United Kingdom)

#### IASPEI 13:30-15:00, Club D

**S06c Strong Ground Motion: Ground Motion Prediction Equations**

**S06ca**

- **13:30** NGA-West2 Ground Motion Model for Vertical Response Spectra ([#IUGG-2342](#IUGG-2342))
  - **Solicited Speaker:** Yousef Bozorgnia (USA)

- **14:15** Ground motion prediction equation accounting for region specific adjustments ([#IUGG-4620](#IUGG-4620))
  - **Sreeram Reddy Kotha** (Germany)

- **14:30** How do earthquake stress drop variations reflect in strong motion intensity observations? ([#IUGG-1493](#IUGG-1493))
  - **Adrien Oth** (Luxembourg)

- **14:45** A New Framework for Developing Response Spectral Ground-Motion Prediction Equations from Empirical Models of Fourier Spectra and Duration of Ground-Motion ([#IUGG-2475](#IUGG-2475))
  - **Sanjay Bora** (Germany)
### IAVCEI 13:30-15:00, Club E

**VS04 Collapse Calderas**

**VS04b**

**Chairs:** Adelina Geyer (Spain), Caroline Bouvet De Maisonneuve (Singapore), Nobuo Geshi (Japan), Olivier Bachmann (Switzerland)

- **13:30** The eruption, pyroclastic flow behaviour, and caldera infilling processes of the large volume (>1000 km³), Permian Ora (Ignimbrite) Formation (Italy) (#IUGG-4562)
  - Guido Giordano (Italy)
- **13:45** Metallogeny of the *Tavuricna Stratovolcano, central Slovakia* (#IUGG-1571)
  - Jaroslav Lexa (Slovak Republic)
- **14:00** Slow collapse of the ice-filled Bárðarbunga caldera, Iceland (#IUGG-5128)
  - Magnus T. Gudmundsson (Iceland)
- **14:15** Geophysical modeling of Los Humeros collapse Caldera, Mexico (#IUGG-5344)
  - Vsevolod Yutsis (Mexico)
- **14:30** Caldera collapse control on eruptive fissure distribution: a model applied to Fernandina (Galapagos) (#IUGG-1813)
  - Patrícia A Mothes (Ecuador)
- **14:45** Another look at the Chalupas Caldera, Ecuador—Identification of structural controls over time (#IUGG-5089)
  - Patricia A Mothes (Ecuador)

### IAVCEI 13:30-15:00, Club H

**VS17 Dynamics of Eruption Clouds**

**VS17b**

- **13:30** The effect of temperature fluctuations on the spread of a buoyant plume (#IUGG-2850)
  - Benjamin Devenish (United Kingdom)
- **13:45** Plinian and co-ignimbrite phases of the Campanian Ignimbrite super-eruption (#IUGG-4363)
  - Alejandro Martí (Spain)
- **14:00** Detection of particle segregation from bending plume; limitation of classic advection diffusion model for tephra fall forecast (#IUGG-1837)
  - Kazutaka Mannen (Japan)
- **14:15** Reactive halogen chemistry in volcanic plumes – an overview on our current understanding (#IUGG-4740)
  - Nicole Bobrowski (Germany)
- **14:30** Dynamics of wind-affected volcanic plumes: The example of the 2011 Córdón Caulle eruption, Chile (#IUGG-4590)
  - Costanza Bonadonna (Switzerland)
- **14:45** Mass loadings of the 2011 Córdón Caulle volcanic ash clouds. A quantitative comparison between MODIS and numerical simulations with Fall3D (#IUGG-0901)
  - Maria Soledad Osores (Argentina)

### IASPEI 13:30-15:00, North Hall

**S08b/S08c Lithosphere Structure and Dynamics: Lithospheric Stress and Strain - Observations and Modelling, Plate Boundary Deformation at Lithospheric Scale**

**S08bb**

**Chair:** Marco Bohnhoff (Germany)

- **13:30** Spatio-temporal changes of reservoir properties and seismicity at The Geysers geothermal reservoir, CA, USA (#IUGG-3854)
  - Solicited Speaker: Roland Gritto (USA)
- **13:45** Stress inversions of focal mechanisms with application to the West Bohemia swarm region, Czech Republic (#IUGG-1993)
  - Solicited Speaker: Vaclav Vasruck (Czech Republic)
- **14:00** Intraplate stress field in South America from earthquake focal mechanisms (#IUGG-3825)
  - Marcelo Assumpcao (Brazil)
- **14:15** Geodynamics arguments around the IASPEI excursion in Southern Sweden 2013 on postglacial earthquakes (#IUGG-3041)
  - Soren Gregersen (Denmark)
- **14:30** Significance of crustal stress / strain patterns determined from focal mechanism solutions and geodetic movements of the Indian Plate interior (#IUGG-2198)
  - Sarada Mohanty (India)
- **14:45** Constraints on endglacial rupture mechanics from estimates of the current stress field (#IUGG-5471)
  - Björn Lund (Sweden)

### IAPSO 13:30-15:00, Terrace I

**P11 Wind Waves, Including Extreme Waves**

**P11a**

- **13:30** Ocean surface waves in hurricane Ike (2008) and superstorm Sandy (2012): Coupled modeling and observations (#IUGG-5636)
  - Solicited Speaker: Shuyi Chen (USA)
- **14:00** Foam input into air-sea interaction in hurricane conditions (#IUGG-3975)
  - Solicited Speaker: Ephim Golbraikh (Israel)
- **14:30** Wave stirring and spatially coherent organized motion in the near-surface layer of the ocean (#IUGG-5542)
  - Alexander Soloviev (USA)
- **14:45** Towards modelling transient sea states (#IUGG-4996)
  - Victor Shira (United Kingdom)
Monday, June 29

IAPSO

P06 The Southern Ocean: where Ocean, Ice and Atmosphere Meet
P06a
Chair: Karen Heywood (United Kingdom)
13:30 EM-Apex floats capture mixing processes and water mass transitions along the northern Antarctic Peninsula (#IUGG-4679)
J. Polton (United Kingdom)
13:45 Sources and fate of freshwater in the ocean west of the Antarctic Peninsula (#IUGG-1859)
Heather Regan (United Kingdom)
14:00 A model-based climatology of antarctic icebergs melt over the Southern Ocean (#IUGG-2463)
Nacho Merino (France)
14:15 Seasonal variability of the ocean mixed layer under sea-ice in the Southern Ocean (#IUGG-2185)
Violaine Pellichero (France)
14:30 A 17-month measurement of the Antarctic Slope current (#IUGG-5386)
Beatriz Peña-Molino (Australia)
14:45 Changes in southern subtropical ocean ventilation timescales (#IUGG-4235)
Rana Fine (USA)

IASPEI

S09 Mantle and Core Structure and Dynamics
S09a
Chairs: Arwen Deuss (United Kingdom), Thorne Lay (USA)
13:30 The mechanics of intermediate and deep focus earthquakes: experimental evidences (#IUGG-1057)
Alexandre Schubnel (France)
13:45 Disruption of the PV-PPV phase transition by an upwelling beneath Alaska (#IUGG-3227)
Donald Helmberger (USA)
14:00 Seismic structures in the Earth’s mid- and lower mantle (#IUGG-1875)
Solicited Speaker: Christine Thomas (Germany)
14:30 Mapping transition zone thickness under the Paraná Basin of SE Brazil: Evidence for a Mantle Plume? (#IUGG-0458)
Julia Jordi (Brazil)
14:45 Absorption band model for the inner core hemispherical heterogeneity (#IUGG-1474)
Hitoshi Kawakatsu (Japan)

IAG

G01 Reference Frames
G01g
13:30 Combination of GPS and VLBI on the observation level (#IUGG-1082)
Thomas Hobiger (Sweden)
13:45 A combined TRF of GNSS single differences and VLBI at the observation level during CONT11 (#IUGG-1917)
Youngee Kwak (Austria)
14:00 Combined processing of LEO and Ground-based GPS Observations: Impact on the Terrestrial Reference Frame (#IUGG-1313)
Benjamin Männel (Switzerland)
14:15 Positioning Accuracy Using a Combination of GNSS and Inter-Satellite Observations (#IUGG-2715)
Monika Stetter (Germany)
14:30 Double-Difference SLR Approach with GNSS, GEO, LAGEOS and LLR (#IUGG-4899)
Drazen Svehla (Switzerland)
14:45 GRASP 2015 – revised design and data analysis for a mission to improve the terrestrial reference frame (#IUGG-4145)
Yoaz Barsever (USA)
## S07 Seismic Hazard and Risk

**Chair:** Marco Pagani (Italy)

**S07b**

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<tr>
<th>Time</th>
<th>Title</th>
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<tbody>
<tr>
<td>13:30</td>
<td>The global seismic hazard assessment program (GSHAP) legacy</td>
<td>Domenico Giardini</td>
<td>South Hall 3</td>
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<tr>
<td>14:00</td>
<td>Are apparent Mmax differences between different superdomains in Stable Continental Regions real?</td>
<td>Kris Vanneste</td>
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<tr>
<td>14:15</td>
<td>Bipartite earthquake magnitude-frequency distributions</td>
<td>Roger M.W. Musson</td>
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<td>14:30</td>
<td>Understanding the earthquake source model for large-scale seismic hazard models: The middle east region</td>
<td>Laurentiu Danciu</td>
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<tr>
<td>14:45</td>
<td>Probabilistic seismic hazard assessment (PSHA) for Ethiopia and the neighborhood</td>
<td>Atalay Ayele</td>
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## IAMAS

**M06 Observations of Anthropogenic Aerosol-Cloud Interactions**

**Chair:** Johannes Muelmenstaedt (Germany)

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<th>Time</th>
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<tbody>
<tr>
<td>13:30</td>
<td>Has the cloud-mediated anthropogenic aerosol forcing really saturated?</td>
<td>Daniel Rosenfeld</td>
<td>Zoom</td>
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<td>13:45</td>
<td>Understanding the aerosol interactions with warm clouds</td>
<td>Yan Feng</td>
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<td>14:00</td>
<td>An imager-based retrieval of above-cloud absorbing aerosol optical depth and the optical and microphysical properties of underlying marine stratocumulus clouds</td>
<td>Kerry Meyer</td>
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<td>14:15</td>
<td>Assessing aerosol-warm cloud radiative sensitivities with satellite observations</td>
<td>Steven Platnick</td>
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<td>14:30</td>
<td>A ‘natural observatory’ for aerosol cloud interaction studies</td>
<td>Wolfgang Junkermann</td>
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<td>14:45</td>
<td>Reducing uncertainty of anthropogenic aerosol indirect forcing using a joint satellite-reanalysis approach</td>
<td>Karoline Block</td>
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## Poster sessions (p. 221)

### Union Symposia

**U09 Revolutions in Earth Sciences: from Different Spheres to a Common Globe**

**Chair:** Roger M.W. Musson (United Kingdom)

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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>16:30</td>
<td>Revolution and continuity: Seismology in the 20th century</td>
<td>George Mungov</td>
<td>Congress Hall</td>
</tr>
<tr>
<td>17:00</td>
<td>IAVCEI as a sponsor of evolution in volcanological studies</td>
<td>Patricia A Mothes</td>
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<tr>
<td>17:30</td>
<td>One science or many? Geophysics and the founding and evolution of the IUGG</td>
<td>Gregory A Good</td>
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### Joint Inter-Association Symposia

**JP05 Tsunamis (IAPSO, IASPEI)**

**Chair:** Ahmet Cevdet Yalciner (Turkey)

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<tbody>
<tr>
<td>16:30</td>
<td>NOAA/NGDC global water-level data in support of tsunami research</td>
<td>George Mungov</td>
<td>Forum Hall</td>
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<tr>
<td>16:45</td>
<td>From Sumatra 2004 to Tuhoku-Oki 2011: what we learn about Tsunami detection by ionospheric sounding</td>
<td>Giovanni Orchiani</td>
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<tr>
<td>17:00</td>
<td>Mapping paleotsunami inundation and finding recurrence interval using ground penetrating radar and optically stimulated luminescence</td>
<td>Victor Shuk (United Kingdom)</td>
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<tr>
<td>17:15</td>
<td>Assessment of Beidou/GPS combined precise positioning and its potential contribution to tsunami early warning in South China Sea</td>
<td>Kejie Chen</td>
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<tr>
<td>17:30</td>
<td>Comparison of GPS based and DART based tsunami measurement systems</td>
<td>Mikhail Lavrentiev</td>
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<tr>
<td>17:45</td>
<td>On the tsunami-generated electromagnetic fields: Its properties and application to tsunami early warning</td>
<td>Hiroaki Toh</td>
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</table>
### Monday, June 29

#### Joint Inter-Association Symposia

**JV03 Geophysical Imaging and Monitoring of Volcanoes (IAVCEI, IASPEI, IAGA)**

**JV03d**

**Chairs:** Yoichi Sasai (Japan), Takeshi Hashimoto (Japan)

- **16:30** An overview of RSTVOLC performances in detecting volcanic hot spots by means of polar and geostationary satellite data (#IUGG-1925)
  - **Solicited Speaker:** Nicola Pergola (Italy)

- **17:00** Rapid fluid ascent from magma reservoir to surface revealed by strain data from Soufrière Hills Volcano (Montserrat, West Indies) (#IUGG-1559)
  - **Stefanie Hautmann** (Switzerland)

- **17:15** Geodetic monitoring of volcanic activity of El Hierro (Canary Islands) and Fogo (Cabo Verde) (#IUGG-3720)
  - **Takeshi Sagya** (Japan)

- **17:30** Monitoring of Sakurajima Volcano, Japan, using X-band SAR/InSAR data (#IUGG-3143)
  - **Yousuke Miyagi** (Japan)

#### Joint Inter-Association Symposia

**JS06/JP06 Array Techniques for Monitoring the State of the Earth (IASPEI, IAPSO, IAGA) / Acoustical Oceanography (IAPSO, IASPEI)**

**JS06d**

**Chair:** Keith D. Koper (USA)

- **16:30** Array-based techniques for study of the deep mantle and core (#IUGG-2450)
  - **George Helfrich** (United Kingdom)

- **16:45** Application of strong wind statistics for disaster management related to wind hazards in South Africa (#IUGG-0223)
  - **Andries Kruger** (South Africa, Republic of)

- **17:00** Matched Field Processing and Correlation Detection with Seismic Arrays (#IUGG-2494)
  - **Solicited Speaker:** David Harris (USA)

- **17:30** Automatic location of local swarm earthquakes using simultaneous array and sparse network waveform stacking (#IUGG-2540)
  - **Nasim Karamzadeh** (Germany)

- **17:45** Usage of joint beamforming and polarization analysis for array processing (#IUGG-1817)
  - **Andrey Fedorov** (Russia)

#### IAMAS

**M22 Understanding and Predicting High-impact Weather and Climate Extremes**

**M22b**

**Chair:** Francis Zwiers (Canada)

- **16:30** Distinguishing natural and anthropogenic influences on extreme fire danger in Australia (#IUGG-0681)
  - **Mitchell Black** (Australia)

- **16:45** Application of strong wind statistics for disaster management related to wind hazards in South Africa (#IUGG-0223)
  - **Andries Kruger** (South Africa, Republic of)

- **17:00** Ensemble application for extreme weather/climate detection (#IUGG-3353)
  - **Hong Gua** (USA)

- **17:15** Projecting climate extremes in Ireland using extreme value theory (#IUGG-1538)
  - **John O’Sullivan** (Ireland)

- **17:30** Investigating extreme climate events of the past century (#IUGG-3413)
  - **Markus Donat** (Australia)

- **17:45** Need for caution in interpreting extreme weather statistics (#IUGG-5294)
  - **Prashant Sardeshmukh** (USA)

#### IAMAS

**G02 Static Gravity Field Models and Observations**

**G02f**

**Chair:** Georgios Vergos (Greece)

- **16:30** GOCE based gravity field models – Signal characteristics and error assessment (#IUGG-1172)
  - **Thomas Gruber** (Germany)

- **16:45** Space-wise grids of GOCE gravity gradients by processing the full mission dataset (#IUGG-4326)
  - **Andrea Gatti** (Italy)

- **17:00** Gravity gradient grids at GOCE satellite altitude for lithospheric modelling (#IUGG-2176)
  - **Johannes Bouman** (Germany)

- **17:15** Spherical harmonic analysis of third-order gravitational tensor components and its implications for future gravity-dedicated satellite mission designs (#IUGG-2015)
  - **Michal Sprlak** (Czech Republic)

- **17:30** Precise and fast computation of gravitational field of celestial body of general shape (#IUGG-1199)
  - **Tosifukushima** (Japan)

#### IAMAS

**M18/M17 Past Climate Changes: a Key for the Future / Science of Adaptation to Climate Change**

**M18c**

**Chairs:** Keith Alverson (Kenya), Kurt Lambeck (Australia), Michael MacCracken (USA)

- **16:30** Holocene relative sea level history and models of glacial isostatic adjustment: constraints from the regions of forebulge collapse (#IUGG-5293)
  - **Solicited Speaker:** Nicola Pergola (Italy)

- **16:45** West African Monsoon strength modulated by Saharan dust: a look into the future from a palaeo-perspective (#IUGG-1336)
  - **Gabriele Messeri** (Sweden)

- **17:00** Geospatial technology and information and communication technology for adaptation to climate change, at Lakshadweep Islands, India (#IUGG-0597)
  - **Ashutosh Saidawat** (India)

- **17:15** The lifecycles of drought: Science, preparedness and adaptation across timescales (#IUGG-1604)
  - **Roger Pulwarty** (USA)

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**Monday, June 29**

### IAMAS 16:30-18:00, Small Theatre

**M14 Middle Atmosphere Science**

M14n  
**Chair:** Hye-Yeong Chun (Republic of Korea)  

- **Gravity-wave induced anomalous potential vorticity gradient generating planetary waves in the winter mesosphere** (#IUGG-2637)  
  **Solicited Speaker:** Kaoru Sato (Japan)  
  **Richard Walterscheid (USA)**  
  **17:00 Impact of storm top gravity wave process on the upper troposphere/lower stratosphere physics and chemistry** (#IUGG-5480)  
  **Pao Wang (USA)**  
  **17:15 Excitation of long waves by compact anelastic internal wavepackets** (#IUGG-1256)  
  **Bruce Sutherland (Canada)**  
  **17:30 The relative influence of wind and stability on gravity wave distributions in the middle atmosphere** (#IUGG-2606)  
  **Peter Preuße (Germany)**  
  **17:45 Interaction between gravity waves and nightglow as observed by the Suomi-NPP Day/Night Band** (#IUGG-3200)  
  **Martin Setvák (Czech Republic)**

### IAMAS 16:30-18:00, Club B

**M16 Radiation in the Climate System**

M16c  
**Chair:** David Doelling (USA)  

- **Utility of surface radiation budget from EarthCARE and geostationary satellites** (#IUGG-3529)  
  **Teruyuki Nakajima (Japan)**  
  **16:45 A multi-pixel approach for correcting biases in cloud radiative effects due to spatial inhomogeneity and aerosols** (#IUGG-0274)  
  **Sebastian Schmidt (USA)**  
  **17:00 Absorption of solar radiation in the clear and cloudy skies** (#IUGG-1655)  
  **Maria Z. Hakuba (Switzerland)**  
  **17:15 Comparison of Radiative Fluxes: Differences in global distributions between output from global modeling and satellite data-sets** (#IUGG-2075)  
  **Stefan Kinne (Germany)**  
  **17:30 Evaluation of CMIP5 and NASA GISS post-CMIP5 Simulated Clouds and TOA Radiation Budgets Using NASA Satellite Observations** (#IUGG-3841)  
  **Xiuping Dong (USA)**  
  **17:45 The ENSO Effects on Tropical Clouds and Top-of-Atmosphere Cloud Radiative Effects in CMIP5 Models** (#IUGG-1890)  
  **Wenyi Su (USA)**

### IAMAS 16:30-18:00, Club C

**M03/M15 Weather and the Global Atmospheric Electric Circuit / Electrical Charging and Discharging in Thunderclouds**

M03b  
**Chair:** Daohong Wang (Japan)  

- **How does atmospheric ionization influence aerosols and clouds?** (#IUGG-3238)  
  **Solicited Speaker:** Brian A. Tinsley (USA)  
  **17:00 Effects on winter circulation and sea surface temperature of solar wind changes** (#IUGG-3826)  
  **Limin Zhou (China)**  
  **17:15 Charge balance and ionospheric potential dynamics in time dependent global electric circuit model** (#IUGG-3297)  
  **Jaroslav Jansky (USA)**  
  **17:30 Calculations of electric field in numerical weather prediction models** (#IUGG-0620)  
  **Svetlana Dementyeva (Russia)**  
  **17:45 A modeling study of the effects of aerosol on development of thunderstorm electrification** (#IUGG-3466)  
  **Yan Yin (China)**

### IAMAS 16:30-18:00, Club D

**S06 Strong Ground Motion: Ground Motion Prediction Equations**

S06cb  

- **Ground motion prediction equations and site amplification factors for national seismic hazard mapping: Their 2015 application in Canada** (#IUGG-4230)  
  **John Adams (Canada)**  
  **16:45 Ground motion prediction equations and ensemble models: Comparing the results of Italy and Japan** (#IUGG-2712)  
  **Pamela Roselli (Italy)**  
  **17:00 Ground motion prediction equations for site-specific PSHA: the case of Northern Italy** (#IUGG-3057)  
  **Giovanni Lanzano (Italy)**  
  **17:15 New worldwide equations for predicting PGA, PGV and 5% damped PSA based on selected data from the SIMBAD database** (#IUGG-3782)  
  **Mohsen Ghafori-Ashlany (Iran)**  
  **17:30 Contribution of the National Accelerometric Network of Ecuador to the selection of GMPEs** (#IUGG-4895)  
  **Juan-Carlos Singauchu-Armas (Ecuador)**  
  **17:45 Refinement of crustal velocity structure model for ground motion simulations in southwest Japan using interstation green’s functions** (#IUGG-4470)  
  **Kimiyuki Asano (Japan)**
Monday, June 29

**IAVCEI 16:30-18:00, Club E**

**VS04 Collapse Calderas**

**VS04c**

**Chairs:** Adelina Geyer (Spain), Caroline Bouvet De Maisonneuve (Singapore), Nobuo Geshi (Japan), Olivier Bachmann (Switzerland)

16:30 Campi Flegrei caldera (Italy) unrests: new evidence, monitoring and interpretation issues (#IUGG-3213)

Solicited Speaker: Giuseppe De Natale (Italy)

17:00 Shallow-depth sill intrusion and time history of the ground displacement pattern: the Campi Flegrei caldera (Italy) case (#IUGG-2126)

Luca Crescentini (Italy)

17:15 Intrusion of a magmatic sill beneath Campi Flegrei caldera (Southern Italy) 2012-2013 (#IUGG-4435)

Luca D’Auria (Italy)

17:30 Viscoelastic relaxation effects on ground deformation at calderas, with reference to Campi Flegrei, Italy (#IUGG-4537)

Antonella Amoruso (Italy)

17:45 The new on-line version of the collapse caldera database (CCDB) (#IUGG-2829)

Adelina Geyer Traver (Spain)

**IASPEI 16:30-18:00, North Hall**

**S08b/S08c Lithosphere Structure and Dynamics: Lithospheric Stress and Strain - Observations and Modelling, Plate Boundary Deformation at Lithospheric Scale**

**S08bc**

**Chair:** Oliver Heidbach (Germany)

16:30 The geodetic three dimensional strain-rate field in Switzerland: New methods and results (#IUGG-3340)

Alain Geiger (Switzerland)

16:45 3D Stress and Strain Modelling in Nordland, Northwestern Norway (#IUGG-4073)

Sofie Gradmann (Norway)

17:00 Modeling the geological and geodetic deformation in the Northeast Japan arc with earthquake cycle model (#IUGG-5126)

Akinori Hashima (Japan)

17:15 Stress accumulation process in and around the Atotsugawa fault, central Japan, estimated from focal mechanism analysis and GNSS data (#IUGG-4915)

Youichiro Takada (Japan)

17:30 Modelling deformation, stress state, and mountain building in the island-arc crust of northeastern and central Japan considering heterogeneous thermal structure (#IUGG-5301)

Bunichiro Shibazaki (Japan)

17:45 Coseismic stress change in frontal prism during the 2011 Tohoku-oki earthquake examined from the Japan Trench Fast Drilling project (#IUGG-0294)

Weiren Lin (Japan)

**IAPSO 16:30-18:00, Terrace I**

**P11 Wind Waves, Including Extreme Waves**

**P11b**

16:30 Developing the Indo-Pacific GPS-Aided Tsunami Early Detection (DATED) System (#IUGG-4207)

Y. Tony Song (USA)

16:45 Ocean wave directional spectra estimated from high-frequency radar (#IUGG-2115)

Yukiharu Hisaki (Japan)

17:00 Rogue wave run-ups on the beach: observations, measurements and theoretical predictions (#IUGG-0457)

Ira Didenkovalova (Russia)

17:15 Formation of an inverse cascade for the crossing of harmonic nonlinear surface waves on deep water (#IUGG-0601)

Viktor Efimov (Russia)

17:30 Swell-dominant surface waves observed by a moored buoy with a GPS wave sensor in Otsuchi Bay, a ria in Japan (#IUGG-4708)

Kosei Komatsu (Japan)

17:45 Nonlinear infragravity waves (#IUGG-5547)

Alex Sheremet (USA)
Monday, June 29

**IAPSO**

**P06 The Southern Ocean: where Ocean, Ice and Atmosphere Meet**

**P06b**
- **Chair:** Anna Wahlin (Sweden)
- 16:30 Transport pathways of Circumpolar Deep Water on the Amundsen continental shelf (#IUGG-3824)
  - Karen Assmann (Sweden)
- 16:45 Mixing at the fringes of a rapidly melting Antarctic ice shelf (#IUGG-3560)
  - Alberto Naveira Garabato (United Kingdom)
- 17:00 Internal waves and turbulent mixing on the amundsen sea shelf: West Antarctica (#IUGG-3196)
  - Georges Djoumna (United Arab Emirates)
- 17:15 Identifying meltwater pathways in the Amundsen Sea (#IUGG-3254)
  - Louise Biddle (United Kingdom)
- 17:30 Sustained ocean cooling observed in front of Pine Island Glacier in 2011-13 (#IUGG-4979)
  - Ben Webber (United Kingdom)

**IASPEI**

**S09 Mantle and Core Structure and Dynamics**

**S09b**
- **Chairs:** Allen McNamara (USA), Thorne Lay (USA)
- 16:30 S-wave velocity structure of the continent of Asia from Rayleigh wave data (#IUGG-2621)
  - Alena Seredkina (Russia)
- 16:45 Electronic spin and valence states of bridgmanite and post-perovskite in the earth's lower mantle: Implication for the lower-mantle structure (#IUGG-3322)
  - Zhu Mao (China)
- 17:00 Modelling the thermo-chemical evolution of the mantle starting from a magma ocean (#IUGG-3846)
  - Solicited Speaker: Paul Tackley (Switzerland)
- 17:30 Seismic Evidence for Ancient Subduction of Izanagi Plate and Dynamic Implication (#IUGG-2175)
  - Juan Li (China)
- 17:45 Evolutionary models of the Earth with a grain size-dependent rheology (#IUGG-3919)
  - Antoine Rozel (Switzerland)

**IASPEI**

**S01/S01f Seismological Observation and Interpretation: Open session, Seismic Time series Analysis**

**S01e**
- 16:30 High-resolution, ultra low power, integrated aftershock and microzonaion system (#IUGG-4232)
  - Leonid Zimakov (USA)
- 16:45 Teleseismic peak ground accelerations from the may 24, 2013 sea of Okhotsk deep earthquake (#IUGG-3989)
  - Keiko Kuge (Japan)
- 17:00 Amplitudes of pS depth phase observed at small epicentral distances from offshore earthquakes in the northeastern Japan (#IUGG-5087)
  - Masahiro Kosuga (Japan)
- 17:15 Point spread functions for earthquake source imaging: Connection with seismic interferometry (#IUGG-3561)
  - Hisashi Nakahara (Japan)
- 17:30 Identification of the multi-sphere sources in the coastal and marine environment inferred from infrasound array observations in East Antarctica (#IUGG-0303)
  - Masaki Kanao (Japan)
- 17:45 Pulsations of the oscillations of the Earth after the earthquakes (#IUGG-1055)
  - Gennady Sobolev (Russia)

**IAG**

**G04 Earth Rotation and Geodynamics**

**G04a**
- **Chair:** Richard Gross (USA)
- 16:30 Numerical issues in space-geodetic data analysis and their impact on Earth orientation parameters (#IUGG-2986)
  - Thomas Artz (Germany)
- 16:45 Effects of meteorological input data on the very long baseline interferometry Earth orientation parameters (#IUGG-2073)
  - Robert Heinkelmann (Germany)
- 17:00 A new high-frequency Earth rotation model in the analysis of VLBI observations (#IUGG-1317)
  - Matthias Madzak (Austria)
- 17:15 Determination of atmospheric tidal effects in Earth rotation parameters by means of VLBI (#IUGG-2476)
  - Anastasios Girdiuk (Austria)
- 17:30 Impact of the oceanic S1 tide on Earth’s rotation – answering questions related to dissipation and forcing by numerical modeling (#IUGG-1891)
  - Michael Schindelegger (Austria)
- 17:45 Multichannel Singular Spectrum Analysis of the Axial Atmospheric Angular Momentum (#IUGG-0572)
  - Leonid Zotov (Russia)
Monday, June 29

IASPEI 16:30-18:00, South Hall 3

S07 Seismic Hazard and Risk
S07c

Chair: Mustapha Erdik (Czech Republic)

16:30 Investigating the impact of a more advanced method for ground motion modeling in earthquake damage and loss assessment (#IUGG-2639)
Mathilde Sorensen (Norway)

17:00 The use of vector probabilistic seismic hazard analysis in structural risk assessment (#IUGG-2811)
Mohsen Kohrangi (Italy)

17:15 Identification of risk of soil-building resonance for strategic public buildings in Dubrovnik-Neretva County (Croatia) (#IUGG-2138)
Snjezan Prevolnik (Croatia)

17:30 Computing seismic loss estimates within a big city, using open-source solutions. Bucharest case study (#IUGG-0565)
Dragos Toma-Daniila (Romania)

IAMAS 16:30-18:00, Zoom

M06 Observations of Anthropogenic Aerosol-Cloud Interactions
M06b

Chairs: Maria Kanakidou (Greece), Jim Haywood (United Kingdom)

16:30 Convective invigoration of precipitating clouds by anthropogenic aerosol (#IUGG-5091)
Johannes Muelmenstaedt (Germany)

16:45 Aerosol-cloud interactions in ship tracks using MODIS/MISR (#IUGG-2510)
Yi-Chun Chen (USA)

17:00 Extensive closed-cell marine stratocumulus downwind of Europe – a large cloud radiative effect or forcing? (#IUGG-3641)
Tom Goren (Israel)

17:15 Aerosol-cloud-climate interactions from regional to global scale (#IUGG-4194)
Yuan Wang (USA)

17:30 Impact of activation process on fog life cycle (#IUGG-1789)
Marie Mazoyer (France)

17:45 Development of an aerosol-cloud resolving model for studying aerosol-cloud-precipitation interactions (#IUGG-3978)
Udaya Bhaskar Gunturu (Saudi Arabia)

Joint Inter-Association Symposia 18:00-19:30, Terrace I

PDV Protected Volcanic Areas and Volcanological Heritage (IAVCEI, UNESCO, IUGS)
PD01

Moderators: Joan Marti (Spain), Karoly Nemeth (New Zealand)

18:00 Volcanic Geoheritage of Badenian explosive sequence and the related mining activity, Tokaj Mountains, Carpathian-Pannonian Region (#IUGG-2743)
Janos Szepesi (Hungary)

18:00 Communicating volcanological heritage values through education at the INGV centres of vulcano and stromboli (Aeolian Islands, Italy) (#IUGG-4758)
Maria Luisa Carapezza (Italy)

18:00 The Pannonian Volcano Route – volcanological heritage and geotouristic perspectives (#IUGG-4802)
Szabolcs Harangi (Hungary)

Poster sessions (p. 221)

18:00-19:30, Poster Area (Foyer)
Tuesday, June 30

Union Symposia 8:30-10:00, Congress Hall

U03 Mathematics and Observations of Earth Systems

U03a

Chair: Yehuda Ben-Ze (USA)
8:30 The inference spiral of earthquake system science (#IUGG-3873)
Solicited Speaker: Tom Jordan (USA)
9:00 Imaging and monitoring seismic velocity in the Earth from records of ambient noise (#IUGG-3704)
Solicited Speaker: Michel Campillo (France)
9:30 A 4-D earthquake cycle model for bounding seismic moment accumulation rate (#IUGG-3354)
Solicited Speaker: David Sandwell (USA)

Joint Inter-Association Symposia 8:30-10:00, Forum Hall

JP05 Tsunamis (IAPSO, IASPEI)

JP05h

Chair: Fumihiko Imamura (Japan)
8:30 Physical modelling of tsunami generation and propagation in a large-scale experimental facility (#IUGG-0512)
Ira Didenkulova (Russia)
8:45 Observational support for the IPRC model simulations of marine debris transport from the 2011 Japan tsunami (#IUGG-1335)
Jan Hafner (USA)
9:00 Detecting tsunami inside the source region by ocean-bottom pressure: a theoretical study (#IUGG-2333)
Tatsuhiko Saito (Japan)
9:15 Earthquake-generated tsunami modelling through a pre-calculated database of uniformly-spaced elementary sources: validation and potential applications for the Mediterranean Sea (#IUGG-5339)
Roberto Tonini (Italy)
9:30 Tsunami debris boats forge Japan – US connection and foster tsunami education efforts (#IUGG-5139)
Lori Dengler (USA)
9:45 Unusual amplification of tsunami waves in Seakeave Inlet (#IUGG-5426)
Isaac Fine (Canada)

IAVCEI 8:30-10:00, Meeting Hall 1

VS01 New Advances in Volcano Seismology and Related Geophysical Methods

VS01a

Chair: Jessica Johnson (United Kingdom)
8:30 Temporal variation of seismicity pattern related to the eruptions of volcano Nyamulagira in 1991 and 2006 (#IUGG-0455)
Mifundu Dieudonne Wafula (Democratic Republic of Congo)
8:45 Monitoring the Campi Flegrei caldera through passive image interferometry (#IUGG-1156)
Lucia Zaccarelli (Italy)
9:00 Tomography studies of active volcanoes of Kamchatka (#IUGG-1170)
Ivan Koukou (Russia)
9:15 Statistical analysis of large volcano seismology data sets: Rapid cross-correlation and machine learning techniques (#IUGG-5291)
Mel Rodgers (United Kingdom)
9:30 Geodynamic constraints of volcanic unrest in the Canary Islands (#IUGG-3997)
Carmen Lopez (Spain)
9:45 Dynamics of Santorini volcano (Greece) during the 2011-2012 unrest (#IUGG-4090)
Vasso Saltogianni (Greece)

IAPSO 8:30-10:00, Panorama Hall

P02 Physics and Biogeochemistry of Semi-Enclosed and Shelf Seas

P02a

Chair: Katrin Schroeder (Italy)
8:30 Observation of 2012-2013 deep convection events in the north-western Mediterranean Sea (#IUGG-4370)
Pierre Tezaur (France)
8:45 The Ligurian Sea at the outset of the 21st century (#IUGG-2838)
Simona Arachi (Italy)
9:00 Atmospheric controls on the Mediterranean Sea surface freshwater flux (#IUGG-1732)
Simon Josey (United Kingdom)
9:15 Abyssal circulation and hydrographic conditions in the Western Ionian Sea during Spring-Summer 2007 and Autumn-Winter 2007-2008 (#IUGG-0574)
Virna Loana Meccia (Italy)
9:30 Dense water formation sensitivity studies in the Northern Adriatic (Mediterranean Sea) (#IUGG-1381)
Ivica Vilibic (Croatia)
9:45 Energetics of semi-enclosed basins with two-layer flows at the strait (#IUGG-1809)
Paola Cesol (USA)
Tuesday, June 30

IAMAS

M22 Understanding and Predicting High-impact Weather and Climate Extremes

M22c

Chair: Julia Keller (Germany)

8:30 Using advances in meteorology to build resilience to high impact weather (#IUGG-3598)

Solicited Speaker: Brian Golding (United Kingdom)

9:00 Flood Forecasts Near real-time flood monitoring and impact assessment for the reinsurance and civil contingency sectors (#IUGG-5499)

Richard Wylde (United Kingdom)

9:15 TIGGE-LAM ensemble datasets for the prediction of heavy precipitation events: first results at ARPA-SIMC (#IUGG-5704)

Andrea Montani (Italy)

9:30 High-impact, end-user focused forecasts and their verification during the Sochi 2014 Winter Olympics (#IUGG-2586)

Miguel Nogueira (Portugal)

8:30-10:00, Meeting Hall IV

IAG

G02 Static Gravity Field Models and Observations

G02g

Chair: Jianliang Huang (Canada)

8:30 Stabilized static gravity field solution with the normal equation derived by short arc approach from GRACE data (#IUGG-0739)

Yunzhong Shen (China)

8:45 Extension of the SHTOOLS-Software-Package for ultra-high spherical harmonic computations – a step towards potential modelling to degree and order 21,600 (#IUGG-0802)

Moritz Rexer (Germany)

9:00 GRACE/GOCE global gravity model as noisy data set in regional quasi-geoid modeling using spherical radial base functions (#IUGG-1086)

Roland Kless (Netherlands)

9:15 5’x5’ global geoid GG2015 and its evaluation (#IUGG-1149)

WenBin Shen (China)

9:30 Comparison of computational methods for ultra-high degree spherical harmonic series (#IUGG-4109)

Konstantinos Patlakis (Greece)

9:45 An oblate ellipsoidal approach to update geopotential models over the oceans (#IUGG-1529)

Josef Sebera (Czech Republic)

8:30-10:00, Meeting Hall V

IAVCEI

VS10/VS11/VS31 Probabilistic Volcano Hazard Analysis / Short-Term Forecasting of Volcanic Hazard: So Far, So Good? / Quantifying and Communicating Uncertainty During Volcanic Crisis

VS10a

8:30 Probabilistic hazard assessment from pyroclastic density currents in the neapolitan area (#IUGG-3324)

Solicited Speaker: Laura Sandri (Italy)

8:45 Quantifying aleatory and epistemic uncertainties of Pyroclastic Density Currents at Mt Vesuvius (Italy) as modeled through Energy Cone (#IUGG-4228)

Pablo Tierz (Spain)

9:00 Investigating the effects of event scale and vent location on pyroclastic density current hazard maps of Campi Flegrei caldera (Italy) (#IUGG-5260)

Augusto Neri (Italy)

9:15 Towards a Proactive Risk Mitigation Strategy at La Fossa Volcano, Vulcano Island (#IUGG-2210)

Solicited Speaker: Sebastien Biass (Switzerland)

9:30 Coupling geomorphic analyses and probabilistic modeling at Merapi volcano: Implications for hazard zonation and future eruptive activity (#IUGG-2942)

Sylvain Charbonnier (USA)

9:45 Calculation of rain triggered lahar volumes for probabilistic lahar hazard mapping (#IUGG-1061)

Stuart Mead (Australia)

8:30-10:00, Small Hall

IAMAS

M13 Regional Climate Variability and Change

M13a

8:30 Free and forced changes of the surface atmospheric circulation and storminess over the last 140 years (#IUGG-5296)

Solicited Speaker: Prashant Sardeshmukh (USA)

9:00 A data centred method to estimate and map changes in the full distribution of daily precipitation and its exceedances (#IUGG-4456)

Sandra Chapman (United Kingdom)

9:15 The potential to improve climate change detection through optimal seasonal averaging: The case of the North Atlantic jet (#IUGG-3535)

Giuseppe Zappa (United Kingdom)

9:30 Factors causing recent changes in temperature extremes (#IUGG-3840)

Solicited Speaker: Randall Dole (USA)

8:30-10:00, Small Theatre
Tuesday, June 30

IAMAS 8:30-10:00, Club A

**M20 The Ocean’s Role in Climate Variability, Change and Predictability**

**M20a**

**Chairs:** Fei Xie (China), Ingo Richter (Japan)

8:30 The madden-julian oscillation in a warmer world (#IUGG-2836)

Huang-Hsiung Hsu (Taiwan - China)

8:45 Indo-Pacific warm pool area expansion, modoki activity, and tropical cold-point tropopause temperature variations (#IUGG-0421)

Fei Xie (China)

9:00 Revisiting the recent slowdown of upper tropospheric warming over the tropics (#IUGG-2066)

Youichi Kamae (Japan)

9:15 Hiatus and accelerated global warming due to tropical Pacific natural variability (#IUGG-4833)

Yu Kosaka (Japan)

9:30 Pacific interdecadal variability driven by tropical-extratropical interactions (#IUGG-1239)

Riccardo Farneti (Italy)

9:45 A multi-model ensemble pattern regression method to correct the tropical Pacific SST change pattern under global warming (#IUGG-1251)

Ping Huang (China)

IAMAS 8:30-10:00, Club B

**M16 Radiation in the Climate System**

**M16d**

**Chair:** Martin Wild (Switzerland)

8:30 Observational Determination of Surface Radiative Forcing by the Major Anthropogenic Greenhouse Gases (#IUGG-1830)

Solicited Speaker: William Collins (USA)

9:00 Greenhouse Gas and Ozone Radiative Forcing for the RCP8.5 Scenario with the EMAC Chemistry-Climate Model (#IUGG-2128)

Catrin Gellhorn (Germany)

9:15 Radiative transfer simulations of the SW and LW irradiance and brightness temperature profiles above Lampedusa supersite during the ChArMEx/ADRIMED campaign (#IUGG-1777)

Daniela Meloni (Italy)

9:30 TSIS on the international space station: Continuity of the solar irradiance data record (#IUGG-5368)

Peter Pilewskie (USA)

9:45 The Total Solar Irradiance measurements with PREMOS/PICARD - absolute accuracy, relative stability and comparison with other instruments (#IUGG-4891)

Werner Schmutz (Switzerland)

IAMAS 8:30-10:00, Club C

**P04 Oceanic Boundary Current Systems**

**P04a**

**Chair:** Julie McClean (USA)

8:30 Western boundary currents and the discovery of weather in the ocean (#IUGG-2725)

Solicited Speaker: Meghan Cronin (USA)

9:00 Seasonal cycle of mesoscale instability of the West Spitsbergen Current (#IUGG-4305)

Torsten Kanzow (Germany)

9:15 Role of the Slope Sea and the Labrador Current on the Gulf Stream’s interannual migration (#IUGG-0255)

Alejandra Sanchez-Franks (USA)

9:30 Thermoline and intermediate circulation in the Southwest Pacific low latitude western boundary currents (#IUGG-0830)

Cyril Gemineaud (France)

9:45 Mass and Heat Transport of the East Australian Current (#IUGG-2611)

Ken Ridgway (Australia)

IASPEI 8:30-10:00, Club D

**S07 Seismic Hazard and Risk**

**S07d**

**Chair:** Hugo Yepes (Ecuador)

8:30 Rupture Process of the M7.2 October 2013 Bohol Philippines Earthquake (#IUGG-1836)

Phil Cummins (Australia)

9:00 The effects of February 3, 2008, earthquake in the lake Kivu Basin, Western Branch of the East-Africa Rift Valleys system (#IUGG-0409)

Mifundu Dieudonne Wafula (Democratic Republic of Congo)

9:15 Seismic characteristics and seismic hazard assessment: Source region of the 1905 great Kangra earthquake Mr 8.0 in western Himalaya (#IUGG-0262)

Uma Ghosh (India)
## IAVCEI

**VS14/VS07 Unlocking the Enigma of Monogenetic Volcanism from a Historic Perspective to the Most Novel Recent Approaches / Explosive Basaltic Eruptions on Earth and other Planets**

### VS14a

**Chairs:** Ian Smith (New Zealand), Karoly Nemeth (New Zealand)

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Presenter(s)</th>
<th>Location</th>
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<tbody>
<tr>
<td>8:30</td>
<td>Jagged Rocks Complex: A window on the plumbing system of monogenetic volcanoes (Hopi Buttes Volcanic Field, Navajo Nation, Arizona, USA)</td>
<td>Giuseppe Re (Italy)</td>
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<tr>
<td>8:45</td>
<td>3D seismic analysis of a monogenetic volcanic field from the Faroe-Shetland Basin, NW Scotland (IUGG-1635)</td>
<td>Charlotte McLean (United Kingdom)</td>
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<tr>
<td>9:00</td>
<td>3D Seismic tomography of El Hierro: insights into the plumbing system of a monogenetic volcanic field (IUGG-4532)</td>
<td>Joan Marti (Spain)</td>
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<tr>
<td>9:15</td>
<td>The 2012-2013 Tolbachik fissure eruption: geochemical, petrographic and mineralogical records of magma storage zone processes from lava samples (IUGG-0508)</td>
<td>Anna Voynets (Russia)</td>
<td></td>
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<tr>
<td>9:30</td>
<td>Modeling eruption characteristics and tephra dispersal of the 1085 AD Sunset Crater (AZ, USA) eruption using the inversion approach (IUGG-0904)</td>
<td>Fabrizio Alfaro (USA)</td>
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<tr>
<td>9:45</td>
<td>Constructing a temporal eruption record for the Auckland Volcanic Field via Bayesian age reconciliation (IUGG-1439)</td>
<td>Mark Bebbington (New Zealand)</td>
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## IAVCEI

**VS28 Understanding VIPS (Volcanic and Igneous Plumbing Systems) through Multidisciplinary Research**

### VS28a

**Chair:** Steffi Burchardt (Sweden)

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<tr>
<th>Session</th>
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<tbody>
<tr>
<td>8:30</td>
<td>Igneous body construction and magma chamber evolution: insight from field observations, geophysics, geochronology, petrology and modelling (IUGG-2310)</td>
<td>Solicited Speaker: Catherine Annes (United Kingdom)</td>
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<tr>
<td>9:00</td>
<td>Structural and kinematic analysis of dyke propagation and magma flow direction in glassy rhyolite dykes: Arran, Scotland (IUGG-4410)</td>
<td>Richard Walker (United Kingdom)</td>
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<tr>
<td>9:15</td>
<td>Stress changes, focal mechanisms and earthquake scaling laws for the 2000 dike at Miyakejima (Japan) (IUGG-3769)</td>
<td>Luigi Passarelli (Germany)</td>
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<tr>
<td>9:30</td>
<td>What arrested the 2000 dike intrusion at Miyakejima (Japan)? (IUGG-4881)</td>
<td>Eleonora Riva (Italy)</td>
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<tr>
<td>9:45</td>
<td>Rate of lateral magma migration beneath submarine volcanic arcs derived from earthquake swarm analysis (IUGG-5511)</td>
<td>Alex Spicak (Czech Republic)</td>
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## IASPEI

**S08/S08a Lithosphere Structure and Dynamics: Open session, Lithospheric Structure - LAB Observations and Models**

### S08a

**Chair:** Kevin Furlong (USA)

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<tr>
<th>Session</th>
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<tbody>
<tr>
<td>8:30</td>
<td>Upper mantle structure of the transition between Alps and Apennines revealed by shear wave splitting from the CIFALPS project (IUGG-2684)</td>
<td>Silvia Bondadelli (Italy)</td>
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<tr>
<td>8:45</td>
<td>The influence of water on seismic wave attenuation in the upper mantle (IUGG-3082)</td>
<td>Ian Jackson (Australia)</td>
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<tr>
<td>9:00</td>
<td>Mechanisms and geologic significance of the mid-lithospheric discontinuity in the continent (IUGG-4617)</td>
<td>Solicited Speaker: Shin-ichiro Karato (USA)</td>
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<tr>
<td>9:15</td>
<td>Quantitative texture analysis and seismic properties of mantle peridotites (Balmuccia, Italy) (IUGG-1489)</td>
<td>Tatiana Ivanova (Russia)</td>
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<tr>
<td>9:30</td>
<td>High-resolution teleseismic tomography study of the upper mantle structures below POLENET/LAPNET array in northern Fennoscandian Shield (IUGG-5318)</td>
<td>Hanna Silvennoinen (Finland)</td>
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## IAPSO

**P03 Ocean Mixing**

### P03a

**Chair:** Toshiyuki Hibiya (Japan)

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<tr>
<th>Session</th>
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<tr>
<td>8:30</td>
<td>Mesoscale modulation of mixing and transformation of the Denmark Strait Overflow (IUGG-5084)</td>
<td>Inga Koszalka (Germany)</td>
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<tr>
<td>8:45</td>
<td>Extremely long Kelvin-Helmholtz billow trains in the Romanche Fracture Zone (IUGG-1048)</td>
<td>Hans van Haren (Netherlands)</td>
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<td>9:00</td>
<td>Turbulent mixing driven modification of Antarctic origin bottom water in the Samoan Passage (IUGG-3533)</td>
<td>Glenn Carter (USA)</td>
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<tr>
<td>9:15</td>
<td>A microscale view of mixing and overturning across the Antarctic Circumpolar Current (IUGG-3450)</td>
<td>Alberto Naveira Garabato (United Kingdom)</td>
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<tr>
<td>9:30</td>
<td>Intense mixing and hydraulic flow in the Antarctic Circumpolar Current over a ridge (IUGG-1333)</td>
<td>Alexander Forryan (United Kingdom)</td>
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<tr>
<td>9:45</td>
<td>A comparison between internal waves observed in the Southern Ocean and lee wave generation theory (IUGG-4481)</td>
<td>Maxim Nikurashin (Australia)</td>
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</table>
Tuesday, June 30

**IAPSO**

**P06 The Southern Ocean: where Ocean, Ice and Atmosphere Meet**

**P06c**

*Chair: Andrew Thompson (USA)*

- **8:30** Southern ocean air-sea fluxes: New insights from the southern ocean flux station (#IUGG-3947)
  *Simon Josey (United Kingdom)*
- **8:45** Zonal variability of the Southern Ocean heat budget (#IUGG-4919)
  *Veronica Tamsitt (Italy)*
- **9:00** Relationship between surface heat budgets in the Ross and Weddell Seas and global climate variability (#IUGG-4438)
  *Giannetta Fusco (Italy)*
- **9:15** Are atmospheric surface temperatures in the Southern Oceans affected by ocean tides? (#IUGG-3681)
  *Tobias Weber (Germany)*
- **9:30** The Relationship of Weddell Polynya and Open-Ocean Deep Convection to the Southern Hemisphere Westerlies (#IUGG-5021)
  *Young-Gyu Park (Korea, Republic of Korea)*
- **9:45** Estimating gas saturation and recharge temperature for the abyssal ocean (#IUGG-3488)
  *Brice Loose (USA)*

**IASPEI**

**S12 Ambient Noise**

**S12a**

*Chairs: Hisashi Nakahara (Japan), Ulrich Wegler (Germany)*

- **8:30** How ocean waves rock the Earth: Two mechanisms explain microseisms with periods 3 to 300 s (#IUGG-3365)
  *Elenore Stutzmann (France)*
- **8:45** The crustal structure beneath the Netherlands from ambient seismic noise (#IUGG-1540)
  *Hanneke Paulssen (Netherlands)*
- **9:00** Simplified Green’s functions for near-surface application and linear inversion (#IUGG-0669)
  *Victor Tsai (USA)*
- **9:15** Processing of long-term recordings of seismic noise and joint inversion of phase and group velocities of Rayleigh and Love waves (#IUGG-2321)
  *Bohuslav Ruzek (Czech Republic)*
- **9:30** Seismic study of the crust across the Northern Scandinavian Mountains from ambient seismic noise (#IUGG-2205)
  *Walid Ben Mansour (France)*
- **9:45** A method to retrieve an improved high resolution reflection response from HiCLIMB array recordings of local earthquake scattering coda (#IUGG-3666)
  *Iris Hartstra (Netherlands)*

**IASPEI**

**S01/S01f Seismological Observation and Interpretation: Open session, Seismic Time series Analysis**

**S01f**

- **8:30** The mantle anisotropy obtained from shear-wave splitting in the region of 1891 Nobi earthquake (#IUGG-1900)
  *Takashi Iidaka (Japan)*
- **8:45** Possibility of remote triggering of the 2014 Mw7.9 Rat Islands earthquake examined by an integrated seismicity model (#IUGG-2305)
  *Masatoshi Miyazawa (Japan)*
- **9:00** Analysis of complexity in seismic time series (#IUGG-0375)
  *Tamaz Chelidze (Georgia)*
- **9:15** Thin structure of GPS time series noise (#IUGG-1017)
  *Alexey Lyubushin (Russia)*
- **9:30** Natural Time analysis of seismic time series: A review of recent results (#IUGG-1716)
  *Nicholas V. Sarlis (Greece)*
- **9:45** Can the DD-relocated earthquake catalogue be used for the statistical parameters of an earthquake sequence? A case study (#IUGG-1106)
  *Zhongliang Wu (China)*

**IAG**

**G04 Earth Rotation and Geodynamics**

**G04b**

*Chair: Richard Gross (USA)*

- **8:30** High-frequency nutation models revisited (#IUGG-4791)
  *José M. Fernández (Spain)*
- **8:45** Inertial Rotation Sensing for Geodesy and Geophysics (#IUGG-2635)
  *Ulrich Schreiber (Germany)*
- **9:00** Investigation on the use of ring laser gyroscope data for monitoring semidiurnal and prograde diurnal signals in polar motion (#IUGG-5615)
  *Monika Terczak (Poland)*
- **9:15** Abrupt changes in drift trend of the earth’s geocenter and rotational pole in 2012-2014 (#IUGG-1652)
  *Koji Matsuo (Japan)*
- **9:30** Geo-center movement caused by huge earthquakes (#IUGG-1058)
  *Wenke Sun (China)*
- **9:45** 18.6-yr Tide Variations from 40-year Satellite Laser Ranging (SLR) (#IUGG-4478)
  *Minkang Cheng (USA)*
Tuesday, June 30

**IASPEI 8:30-10:00, South Hall 3**

**S13 Terrestrial Heat Flow**

**S13a**

*Chair: Yury Popov (Russia)*

**8:30** Over two decades of ground-air temperature tracking: the effect of different land cover materials (#IUGG-1090)

Vladimir Cermak (Czech Republic)

**8:45** Geothermics of climate change – the Utah experience (#IUGG-2368)

David Chapman (USA)

**9:00** Evaluation of shallow temperature logs for urban heat island effects in Switzerland (#IUGG-1035)

Ladislaus Rybach (Switzerland)

**9:15** Anthropogenic heat fluxes into subsurface urban heat islands (#IUGG-3896)

Susanne Benz (Germany)

**9:30** Effects of subsurface warming on thermal storage in Asia (#IUGG-3486)

Makoto Taniguchi (Japan)

**9:45** South Caspian Basin: Temperature Distribution Models (#IUGG-1630)

Abdulvahab Mukhtarov (Azerbaijan)

**Union Symposia 10:30-12:00, Congress Hall**

**U03 Mathematics and Observations of Earth Systems**

**U03b**

*Chair: Ilya Zaliapin (USA)*

**10:30** Modeling the melt: What math tells us about the disappearing polar ice caps (#IUGG-3159)

Solicited Speaker: Kenneth Golden (USA)

**11:00** Spatio-temporal pattern recognition for large GPS data sets (#IUGG-1702)

Solicited Speaker: Michael Ghil (France)

**11:30** Rigorous statistical methods for modeling paleoclimate and climate extremes (#IUGG-4464)

Solicited Speaker: Bala Rajaratnam (USA)

**Joint Inter-Association Symposia 10:30-12:00, Forum Hall**

**JP05 Tsunamis (IAPSO, IASPEI)**

**JP05i**

*Chair: Phil Cummins (Australia)*

**10:30** Caribe wave/lantex caribbean and adjacent regions tsunami exercises (#IUGG-5762)

Christa von Hillebrandt-Andrade (USA)

**10:45** Uncertainty on seismic sources and bathymetry for tsunami modelling (#IUGG-2382)

David Imbert (France)

**11:00** Development of multifunction simulation code for an understanding of comprehensive tsunami phenomena (#IUGG-3725)

Toshitaka Baba (Japan)

**11:15** Investigation of tsunami hydrodynamic parameters and preparation of inundation maps in gocek, Turkey by 2D and 3D numerical modeling (#IUGG-4873)

Ceren Ozer Sozdinler (Turkey)

**11:30** Experiment on morphology change caused by tsunami intrusion into lake (#IUGG-5058)

Yuta Mitobe (Japan)

**11:45** Analytical modeling of nonlinear evolution of long-waves (#IUGG-5594)

Baran Aydin (Turkey)

**IAVCEI 10:30-12:00, Meeting Hall I**

**VS01 New Advances in Volcano Seismology and Related Geophysical Methods**

**VS01b**

*Chair: Jurgen Neuberg (United Kingdom)*

**10:30** High-precision resolution of the Bárdarbunga 2014 dyke intrusion and caldera subsidence (#IUGG-5722)

Kristin S Vagfjord (Iceland)

**10:45** Segmented lateral dyke growth in a riftting event at Bárdarbunga volcanic system, Iceland (#IUGG-4324)

Freysteinn Sigmundsson (Iceland)

**11:00** Complex rupture processes at the Bárdarbunga caldera, Iceland (#IUGG-2459)

Sebastian Heinmann (Switzerland)

**11:15** Magma migration at the onset of the 2012-13 tolbachik eruption revealed by seismic amplitude ratio analyses (#IUGG-5660)

Benoit Taupin (Singapore)

**11:30** Duration-amplitude relationships of volcanic tremor and earthquake swarms before and during the 2009 eruption of Redoubt Volcano, Alaska (#IUGG-4457)

Stephen McNutt (USA)

**11:45** Seismicity and ground deformation signals at Campi Flegrei (Italy) from dilatometer and long-baseline tiltmeter data (#IUGG-2163)

Roberto Scarpa (Italy)
Tuesday, June 30

IAPSO 10:30-12:00, Panorama Hall

P02 Physics and Biogeochemistry of Semi-Enclosed and Shelf Seas

P02b

Chair: Hans Burchard (Germany)

10:30 High-resolution multi-platform observations and modeling of mesoscale variability in an offshore area west of Sardinia (Mediterraean Sea) (#IUGG-3399)
Aniello Russo (Italy)

10:45 High frequency radar observations of surface currents and residence time estimates in the gulf of Manfredonia (#IUGG-3400)
Daniel Carlson (Italy)

11:00 The effect of tidal wetlands upon Adriatic Sea hydrodynamics (#IUGG-4733)
Christian Ferrarin (Italy)

11:15 Glider and satellite monitoring of a Mediterranean mesoscale eddy in the Algerian basin: Effects on the mixed layer depth (#IUGG-4133)
Giuseppe Aulicino (Italy)

11:30 Ten years of marine current measurements in Espanel Sill, Strait of Gibraltar (#IUGG-2700)
Simone Sammartino (Spain)

11:45 Structure and Propagation of Large Amplitude Internal Waves in the Strait of Gibraltar (#IUGG-1801)
Harry Bryden (United Kingdom)

IAMAS 10:30-12:00, Meeting Hall IV

M22 Understanding and Predicting High-impact Weather and Climate Extremes

M22d

Chair: Brian Golding (United Kingdom)

10:30 Numerical prediction of local high impact weather with the K-computer (#IUGG-2997)
Solicited Speaker: Kazuo Saito (Japan)

11:00 The impact of urbanization on the extreme rainfall in Beijing in July 21st 2012 (#IUGG-0701)
Yimin Liu (China)

11:15 Convection Initiation of a High-impact Squall Line on 3 June 2009 in East China (#IUGG-2855)
Zhiyong Meng (China)

11:30 Monitoring of thunderstorm activity by super dense network with electromagnetic filed sensors (#IUGG-5315)
Yukihiro Takahashi (Japan)

11:45 Diurnal Variability of Cloud-to-ground lightning over Hainan Island in the Warm Season: Impact of Sea-land breeze (#IUGG-2967)
Qinbo Cai (China)

IAG 10:30-12:00, Meeting Hall V

G02 Static Gravity Field Models and Observations

G02h

Chair: Roland Klees (Netherlands)

10:30 The GGM05 Mean Earth Gravity Models (#IUGG-1364)
Srinivas Bettadpur (USA)

10:45 The Earth’s gravity field model WHU_IJT_GOCE_01s from the combination of GOCE gravitational gradient tensor invariants and ITG-GRACE2010s (#IUGG-1736)
Zhicai Luo (China)

11:00 A global gravity field model up to degree/order 720 combining satellite and terrestrial data (#IUGG-1919)
Thomas Fecher (Germany)

11:15 An improved version of the GOCE-only model EGM_TIM_RL05 (#IUGG-3647)
Jan Martin Brockmann (Germany)

11:30 EIGEN-6S4: A new satellite-only gravity field model to d/o 300 based on LAGEOS, GRACE and GOCE data (#IUGG-2096)
Christoph Förste (Germany)

11:45 Synthesis report on assessments of GOCE global geopotential models (#IUGG-3812)
Jianliang Huang (Canada)

IAVCEI 10:30-12:00, Small Hall

VS10/VS11/VS31 Probabilistic Volcano Hazard Analysis / Short-Term Forecasting of Volcanic Hazard: So Far, So Good? / Quantifying and Communicating Uncertainty During Volcanic Crisis

VS10b

10:30 Spatio-volumetric hazard estimation, with an application to the Auckland Volcanic Field (#IUGG-1441)
Mark Bebbington (New Zealand)

10:45 A statistical method for estimating eruption volumes for Mt Taranaki events (#IUGG-0656)
Rebecca Green (New Zealand)

11:00 Short-term volcanic hazard assessment through Bayesian inference: retrospective application to the Pinatubo 1991 volcanic crisis (#IUGG-1315)
Joan Marti (Spain)

11:15 Long-term and short-term precursors to the 2014 eruption at Kuchinoerabujima volcano, Ryukyu Islands, Japan (#IUGG-3982)
Masato Iguchi (Japan)

11:30 Multiplets: A useful forecasting tool? (#IUGG-5300)
Rebecca Salvage (United Kingdom)

11:45 Using volcanic tremor for eruption forecasting at White Island volcano (Whakatani), New Zealand (#IUGG-5120)
Laurene Chardot (New Zealand)
Tuesday, June 30

IAMAS 10:30-12:00, Small Theatre

M13 Regional Climate Variability and Change

M13b
10:30 Persistent cold air outbreaks over North America in a warming climate (#IUGG-1580)
Solicited Speaker: L. Ruby Leung (USA)
11:00 How unusual was the cold winter of 2013-14 in the Upper Midwest? (#IUGG-4965)
Klaus Wolter (USA)
11:15 Ratios of record high to record low temperatures in Europe show an accelerating trend despite slowdown in mean temperature trends (#IUGG-0568)
Martin Beniston (Switzerland)
11:30 Past and future European temperature trends: uncertainty due to internal variability (#IUGG-1386)
Solicited Speaker: Laurent Terray (France)

IAMAS 10:30-12:00, Club A

M20 The Ocean's Role in Climate Variability, Change and Predictability

M20b
Chair: Mojib Latif (Germany)
10:30 Impacts of midlatitude frontal sea-surface temperature gradients on the atmosphere as revealed in new Japanese reanalysis data (#IUGG-3555)
Hisashi Nakamura (Japan)
10:45 Atmospheric response to sea surface temperature anomalies linked with oceanic vortices (#IUGG-5285)
Xavier Perrot (France)
11:00 The role of coastal mid-latitude air-sea interactions in exporting tropical energy to North America during summer (#IUGG-1420)
David Mitchell (USA)
11:15 European climate impacts of a slowdown of the Atlantic Meridional Overturning Circulation in a high resolution global climate model (#IUGG-2531)
Laura Jackson (United Kingdom)
11:30 Intensified impact of tropical Atlantic SST on the western North Pacific summer climate under a weakened Atlantic thermohaline circulation (#IUGG-0716)
Wei Chen (China)
11:45 Evidence for solar-induced AMOC variability from Greenland temperature records over the past 2000 years (#IUGG-1512)
Takuro Kobashi (Switzerland)

IAMAS 10:30-12:00, Club B

M16 Radiation in the Climate System

M16e
Chair: Martin Wild (Switzerland)
10:30 Climate feedbacks and relationships between top-of-atmosphere radiation and temperatures on Earth (#IUGG-1597)
Solicited Speaker: Kevin Trenberth (USA)
11:00 An assessment of direct radiative forcing, radiative adjustments, and radiative feedbacks in climate models (#IUGG-0471)
Brian Soden (USA)
11:15 Analysis of radiative feedbacks in model simulations including interactive chemistry (#IUGG-1272)
Michael Ponater (Germany)
11:30 Reconstruction of energy fluxes at TOA and Earth’s surface (#IUGG-4451)
Chunlei Liu (United Kingdom)
11:45 Have anthropogenic aerosols impacted the continental hydrological cycle over France since the early 20th century? (#IUGG-3744)
Julien Boé (France)

IAPSO 10:30-12:00, Club C

P04 Oceanic Boundary Current Systems

P04b
Chair: Julie McClean (USA)
10:30 Cross-Shelf Dynamics, bottom boundary layer transport and upwelling on the continental shelf adjacent to the East Australian Current (#IUGG-4205)
Amandine Schaeffer (Australia)
10:45 Argo float trajectories and the Southeast Madagascar eddies: Dispersion experiments within the Agulhas Current source region (#IUGG-0778)
Tanayon Morris (South Africa, Republic of)
11:00 Dynamics of the mean flow in the Oyashio region: Effects of bottom topography on a wind-driven gyre (#IUGG-4866)
Hajime Nishigaki (Japan)
11:15 Impact of nitrate transport along the Kuroshio on the high productivity in the Kuroshio-Oyashio interfrontal zone (#IUGG-4613)
Kosei Komatsu (Japan)
11:30 Models of the Kuroshio Extension low-frequency variability: Analysis of the sensitivity to changes in parameter values and initialization (#IUGG-4540)
Stefano Pierini (Italy)
11:45 The global structure of long term mean sea surface drift currents (#IUGG-1446)
John Bye (Australia)
**IASPEI**
10:30-12:00, Club D

**S07 Seismic Hazard and Risk**

**S07e**

*Chair: Mark Petersen (USA)*

10:30 How can the world learn the lesson from Tohoku Earthquake? - Epistemic uncertainty aspects (#IUGG-1644)
Ken Xs Hao (Japan)

11:00 Hazard assessment of critical facilities: earthquake database compilation (#IUGG-2010)
Ruben Tatevossian (Russia)

11:15 Including foreshocks and aftershocks in time-independent probabilistic seismic hazard analysis for Italy (#IUGG-4734)
Matteo Taroni (Italy)

11:30 Strain rate and stress field of Switzerland (#IUGG-3567)
Nicolas Houlié (Switzerland)

11:45 Seismic hazard and risk assessment based on unified scaling law for earthquakes: Thirteen principal urban agglomerations of India (#IUGG-3553)
Anastasia Nekrasova (Russia)

**IAVCEI**
10:30-12:00, Club E

**VS14/VS07 Unlocking the Enigma of Monogenetic Volcanism from a Historic Perspective to the Most Novel Recent Approaches / Explosive Basaltic Eruptions on Earth and other Planets**

**VS14b**

*Chair: Ian Smith (New Zealand)*

10:30 Intraplate basaltic volcanism across Zealandia and the HIMU conundrum (#IUGG-3844)
John Gamble (New Zealand)

10:45 Intraplate monogenetic volcanism in southeastern Australia – magma rise, volcano types and ages, earthquakes, faulting, uplift, subsidence and future eruptions (#IUGG-2089)
Edmund Joyce (Australia)

11:00 The erupted volumes of tephra from maar volcanoes and their VEI magnitude: Examples from the Newer Volcanics Province, South-Eastern Australia (#IUGG-0719)
Teagan Blaikie (Australia)

11:15 The role of phreatomagmatism in the Cenozoic intracontinental volcanic fields of the Kingdom of Saudi Arabia (#IUGG-1321)
Karoly Nemeth (New Zealand)

11:30 Monogenetic phreato-magmatic volcanoes (maars, tuff cones, tuff rings) in the Mexican Volcanic Belt: Tectonic setting and hydrogeologic environment (#IUGG-1056)
Claas Siebe (Mexico)

11:45 The role of syn-eruptive subsidence in the evolution of maar-diatreme volcanoes: examples from New Mexico and Montana, USA (#IUGG-1397)
Pierre-Simon Ross (Canada)

**IAVCEI**
10:30-12:00, Club H

**VS28 Understanding VIPS (Volcanic and Igneous Plumbing Systems) through Multidisciplinary Research**

**VS28b**

*Chair: Steffi Burchardt (Sweden)*

10:30 Detection and characterization of shallow magmatic intrusions in terrestrial planets (#IUGG-0829)
Solicited Speaker: Chloe Michaut (France)

11:00 Contribution of geodetic observations towards a multi-disciplinary approach for studying the plumbing system feeding the 2014 fissure eruption at Holuhraun (#IUGG-4788)
Stéphanie Dumont (Iceland)

11:15 Subsurface dynamics and longevity of the Lusi mud eruption, East Java, Indonesia (#IUGG-4694)
Maxwell Rudolph (USA)

11:30 Muon radiography of Stromboli volcano using nuclear emulsions technique (#IUGG-4987)
Valeri Tioukov (Italy)

**IASPEI**
10:30-12:00, North Hall

**S08/S08a Lithosphere Structure and Dynamics: Open session, Lithospheric Structure - LAB Observations and Models**

**S08b**

*Chair: Ulrich Achauer (France)*

10:30 The distribution of lithospheric heterogeneity and the nature of the lithosphere-asthenosphere transition (#IUGG-1480)
Solicited Speaker: Brian Kennett (Australia)

11:00 Passive margin volcanism in eastern Australia and the role of the lithosphere-asthenosphere boundary (#IUGG-1949)
Nicholas Rawlinson (United Kingdom)

11:15 Structure of the LAB and MLD in the northwestern and central United States from USArray 5-receiver functions (#IUGG-1778)
Rainer Kind (Germany)

11:30 LAB - transition between fossil and present-day flow-related velocity anisotropy (#IUGG-1764)
Jaroslava Plomerová (Czech Republic)

11:45 Upper mantle structure around the Trans-European Suture Zone obtained from telesismic tomography (#IUGG-2551)
Ilma Janużyte (Norway)
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IAPSO

10:30-12:00, Terrace I

P03 Ocean Mixing

P03b

Chair: Alberto Naveira Garabato (United Kingdom)

10:30 Frequency-based correction of finescale parameterization of turbulent dissipation in the ocean interior (#IUGG-5246)
Takashi Ijichi (Japan)

10:45 Assessment of parameterization of enhanced turbulent mixing over rough topography in the abyssal ocean (#IUGG-4808)
Toshiyuki Hibaya (Japan)

11:00 New vertical mixing scheme (#IUGG-4538)
Vittorio Canuto (USA)

11:15 Setting the global overturning circulation: Why are our models so different? (#IUGG-2580)
Andrew Meijers (United Kingdom)

11:30 Diagnosing gyre and abyssal flows in Temperature–Salinity–Age space (#IUGG-5274)
George Nurser (United Kingdom)

IAPSO

10:30-12:00, Terrace II

P06 The Southern Ocean: where Ocean, Ice and Atmosphere Meet

P06d

Chair: Roman Tarakanov (Russia)

10:30 Global oxygenation by enhanced deep convection in the Southern Ocean under millennial-scale global warming (#IUGG-2409)
Akitomo Yamamoto (Japan)

10:45 Drivers of intra-seasonal variability in Southern Ocean primary production: a model sensitivity analysis (#IUGG-0913)
Sarah Nicholson (South Africa, Republic of)

11:00 Inferring source regions and transport pathways of iron in the Southern Ocean from satellite chlorophyll data (#IUGG-0947)
Karen Kohfeld (Canada)

11:15 The seasonal cycle of mixed layer dynamics and phytoplankton biomass in the Sub-Antarctic Zone: a high-resolution glider experiment (#IUGG-0837)
Sebastiaan Swart (South Africa, Republic of)

11:30 Characterisation of distinct bloom phenology regimes in the Southern Ocean (#IUGG-2244)
Alexandra Haumann (Switzerland)

IAPSO

10:30-12:00, Chamber Hall

S12 Ambient Noise

S12b

Chair: Eleonore Stutzmann (France), Victor Tsai (USA)

10:30 Application of microseisms for the study of magmatic plumbing system in monogenetic volcanic field: evidence from low-frequency microseismic sounding (#IUGG-0547)
Yulia Kugaenko (Russia)

10:45 Detecting seismic velocity changes at Sakurajima volcano, Japan by seismic interferometry and coda wave interferometry (#IUGG-2913)
Hisashi Nakahara (Japan)

11:00 Comparison of coseismic and postseismic shear wave velocity changes detected by Passive Image Interferometry for six large earthquakes in Japan (#IUGG-2808)
Ulf Wegler (Germany)

11:15 Temporal changes of seismic velocity beneath Japan during and after the Tohoku-oki earthquake from continuous recordings of the Hi-net array (#IUGG-2862)
Michel Campillo (France)

11:30 Diffuse field theory to compute the dynamic response of a semi-infinite elastic medium (#IUGG-4075)
Francisco Sanchez-Sesma (Mexico)

IAPSO

10:30-12:00, South Hall 1

S01a Seismological Observation and Interpretation: Seismic Swarms and Tectonic Tremors

S01aa

Chair: Jochen Braunmiller (USA)

10:30 Earthquake swarms induced by magmatic activity: Recent examples from Iceland (#IUGG-4056)
Solicited Speaker: Pall Einarsson (Iceland)

10:45 The Pollino Seismic Sequence: Activated Graben Structures in a Seismic Gap (#IUGG-2021)
Dirk Rößler (Germany)

11:00 Seasonal modulation of a fluid-induced earthquake swarm in central Oregon (#IUGG-2262)
Jocheen Baumruhr (USA)

11:15 Magma-hydrothermal system and its relation to earthquake swarms at Hakone volcano, central Japan, revealed by dense seismic observation (#IUGG-2340)
Yoshikazu Hibiya (Japan)

11:30 Modeling of earthquake swarm in terms of slip-induced dilatancy coupled with fluid flow (#IUGG-1101)
Takashi Kuge (Japan)
**IAG**

**G04 Earth Rotation and Geodynamics**

**G04c**

*Chair: Richard Gross (USA)*

- **10:30** Frequency dependency of the ratio between gravity variation and vertical displacement for an ellipsoidal rotating anelastic Earth (#IUGG-1557)
  - *Yann Ziegler (France)*

- **10:45** Correlation at noise level between GPS and gravity data (#IUGG-2054)
  - *Janusz Bogusz (Poland)*

- **11:00** Vertical crustal motions from tide gauge observations and satellite altimetry in southern Italy (#IUGG-5198)
  - *Solicited Speaker: Carla Braitenberg (Italy)*

- **11:15** The BIFROST project: 21 years of search for the true crustal deformation in Fennoscandia (#IUGG-4406)
  - *Solicited Speaker: Martin Lidberg (Sweden)*

- **11:30** Present day contribution of ice-sheets and glaciers to the sea-level in view of GIA model uncertainties (#IUGG-4411)
  - *Solicited Speaker: Pieter Visser (Netherlands)*

- **11:45** Autocorrelation in GRACE-derived ice mass change time series and their effect on trends and accelerations (#IUGG-2744)
  - *Simon D.P. Williams (United Kingdom)*

**IASPEI**

**S13 Terrestrial Heat Flow**

**S13b**

*Chair: Makoto Taniguchi (Japan)*

- **10:30** Heat flow determinations from BHT data (#IUGG-4796)
  - *William Gosnold (USA)*

- **10:45** Continuous Thermal Core Logging for Reservoir Characterization (#IUGG-1856)
  - *Yury Popov (Russia)*

- **11:00** Interplay of porous media and fracture stimulation in Sedimentary Enhanced Geothermal Systems, Red River Formation, Williston Basin, North Dakota (#IUGG-0265)
  - *Caitlin Hartig (USA)*

- **11:15** Geothermal energy provision in low enthalpy settings: the IRETHERM project (#IUGG-5106)
  - *Alan Jones (Ireland)*

- **11:30** EGRT-Mobile: a new tool for evaluating in-situ thermal properties of the ground (#IUGG-2473)

- **11:45** Scaling relations between geothermal resources and subsurface fluid accumulations: A South American Perspective (#IUGG-0372)
  - *Valiya Hamza (Brazil)*

**Union Symposia**

**U04 Data Science and Analytics in Geodesy and Geophysics - Research and Education Progress and Opportunities**

**U04a**

*Chair: Peter Fox (USA)*

- **13:30** The research data alliance—creating the culture and technology for an international data infrastructure (#IUGG-5753)
  - *Solicited Speaker: Mark Parsons (USA)*

- **14:00** Two standards bodies, one goal: better access to each other's methods and data (#IUGG-5173)
  - *Solicited Speaker: Phil Archer (United Kingdom)*

- **14:30** ICSU World Data System (WDS): data preservation and accessibility without borders (#IUGG-5751)
  - *Solicited Speaker: Michael Diepenbroek (Germany)*

**Joint Inter-Association Symposia**

**JP04 Satellite Oceanography and Climatology (IAPSO, IAG)**

**JP04a**

*Chair: Andrey Kostianoy (Russia)*

- **13:30** A review of satellite missions and applications to oceanography and climatology (#IUGG-2036)
  - *Solicited Speaker: Jean-Louis Foulon (France)*

- **14:00** Improving the ocean’s mean dynamic topography: Complementary information from altimetry, gravity, sea surface temperature and ocean models (#IUGG-2120)
  - *Chris Hughes (United Kingdom)*

- **14:15** A collocation approach for the estimation of a GOCE-based Mediterranean Sea geostrophic circulation (#IUGG-4077)
  - *Maddalena Gilardoni (Italy)*

- **14:30** Overview of Japan’s GNSS-R research program for ocean observations (#IUGG-5249)
  - *Kaoru Ichikawa (Japan)*

- **14:45** Variability of wind stress curl and its relationship with sea level in the Japan Sea (#IUGG-0711)
  - *Olga Trusenkova (Russia)*
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IAVCEI 13:30-15:00, Meeting Hall I

VS01 New Advances in Volcano Seismology and Related Geophysical Methods

VS01c

Chair: Art Jolly (New Zealand)

13:30 High temperature tensional fracturing at Volcán de Colima, Mexico (#IUGG-0590)
   Oliver Lamb (United Kingdom)

13:45 New measures of tremor signals associated with eruptions and lahars (#IUGG-2274)
   Hiroyuki Kumagai (Japan)

14:00 Heterogeneous seismic anisotropy masquerading as temporal changes: Shear wave splitting at Tungurahua Volcano, Ecuador (#IUGG-3917)
   Jessica Johnson (United Kingdom)

14:15 String theories: Recent volcano-tectonic seismicity at Soufriere Hills Volcano, Montserrat (#IUGG-4053)
   Patrick Smith (Montserrat)

14:30 Anatomy of a hidden phreatic explosion (#IUGG-2526)
   Corentin Caudron (Singapore)

14:45 Volcanic source models for very-long-period seismic signals (#IUGG-2240)
   Jurgen Neuberg (United Kingdom)

IAPSO 13:30-15:00, Panorama Hall

P02 Physics and Biogeochemistry of Semi-Enclosed and Shelf Seas

P02c

Chair: Katrin Schroeder (Italy)

13:30 Inorganic and anthropogenic carbon chemistry in the Mediterranean Sea (#IUGG-1166)
   Solicited Speaker: Marta Álvarez (Spain)

14:00 Impact of the sense of the North Ionian circulation on the phytoplankton phenology (#IUGG-2104)
   Heloise Lavigne (Italy)

14:15 Biogeochemical and isotopic distribution, and bacterial diversity trace oceanic abyssal circulation in the eastern mediterranean basin (#IUGG-4562)
   Angelo Rubino (Italy)

14:30 Observations of diapycnal mixing in the western Mediterranean Sea (#IUGG-4741)
   Solicited Speaker: Pascale Bouruet-Aubertot (France)

IAMAS 13:30-15:00, Meeting Hall IV

M22 Understanding and Predicting High-impact Weather and Climate Extremes

M22e

Chair: Lisa Alexander (Australia)

13:30 Daily temperature records in a warming climate (#IUGG-5059)
   Jerry Meehl (USA)

13:45 The hottest historical summers will be the norm for more than half of the world’s population by 2035 (#IUGG-3828)
   Xuebin Zhang (Canada)

14:00 Understanding trends in global heatwaves (#IUGG-2665)
   Sarah Perkins (Australia)

14:15 Physical insights on future European summer heat waves and record-breaking temperatures (#IUGG-3304)
   Margot Bador (France)

14:30 Two types of California Central Valley summer heat waves (#IUGG-3977)
   Richard Grotjahn (USA)

14:45 Rapid increase in the risk of extreme summer heat in Eastern China (#IUGG-1510)
   Ying Sun (China)

IAG 13:30-15:00, Meeting Hall V

G02 Static Gravity Field Models and Observations

G021

Chair: Urs Marti (Switzerland)

13:30 Regional gravity field from GOCE and new airborne data. Cases from the SE-Asian region and the effect on the geoid (#IUGG-5273)
   Arne Vestegaard Olesen (Denmark)

13:45 Towards a continent-wide gravity anomaly grid in Antarctica to support global and regional gravity field modelling (#IUGG-2788)
   Mirko Scheinert (Germany)

14:00 IAG sub-commission 2.4c report: Gravity field and geoid for north and central America (#IUGG-3922)
   David Avalos (Mexico)

14:15 African Geoid Model AFFgeo2015 (#IUGG-0559)
   Hussein Abd-Elmotaal (Egypt)

14:30 The GEOMED 2 project: A high resolution geoid of the Mediterranean Sea (#IUGG-3962)
   Riccardo Barzaghi (Italy)

14:45 Results of analysis of the geoid slope Validation Survey 2014 in Iowa (#IUGG-3355)
   Yan Ming Wang (USA)
IAVCEI
13:30-15:00, Small Hall
VS10/VS11/VS31 Probabilistic Volcano Hazard Analysis / Short-Term Forecasting of Volcanic Hazard: So Far, So Good? / Quantifying and Communicating Uncertainty During Volcanic Crisis

VS10c
13:30 Hybrid physical-stochastic models for real-time eruption forecasting (#IUGG-5066)
Solicited Speaker: Ian Main (United Kingdom)
13:45 Application of a multi-station alert method for short-term forecasting of eruptions at Etna, Italy (#IUGG-1454)
Susanna Falsaperla (Italy)
14:00 Determining eruption onsets from geophysical data: What we know and when we know it (#IUGG-3878)
Stephen McNutt (USA)
14:15 Building sustained volcanic crisis management capability: Building on lessons learnt from exercising the communication of uncertain volcanic advice (#IUGG-1062)
Emma Hudson-Doyle (New Zealand)
14:30 Aviation management during explosive volcanic eruptions: improvements in communication between scientists and other stakeholders (#IUGG-0443)
Arnau Folch (Spain)

IAMAS
13:30-15:00, Small Theatre
M13 Regional Climate Variability and Change

M13c
13:30 Connections between tropical pacific convection states and north pacific synoptic activity in hindcast simulations (#IUGG-5034)
Solicited Speaker: Richard Neale (USA)
14:00 High resolution wind hindcast over the Bohai and Yellow Sea in East Asia: evaluation and wind climatology analysis (#IUGG-2377)
Delei Li (China)
14:15 The response of the equatorial Pacific Ocean to the 11-yr solar cycle: warming or cooling? (#IUGG-0873)
Stergios Misios (Greece)
14:30 The effect of global dynamical factors on the interannual variability of land-based rainfall (#IUGG-2851)
Solicited Speaker: Peter Baines (Australia)

IAMAS
13:30-15:00, Club A
M20 The Ocean’s Role in Climate Variability, Change and Predictability

M20c
13:30 Regional air-sea interaction and Indo-Pacific remote forcing in summer rainfall variability over the South China Sea (#IUGG-1378)
Renguang Wu (China)
13:45 Effects of warm pool SST warming on the atmospheric circulation in the Pacific (#IUGG-2998)
Sang-Wook Yeh (Korea, Republic of Korea)
14:00 Water cycle amplification inferred from broadening of the ocean’s salinity distribution in observations and CMIPS models (#IUGG-4991)
Nikolaos Skliris (United Kingdom)
14:15 Phase locking of equatorial Atlantic variability through the seasonal migration of the ITCZ (#IUGG-2027)
Ingo Richter (Japan)
14:30 Alleviating the North Atlantic cold bias in the Kiel Climate Model (#IUGG-2513)
Mohib Latif (Germany)
14:45 Thermodynamic origins of the Atlantic Nino (#IUGG-0693)
Hyacinth Anamchi (Nigeria)

IAMAS
13:30-15:00, Club B
M07 The Relationship of Cloud Ice Properties and Processes in Observations and Models

M07a
13:30 Ice nucleation studied in the laboratory, field and models: Overview of results from the INUIT project (#IUGG-4157)
Solicited Speaker: Joachim Curtis (Germany)
13:45 Preactivation of solid ice nuclei by pore condensation and freezing of supercooled water (#IUGG-1972)
Robert Wagner (Germany)
14:00 Competition between contact and immersion freezing in the experiments with single suspended water droplets (#IUGG-4830)
Alexei Kiselev (Germany)
14:15 Temperature matters more than time: The consecutive activation of ice nucleation sites (#IUGG-2867)
Heike Wax (Germany)
14:30 New Continuous Flow Diffusion Chamber for Ice Nucleation and Growth Experiments (#IUGG-1602)
Thea Scheidel (Germany)
14:45 Sensitivity of liquid clouds to the representation of homogeneous freezing (#IUGG-5233)
Ross Herbert (United Kingdom)
Tuesday, June 30

**IAPSO**

**P04 Oceanic Boundary Current Systems**

*P04c*

**Chair:** Julie McClean (USA)

13:30 The role of Western Boundary Currents in climate variability (#IUGG-1476)

**Solicited Speaker:** Kathryn Kelly (USA)

14:00 Decadal variability of upper ocean heat content in the western boundary currents regions (#IUGG-2888)

**Solicited Speaker:** Bunmei Taguchi (Japan)

14:30 Projected changes in Tasman Sea marine climate, extremes, circulation and eddies in a future climate (#IUGG-1847)

**Neil Holbrook** (Australia)

14:45 Variability in the Australian Boundary Currents: connecting the East Australian and Leeuwin Currents (#IUGG-1300)

**Erik van Sebille** (Australia)

**IASPEI**

**S06a/S06b Strong Ground Motion: Open session, SGM Record Selection and Earthquake Scenarios**

*S06a*

**Chair:** Mohsen Ghafory-Ashtiany (Iran)

13:30 Strong ground motion record selection: approaches, challenges and prospects (#IUGG-3787)

**Solicited Speaker:** Mohsen Ghafory-Ashtiany (Iran)

14:00 On the nature of the spectral matched signals (#IUGG-3153)

**Maria Lancieri** (France)

14:15 Stability assessment of gmpes for the iranian ground motion database (#IUGG-4085)

**Alinea Azarabakht** (Iran)

14:30 Ground motion selection based on a synthetic uniform hazard spectrum (#IUGG-4330)

**Aida Azari Sis** (Turkey)

14:45 Validation of simulated ground motions for engineering applications (#IUGG-3654)

**Pong Zhong** (USA)

**IASCEI**

**VS14/VS07 Unlocking the Enigma of Monogenetic Volcanism from a Historic Perspective to the Most Novel Recent Approaches / Explosive Basaltic Eruptions on Earth and other Planets**

*VS14c*

**Chair:** Karoly Nemeth (New Zealand)

13:30 The geochemical behaviour of small scale basaltic systems (#IUGG-1270)

**Ian Smith** (New Zealand)

13:45 Mineral textures, zoning and chemistry: a key in unravelling the evolution of magmatic systems feeding monogenetic basaltic volcanic systems (#IUGG-0650)

**M. Eva Jankovics** (Hungary)

14:00 Magmatic processes, time scales, and seismic unrest related to monogenetic mafic volcanism (#IUGG-3171)

**Helena Albert** (Spain)

14:15 The Chaîne des Puys: Complexity at all scales from source to emplacement (#IUGG-4308)

**Benjamin van Wyk de Vries** (France)

14:30 Reconstructing the plumbing systems beneath young monogenetic mafi c eruptions in an off-rift setting on the Snaefellnes Peninsula of Iceland (#IUGG-4007)

**David Peate** (USA)

**IAPSO**

**VS28 Understanding VIPS (Volcanic and Igneous Plumbing Systems) through Multidisciplinary Research**

*VS28c*

**Chair:** Carmela Freda (Italy)

13:30 Bubble nucleation and degassing induced by crystallization: Insights into their contribution to seismic properties of magma (#IUGG-5551)

**Barbara Tripoli** (Switzerland)

14:00 Longevity of crystal cargo vs. transience of melts in magma systems (#IUGG-4355)

**John Hora** (Germany)

14:15 Amphibolic perspective of subvolcanic magmatic systems of andesite-dacite volcanoes: case study from the Ciomadul volcano (E-Carpathians) (#IUGG-0393)

**Balazs Kiss** (Hungary)

14:30 Anatomy of the late Pleistocene Ciomadul volcano (E-Carpathians, eastern-central Europe), a volcano with Potentially Active Magma Storage (#IUGG-4803)

**Szabolcs Harangi** (Hungary)

**IASPEI**

**S08/ S08a Lithosphere Structure and Dynamics: Open session, Lithospheric Structure - LAB Observations and Models**

*S08c*

**Chair:** Brian Kennett (Australia)

13:30 The Lithosphere Asthenosphere Boundary (LAB) beneath sedimentary basins (#IUGG-2252)

**Magdalena Schack-Wenderoth** (Germany)

13:45 Observation of the lithosphere-asthenosphere boundary below Japan (#IUGG-2708)

**Elmer Ruigrok** (Netherlands)

14:00 A brief against the hyphen lithosphere-asthenosphere boundary hypothesis of plate tectonics (#IUGG-4170)

**Solicited Speaker:** Tom Jordan (USA)

14:30 Mapping lithosphere thickness using global heat flow and geotherms (#IUGG-3707)

**David Chapman** (USA)

14:45 Heat loss and hydrothermal redistribution through the oceanic lithosphere (#IUGG-3244)

**Derrick Hasterok** (Australia)

188 26th IUGG, PRAGUE, CZECH REPUBLIC, JUNE 22 – JULY 2, 2015
**IAPSO**  
**13:30-15:00, Terrace I**  
**P03 Ocean Mixing**  
**P03c**  
Chair: Hans van Haren (Netherlands)  
13:30 Molecular control of turbulent diapycnal mixing in the strongly stratified ocean thermocline (#IUGG-4274)  
Remi Tailleux (United Kingdom)  
13:45 Mixing in continuously stratified flow over a topographic ridge (#IUGG-0727)  
Yvan Dossman (France)  
14:00 Mixing and internal tide radiation at fjord sills (#IUGG-5189)  
Lars Arnér (Sweden)  
14:15 Vortex-internal waves interaction in quasi-linear and nonlinear regimes (#IUGG-2740)  
Kaoru Ito (Japan)  
14:30 Parameterization of energy dissipation and turbulent mixing in the Indonesian Throughflow from the INDOMIX experiment (#IUGG-5150)  
Pascale Bouruet-Aubertot (France)  
14:45 Internal tides and associated vertical mixing in the Indonesian Archipelago (#IUGG-5278)  
Taira Nagai (Japan)  

**IAPSO**  
**13:30-15:00, Terrace II**  
**P06 The Southern Ocean: where Ocean, Ice and Atmosphere Meet**  
**P06e**  
Chair: Karen Heywood (United Kingdom)  
13:30 Recent trends in the Southern Ocean eddy field (#IUGG-2486)  
Solicited Speaker: Andy Hogg (Australia)  
14:00 Sensitivity of Antarctic Circumpolar Current transport and eddy activity to wind patterns in the Southern Ocean (#IUGG-3718)  
Clothilde Langlais (Australia)  
14:15 On the role of mesoscale eddies in ventilation of the Southern Ocean (#IUGG-3131)  
Igor Kamenkovich (USA)  
14:30 Eddy form stress in the Southern Ocean at 1000 dbar (#IUGG-2975)  
Katsuro Katsumata (Japan)  
14:45 Why does the Antarctic Circumpolar Current veer northwards downstream of Drake Passage? (#IUGG-0627)  
Geoff Stanley (United Kingdom)  

**IASPEI**  
**13:30-15:00, Chamber Hall**  
**S10b Earthquake Prediction: Earthquake Prediction Research**  
**S10ba**  
Chair: Ragnar Stefansson (Iceland)  
13:30 The dilemma of earthquake prediction and how to solve it (#IUGG-3564)  
Ragnar Stefansson (Iceland)  
13:45 Stress and CFS monitoring for improving EQ warnings - illustrating examples from Southern Iceland (#IUGG-2654)  
Ragnar Slunga (Sweden)  
14:00 Is the mainshock magnitude predictable from attributes of short-term foreshocks? (#IUGG-5019)  
Gerassimos Papadopoulos (Greece)  
14:15 Magnitude dependent seismic quiescence and following short-term precursors as dilatancy strengthening and breakdown before large earthquakes and their detection (#IUGG-4255)  
Kiyoshi Suyehiro (Japan)  
14:30 Multi-sensor observation of pre-earthquake signals and their connection with major seismicity (#IUGG-2669)  
Dimitar Ouzounov (USA)  
14:45 Earthquake predictability, present scenario and future prospects in India and neighborhood (#IUGG-1503)  
Daya Shanker (India)  

**IASPEI**  
**13:30-15:00, South Hall I**  
**S01a Seismological Observation and Interpretation: Seismic Swarms and Tectonic Tremors**  
**S01ab**  
13:30 Earthquake statistics, spatiotemporal distribution of foci and source mechanisms - a key to understanding of the West Bohemia/Vogtland earthquake swarms (#IUGG-2492)  
Josef Horálek (Czech Republic)  
13:45 Stress and CFS monitoring for improving EQ warnings - illustrating examples from Southern Iceland (#IUGG-2654)  
Ragnar Slunga (Sweden)  
14:00 Is the mainshock magnitude predictable from attributes of short-term foreshocks? (#IUGG-5019)  
Gerassimos Papadopoulos (Greece)  
14:15 Magnitude dependent seismic quiescence and following short-term precursors as dilatancy strengthening and breakdown before large earthquakes and their detection (#IUGG-4255)  
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Daya Shanker (India)  

**IAUGG, PRAGUE, CZECH REPUBLIC, JUNE 22 – JULY 2, 2015**
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IAG 13:30-15:00, South Hall 2

G04 Earth Rotation and Geodynamics

G04d

Chair: Richard Gross (USA)

13:30 Improved determination of postglacial rebound and sea-level change using geodetic constraints on models of glacial isostatic adjustment (#IUGG-3702)
Tonis Oja (Estonia)

13:45 Separating glacial cycle impacts upon Earth rotation from that due to global warming (#IUGG-5016)
W. Richard Peltier (Canada)

14:00 Effective mantle viscosity and heat flux: Addressing uncertainty in glacial isostatic adjustment and ice sheet models for Antarctica (#IUGG-4592)
Erik Ivins (USA)

14:15 Anelasticity of the asthenosphere inferred from GPS observations of ocean tide loading displacements in western Europe (#IUGG-2332)
Solicited Speaker: Peter Clarke (United Kingdom)

14:30 Detailed analysis of diurnal tides and associated space nutation in the search for the Free Inner Core Nutation resonance (#IUGG-1498)
Severine Rosat (France)

14:45 Free Core Nutation parameters from hydrostatic long-base tiltmeter records (#IUGG-3604)
Umberto Riccardi (Italy)

IASPEI 13:30-15:00, South Hall 3

S13 Terrestrial Heat Flow

S13c

Chair: Vladimir Cermak (Czech Republic)

13:30 It is high time for a new IHFC authenticated Global Heat Flow Database (#IUGG-0991)
Shaopeng Huang (China)

13:45 Heat flow, thermal thickness of the lithosphere in the North China craton and geodynamical significances (#IUGG-0989)
Lijuan He (China)

14:00 Terrestrial heat flow in peninsular India: unique characteristics and geodynamic implications (#IUGG-0429)
Mohanalal Gupta (India)

14:15 Anomalous geothermal belts along passive continental margins of Eastern Brazil and West Africa (#IUGG-0373)
Valiya Hamza (Brazil)

14:30 Meso-Cenozoic thermal structure of lithosphere in the Bohai Bay Basin, Eastern North China Craton (#IUGG-1124)
Nansheng Qi (China)

14:45 Geotherms and thermal parameters from the Curie depth constrained solutions of the one-dimensional Steady-State Heat-Flow equation: A new method (#IUGG-5358)
Dhananjay Ravat (USA)

15:00–16:30, Poster Area (Foyer)

Poster sessions (p. 221)

Union Symposia 16:30–18:00, Congress Hall

U04 Data Science and Analytics in Geodesy and Geophysics - Research and Education Progress and Opportunities

U04b

Chair: Peter Fox (USA)

16:30 Citing dynamic data in the earth sciences: Challenges and solutions (#IUGG-5752)
Solicited Speaker: Andreas Rauber (Austria)

17:00 Data Stewardship – Discovery, Delivery, and Citation Supporting the Next Generation Integrated Science (#IUGG-2579)
Solicited Speaker: Kelly Stroker (USA)

17:30 Building a Google for data: The current state of the art (#IUGG-3440)
Solicited Speaker: Siri Jodha Khalsa (USA)

Joint Inter-Association Symposia 16:30–18:00, Forum Hall

JP04 Satellite Oceanography and Climatology (IAPSO, IAG)

JP04b

Chairs: Stefano Vignudelli (Italy), Andrey Kostianoy (Russia)

16:30 Exciting oceanography around the southern tip of Africa using satellites and models (#IUGG-1625)
Solicited Speaker: Frank Shillington (South Africa, Republic of)

17:00 Hydrophysical processes revealed in the SAR/ASAR imagery of the Southeastern Baltic Sea (#IUGG-0366)
Andrey Kostianoy (Russia)

17:15 Influence of dynamic processes on the propagation of the anthropogenic and biogenic pollution based on the combined satellite information (#IUGG-0781)
Olga Lavrova (Russia)

17:30 Satellite monitoring of sea ice in the Southeastern Baltic Sea, Vistula and Curonian Lagoons in 2004-2014 (#IUGG-0367)
Elena Bulycheva (Russia)

17:45 Evidence of the Chandler wobble in the El Nino dynamics (#IUGG-0433)
Ilya Serykh (Russia)

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<table>
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<th>Session</th>
<th>Title</th>
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| VS01 | New Advances in Volcano Seismology and Related Geophysical Methods | Meeting Hall I | 16:30 | Chair: Stephen McNutt (USA) 
Cyndi Kelly (USA) 
Art Jolly (New Zealand) 
Eugenio Privitera (Italy) 
Mariarosaria Falanga (Italy) 
Corentin Caudron (Singapore) |
| VS01d | Back-projecting geyser eruption signals to sources (#IUGG-0858) | | 16:30 | Cyndi Kelly (USA) |
| VS01d | Insights into volcanic tremor from bubble burst micro-eruptions at White Island volcano, New Zealand (#IUGG-1467) | | 16:45 | Eugenio Privitera (Italy) |
| VS01d | Multiparametric study of the May 2012-April 2013 paroxysmal phase of Mt. Etna New South-East crater (#IUGG-2678) | | 17:00 | Eugenio Privitera (Italy) |
| VS01d | On the use of remote infrasound and seismic stations to constrain eruptive sequence and intensity during the 2014 Kelud eruption (#IUGG-3516) | | 17:30 | Corentin Caudron (Singapore) |
| VS01d | Real-time infrasonic monitoring of the eruption at a remote island volcano, Nishino-Shima, Japan (#IUGG-5535) | | 17:45 | Kiwamu Nishida (Japan) |
| P02 | Physics and Biogeochemistry of Semi-Enclosed and Shelf Seas | Panorama Hall | 16:30 | Chair: Ludmila Demina (Russia) 
Bernd Schneider (Germany) 
Ivan Kuznetsov (Germany) 
Nicole Delpeche-Ellmann (Estonia) 
Jonas Agren (Sweden) 
Amandine Schaeffer (Australia) |
| P02d | Investigations of the marine CO2 system: An ideal tool to study biogeochemical processes in the Baltic Sea (#IUGG-1273) | | 16:30 | Bernd Schneider (Germany) |
| P02d | Model study on regime shift of the North Sea ecosystem, NEMO-Nordic-SCObi model (#IUGG-3156) | | 16:45 | Ivan Kuznetsov (Germany) |
| P02d | Using surface current-driven lagrangian transport patterns to mitigate the risk of pollution to marine protected areas in the Baltic sea (#IUGG-3416) | | 17:00 | Nicole Delpeche-Ellmann (Estonia) |
| P02d | Circulation and biogeochemistry in China semi-enclosed and shelf seas (#IUGG-1059) | | 17:15 | Jianping Gan (China) |
| P02d | Influence of a western boundary current on shelf dynamics, upwelling and bio-physical variability from repeat glider deployments (#IUGG-4242) | | 17:30 | Amandine Schaeffer (Australia) |
| P02d | Turbulence due to diel vertical migrations of zooplankton: Comparison of computational fluid dynamics model with observations (#IUGG-4093) | | 17:45 | Cayla Dean (USA) |
| M22 | Understanding and Predicting High-impact Weather and Climate Extremes | Meeting Hall IV | 16:30 | Chair: Richard Grotjahn (USA) 
Tess Parker (United Kingdom) 
Allie Gallant (Australia) 
Ailie Gallant (Australia) 
R. Kartika Lestari (Japan) |
| M22f | Challenges in the prediction of droughts and heat waves on monthly to seasonal timescales (#IUGG-4032) | | 16:30 | Tess Parker (United Kingdom) |
| M22f | Untangling the cause of decadal-scale drought using climate model simulations: A case study in southeast Australia (#IUGG-2766) | | 16:45 | Allie Gallant (Australia) |
| M22f | Dry summer over Southeastern Brazil in 2014- Part II: atmospheric patterns in ERA-Interim and simulated by CFSv2 and RegCM4 ensembles (#IUGG-0519) | | 17:00 | Amanda Rehbein (Brazil) |
| M22f | Increasing potential of biomass burning over Sumatra, Indonesia induced by anthropogenic tropical warming (#IUGG-1567) | | 17:15 | R. Kartika Lestari (Japan) |
| M22f | Case study on the band-shaped precipitation system causing heavy rainfall in Hiroshima, western Japan, on 20 August 2014 (#IUGG-3226) | | 17:45 | Teruyuki Kato (Japan) |
| IAG | Static Gravity Field Models and Observations | Meeting Hall V | 16:30 | Chair: Hussein Abd-Elmotaal (Egypt) 
Jonas Agren (Sweden) 
Serdar Erol (Turkey) 
Hasan Yildiz (Turkey) 
Jiancheng Li (China) 
Ove Christian Dahl Omang (Norway) |
| G02 | On the development of the new Nordic gravimetric geoid model NKG2015 (#IUGG-3602) | | 16:30 | Hussein Abd-Elmotaal (Egypt) |
| G02 | Local geoid modeling using various interpolation approaches for vertical control with GNSS (#IUGG-5584) | | 16:45 | Jonas Agren (Sweden) |
| G02 | Geoid Determination in Turkey after GOCE (#IUGG-4608) | | 17:00 | Hasan Yildiz (Turkey) |
| G02 | Geoid modelling in Turkey using remove-compute-restore and least squares modification of Stokes method (#IUGG-5583) | | 17:15 | Mustafa Serkan Isik (Turkey) |
| G02 | Recent results of gravimetric quasi-geoid in China (#IUGG-5606) | | 17:30 | Jianteng Li (China) |
| G02 | Effect of lakes og glaciers on the gravity field and geoid (#IUGG-3291) | | 17:45 | Ove Christian Dahl Omang (Norway) |
Tuesday, June 30

IAVCEI
VS10/VS11/VS31 Probabilistic Volcano Hazard Analysis / Short-Term Forecasting of Volcanic Hazard: So Far, So Good? / Quantifying and Communicating Uncertainty During Volcanic Crisis

VS10d
16:30 Probabilistic approach to decision-making under uncertainty during volcanic crises: Retrospective application to the El Hierro (Spain) 2011 volcanic crisis (IUGG-3910)
Joan Marti (Spain)
17:00 Dynamic uncertainty in cost-benefit analysis of evacuation prior to a volcanic eruption (IUGG-1440)
Mark Bebbington (New Zealand)
17:15 Modelling temporal uncertainty and eruptive vent clustering at Campi Flegrei caldera (Italy) (IUGG-0765)
Andrea Bevilacqua (Italy)

IAMAS
M13 Regional Climate Variability and Change

M13d
16:30 Understanding model uncertainty in 21st century regional Antarctic climate change (IUGG-5197)
Solicited Speaker: Tom Bracegirdle (United Kingdom)
17:00 On the comparison of EuroCORDEX ensemble and ENSEMBLES ensemble of regional simulations (IUGG-5220)
Tomas Halenka (Czech Republic)
17:15 Two regional climate change projections for the Eastern European/Black Sea Region (IUGG-0892)
Anatolii Anisimov (Ukraine)
17:30 The current Mega Drought in Central Chile: Is the future now? (IUGG-1823)
Solicited Speaker: Rene Garreaud (Chile)

IAMAS
M20 The Ocean’s Role in Climate Variability, Change and Predictability

M20d
16:30 Characterizing the increase in regional U.S. precipitation (IUGG-4961)
Klaus Wolter (USA)
16:45 Impacts of IOD and ENSO on the australian winter wheat yields and their seasonal predictability (IUGG-3388)
Chaoxia Yuan (Japan)
17:00 Changes in the tropical India Ocean during pIOD events versus global warming (IUGG-1423)
Yiyong Luo (China)
17:15 A connection between the tropical Pacific Ocean and the winter climate in the Asian-Pacific region (IUGG-0237)
Xiaojing Jia (China)
17:30 Two decadal shifts in Southern China summer rainfall (IUGG-0934)
Jilong Chen (China)

IAMAS
M07 The Relationship of Cloud Ice Properties and Processes in Observations and Models

M07b
16:30 How important are glassy SOA ice nuclei for the formation of cirrus clouds? (IUGG-3712)
Joyce Penner (USA)
16:45 Seasonal variability of Ice Nucleating Particles over Europe (IUGG-1706)
Luke Hande (Germany)
17:00 Probabilistic framework for representation of ice crystal size distributions observed during High Ice Water Content (HIWC) campaign as gamma functions (IUGG-3122)
Greg McFarquhar (USA)
17:15 Impact of ice microphysics on the dynamics of deep convective clouds (IUGG-4952)
Pao Wang (USA)
17:30 Progress in representing microphysical processes in a mixed-phase snow growth model (IUGG-3722)
David Mitchell (USA)

IAMAS
P04 Oceanic Boundary Current Systems

P04d
16:30 Strengthened western boundary current overrides the effect of warming on lobster larval dispersal & survival (IUGG-5688)
Paulina Cetina-Heredia (Australia)
16:45 Low-frequency variability of the physical structure of the north Humboldt current system (IUGG-5571)
Carmen Grados (Peru)
17:00 Quantifying the long-range exchange of carbon and nutrients between the Canary Upwelling System and the open North Atlantic (IUGG-4290)
Elisa Lovechio (Switzerland)
17:15 Interannual variability in the cross-shore exchange of carbon and nutrients in the California Current System (IUGG-5228)
Martin Frischknecht (Switzerland)
17:30 Eddy-wind interaction in the California Current System in a high-resolution regional coupled model (IUGG-5394)
Hyndae Seo (USA)
17:45 Sensitivity of sea surface temperature to wind stress in the Benguela upwelling system (IUGG-2924)
Martin Krebs (Germany)
**4th IUGG, PRAGUE, CZECH REPUBLIC, JUNE 22 – JULY 2, 2015**

**Tuesday, June 30**

**IASPEI**  
16:30-18:00, Club D

**SO6a/SO6b Strong Ground Motion: Open session, SGM Record Selection and Earthquake Scenarios**

**SO6b**  
16:30 Strong ground motions from multi-scale heterogeneous-source model for the mega-thrust subduction earthquakes (#IUGG-4682)  
Kojiro Inukai (Japan)

16:45 Strong Motion Simulation of Subduction Mega-earthquakes using a stochastic generation (#IUGG-4084)  
Sergio Ruiz (Chile)

17:00 Coupled finite element simulation of earthquakes and tsunami inception: A case study of the 2011 Tohoku-Oki earthquake and tsunami (#IUGG-3442)  
Mioba Bialak (USA)

17:15 Splitting “f-max”: Separating attenuation-controlled and source-controlled contributions into the upper cutoff of acceleration spectrum of a local earthquake (#IUGG-3727)  
Alexander Gusev (Russia)

17:30 Importance of scaling relation in slip strengthening in various earthquake slips (#IUGG-2133)  
Hideo Aochi (France)

17:45 A Study of Ground Motion Modeling in the Sicily channel based on the Empirical-Stochastic Method (#IUGG-2500)  
Aybige Akinci (Italy)

**IASPEI**  
16:30-18:00, Club E

**VS14/VS07 Unlocking the Enigma of Monogenetic Volcanism from a Historic Perspective to the Most Novel Recent Approaches / Explosive Basaltic Eruptions on Earth and other Planets**

**VS14d**  
16:30 The hidden secrets of a Strombolian clockwork: coupled high speed imaging and seismo-acoustic recordings of explosions at Etna, July 2014 (#IUGG-4444)  
Jacopo Taddeucci (Italy)

16:45 Large-scale basic Plinian eruptions: Textural characterization, rheological studies and numerical analysis on the Pozzolane Nere eruption (Colli Albani, Italy) (#IUGG-4248)  
Guido Giordano (Italy)

17:00 Explosion earthquakes during the 2007 eruption of Pavlof Volcano, Alaska (#IUGG-4599)  
Stephen McNutt (USA)

17:15 Explosive interaction of magmatic and hydrothermal systems during flank extension: The Bellecombe ashes of piton de La Fournaise, Réunion Island (#IUGG-5664)  
Michael Ort (USA)

17:30 First documentation of the ongoing phreatic-strombolian eruptions of Turrialba volcano (Costa Rica) (#IUGG-3746)  
Dmitri Rouwet (Italy)

**IASPEI**  
16:30-18:00, Club H

**VS28 Understanding VIPS (Volcanic and Igneous Plumbing Systems) through Multidisciplinary Research**

**VS28d**  
16:30 Magma chamber dynamics prior to the 1400BP eruption of Rabaul, Papua New Guinea (#IUGG-3169)  
Gareth Fabbro (Singapore)

16:45 The plumbing system beneath Quizapu volcano, Chile (#IUGG-3706)  
Michael Higgins (Canada)

17:00 Decadal timescales of magma mixing at a steady-state volcano: the case of Stromboli Volcano, Italy (#IUGG-3445)  
Chiara Maria Petrone (United Kingdom)

17:15 Insights into magmatic process below open vent volcanoes using crystal pattern recognition techniques (#IUGG-2562)  
Cheng Liu (China)

17:30 Evidence for steady-state dynamics of open-vent mafic volcanoes (#IUGG-1971)  
Dawn Ruth (Singapore)

17:45 Magma supply processes after a lateral collapse – insights from a major lava flow field on La Palma’s Bejenado volcano (#IUGG-2423)  
Simon Groom (United Kingdom)

**IASPEI**  
16:30-18:00, North Hall

**S08/S08a Lithospheric Structure and Dynamics: Open session, Lithospheric Structure - LAB Observations and Models**

**S08d**  
16:30 Looking at the roots of the highest mountains: The lithospheric structure of the Himalaya-Tibetan orogen from a geophysical-petrological study (#IUGG-3756)  
Ivone Jimenez-Munt (Spain)

16:45 Mid-Lithospheric discontinuity below oceans from seismic surface waves (#IUGG-4528)  
Solicited Speaker: Jean-Paul Montagner (France)

17:15 Thermochemical structure of the Hudson bay lithosphere, northern Canada: evidence from multi-observable probabilistic inversion (#IUGG-5702)  
Alan Jones (Ireland)

17:30 First observation of the hyphen lithosphere-asthenosphere boundary and upper mantle discontinuities at the northeastern Atlantic ocean bottom by receiver functions (#IUGG-3764)  
Katrin Hannemann (Germany)

17:45 Integrated geophysical study on the deep structure of Bohai Bay region (#IUGG-3309)  
Tianyao Hao (China)
### IAPSO 16:30-18:00, Terrace I

#### P03 Ocean Mixing

**Chair:** Lars Arneborg (Sweden)

16:30 Spatial and temporal variability of mixing in the Solomon Sea ([IUGG-0720](#IUGG-0720))

Marion Alberty (USA)

16:45 The tasman tidal dissipation experiment: Tidal mixing, scattering and reflection on the east tasman slope ([IUGG-4010](#IUGG-4010))

Robert Pinkel (USA)

17:00 Effects of temporal variation in tide-induced vertical mixing on the thermohaline circulation: A case of the Okhotsk Sea ([IUGG-2993](#IUGG-2993))

Tomohiro Nakamura (Japan)

17:15 Internal waves and enhancement of horizontal mixing ([IUGG-3344](#IUGG-3344))

Vasiliy Vlasenko (United Kingdom)

17:30 Ventilation of the Baltic Sea by lateral intrusions of watermasses ([IUGG-4325](#IUGG-4325))

Peter Holtermann (Germany)

### IAPSO 16:30-18:00, Terrace II

#### P06 The Southern Ocean: where Ocean, Ice and Atmosphere Meet

**Chair:** Andrew Thompson (USA)

16:30 Observing climate variability in Drake Passage ([IUGG-0514](#IUGG-0514))

Janet Sprintall (USA)

16:45 Observations of a large lee wave in the Drake Passage ([IUGG-4603](#IUGG-4603))

Jesse Cusack (United Kingdom)

17:00 Investigating topographic impact on vertical fluxes of passive tracer in the Antarctic circumpolar current ([IUGG-5698](#IUGG-5698))

Jérémy Collin (France)

17:15 Jet-topography effects on horizontal eddy mixing in the Southern Ocean ([IUGG-2275](#IUGG-2275))

Alice Barthel (Australia)

17:30 Measuring variability of jets in the Southern Ocean using along-track satellite altimetry and gravimetry ([IUGG-2143](#IUGG-2143))

Don Chambers (USA)

17:45 Fine-jet structure of the Antarctic circumpolar current in the Drake Passage ([IUGG-1206](#IUGG-1206))

Roman Tarakanov (Russia)

### IASPEI 16:30-18:00, Chamber Hall

#### S10 Earthquake Prediction: Earthquake Prediction Research

**Chair:** Andrew Thompson (USA)

16:30 Research on anomalies variation of lithospheric magnetic field before and after lushan Ms7.0 earthquake ([IUGG-4711](#IUGG-4711))

Ni Zhe (China)

16:45 A comprehensive study on Rn-222 earthquake precursory role in Iranian plateau ([IUGG-0450](#IUGG-0450))

Mojtaba Namvaran (Iran)

17:00 Prediction method based on the seismic noise synchronization with the Earth tides and its application ([IUGG-0549](#IUGG-0549))

Vadim Saltykov (Russia)

17:15 Revised accelerating moment release ([IUGG-3273](#IUGG-3273))

Angelo De Santis (Italy)

17:30 Importance of statistical tools and real-time database for seismo-geochemical studies along different fault zones of Taiwan ([IUGG-4102](#IUGG-4102))

Vivek Walia (Taiwan - China)

### IASPEI 16:30-18:00, South Hall 1

#### S01 Earthquake Observation and Interpretation: Real-Time Seismology and Early Warning

**Chair:** Aldo Zollo (Italy), Yih-Min Wu (Taiwan - China)

16:30 Multi-events earthquake early warning algorithm using a Bayesian approach ([IUGG-1244](#IUGG-1244))

Masumi Yamada (Japan)

16:45 Numerical shake prediction for Earthquake Early Warning: data assimilation, real-time shake-mapping, and simulation of wave propagation ([IUGG-1662](#IUGG-1662))

Mitsuyuki Hashiba (Japan)

17:00 A P-wave based methodology for rapid, real-time determination of seismic moment, fault extent and stress-drop ([IUGG-0769](#IUGG-0769))

Simona Colombelli (Italy)

17:15 Field installation and real-time data processing of the new integrated seismogeodetic system with real-time acceleration and displacement measurements for EEWS ([IUGG-4108](#IUGG-4108))

Leonid Zimakov (USA)

17:30 Advanced moment-tensor inversion code ([IUGG-1301](#IUGG-1301))

Siri Vackar (Czech Republic)

17:45 Scaling of amplitude and energy early warning parameters for Iquique, Northern Chile: Implications for future large subduction earthquakes ([IUGG-4301](#IUGG-4301))

Sergio Ruiz (Chile)
IAG 16:30-18:00, South Hall 2

**G04 Earth Rotation and Geodynamics**

**G04e**

*Chair: Richard Gross (USA)*

16:30  Tidal spectroscopy from a long record of superconducting gravimeters in Strasbourg (IUGG-1560)  
Marta Calvo (France)

16:45  Hybrid gravimetry as a tool to monitor sub-surface mass changes (IUGG-1563)  
Jacques Hinderer (France)

17:00  High precision gravimetry applied to the improvement of lunar laser ranging at Apache Point Observatory, New Mexico, USA (IUGG-4525)  
David Crossley (USA)

17:15  A Non-tidal Atmospheric Loading Model: Its Quality and Impacts on Results from SLR (IUGG-2483)  
Rolf Koenig (Germany)

17:30  Cosseismic slip distribution of the 2011 Tohoku (Mw 9.0) earthquake inverted from GRACE (IUGG-0481)  
Xin Zhou (China)

17:45  Complexity of source fault of inland earthquakes revealed by SAR interferometry (IUGG-4570)  
Manabu Hashimoto (Japan)

IASPEI 16:30-18:00, South Hall 3

**S13 Terrestrial Heat Flow**

**S13d**

*Chair: Valiya Hamza (Brazil)*

16:30  Heat flow, heat production and thermal structure in the Bundelkhand craton: implications for thermal regime beneath the northern Indian shield (IUGG-0940)  
Sukanta Roy (India)

16:45  Effective mechanisms of heat transport in sedimentary basins at different scales (IUGG-2255)  
Magdalena Scheck-Wenderoth (Germany)

17:00  New geothermal data and their correlation with the potential fields and deep structure by DSS profiles in Western Uzbekistan (IUGG-0486)  
Irina Sidorova (Uzbekistan, Republic of)

17:15  New heat-flow observations in a hotspot swell: the Reunion-Mascarene Plateau (IUGG-1876)  
Massimo Verdoya (Italy)

17:30  Temperatures and fault slips on the upper surface of the subducting Philippine Sea plate beneath the Kanto district, central Japan (IUGG-1469)  
Shoichi Yoshioka (Japan)

17:45  Multiple-scale heat flow anomalies seaward of the Japan Trench associated with deformation of the incoming Pacific plate (IUGG-2315)  
Makoto Yamano (Japan)

18:00-19:30, Poster Area (Foyer)

**Posters sessions (p. 221)**
Wednesday, July 1

Union Symposia 8:30-10:00, Congress Hall
U07/JP02 The Potential for Carbon- and Climate-Engineering to Offset Global Change / The Potential for Carbon- and Climate-Engineering to Offset Global Change (IAPSO, IAMAS)

U07a
Chair: Michael MacCracken

8:30 Cirrus Cloud Thinning - a Climate Engineering technique that targets longwave radiation (#IUGG-5076)
Solicited Speaker: Jon Egill Kristjansson (Norway)

9:00 Climate model simulations of geoengineering: What we’ve learned from GeoMIP and what we might learn in the future (#IUGG-2049)
Solicited Speaker: Ben Kravitz (USA)

9:30 The role of iron during the open ocean dissolution of olivine in a simulated CO2 removal experiment (#IUGG-2166)
Solicited Speaker: Peter Koehler (Germany)

Joint Inter-Association Symposia 8:30-10:00, Forum Hall
JM04 Data Assimilation in Geophysical Sciences (IAMAS, IAGA, IACS, IASPEI, IAPSO, IAG)

JM04a
Chair: William Lahoz (Norway)

8:30 Theoretical developments in data assimilation, with reference to chemical data assimilation (#IUGG-2809)
Solicited Speaker: Marc Bocquet (France)

9:00 Adding value to the Global Observing System: Making sense of high-resolution air quality observations using data assimilation techniques (#IUGG-1746)
William Lahoz (Norway)

9:15 Comparison of geomagnetic field models using data assimilation (#IUGG-5328)
Andrew Tangborn (USA)

9:30 Monitoring a changing environment: The role of OSSEs in determining the future global observing system (#IUGG-3913)
William Lahoz (Norway)

9:45 Alleviating the bias induced by the linear analysis update with an isopycnal ocean model (#IUGG-1379)
Tugu Wong (Norway)

Joint Inter-Association Symposia 8:30-10:00, Meeting Hall I
JS04 Deformation of the Lithosphere: Integrating Seismology and Geodesy through Modelling (IASPEI, IAG)

JS04a
Chairs: Kevin Furlong (USA), Jeff Freymueller (USA)

8:30 Cross-scale thermo-mechanic model of seismic cycle of great megathrust earthquakes (#IUGG-5310)
Stephan Sobolev (Germany)

8:45 Coseismic subsidence and postseismic uplift along the Pacific coast of Tohoku and Kanto districts associated with the 2011 Tohoku-oki Earthquake (#IUGG-1328)
Takeshi Ishina (Japan)

9:00 Coseismic deformation of the 2014 northern Nagano earthquake detected by ALOS-2/PALSAR-2 (#IUGG-2055)
Manabu Hashimoto (Japan)

9:15 Observing Multiscale temporal behavior on a mega-thrust: Nicoya Earthquake cycle and 2012 megathrust event (#IUGG-2980)
Rocco Malserri (USA)

9:30 Time-varying upper-plate deformation during the megathrust subduction earthquake cycle (#IUGG-2797)
Kevin Furlong (USA)

9:45 Postseismic deformation of the 2008 Wenchuan earthquake and its effects on the motions of the blocks around eastern Tibetan Plateau (#IUGG-1376)
Caijun Xu (China)

IAPSO 8:30-10:00, Panorama Hall
P02 Physics and Biogeochemistry of Semi-Enclosed and Shelf Seas

P02e
Chair: Hans Burchard (Germany)

8:30 Dense shelf water cascades around Australia: Dynamics and water column processes (#IUGG-3721)
Solicited Speaker: Charitha Pattiaratchi (Australia)

9:00 Diagnosing one of the largest inflows into the Baltic Sea since 100 years (December 2014) (#IUGG-4209)
Ulf Gräwe (Germany)

9:15 Tidally induced mean flow over bathymetric features: a contemporary challenge for high-resolution wide-area models (#IUGG-5178)
J. Polton (United Kingdom)

9:30 The role of evolving stratification on the internal wave field in temperate shelf seas (#IUGG-0899)
Juliane Wilkens (United Kingdom)

9:45 The impact of diazycnial mixing on sea surface CO2 partial pressure in seasonally stratified shelf seas (#IUGG-1553)
Tom Rippeth (United Kingdom)
IAMAS 8:30-10:00, Meeting Hall IV

M22 Understanding and Predicting High-impact Weather and Climate Extremes

M22g

Chair: Xuebin Zhang (Canada)

8:30 Uncertainties in global land-based rainfall extremes estimates in observations and models (#IUGG-3520)
Lisa Alexander (Australia)

8:45 Heavy precipitation in a changing climate: Does short-term summer precipitation increase faster? (#IUGG-5148)
Nikolina Ban (Switzerland)

9:00 Extreme rainfall and floods in southern Africa in January 2013, associated circulation patterns and regional forecasting (#IUGG-1265)
Chris Reason (South Africa, Republic of)

9:15 Could Boulder’s flooding rains of September 2013 be anticipated due to climate change, or were they predictable on shorter time-scales? (#IUGG-4964)
Klaus Wolter (USA)

9:45 Latitude belt, convection-permitting simulation of extreme weather events using the WRF-NOAH model system (#IUGG-5744)
Volker Wulfmeyer (Germany)

IAMAS 8:30-10:00, Meeting Hall V

G02 Static Gravity Field Models and Observations

G02k

Chair: Leonid Vitushkin (Russia)

8:30 The benefit of quantum gravimetry and relativistic geodesy with clocks for geodetic applications (#IUGG-3315)
Jürgen Müller (Germany)

8:45 Strategy for definition and realization of a global absolute gravity reference system (#IUGG-4714)
Herbert Wüllmes (Germany)

9:00 The return of relative gravimetry (#IUGG-4984)
Jaakko Makinen (Finland)

9:15 Absolute gravity datum: Should it be *modernized*? (#IUGG-4491)
Vicki Childers (USA)

9:30 Gravity surveys and quasi-geoid model in South America - extra efforts (#IUGG-2165)
Denizar Blitzkow (Brazil)

9:45 Gravity anomalies and ice mass movements around the Japanese Antarctic stations in East Antarctica (#IUGG-2324)
Yoichi Fukuda (Japan)

IAMAS 8:30-10:00, Club A

M19 El Niño / Southern Oscillation and Decadal Variability under Climate Change

M19a

8:30 Who killed the big 2014-15 El Niño (and is climate change a suspect?) (#IUGG-5530)
Solicited Speaker: Michael McPhaden (USA)

9:00 What interrupted the 2014 El Niño? – A possible cause in the South Pacific Ocean (#IUGG-3063)
Yukiko Imada (Japan)

9:15 Importance of background seasonality in the coupled atmosphere-ocean response to westerly wind events (#IUGG-2453)
Michiya Hayashi (Japan)

9:30 Causes of Evolution Asymmetry between El Niño and La Niña (#IUGG-1570)
Tim Li (USA)

9:45 Does recent variation in Tropical Pacific seasonal forecast skill represent base state-related change in ENSO predictability, or just dumb luck? (#IUGG-4568)
Matthew Newman (USA)

IAMAS 8:30-10:00, Club B

M07 The Relationship of Cloud Ice Properties and Processes in Observations and Models

M07c

Chairs: Ottmar Möhler (Germany), Joachim Curtius (Germany)

8:30 Use of observations and simulations to investigate primary microphysical pathways between deep convection updrafts and the stratiform melting level (#IUGG-5136)
Solicited Speaker: Ann Fridlind (USA)

8:45 On the origin of high altitude high ice water content regions in oceanic deep convection (#IUGG-3152)
Alexei Korolev (Canada)

9:00 Surface roughness of small cirrus ice particles (#IUGG-4995)
Martin Schnaiter (Germany)

9:15 Nearly spherical ice in anvil cirrus clouds and its influence to climate (#IUGG-5112)
Emma Järvinen (Germany)

9:30 Investigation of Ice Cloud Microphysical Properties of DCs using Aircraft in situ Measurements during MC3E over the ARM SGP Site (#IUGG-3842)
Xiquan Dong (USA)

9:45 In situ observations and simulations of rapid glaciation in tropical cumulus updrafts: Results from Ice in Clouds Experiment - Tropical (#IUGG-3507)
Paul Lawson (USA)
Wednesday, July 1

**IAPSO** 8:30-10:00, Club C

**P10 Sub-Mesoscale Eddies**

**P10a**

8:30 Interaction of a surface quasi-geostrophic buoyancy anomaly strip and an internal vortex (#IUGG-1897)

*Solicited Speaker: Jean Reinaud* (United Kingdom)

9:00 Lagrangian reconstructions of temperature and velocity in surface ocean turbulence20 (#IUGG-0251)

*Stefano Berti* (France)

9:15 Surface semi-geostrophic turbulence: Freely-evolving dynamics (#IUGG-3518)

*Gualtiero Badin* (Germany)

9:30 Point vortex dynamics of a fluid near a boundary with a buy (#IUGG-0233)

*Konstantin Koshel* (Russia)

**IASPEI** 8:30-10:00, Club D

**S06d/S06e Strong Ground Motion: Site Effects and Rotational Seismology**

**S06da**

8:30 Local seismic hazard assessment in alpine environments (#IUGG-3177)

*Donat Fäh* (Switzerland)

8:45 Developing reliable shear wave velocity profiles for site response: Effects of layering parameterization on surface wave inversion (#IUGG-3839)

*Brady Cox* (USA)

9:00 Microtremor array measurements in Western Taiwan (#IUGG-3163)

*Chun-Hsiang Kuo* (Taiwan - China)

9:15 Relationship between Ko and Vs30 from Taiwan TSMIP data (#IUGG-1259)

*Kuo-liang Wen* (Taiwan - China)

9:30 Influence on source, path, and site effects for amplitude ratios of S-waves to P-waves (#IUGG-1953)

*Hiroyuki Miyakoshi* (Japan)

9:45 Geophysical investigations on landslide area in Buyukcekmece, Istanbul (#IUGG-1965)

*Esref Yalcinkaya* (Turkey)

**IAVCEI** 8:30-10:00, Club E

**VS24 Volcano Geology**

**VS24a**

Chair: *Claudia Principe* (Italy)

8:30 Are continental flood basalt (CFB) provinces volcanoes? (#IUGG-4518)

*Steve Self* (United Kingdom)

8:45 Using GIS to investigate the 3-dimensional architecture and volcano-stratigraphy of the Deccan large igneous province (#IUGG-3752)

*Anne Jay* (United Kingdom)

9:00 A multi-disciplinary approach to understanding volcanism and geodynamic evolution of the Miocene Cabo de Gata volcanic field, southeast Spain (#IUGG-4882)

*Nancy Riggs* (USA)

9:15 Preliminary geologic map of the Acoculco caldera, Puebla, Eastern Mexico (#IUGG-5473)

*Jose Luis Macias* (Mexico)

9:30 Geological map of Nevado de Toluca Volcano (Mexico - 1:50,000 scale) (#IUGG-5436)

*Gianluca Groppelli* (Italy)

9:45 Integrating the volcanic facies concept with the lithostratigraphic approach to mapping ancient volcanic areas. Examples from the East Carpathians, Romania (#IUGG-1685)

*Alessandru Szakács* (Romania)

**IASPEI** 8:30-10:00, North Hall

**S08/S08a Lithosphere Structure and Dynamics: Open session, Lithospheric Structure - LAB Observations and Models**

**S08e**

Chair: *Kevin Furlong* (USA)

8:30 Toward a uniform measure of crustal thickness (#IUGG-2790)

*Wang-Ping Chen* (USA)

8:45 Automated picking of teleseismic P-wave polarization parameters at the German Regional Seismic Network (#IUGG-5207)

*Luigia Cristiano* (Germany)

9:00 Crustal velocity structure by receiver functions inversion and travel-times for regional phases under Franz Josef Land Archipelago (#IUGG-0495)

*Natalya Voganova* (Russia)

9:15 Crustal thickness and Poisson’s ratio in the junction of the Taidangshan and Yanshan tectonic belts in the North China Craton (#IUGG-0426)

*Qi-Fu Chen* (China)

9:30 Lithospheric velocity structure Beneath Iranian-Turkish Plateau using Rayleigh waves group velocities (#IUGG-0618)

*Meysmah Mahmoodabadi* (Iran)

9:45 Mapping the Hales discontinuity in southwestern Spain (#IUGG-4048)

*Puy Ayarza* (Spain)
P03 Ocean Mixing

Chair: Glenn Carter (USA)

8:30 Tides stir up Atlantic Water heat fluxes in the Arctic (#IUGG-2208)
Yueng-Djern Lenn (United Kingdom)

8:45 Effects of tides on the mixing of water masses in the Arctic Ocean (#IUGG-2995)
Maria Luneva (United Kingdom)

9:00 Multi-column ocean: taking advantage of the subgrid-scale distribution of sea ice to refine the ice-ocean interactions (#IUGG-1306)
Antoine Barthélémy (Belgium)

9:15 Resolving turbulence in the ocean surface boundary layer with a microstructure glider on the Malin Shelf (#IUGG-3106)
Matthew Palmer (United Kingdom)

9:30 Persistent turbulence microstructure observations from autonomous underwater gliders (#IUGG-5392)
Luc Rainville (USA)

9:45 Study of convective plumes in the Gulf of Lions from high resolution in-situ data collected by gliders (#IUGG-4339)
Félix Margirier (France)

P06 The Southern Ocean: where Ocean, Ice and Atmosphere Meet

Chair: Anna Wahlin (Sweden)

8:30 The fourth Antarctic Bottom Water: Cape Darnley Bottom Water (#IUGG-2101)
Kay Ohshima (Japan)

8:45 Circulation and water mass transports on the East Antarctic shelf off Adélie Land (#IUGG-0961)
Antoine Martin (France)

9:00 A Numerical Investigation of Formation and Variability of Antarctic Bottom Water off Cape Darnley, East Antarctica (#IUGG-2357)
Yoshihiro Nakayama (Germany)

9:15 Formation of Antarctic bottom water on the continental shelf off Larsen ice shelf (#IUGG-4505)
Mathias van Capel (Germany)

9:30 Sensitivity of abyssal water masses to subgrid-scale parameterisations and varying resolution (#IUGG-5322)
Kate Snow (Australia)

9:45 Modeling Frazil Ice using Lagrangian particle tracking (#IUGG-4854)
Yoshimasa Matsunaga (Japan)

S10/S10a Earthquake Prediction: Open session, Operational Earthquake Forecasting

Chair: Maximilian Werner (United Kingdom)

8:30 Operational earthquake forecasting in the Eastern Caribbean (#IUGG-0871)
Joan Latchman (Trinidad and Tobago, Republic of) 

8:45 Long lasting practice and objectivist vision of Operational Earthquake Forecasting (OEF) (#IUGG-3168)
Vladimir Kossobokov (Russia)

9:00 Operational earthquake forecasting from significant seismicity changes in Greece (#IUGG-5485)
Gerassimos Papadopoulos (Greece)

9:15 Operational earthquake forecasting of aftershocks for new England, USA (#IUGG-3803)
John Ebel (USA)

9:30 Scientific and non-scientific challenges for operational earthquake forecasting (#IUGG-3886)
Warner Marzocchi (Italy)

9:45 Operational Earthquake Forecasting: a New Zealand Perspective (#IUGG-2281)
Solicited Speaker: Matthew Gerstenberger (New Zealand)

S01e Seismological Observation and Interpretation: Real-Time Seismology and Early Warning

Chair: Masumi Yamada (Japan), Anthony Lomax (France)

8:30 Intelligence and statistics for rapid and robust earthquake detection, association and location (#IUGG-3623)
Anthony Lomax (France)

8:45 Local heterogeneities disturb the empirical relationship between growth curves of initial P-wave and epicentral distances (#IUGG-3179)
Kyosuke Okamoto (Japan)

9:00 Synthetic seismograms from a 3D crustal model for SW Iberia (#IUGG-1822)
Elisa Buforn (Spain)

9:15 Rapid and concurrent Epi- & Hypocenter localisation for tracking earthquakes in real-time upon their initial detection (#IUGG-4294)
George Daglish (United Kingdom)

9:30 Relationship between Mw and the arrival time of the peak high-frequency amplitude (#IUGG-3925)
Shunta Noda (USA)

9:45 This is my abstract title:Application of the offshore real time monitoring data for disaster mitigation on seismogenic zones (#IUGG-2538)
Yoshiiyuki Kaneda (Japan)
## Wednesday, July 1

### IAG

**G04 Earth Rotation and Geodynamics**

**G04f**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker/Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30</td>
<td>Impact of interannual mass loading deformation on secular surface velocities (#IUGG-1620)</td>
<td>Richard Gross (USA)</td>
</tr>
<tr>
<td>8:45</td>
<td>Post-seismic crustal deformations after the 2010 earthquakes in Latin America (#IUGG-2568)</td>
<td>Alvaro Santamaría-Gómez (Mexico)</td>
</tr>
<tr>
<td>9:00</td>
<td>Characterizing the crustal deformation on nw South America (Colombia) using gns observations (#IUGG-5056)</td>
<td>Laura Sanchez (Germany)</td>
</tr>
<tr>
<td>9:15</td>
<td>New Geodetic constraints into the Active tectonics of Eastern Indonesia (IUGG-4118)</td>
<td>Hector Mora-Paz (Colombia)</td>
</tr>
<tr>
<td>9:30</td>
<td>Short-term slow slip events in southwest Japan, observed by GNSS (#IUGG-1902)</td>
<td>Paul Tregoning (Australia)</td>
</tr>
<tr>
<td>9:45</td>
<td>Analysis of detailed crustal strains due to the dense GNSS array in the Tokai region, central Japan (#IUGG-3284)</td>
<td>Teruyuki Kato (Japan)</td>
</tr>
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</table>

### Union Symposia

**U07/JP02 The Potential for Carbon- and Climate-Engineering to Offset Global Change / The Potential for Carbon- and Climate-Engineering to Offset Global Change (IAPSO, IAMAS)**

**U07b**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker/Details</th>
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<tbody>
<tr>
<td>10:30</td>
<td>Is nature testing climate engineering for us? (#IUGG-1579)</td>
<td>Michael MacCracken (USA)</td>
</tr>
<tr>
<td>10:45</td>
<td>Is there a limit of sulfate injections for climate engineering? (#IUGG-2589)</td>
<td>Ulrike Niemeier (Germany)</td>
</tr>
<tr>
<td>11:00</td>
<td>Global agricultural impact from the G4 Specified Stratospheric Aerosols (G4SSA) GeoMIP Simulation using the CESM-CAM4 climate model (#IUGG-3396)</td>
<td>Lili Xia (USA)</td>
</tr>
<tr>
<td>11:15</td>
<td>Atlantic hurricane response to geoengineering (#IUGG-1623)</td>
<td>John Moore (China)</td>
</tr>
<tr>
<td>11:30</td>
<td>On the feasibility of cirrus cloud thinning: Dependence of homo- and heterogeneous ice nucleation on latitude and season (#IUGG-1419)</td>
<td>David Mitchell (USA)</td>
</tr>
<tr>
<td>11:45</td>
<td>Will cirrus cloud seeding reduce warming? (#IUGG-3653)</td>
<td>Joyce Penner (USA)</td>
</tr>
</tbody>
</table>

### Joint Inter-Association Symposia

**JM04 Data Assimilation in Geophysical Sciences (IAMAS, IAGA, IACS, IASPEI, IAPSO, IAG)**

**JM04b**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>10:30</td>
<td>Assimilating GRACE terrestrial water storage estimates into a regional hydrological model: A case study of the Rhine River basin (#IUGG-3368)</td>
<td>Brian Gunter (USA)</td>
</tr>
<tr>
<td>10:45</td>
<td>Potential of space-borne GNSS reflectometry to constrain numerical simulations of the ocean circulation (#IUGG-2622)</td>
<td>Jan Saynisch (Germany)</td>
</tr>
<tr>
<td>11:00</td>
<td>Data assimilation for real-time prediction of earthquake ground shaking: “Numerical shake prediction” for Earthquake Early Warning (#IUGG-1661)</td>
<td>Hiromichi Nagao (Japan)</td>
</tr>
<tr>
<td>11:15</td>
<td>Data-driven approaches beneficial to data assimilation in earthquake researches (#IUGG-5033)</td>
<td>Sara Zhang (USA)</td>
</tr>
<tr>
<td>11:30</td>
<td>Assimilation of the observed geomagnetic SV and constraints on core fow beneath the core-mantle boundary (#IUGG-5079)</td>
<td>Michael MacCracken (USA)</td>
</tr>
<tr>
<td>11:45</td>
<td>Assimilation of GPM precipitation observations in the NASA Unified WRF Ensemble Data Assimilation System (#IUGG-4550)</td>
<td>Lili Xia (USA)</td>
</tr>
</tbody>
</table>

### Joint Inter-Association Symposia

**JS04 Deformation of the Lithosphere: Integrating Seismology and Geodesy through Modelling (IASPEI, IAG)**

**JS04b**

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<th>Time</th>
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<tr>
<td>10:30</td>
<td>Subduction, collision and the long-term tectonic deformation of the Aleutian arc and southwest Alaska (#IUGG-4302)</td>
<td>Jeff Freymueller (USA), Kevin Furlong (USA)</td>
</tr>
<tr>
<td>10:45</td>
<td>Crustal deformation in the Taupo Volcanic Zone (#IUGG-5241)</td>
<td>Craig Bishop (USA)</td>
</tr>
<tr>
<td>11:00</td>
<td>Crustal deformation around the northern Itoigawa-Shizuoka Tectonic Line and its implications for the 2014 Northern Nagano earthquake (Mw6.3) (#IUGG-3436)</td>
<td>Brian Gunter (New Zealand)</td>
</tr>
<tr>
<td>11:15</td>
<td>Elastic and inelastic deformation process in the Mid-Niigata Area, Central Japan (#IUGG-3006)</td>
<td>Angela Meneses Gutierrez (Japan)</td>
</tr>
<tr>
<td>11:30</td>
<td>Earth’s surface deformation of Baikal rift zone from the data of 2011-2014 GNSS companies (#IUGG-1208)</td>
<td>David Jackson (USA)</td>
</tr>
</tbody>
</table>

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200  26th IUGG, PRAGUE, CZECH REPUBLIC, JUNE 22 – JULY 2, 2015
IAPSO 10:30-12:00, Panorama Hall

P02 Physics and Biogeochemistry of Semi-Enclosed and Shelf Seas

P02f

Chair: Ken Ridgway (Australia)

10:30 Genesis and concentration of suspended particulate matter in the Kara Sea during the greatest decreasing of Arctic sea ice sheet (IUGG-3040)
Marina Kravchishina (Russia)

10:45 Greenland Ice Sheet melt increases Baffin Bay heat content on the west Greenland shelf (IUGG-5259)
Paul Myers (Canada)

11:00 Interannual variability of hydrochemical parameters and frontal zone dynamics in the Ob’ Inlet and Yenisei Gulf (IUGG-5362)
Alexander Polukhin (Russia)

11:15 Surface circulation features along the Tunisian coast (central mediterranean sea): the Atlantic Tunisian current (IUGG-5769)
Sana Ben Ismail (Tunisia)

IAMAS 10:30-12:00, Meeting Hall IV

M22 Understanding and Predicting High-impact Weather and Climate Extremes

M22h

Chair: Kazuo Saito (Japan)

10:30 Atmospheric conditions associated with polar low genesis in the North-East Atlantic (IUGG-3811)
Solicited Speaker: Thomas Spengler (Norway)

10:45 Future changes in extreme east coast lows (IUGG-3496)
Jason Evans (Australia)

11:00 Climatology of polar lows over the Japan Sea using the jRA-55 reanalysis (IUGG-3218)
Wataru Yanase (Japan)

11:15 Unusual winter snowfall in Japan associated with western Pacific blocking (IUGG-4564)
Akira Yamazaki (Japan)

11:45 Dynamic causes of Ural blocking biases and their implications on East Asian winter circulation in CMIPS GCMs (IUGG-2069)
Ho Nam Cheung (China)

IAG 10:30-12:00, Meeting Hall V

G02 Static Gravity Field Models and Observations

G02i

Chair: Herbert Wilmes (Germany)

10:30 Progress in airborne gravimetry by combining strapdown inertial and new satellite observations via dynamic networks (IUGG-2258)
Jan Skaloud (Switzerland)

10:45 Experiences from airborne gravimetry in the frame of the GEOHALO project (IUGG-3827)
Franz Barthelmes (Germany)

11:00 Developments in airborne gravity collection and processing with the Gravity for the Re-Definition of the American Vertical Datum (GRAV-D) Project (IUGG-4587)
Monica Youngman (USA)

11:15 Towards the Sub-mGal Level: Latest Results of Strapdown Airborne Gravimetry (IUGG-2250)
Luisa Bastos (Portugal)

11:30 Towards the Sub-mGal Level: Latest Results of Strapdown Airborne Gravimetry (IUGG-2250)
Luisa Bastos (Portugal)

11:45 Study of the restitution of submarine geological structures thanks to a new underwater moving gravimeter and gradiometer sensor (IUGG-2214)
Clement Roussel (France)

IAMAS 10:30-12:00, Club A

M19 El Niño / Southern Oscillation and Decadal Variability under Climate Change

M19b

10:30 Relative roles of the Central Pacific and Western North Pacific precipitation anomalies in El Niño teleconnection (IUGG-1681)
Solicited Speaker: Jong-Seong Kug (Korea, Republic of Korea)

11:00 The challenge for heat budget analysis of El Niño – Southern Oscillation processes (IUGG-5224)
Neil Holbrook (Australia)

11:15 Oceanic Rossby waves induced by meridional shift of Inter-Tropical Convergence Zone in association with El Niño-Southern Oscillation (IUGG-4101)
Hiroto Abe (Japan)

11:30 Water vapor transport and moisture budget over East China: Remote forcing from the two types of El Niño (IUGG-2729)
Xiuzhen Li (China)

11:45 Interdecadal change of ENSO examined by a process-based stability analysis (IUGG-3201)
Soon-Il An (Korea, Republic of Korea)
### IAMAS 10:30-12:00, Club B

**M07 The Relationship of Cloud Ice Properties and Processes in Observations and Models**

**M07d**

**Chairs:** Alexei Korolev (Canada), Martin Schnaiter (Germany)

- **10:30** Sensitivity study of microphysical properties of cirrus in combination to natural aerosol on synthetic SEVIRI observation (**#IUGG-2559**)
  - Anja Hünerbein (Germany)

- **10:45** Investigating oriented ice and correlations with precipitation in mid latitude marine clouds using collocated CALIOP, CloudSat, and MODIS (**#IUGG-5656**)
  - Robert Holz (USA)

- **11:00** The importance of Secondary Ice Processes in Layer and Convective clouds (**#IUGG-1729**)
  - Thomas Choularton (United Kingdom)

- **11:15** Supercooled water droplets observed in an upper part of a precipitation cell over the western tropical Pacific Ocean (**#IUGG-3323**)
  - Taro Shinoda (Japan)

- **11:30** The Origin of Ice at High-Alpine site Jungfraujoch (**#IUGG-1735**)
  - Gary Lloyd (United Kingdom)

### IAPSO 10:30-12:00, Club C

**P10 Sub-Mesoscale Eddies**

**P10b**

- **10:30** Interaction between mesoscale barotropic eddy and sub-mesoscale intrathermocline lenses (**#IUGG-0929**)
  - Solicited Speaker: Mikhail Sokolovskiy (Russia)

- **10:45** Generation of submesoscale filaments in the mixed layer of mesoscale vortices (**#IUGG-3039**)
  - Liam Brannigan (United Kingdom)

- **11:00** An annual cycle of submesoscale and mesoscale vertical flows in the upper ocean (**#IUGG-3469**)
  - Xiaolong Yu (China)

- **11:15** Intense sub-mesoscale variability revealed by multi-platform sampling in the offshore waters west of Sardinia (Mediterranean Sea) (**#IUGG-3197**)
  - Ines Borrione (Italy)

- **11:30** Mesoscale and submesoscale structures from the Geostationary Ocean Color Imager and a model in the southwestern East Sea (**#IUGG-3477**)
  - Young-Gyu Park (Korea, Republic of Korea)

### IASPEI 10:30-12:00, Club D

**S06d/S06e Strong Ground Motion: Site Effects and Rotational Seismology**

**S06db**

- **10:30** ‘Atypical’ soil behavior during the 2011 Tohoku earthquake (MW = 9) (**#IUGG-2419**)
  - Olga Pavlenko (Russia)

- **10:45** Spectral element modeling of seismic wave propagation in 1D-1C and 1D-3C linear and nonlinear media including pore pressure effects (**#IUGG-1846**)
  - Elif Oral (France)

- **11:00** Local seismic response of sites with pronounced topography: insights from modelling (**#IUGG-5202**)
  - Jan Burjanek (Switzerland)

- **11:15** The Relation between the Directional Dependent Horizontal-to-Vertical Spectral Ratios of Microtremors and the Lateral Heterogeneity at the Basin Edge (**#IUGG-4858**)
  - Shinichi Matsushima (Japan)

- **11:45** Comparative analysis of the seismic wavefield composition on two nearby rock and soil sites in the Argostoli area, Greece (**#IUGG-4110**)
  - Pierre-Yves Bard (France)

### IAVCEI 10:30-12:00, Club E

**VS24 Volcano Geology**

**VS24b**

- **10:30** The Vicuña Pampa Volcanic Complex, Southern Central Andes (**#IUGG-0906**)
  - Silvina Guzman (Argentina)

- **10:45** A detailed geological map and eruptive history for Tongariro National Park, New Zealand: Integrating mapping, geochronology, geochemistry, paleomagnetism and glaciology (**#IUGG-5470**)
  - John Gamble (New Zealand)

- **11:00** Lithofacies and depositional processes in a Miocene pyroclastic sequence, Tokaj-Mountains, Carpathian-Pannonian region (**#IUGG-3176**)
  - Janos Szepesi (Hungary)

- **11:15** The structural development of the nested summit craters of László volcano studied with a Terrestrial Laser Scanner (**#IUGG-4167**)
  - Elske de Zeeuw - van Dalfsen (Germany)

- **11:30** Statistical, geochemical and petrographic study of the debris avalanches from Sangay volcano, Ecuador (**#IUGG-0412**)
  - Viviana Valverde (Ecuador)

- **11:45** Insights into the effusive-explosive transitions from geological data: the example of Monte dei Porri, Salina Island (Italy) (**#IUGG-5069**)
  - Silvia Massaro (Italy)
### IASPEI 10:30-12:00, North Hall

**S03 Recent Large and Damaging Earthquakes**

**S03a**

**Chairs:** Zhongliang Wu (China), Davuluri Srinagesh (India)

- **10:30** Recent developments of the ISC Seismic Event Bibliography (#IUGG-1115)  
  **Domenico Di Giacomo** (United Kingdom)

- **10:45** The April 20, 2013, Lushan, Sichuan, China, earthquake: seismogenic model by multidisciplinary ‘evidence chain’ (#IUGG-1105)  
  **Zhongliang Wu** (China)

- **11:00** Lessons learnt from 2011 Sikkim earthquake – An engineers view (#IUGG-1276)  
  **Raju Sarkar** (India)

- **11:15** The focal property of the 2014 Ms6.5 Ludian, China earthquake sequence (#IUGG-0773)  
  **Zujun Xie** (China)

- **11:30** Characterizing the spatial features for the aftershocks of the Wenchuan Earthquake (M8.0, 2008, China) (#IUGG-1083)  
  **Li Li** (China)

- **11:45** Characterizing the temporal features for the aftershocks of the Wenchuan earthquake (M8.0, 2008, China) (#IUGG-1091)  
  **Li Li** (China)

### IAPSO 10:30-12:00, Terrace I

**P03 Ocean Mixing**

**P03f**

**Chair:** Robert Pinkel (USA)

- **10:30** The role of mixing in major interannual surface cooling events in the equatorial Pacific cold tongue (#IUGG-3075)  
  **Sally Warner** (USA)

- **10:45** Downward “lee wave” radiation from tropical instability waves in the central equatorial Pacific: a possible energy pathway to turbulent mixing (#IUGG-4918)  
  **Yuki Tanaka** (Japan)

- **11:00** Heat transport in the upper ocean during summer in the north Pacific (#IUGG-3248)  
  **Eunjeong Lee** (Korea, Republic of Korea)

- **11:15** An assessment of vertical mixing schemes in comparison observations in the European shelf over a decadal scale (#IUGG-2518)  
  **Maria Luneva** (United Kingdom)

- **11:30** Mixing due to sub-mesoscales (#IUGG-4521)  
  **Vittorio Canuto** (USA)

- **11:45** Ocean processes in the recovery phase of cold wakes (#IUGG-5605)  
  **Sachiko Yoshida** (USA)

### IAPSO 10:30-12:00, Terrace II

**P06 The Southern Ocean: where Ocean, Ice and Atmosphere Meet**

**P06h**

**Chair:** Roman Tarakanov (Russia)

- **10:30** Influence of the northern Deep Waters on Southern Ocean water properties and cryosphere (#IUGG-5320)  
  **Solicited Speaker:** Lynne Talley (USA)

- **11:00** Southern Ocean cooling in a warming world: reassessing the role of westerly winds (#IUGG-2171)  
  **Yavor Kostov** (USA)

- **11:15** Multidecadal warming and shoaling of antarctic waters (#IUGG-5745)  
  **Sunke Schmidtko** (Germany)

- **11:30** Panel Discussion

### IASPEI 10:30-12:00, Chamber Hall

**S10/S10a Earthquake Prediction: Open session, Operational Earthquake Forecasting**

**S10b**

**Chairs:** Vladimir Kossobokov (Russia), Warner Marzocchi (Italy)

- **10:30** How to combine rate-based earthquake forecasting models with precursory information or with non-normalized models? (#IUGG-1766)  
  **Peter Shebalin** (Russia)

- **10:45** UCERF3-ETAS: Including Spatiotemporal clustering for a California Operational Earthquake Forecast (#IUGG-3071)  
  **Solicited Speaker:** Tom Jordan (USA)

- **11:00** Operational earthquake forecasting in California: A prototype system combining UCERF3 and CyberShake (#IUGG-3493)  
  **Kevin Milner** (USA)

- **11:15** Retrospective evaluation of time-dependent earthquake forecast models during the 2010-12 Canterbury, New Zealand, earthquake sequence (#IUGG-5398)  
  **Solicited Speaker:** Maximilian Werner (United Kingdom)

- **11:30** How do you know if the background seismicity rate has changed? (#IUGG-5048)  
  **Ian Main** (United Kingdom)

- **11:45** Exploring the reliability of ETAS earthquake forecasts as a function of the model parametrization (#IUGG-4989)  
  **Matteo Taroni** (Italy)
### Wednesday, July 1

#### IASPEI 10:30-12:00, South Hall 1

**S01g/S11 Seismological Observation and Interpretation: The Future of the Global Seismic Infrastructures, Forensic Seismology and CTBTO Data**

- **10:30** Seismic networks and earthquake monitoring in Europe in the digital era: ORFEUS and the contribution of Torild van Eck (#IUGC-5521)
  - Domenico Giardini (Switzerland)
- **10:45** International AlpArray science program calls for combined permanent and temporary seismic station array unprecedented in quantity and quality (#IUGC-4246)
  - Edi Kissling (Switzerland)
- **11:00** NIED observation networks for earthquakes and tsunamis (#IUGC-5160)
  - Shin Aoi (Japan)
- **11:15** The GEOFON program: past, current and future developments (#IUGC-4904)
  - Angelo Strollo (Germany)
- **11:30** The Brazilian seismic network: RSBR (#IUGC-5143)
  - Marcelo Assumpcao (Brazil)
- **11:45** Pacific Array (#IUGC-1473)
  - Hitoshi Kawakatsu (Japan)

#### IAG 10:30-12:00, South Hall 2

**G04 Earth Rotation and Geodynamics**

- **Chair:** Richard Gross (USA)
- **10:30** Geodetic and seismological analysis of the January 26, 2014 Cephalonia Island earthquake sequence (#IUGC-4139)
  - Demetris Anastasiou (Greece)
- **10:45** Seismic gaps and seismic potential on the East Anatolian Fault System using an improved GPS velocity field (#IUGC-0763)
  - Haluk Ozener (Turkey)
- **11:00** Using GNSS measurements to solve the debate over tectonic behavior of western segment of the Makran Subduction Zone (MSZ) (#IUGC-2651)
  - Farokh Tavakoli (Iran)
- **11:15** A GNSS-derived velocity field around the Arabian Plate (#IUGC-1905)
  - Guenter Stangl (Austria)
- **11:30** Lithospheric structures and crustal flow of Eastern Himalaya region from GPS and satellite geodesy (#IUGC-0771)
  - Divakar Reddy (India)
- **11:45** Detection of strain accumulation regions on Tibetan Plateau based on continuous GNSS measurements (#IUGC-2407)
  - Jicang Wu (China)

#### Joint Inter-Association Symposia 13:30-15:00, Forum Hall

**JM04 Data Assimilation in Geophysical Sciences (IAMAS, IAGA, IACS, IASPEI, IAPSO, IAG)**

- **Chair:** Marc Bocquet (France)
- **13:30** Developments in particle filtering (#IUGC-3455)
  - Solicited Speaker: Javier Amezcua (United Kingdom)
- **14:00** Deriving optimal combinations of static and flow dependent variances using hidden error variance theory (#IUGC-4530)
  - David Kuhl (USA)
- **14:15** A meso hybrid data assimilation system based on the JMA nonhydrostatic model (#IUGC-3465)
  - Kazuo Saito (Japan)
- **14:30** The gamma/inverse-gamma (gig) filter and its potential use in Earth-system analysis and prediction (#IUGC-4327)
  - Craig Bishop (USA)
- **14:45** Maximum likelihood approach for estimating uncertain parameters in data assimilation for a plasmasphere model (#IUGC-3312)
  - Shinya Nakano (Japan)

#### IAVCEI 13:30-15:00, Meeting Hall I

**VS12 Understanding Volcanic Lakes: a Multi-Disciplinary Approach**

- **13:30** Gas emissions from the Hyper-Acid Crater Lake of Poás Volcano, Costa Rica (#IUGC-0842)
  - J. Maarten de Moor (Costa Rica)
- **13:45** Hydrogeochemical monitoring at El Chichón volcano: a tool for long-term volcanic hazard assessment. Lessons from decades of surveillance (#IUGC-0978)
  - M. Aurora Armenta (Mexico)
- **14:00** The gas membrane sensor (GMS) method: a new analytical approach for real-time analyses of dissolved gases in volcanic lakes (#IUGC-1261)
  - Franco Tassi (Italy)
- **14:15** Variation of volcanic gas composition during transition from crater lake activity to eruption at Aso volcano, Japan (#IUGC-1398)
  - Hiroshi Shinohara (Japan)
- **14:30** HCl degassing from extreme acidic crater lake waters: empirical insights from lab-experiments (#IUGC-3735)
  - Dmitri Rouwet (Italy)
- **14:45** Enhanced eruption hazard from a cool Ruapehu Crater Lake – perception and reality (#IUGC-2298)
  - Tony Hurst (New Zealand)
IAPSO 13:30-15:00, Panorama Hall

P02g Physics and Biogeochemistry of Semi-Enclosed and Shelf Seas

13:30 The annual cycle of the Japan Sea Throughflow (#IUGG-2355)
Shinichiro Kida (Japan)

13:45 Slope convection in the Peter the Great Bay and ventilation of the Japan Sea (#IUGG-5375)
Vycheslav Lobanov (Russia)

14:00 Surface current patterns in eastern Wakasa Bay extracted using self-organizing map analysis of VHF ocean radar observation (#IUGG-5476)
Yasuji Niida (Japan)

IAMAS 13:30-15:00, Meeting Hall IV

M22 Understanding and Predicting High-impact Weather and Climate Extremes

M22i

13:30 Double Rossby Wave Breaking in the North Atlantic and severe European windstorms (#IUGG-1318)
Gabriele Messori (Sweden)

13:45 Energy and helicity of convective vortices in the atmosphere (#IUGG-1346)
Michael Kurgansky (Russia)

14:00 Effects of Multi-scale interaction on the simulation of Intraseasonal Oscillation and Tropical Storm Activities in WRF Regional Climate Model (#IUGG-2005)
Yen Chau Chiu (Taiwan - China)

14:15 Diagnosing interannual variability in tropical cyclone activity in high-resolution Community Atmosphere Model ensemble simulations (#IUGG-4208)
Kevin Reed (USA)

14:30 Examination of Land-falling Tropical Cyclones in an IPCC extreme climate scenario (#IUGG-4221)
Justin Mclay (USA)

IAMAS 13:30-15:00, Club B

M07 The Relationship of Cloud Ice Properties and Processes in Observations and Models

M07e

13:30 A study of the importance of the parameterization of heterogeneous ice nucleation for the modelling of a convective cloud (#IUGG-0351)
Andrea Flossmann (France)

13:45 Laboratory measurements of falling velocity of individual ice columns (#IUGG-0384)
Eldo Avila (Argentina)

14:00 The characteristics of atmospheric ice nuclei in different regions in China (#IUGG-3532)
Yan Yin (China)

14:15 Influence of different ice-nucleation parametrizations on orographic mixed-phase clouds: idealized model simulations (#IUGG-5384)
Sarah Isabelle Reichardt (Germany)

14:30 A laboratory study of warm cloud droplet coalescence in an acoustic wave field (#IUGG-0489)
Mohammad Hossein Shoushtari (Iran)

IAPSO 13:30-15:00, Club C

P10 Sub-Mesoscale Eddies

P10c

13:30 Observations of submesoscale eddies using high-frequency radar-derived kinematic and dynamic quantities (#IUGG-0335)
Solicited Speaker: Sung Yong Kim (Korea, Republic of Korea)

14:00 Quantifying the kinetic and potential energy of a submesoscale eddy from in situ and aerial observations (#IUGG-4868)
Ryan North (Germany)

14:15 The seasonal signature of submesoscale turbulence from moorings in the North Atlantic (#IUGG-5196)
Christian Buckingham (United Kingdom)

14:30 Physical-biogeochemical observations of a submesoscale coherent vortex formed by deep vertical mixing in the north-western Mediterranean Sea (#IUGG-5193)
Anthony Bosse (France)

14:45 A seasonal cycle of open-ocean submesoscale motions from ocean gliders (#IUGG-5317)
Andrew Thompson (USA)
### IASPEI
**S06d/S06e Strong Ground Motion: Site Effects and Rotational Seismology**

**S06dc**
- **13:30** On adequacy of plane-wave approximation for evaluating near-field seismic rotational ground motions: case of P-SV source (#IUGG-1204)
  Varun Singla (India)
- **13:45** Effects of rotational motion on near-fault strong-motion data (#IUGG-3485)
  Hung-Chie Chia (Taiwan - China)
- **14:00** Reducing non-uniqueness in inversion for seismic moment tensors using rotational ground motions (#IUGG-1811)
  Stefanie Donner (Germany)
- **14:15** Determination of real backazimuths of local and regional Icelandic earthquakes using single-point six-degree-of-freedom measurements (#IUGG-4206)
  Johana Brokesova (Czech Republic)
- **14:30** Seafloor ground rotation observations (#IUGG-2242)
  Fabian Lindner (Germany)
- **14:45** More Love waves than Rayleigh waves in the secondary microseism: Study by co-located Ring Laser and STS-2 (#IUGG-2012)
  Toshiro Tanimoto (USA)

### IAVCEI
**VS24 Volcano Geology**

**VS24c**
- **13:30** Geochronology and evolution of the youngest volcano in the Carpathian-Pannonian Region (#IUGG-0757)
  Kata Molnar (Hungary)
- **13:45** Tephrostratigraphic framework of Western Europe: Contribution of late-glacial and holocene tephras from the French Massif Central (#IUGG-2539)
  Gwenolé Jouannic (France)
- **14:00** The last 1000 years of the eruptive history of Ceboruco volcano (Nayarit, Mexico) – new contributions based on palaeomagnetic dating (#IUGG-5321)
  Harald Böhnel (Mexico)
- **14:15** Cotopaxi's most recent rhyolitic eruptions, 2400 yBP (#IUGG-5088)
  Patricia A Mothes (Ecuador)
- **14:30** Re-evaluation of andesitic pyroclastic deposits on Dominica, Lesser Antilles, with implications for volcanic hazard (#IUGG-3885)
  Jan Lindsay (New Zealand)
- **14:45** Magmatic activity at Islas Marias archipelago: Key events for understanding gulf of California tectonics (#IUGG-5302)
  Peter Schaaf (Mexico)

### IASPEI
**VS02 Lava Flows**

**VS02a**
- **13:30** The thermospectral infrared properties of active basaltic flows: Constraining petrology, lava cooling and flow propagation models (#IUGG-3519)
  Michael Ramsey (USA)
- **13:45** Evolution of lava emplacement through the geological history of a volcano: Insights into the magma system properties (#IUGG-2396)
  Angelo Castruccio (Chile)
- **14:00** Normalaunav lava morphology and mode of emplacement (#IUGG-0967)
  Gro B. M. Pedersen (Denmark)
- **14:15** Lava flow morphology and dynamics during the 2014/2015 Fogo eruption, studied using Terrestrial Laser Scanner data (#IUGG-5482)
  Nicole Richter (Germany)
- **14:30** Fill and spill lava emplacement and its effects on local lava discharge rates and flow morphologies (#IUGG-3686)
  Christopher Hamilton (USA)
- **14:45** The surprising terminus of the turbulently emplaced Athabasca Valles Flood Lava (#IUGG-2816)
  Laszlo Kestay (USA)

### IASPEI
**S03 Recent Large and Damaging Earthquakes**

**S03b**
- **13:30** Ludian earthquake (Aug.3,2014) and Jinggu earthquake (Oct.7,2014): comparison of strong ground motion, with implications for the disasters (#IUGG-1103)
  Zhongliang Wu (China)
- **13:45** The 2013 Mw7 Lushan earthquake, the 2008 Mw8 Wenchuan earthquake and the history earthquakes in the Bayan Har eastern region (#IUGG-1814)
  Fang Du (China)
- **14:00** Bay of Bengal earthquake 21st May 2014, and strong ground motions (#IUGG-1793)
  Davuluri Srinagesh (India)
- **14:15** The Key Role of Eyewitnesses in Rapid Impact Assessment of Global Earthquakes (#IUGG-2159)
  Remi Bosqu (France)
- **14:30** Trending Discussion on Bihar-Nepal Earthquake (1934 & 1988) and its relation to Patna fault inferred from gravity and magnetic data (#IUGG-0270)
  Daya Shanker (India)
- **14:45** Source Parameters of the Mw=7.8 Ghosht: Iran Earthquake (#IUGG-5171)
  Mohammad Ashtari Jafari (Iran)
**IAPSO 13:30-15:00, Terrace I**

**P03 Ocean Mixing**

P03g

Chair: Trevor McDougall (Australia)

- **13:30** Evolution of density compensated fronts in simulated ocean mixed layers (#IUGG-4732)
  Robert Heiber (USA)

- **13:45** Submesoscale instabilities at ocean fronts observed during winter in the North Atlantic (#IUGG-5401)
  Christian Buckingham (United Kingdom)

- **14:00** When complexity leads to simplicity: Ocean surface mixing simplified by vertical convection (#IUGG-2723)
  Hezi Gildor (Israel)

- **14:15** Estimating local mixing coefficient in a framework of diffusion against mean flow (#IUGG-4856)
  Nikolai Maximenko (USA)

- **14:30** Properties and origins of the anisotropic eddy-induced transport in the North Atlantic (#IUGG-311B)
  Igor Kamenkovich (USA)

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**IAPSO 13:30-15:00, Terrace II**

**P06 The Southern Ocean: where Ocean, Ice and Atmosphere Meet**

P06i

Chair: Karen Heywood (United Kingdom)

- **13:30** The 3-dimensional overturning circulation of the Southern Ocean revealed using data from ARGO and instrumented elephant seals (#IUGG-069B)
  Christopher Chapman (France)

- **13:45** Sensitivity of Southern Ocean overturning to wind stress changes: Role of surface restoring time scales (#IUGG-1045)
  Xiaoqing Zhai (New Zealand)

- **14:00** Impacts of far field forcing on the Residual Overturning Circulation in the Southern Ocean (#IUGG-4609)
  Helen Burns (United Kingdom)

- **14:15** Impacts of far field forcing on the Residual Overturning Circulation in the Southern Ocean (#IUGG-4609)
  Helen Burns (United Kingdom)

- **14:30** Properties and origins of the anisotropic eddy-induced transport in the North Atlantic (#IUGG-311B)
  Igor Kamenkovich (USA)

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**IASPEI 13:30-15:00, Chamber Hall**

**S10/S10a Earthquake Prediction: Open session, Operational Earthquake Forecasting**

S10c

Chair: Matthew Gerstenberger (New Zealand)

- **13:30** Randomness of mega-thrust earthquakes implied by rapid stress recovery after the Japan M9 event (#IUGG-1878)
  Jochen Woessner (Switzerland)

- **13:45** The EEPAS forecasting model ten years on (#IUGG-2687)
  David Rhoades (New Zealand)

- **14:00** Results and features of seisic forecasting experiments for Kamchatka and Japan regions (#IUGG-4674)
  Sergey Shogin (Russia)

- **14:15** The medium-term seismic hazard model for Italy (#IUGG-3747)
  Licia Faenza (Italy)

- **14:30** The next great earthquake around Tabriz, Iran (#IUGG-5168)
  Mohammad Ashtari Jafari (Iran)

- **14:45** Impact of thermal infrared satellite data on operational earthquake forecast: A long term study over Greece, Italy SW-USA and Taiwan (#IUGG-3938)
  Valerio Tramutoli (Italy)

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**IASPEI 13:30-15:00, South Hall 1**

**S01g/S11 Seismological Observation and Interpretation: The Future of the Global Seismic Infrastructures, Forensic Seismology and CTBTO Data**

S11b

- **13:30** EPOS-Seismology: Integrating European Seismological Infrastructures (#IUGG-2455)
  Florian Haslinger (Switzerland)

- **13:45** The MUSTANG data quality analysis system: Finding meaning in the metrics (#IUGG-3078)
  Tim Ahern (USA)

- **14:00** Portable Seismic Array Observation in China mainland (#IUGG-5182)
  Yinshuang Ai (China)

- **14:15** Detection capability estimation for the IFE14 seismic aftershock monitoring network (#IUGG-2914)
  Peter Labak (Austria)

- **14:30** An evaluation of claims on the merits of smart-phone sensors, for nuclear explosion monitoring (#IUGG-3717)
  Paul Richards (USA)

- **14:45** Could the International Monitoring System infrasound stations support a global network of small aperture seismic arrays? (#IUGG-4519)
  Steven J. Gibbons (Norway)

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**Poster sessions (p. 221)**

**Closing Ceremony**

16:30-18:00, Congress Hall;

**Poster sessions (p. 221)**
Thursday, July 2

**IAVCEI 8:30-10:00, Club A**

**VW01** 2nd Workshop on Volcano Geology

**VW01a**
8:30 Role of fundamental volcanic geology in hazard assessment (#IUGG-4559)
  Joan Marti (Spain)

**IAVCEI 8:30-10:00, Club E**

**VW02** Best Practices and Recommendations for Tephra Measurements

**VW02a**
8:30 Quantifying uncertainties in tephra thickness and volume estimates (#IUGG-5586)
  Samantha Engwell (Italy)

8:30 TError: a systematic approach for the quantification of the uncertainty propagated during the characterization of tephra deposits (#IUGG-2213)
  Solicited Speaker: Sebastien Blass (Switzerland)

**IAVCEI 10:30-12:00, Club A**

**VW01** 2nd Workshop on Volcano Geology

**VW01b**
10:30 Lava fountains producing unexpected tephra fallouts at Mt Etna: The 23 November 2013 case (#IUGG-3632)
  Daniele Andronico (Italy)

10:30 Reconstructing eruptive source parameters from tephra deposits: a numerical approach to medium-sized explosive eruptions (#IUGG-5517)
  Antonio Spanu (Germany)

10:30 Reconstructing the large, plinian Hekla 3 and Hekla 4 eruptions: field, lab and software strategies (#IUGG-2253)
  John Stevenson (United Kingdom)

**IAVCEI 10:30-12:00, Club E**

**VW02** Best Practices and Recommendations for Tephra Measurements

**VW02b**
13:30 Tephra dispersal modelling: The role of field measurements in model forecasts and hazard assessments (#IUGG-2854)
  Solicited Speaker: Arnau Folch (Spain)

13:30 Insights from new methods of determining grain size, total grain size and mass distribution of tephra fall deposits (#IUGG-4641)
  Solicited Speaker: Julia Eychenne (United Kingdom)

**IAVCEI 13:30-15:00, Club A**

**VW01** 2nd Workshop on Volcano Geology

**VW01c**
16:30-18:00, Club A

**VW01d**
16:30-18:00, Club E

**VW02** Best Practices and Recommendations for Tephra Measurements

**VW02c**
### Poster Sessions Overview – by Presenting Day

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<td>A37 Geophysical and Geomagnetic Diagnosis of the Sun and Near-Earth Space (Div. V/IAIMAS-ICMA/IAIMAS-IRC)</td>
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<td>C01</td>
<td>IACS (Cryosphere)</td>
<td>C01 GLIMS and the Randolph Glacier Inventory: where Do We Go from Here?</td>
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<td>C02 Advances in Estimating and Measuring Glacier Ice Thicknesses</td>
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<td>M05 Observations and Modelling of Cloud Condensate and Water Vapour Variability</td>
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<td>A14 Equatorial Spread-F, Equatorial Ionization Anomaly (EIA) and F3-Layer Studies During Geomagnetic Quiet and Disturbed Periods (Div. I/F)</td>
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<td>A37 Geophysical and Geomagnetic Diagnosis of the Sun and Near-Earth Space (Div. V/IV)</td>
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<td>A41 Lithospheric Field Modeling, the WDMAM and Tectonic Implications (Div. V)</td>
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<td>C04</td>
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<td>C04 Modelling of Mountain Glaciers, Past and Future</td>
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<td>23.6 15:00</td>
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<td>C16 Cryosphere, Atmosphere and Climate: The Cryosphere and Polar Amplification of Climate</td>
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<td>HS03</td>
<td>IAHS (Hydrology)</td>
<td>HS03 Precipitation: measurements, instrumentation, statistics, modeling and predictions at all scales</td>
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<td>HW01 Water Exchange Processes at Aquatic Boundaries and Their Effects on Ecosystems</td>
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<td>HW15 Trace Methods for Understanding the Response of Hydrological Systems to Transient Contamination Inputs</td>
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<td>JG3/G03 Assessment of Climate and Anthropogenic Changes impacts on the Terrestrial Hydrography (IAHS, IAMAS) / Variations of the Hydrograph from Satellite Gravity Missions (IAU, IAGS)</td>
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<td>M02 Advances in Atmospheric Dynamics Including Topographic Forcing</td>
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<td>A03 Electromagnetic Imaging from the Near-Surface, Lithosphere-Asthenosphere, to the Core: Results and Interpretations (Div. I)</td>
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<td>JA02</td>
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<td>JA04 Results from SWARM, Ground Based Data and Earlier Satellite Missions - Recognition of Eiki Friis-Christensen (IAGA, IAMAS)</td>
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<td>A16 Energetic Particle Precipitation into the Atmosphere: Sources and Atmospheric Impacts (Div. II-DIVG/ Div. II-VERISM/ICMA)</td>
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<td>A17 The Earth’s Plasmasphere: Remote Sensing and Modelling (Div. II-VERISM)</td>
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<td>A28</td>
<td>A28/A29 New advances in Solar and Interplanetary Physics (Div. IV / Wave and Turbulence in the Solar Atmosphere and Solar Wind (Div. IV)</td>
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Tuesday, June 23

Poster Sessions in Detail

IAGA (Aeronomy, Geomagnetism) 15:00-16:30, Poster Area (Foyer)

**A01 Planetary Core Dynamics, Dynamos and Fundamental MHD Processes (Div. I)**

**A01p**

**A01p-001**
Inertial effects on thermochemically driven convection in spherical shells (#IUGG-1711)
Juraj Kyselica (Czech Republic)

**A01p-002**
The 6-jet model of geodynamo (#IUGG-3778)
Boris Shevtsov (Russia)

**A01p-003**
Effects of shell thickness on cross-helicity generation in convection-driven dynamos (#IUGG-5538)
Luis Silva (United Kingdom)

IAGA (Aeronomy, Geomagnetism) 15:00-16:30, Poster Area (Foyer)

**A02 Recent Theoretical Advances in Electromagnetic Induction: Analysis, Modelling and Inversion (Div. I)**

**A02p**

**A02p-004**
3-D numerical simulation of tsunami-generated electromagnetic fields using the time-domain finite element method (#IUGG-0814)
Takuto Minami (Japan)

**A02p-005**
Fast evaluation of Hessian in the time-domain global EM induction problem (#IUGG-1501)
Michail Maksimov (Czech Republic)

**A02p-006**
On interpretation of the contracting integral equation method as a preconditioned conjugate gradient type method of the EM induction equation (#IUGG-2354)
Takao Koyama (Japan)

**A02p-007**
High-performance parallel solver for 3D electromagnetic integral equations (#IUGG-4130)
Mikhail Kruglyakov (Russia)

**A02p-008**
Theoretical modeling of surface impedance besides pulsation source and 1D structure (#IUGG-5468)
Mark Everett (USA)

IAGA (Aeronomy, Geomagnetism) 15:00-16:30, Poster Area (Foyer)

**A08 Time Variation of Magnetic Field over Millenial Timescales and Longer (Div. I)**

**A08p**

**A08p-010**
Contributions to the Full Vector Secular Variation in Mexico during the last ~20,000 years (#IUGG-0452)
Ahmed Nasser Mahgoub Ahmed (Egypt)

**A08p-011**
A rock-magnetic and paleomagnetic study of upper Brunhes lava flows from the Los Humeros Caldera, Eastern Mexico (#IUGG-0516)
Erick Juarez (Mexico)

**A08p-012**
On combining archeomagnetic and historical data to create a global magnetic field model of the Earth over the last 1000 years (#IUGG-0793)
Arne Døssing (Denmark)

**A08p-013**
Paleointensity variation in Central Europe during the past 3400 years (#IUGG-2343)
Elisabeth Schnepp (Austria)

**A08p-014**
Geomagnetic secular variation during the last millennium: Paleoarchaeological results from Eastern Iceland (#IUGG-3043)
Arne Døssing (Denmark)

**A08p-015**
Quantifying paleosecular variation: From dynamo simulations to paleomagnetic data (#IUGG-3733)
Julie Carlut (France)

**A08p-016**
Reversal in the large-scale stochastic geomagnetic aO-dynamo (#IUGG-3816)
F. Javier Pavón-Carrasco (Spain)

**A08p-017**
First Archaeomagnetic field intensity data from Ethiopia, Africa (1615 AD) (#IUGG-5289)
F. Javier Pavón-Carrasco (Spain)

**A08p-018**
Paleomagnetic field intensity changes in western Europe during the last millennia: New archaeointensity data from Spanish pottery (#IUGG-4474)
F. Javier Pavón-Carrasco (Italy)

**A08p-019**
Archaeomagnetic field intensity data from Ethiopia, Africa (1615 AD) (#IUGG-5289)
F. Javier Pavón-Carrasco (Italy)

**A08p-020**
Paleomagnetic field intensity changes in western Europe during the last millennia: New archaeointensity data from Spanish pottery (#IUGG-4474)
F. Javier Pavón-Carrasco (Spain)

**A08p-021**
Paleosecular variation during the Brunhes and Matuyama period recorded by lavas from Martinique and Guadeloupe Islands (#IUGG-5406)
Valia Stcherbakova (Russia)

**A08p-022**
Paleoarchaeological and paleoecological studies of Devonian volcanic rocks from the Kola Peninsula, Russia (#IUGG-5634)
Valia Stcherbakova (Russia)
Tuesday, June 23

**IAGA (Aeronomy, Geomagnetism)** 15:00-16:30, Poster Area (Foyer)

**A13 Solar-Related Variability of the Lower, Middle and Upper Atmosphere (Div. II-D/ IAMAS-ICMA/IAMAS-IRC)**

**A13p**

A13p-023 Solar activity effects on climate change in history ([IUGG-0186])
Ahmed Abdel Hady (Egypt)

A13p-024 Influence of the Quasi-Biennial Oscillation and solar activity on interannual variability of the spring-time transition of stratosphere ([IUGG-0458])
Evgeniya Rakushina (Russia)

A13p-025 Superposed epoch analysis to detect North Atlantic Oscillation response to geomagnetic storms ([IUGG-0474])
Gerardo L. Flores Ivaldi (Argentina)

A13p-026 Influence of solar and geomagnetic activity on climate change ([IUGG-0552])
Kirill Kirichenko (Russia)

A13p-027 Mesopause temperature variation over Yakutia during 23rd solar cycle ([IUGG-0553])
Petr Ammosov (Russia)

A13p-028 Dependence on the filtering technique of the solar quasi-biennial oscillation and its link with the stratosphere QBO ([IUGG-0623])
Ana G. Elias (Argentina)

A13p-029 On long-term changes in the correlation between Southern Hemisphere precipitation and variations in SOI and solar activity ([IUGG-0700])
Ana G. Elias (Argentina)

A13p-030 Relationships between solar activity and the characteristics of the annual and semi-annual harmonics in the middle atmosphere ([IUGG-1528])
Vladimir Guryanov (Russia)

A13p-031 MLT wind response to maxima and minima solar activity at low latitude in the Southern Hemisphere ([IUGG-2341])
Luciana Rodrigues de Araujo (Brazil)

A13p-032 The impact of different solar forcing data sets on the atmospheric radiation budget ([IUGG-3062])
Blanca Ayarzagüena (Germany)

A13p-033 Signatures of the ULF geomagnetic activity in the surface air temperature in Antarctica ([IUGG-3643])
Patrizia Francia (Italy)

A13p-034 Observations of radon progeny fallout during tropical rainfalls: 1-minute time resolution monitoring ([IUGG-3776])
Patricia M. Fernandez de Campra (Argentina)

A13p-035 Possible relation between the inter-tropical convergence zone precipitation and solar activity ([IUGG-3777])
Evgeniya Rakushina (Russia)

A13p-036 The 11-year solar cycles 20–23 and global temperature variations ([IUGG-5558])
Lilia Biktash (Russia)

**IAGA (Aeronomy, Geomagnetism)** 15:00-16:30, Poster Area (Foyer)

**A15 Long-Term Trends in the Stratosphere, Mesosphere, Termosphere and Inosphere (Div. II-F/ICMA/SCOSTEP)**

**A15p**

A15p-037 Trends in the Equatorial Electrojet due to secular variations in the Earth's magnetic field ([IUGG-0615])
Ana G. Elias (Argentina)

A15p-038 Stratospheric temperature trends in Southern Hemisphere ([IUGG-0649])
Patricia M. Fernandez de Campa (Argentina)

A15p-039 Long-term cosmogenic carbon changes in the past as a key for climate change in present and future ([IUGG-0843])
Tamara Kuznetsova (Russia)

A15p-040 Trends in noon and midnight FoF2 related to greenhouse gases and Earth's magnetic field secular variation ([IUGG-0970])
Ana G. Elias (Argentina)

A15p-041 Linear trends of planetary wave activity in the middle atmosphere during 1992-2013 ([IUGG-1545])
Vladimir Guryanov (Russia)

A15p-042 Trends in total ozone and in stratospheric temperature ([IUGG-4153])
Marta M. Zossi (Argentina)

A15p-043 Meridional wind component in the stratosphere ([IUGG-1006])
Peter Krizan (Czech Republic)

A15p-044 Long-term trends in the stratosphere ([IUGG-1040])
Michal Kozubek (Czech Republic)

A15p-045 Linear trends of planetary wave activity in the middle atmosphere during 1992-2013 ([IUGG-1545])
Vladimir Guryanov (Russia)

A15p-046 10 years of radar observations of the quasi two-day wave over Collm (51°N, 13°E) ([IUGG-2420])
Friederike Lilienthal (Germany)

A15p-047 Long-term observations of the MLT region at Adelaide (34.6°S) and Davis Station (68.6°S) ([IUGG-4014])
Iain Reid (Australia)

A15p-048 Trends in total ozone and in stratospheric temperature ([IUGG-4153])
Patricia M. Fernandez de Campa (Argentina)
IAGA (Aeronomy, Geomagnetism) 15:00-16:30, Poster Area (Foyer)

A39 Geomagnetic Observatories, Variometers and Repeat Surveys: Instrumental and Operational Developments and Applications (Div. V)

A39p

A39p-058 Geomagnetic field data for the Romanian National Aeronautical Information Service (IUGG-0728)
Anca Iancu (Romania)

A39p-059 Development of a fully-featured data logger for a geomagnetic observatory (IUGG-0821)
Moja Miklavcev (Slovenia)

A39p-060 New Zealand’s Geomagnetic Observatories (IUGG-1031)
Tanja Pedersen (New Zealand)

A39p-061 Search coil magnetometer for high latitudes observatories (IUGG-1405)
Vira Pronenko (Ukraine)

A39p-062 Recent upgrade of the Gan geomagnetic observatory (IUGG-1991)
Jakub Velimsky (Czech Republic)

A39p-063 Tablet and laptop deployment during absolute measurement process (IUGG-2013)
Petr Kubasta (Czech Republic)

A39p-064 A geomagnetic variometer network for schools in the United Kingdom (IUGG-2093)
Ciaran Beggan (United Kingdom)

A39p-065 Geomagnetic Data at the Conrad Observatory in Austria: Applying the MagPy Package For RealTime Acquisition, Database Organization and Analysis (IUGG-2566)
Roman Leonhardt (Austria)

A39p-066 In situ noise inter-comparison of geomagnetic variometers at Budkov Observatory (IUGG-3260)
Michal Vlk (Czech Republic)

A39p-067 Anomalies in geomagnetic variations in the Yunnan Province of China (IUGG-3361)
Qi Li (China)

A39p-068 Anthropogenic disturbances on geomagnetic observatories: A comparison between Vienna Cobenzl and the new Conrad Observatory (IUGG-3420)
Niko Kompein (Austria)

A39p-069 Enhanced pendulum system for the Danish suspended fluxgate magnetometer (IUGG-3862)
Lars William Pedersen (Denmark)

A39p-070 New Malagasy Magnetic Observatory (IUGG-3898)
Aude Chambodut (France)

A39p-071 Review of magnetic field data and models over Madagascar Island (IUGG-3900)
Aude Chambodut (France)

A39p-072 Aspects of determination and preservation of azimuth mark reference direction at geomagnetic observatories (IUGG-3994)
Roman Krasnoprov (Russia)

A39p-073 Measurement and analysis of geomagnetic field data in Cheongyang observatory (IUGG-4113)
Po Gyu Park (Korea, Republic of Korea)

A39p-074 150 years of geomagnetic field measurements at the Magnetic Observatory of Coimbra: Homogeneity and data quality (IUGG-4502)
Anna Morozova (Portugal)

A39p-075 Regional geomagnetic field model for Croatia (IUGG-5562)
Peter Kovac (Hungary)

A39p-076 Measuring the azimuth of China geomagnetic field monitoring network with differential GPS (IUGG-5696)
Qiuhong Li (China)
Tuesday, June 23

IAGA (Aeronomy, Geomagnetism) 15:00-16:30, Poster Area (Foyer)


A43p
A43p-077 Zonal ionospheric plasma drifts in Brazilian sector during the last extreme low solar activity (IUGG-0388)
Jose Ricardo Abalde Guede (Brazil)

A43p-078 Lunar tide in ionospheric total electron content over Brazil (IUGG-0422)
Ana Roberta Paulino (Brazil)

A43p-079 Geomagnetic activity associated effects on occurrence of blanketing Es (Esb) in Indian longitude (IUGG-0646)
Virendra Yadav (India)

A43p-080 Geomagnetic Field Monitoring With The NANOSATC-BR Ground Stations Network - Capacity Building - NANOSATC-BR1 Tracking Operation Trainee (IUGG-0756)
Pietro Moro (Brazil)

A43p-081 NANOSATC-BR1 technological mission – The first results of a Brazilian radiation resistant chip – SMDH ASICS (IUGG-0823)
Leonardo Zavareze da Costa (Brazil)

A43p-082 The space weather influence in cubesat space missions (IUGG-0846)

A43p-083 NANOSATC-BR1 Scientific Mission & Tracking Operation – The influence of solar activities on the onboard payloads (IUGG-0919)
Thales Ramos Manica (Brazil)

A43p-084 Ionospheric E-F valley observed by a sounding rocket at the low latitude station Hainan (IUGG-1039)
Jiankui Shi (China)

A43p-085 Three-dimensional plasma bubble modeling for the Brazilian region (IUGG-1152)
Inez S. Batista (Brazil)

A43p-086 Sudden Impulses: The influence of magnetospheric and ionospheric current systems on ground observations (IUGG-1322)
Mirko Piersanti (Italy)

A43p-087 A study of the origin and influence of external magnetic field disturbances using ground observatory and satellite data (IUGG-2323)

A43p-088 The NANOSATC-BR1: Scientific and tecnologic payloads for geospace monitoring over the Brazilian territory (IUGG-2831)
Juliano Moro (Brazil)

A43p-089 Lidar for the ionosphere researches (IUGG-3851)

A43p-090 Study of the blanketing sporadic layer formation considering the influence of the tidal winds (IUGG-3928)

A43p-091 Analysis of the Oxlight ion transition derived from the electron density profiles, satellite and ISR measurements for low solar activity (IUGG-4024)

A43p-092 Low latitude ionospheric variation under the impact of Corotating Interaction Regions and High Speed Streams during solar cycle 23 (IUGG-4036)
Claudia Candido (Brazil)

A43p-093 Determining the quiet day curve for long-periods of subionospheric very low frequency observations using the fast fourier transform (IUGG-4578)
Aaron Hendry (New Zealand)

A43p-094 Global-scale Observations of the Limb and Disk (GOLD) Mission – Observing Forcing of the Thermosphere-Ionosphere System from Above and Below (IUGG-4763)
Mihai Codrescu (USA)

A43p-095 Estimation of ionospheric response to solar flares in the equatorial and low-latitude regions (IUGG-5232)
Fabio Guedes (Brazil)

A43p-096 Considerations on severe geomagnetic disturbances and their impact on power energy network (IUGG-5515)
Laurentiu Asimopolos (Romania)

IACS (Cryosphere) 15:00-16:30, Poster Area (Foyer)

C01 GLIMS and the Randolph Glacier Inventory: where Do We Go from Here?

C01p
C01p-097 A new inventory of the glaciers in the Pyrenees (southwest Europe) (IUGG-1550)
Renaud Marti (France)

C01p-098 Challenges in creating a glacier inventory for the Karakoram-Pamir region (IUGG-4626)
Nico Mölg (Switzerland)

C01p-099 Practical examples from Greenland of the importance of accurate glacier outlines for high resolution regional climate modelling and weather prediction (IUGG-5036)
Ruth Mottram (Denmark)

IACS (Cryosphere) 15:00-16:30, Poster Area (Foyer)

C02 Advances in Estimating and Measuring Glacier Ice Thicknesses

C02p
C02p-100 Ice thickness measurements and volume estimates for glaciers in Norway (IUGG-3800)
Liss Marie Andreassen (Norway)

C02p-101 Analysis of ice volume and its characteristics at the glacier Baishui No.1 in mt. Yulong, Southwestern China (IUGG-5624)
Liu Jing (China)

C02p-102 Ice volume and characteristics analysis for representative temperate glacier - White River No.1 glacier, Mt. Yulong, China (IUGG-5685)
Yuanqing He (China)

224 26th IUGG, PRAGUE, CZECH REPUBLIC, JUNE 22 – JULY 2, 2015
C15p-103 An analysis of present and future seasonal Northern Hemisphere land snow cover simulated by CMIP5 coupled climate models (IUGG-2517)

Gin Xu (China)

C15p-104 Regional sea ice projection – An example of CMIP5 Model Evaluation and Application (IUGG-3414)

Muiny Wang (USA)

C15p-105 How implausible are CMIP5 sea-ice simulations? (IUGG-3462)

Dirk Olonscheck (Germany)

C15p-106 Anthropogenic influence on recent Antarctic sea-ice changes: Why do models and observations disagree? (IUGG-3755)

Alexander Haumann (Switzerland)

C15p-107 Observed and modeled snow variability and change in Romania (IUGG-4493)

Roxana Bocariu (Romania)

C15p-108 Assessment of the sea ice thickness-drift relationship in the CMIP5 climate models (IUGG-4549)

Jirina Ivanova (Norway)

C15p-109 Assessment of Arctic Climate and Greenland Ice Sheet processes in a fully coupled GCM – ISM (EC-Earth – PISM) (IUGG-5037)

Ruth Mottram (Denmark)

C15p-110 Evaluation of snow cover extent and surface air temperature relationships simulated by CMIP5 coupled climate models (IUGG-5626)

Duoying Ji (China)

C15p-111 Changes in the Weddell Sea Warm Deep Water in CMIP5 models from the 20th into the 21st Centuries (IUGG-0322)

Ilana Wainer (Brazil)


Ilana Wainer (Brazil)

C15p-113 Thermodynamics of slush and snow-ice formation on sea ice (IUGG-4983)

Martin Vancoppenolle (France)

HS01p-111 High resolution radar rainfall for urban pluvial flood risk analysis and control (IUGG-0004)

J.A.E. Marie-claire ten Veldhuis (Netherlands)

HS01p-112 A flood risk curve development for inundation disaster considering spatio-temporal rainfall distribution (IUGG-0028)

Tomohiro Tanaka (Japan)

HS01p-113 Evaluation of glacier melt contribution to runoff in North Caucasus alpine catchments using isotopic methods and energy balance modeling (IUGG-0052)

Ekaterina Rech (Russia)

HS01p-114 Toward catchment scale flood protection and climate change resilience with system of reservoirs, Case study: Vrbas River Basin (IUGG-0054)

Zana Tapalovic (Bosnia and Herzegovina)

HS01p-115 Actual problems with water resource management of Black Sea estuaries during the flood different origin (IUGG-0057)

Jannetta Shakirzanova (Ukraine)

HS01p-116 Changes in snow pack in mountainous basins in Slovakia due to climate change (IUGG-0058)

Kamil Hlavcova (Slovak Republic)

HS01p-117 Determination of Curve Number for snowmelt-runoff floods in a small catchment (IUGG-0059)

Leszek Hepduk (Poland)

HS01p-118 Application of the model of the limiting intensity to determine maximum runoff in Donieister Basin (IUGG-0060)

Valeriya Ovcharuk (Ukraine)

HS01p-119 STUDY CYCLICALITY MAXIMUM RUNOFF RIVERS OF CRIMEA IN CONDITIONS OF MODERN CLIMATE CHANGE (IUGG-0061)

Lenochka Todorova (Ukraine)

HS01p-120 Simulating hydrological responses with a physically based model in a mountainous watershed (IUGG-0064)

Qin Xu (China)

HS01p-121 Using a peaks-over-threshold approach to assess changes in flood magnitude, volume, duration, and frequency across the United States (IUGG-0066)

Alberto Vigilone (Australia)

HS01p-122 Etude de l’évolution du régime hydrologique et des événements extrêmes dans le bassin de la Medjerda, Tunisie (IUGG-0069)

Kotti Fatma Chahnez (Tunisia)

HS01p-123 Flood Monitoring and Mapping using Passive Microwave (ENVISAT-ASAR WSM) remote sensing for the Southeast Asia (IUGG-0074)

Giriraj Amarnath (Sri Lanka)

HS01p-124 Analysis of Hydrologic Variable Changes Related to Large Scale Reservoir Operation in Thailand (IUGG-0077)

Donapob Mane (Japan)

HS01p-125 A process-based analysis of the suitability of copula types for flood peak-volume relationships (IUGG-0080)

Jan Sozlay (Slovak Republic)

HS01p-126 Modelling the Flood Risk Extent using LISFLOOD-FP in a Complex Watershed: Case study of Mundeni Aru Basin, Sri Lanka (IUGG-0083)

Giriraj Amarnath (Sri Lanka)

HS01p-127 TO THE POSSIBILITIES OF WATERSHED PARAMETERIZATION FOR DESIGN FLOW ESTIMATION ON UNGAUGED BASINS (IUGG-0085)

Silvia Kohnova (Slovak Republic)

HS01p-128 The Potential of Satellite Radar Altimetry in Flood Forecasting: Concept and Implementation for the Niger-Benue River Basin (IUGG-0088)

Giriraj Amarnath (Sri Lanka)

HS01p-129 Rainfall-runoff modeling for flood forecasting in arid zones: Case of the watershed of M’Zab valley (South eastern Algeria) (IUGG-0120)

Benina Toualbia (Algeria)
**Tuesday, June 23**

**IAHS (Hydrology)**

**HW02 Hydrological Model Intercomparison for Climate Impact Assessments**

**HW02p**

**HW02p-141** An analysis of projected impacts on climate change of river Nisava in Serbia (#IUGG-1445)

Vesna Tripkovic (Serbia)

**HW02p-142** River salinity on a mega-delta, an unstructured grid model approach (#IUGG-1445)

Lucy Bricheno (United Kingdom)

**HW02p-143** Comparisons of conceptual and distributed rainfall-runoff models for climate change impact assessment (#IUGG-1616)

Youngjoo Kwak (South Korea)

**HW02p-144** Quantifying Contributions of Climate Change and Human Activities to Runoff Decline in Upper Reaches of the Luanhe River Basin (#IUGG-1695)

Zhenxin Bao (China)

**HW02p-145** Investigating the responses of soil moisture to climate change in the ‘Yuan-Huai-Hai Plain’ region of China (#IUGG-2072)

Fei Peng (China)

**HW02p-146** Estimation of flood and storm surge complex disaster in Japan for adaptation (#IUGG-3016)

Masahiro Akima (Japan)

**HW02p-147** Propagation of biases in humidity in the estimation of global irrigational water (#IUGG-3115)

Yoshinobu Masaki (Japan)

**HW02p-148** Assessing climate change and land use impacts on runoff variation by SWAT model in upper reaches of Zhanghe River, China (#IUGG-3421)

Y. LIU (China)

**HW02p-149** Evaluating robustness of conceptual rainfall-runoff models under climate variability in Northern Tunisia (#IUGG-4081)

Hammouida Dakhlaoui (Tunisia)

**HW02p-150** Uncertainty by model process description and parameter estimation under present and future conditions (#IUGG-4390)

Alejandro Chamorro (Chile)

**HW02p-151** Assessing the impacts of climate change on hydrology in the Yellow River Source region using climate projections and VIC model (#IUGG-4717)

Jin Junliang (China)

**HW02p-152** A multi-model ensemble method preserving variability in various temporal scales for climate change impact assessment (#IUGG-4970)

Satoshi Watanabe (Japan)

**HW02p-153** Modeling water cycle change in the U.S.: Climate versus human drivers (#IUGG-5014)

Yadu Pokhrel (USA)

**HW02p-154** The ensemble hydrological forecasts of spring flood in terms of future climate change (#IUGG-5569)

Jannetta Shakhzinanova (Kazakhstan)

**IAHS (Hydrology)**

**HW08 Water Security in a Changing World**

**HW08p**

**HW08p-155** Effect of not considering water quality issues on soil and agricultural plants (#IUGG-0583)

Ali Mahdavi Mazdeh (Iran)

**HW08p-156** Water security at spratly islands in context of climate change: Managing of groundwater quality (#IUGG-0863)

Kim Van Phan (Vietnam)

**HW08p-157** Evaluation on adaptive capacity of water resources to climate change in Haihe River basin, China (#IUGG-3551)

C. LIU (China)

**HW08p-158** Sustainability of contaminated aquifers and virtual groundwater loss (#IUGG-4155)

S. Sarah (India)

**HW08p-159** Analysis of the water supply and demand under drought conditions in the Guayllabamba river basin, Ecuador (#IUGG-5433)

Andres Gonzalez (Ecuador)
IAHS (Hydrology) 15:00-16:30, Poster Area (Foyer)

HW09 Hydrology Education in the Classroom

HW09

HW09p-160 Development and application of Hydrologic Climate change Assessment Tool (HydroCAT) (#IUGG-4876)
Dong Kwan Park (Korea, Republic of Korea)

HW09p-161 On the future of hydrology education in the engineering classroom (#IUGG-4986)
Thorsten Wagener (United Kingdom)

HW09p-162 Assessing climate station accuracy across Canada: A study in climate science and student involvement (#IUGG-5118)
Laura Chasmer (Canada)

IAHS (Hydrology) 15:00-16:30, Poster Area (Foyer)

HW10 The Role of Sediment as an Indicator of Hydrological and Societal Change

HW10p-163 Area-storage capacity curves of Mosul Dam, Iraq using empirical and semi-empirical approaches (#IUGG-0013)
Nadhir Al-Ansari (Sweden)

HW10p-164 Impact of regulated flow on bed sediment of Tigris River in Baghdad City (#IUGG-0081)
Ammar Ali (Sweden)

HW10p-165 Overbank sedimentation as indicator of anthropogenic influence on the river environment (#IUGG-1459)
Valentin Golosov (Russia)

HW10p-166 Grain-size distributions of debris flows deposits at the Motozintla basin, Mexico: An evidence of natural hazard for the town (#IUGG-5564)
Juan Manuel Sánchez-Núñez (Mexico)

IAHS (Hydrology) 15:00-16:30, Poster Area (Foyer)

HW11 Fingerprinting Techniques: Evaluating Methodological Approaches, Problems and Uncertainty

HW11p-167 Ascribing geomorphic landform soil erosion to river sediment yield using 137Cs tracer and sediment fingerprinting mixing model (#IUGG-0014)
Kazem Nosrati (Iran)

HW11p-168 Selecting the optimum composite fingerprint by an approach with virtual sample mixtures to identify sediment sources in a Pyrenean catchment (#IUGG-0327)
Leticia Palazon (Spain)

IAHS (Hydrology) 15:00-16:30, Poster Area (Foyer)

HW13 Hydrological Predictions in Ungauged Basins

HW13p-169 Flow predictions in ungauged basins at the Niger River using the SWAT hydrological model (#IUGG-0969)
Jamila Chaibou Begou (Niger, Republic of)

HW13p-170 Development of hydrometeorological information database and application technology for monitoring water resources over ungauged basin in Korea peninsula (#IUGG-1180)
Je-an Kim (Korea, Republic of Korea)

HW13p-171 Employing hydrologic fingerprints for regional parameter estimation of a conceptual model for hydrologic predictions in ungauged basins (#IUGG-1347)
Simon Höllering (Germany)

HW13p-172 Regionalization of Watersheds for Regional Flood Frequency Analysis in Lake Tana Basin, Ethiopia (#IUGG-1552)
Getachew Tsegaye Damtew (Korea, Republic of Korea)

HW13p-173 Hydrological Assessment of Basin Development Scenarios Impacts on the Tonle Sap Lake in Cambodia (#IUGG-2084)
Giha Lee (Korea, Republic of Korea)

HW13p-174 The Fiumarella of Corleto experimental basin: new analyses (#IUGG-2167)
Mauro Fiorentino (Italy)

HW13p-175 Climate influence on baseflow index across climate and catchment properties gradient (#IUGG-2789)
Antonia Longobardi (Italy)

HW13p-176 On the hydrological similarity of hillslopes (#IUGG-2978)
Ralf Loritz (Germany)

HW13p-177 Global-scale regionalization of hydrological model parameters using data from many small catchments (#IUGG-3049)
Hylke Beck (Italy)

HW13p-178 Process based design flood estimation under parameter uncertainty: A case study in Southern Italy (#IUGG-3121)
Davidic Luca De Luca (Italy)

HW13p-179 prediction of rainfall in un-gauged basins with remote sensing from satellite technology and ground-based radar (#IUGG-3205)
Perapol Bekkhunthod (Thailand)

HW13p-180 Development of an event-based rainfall-runoff model in a small tropical catchment with hydroelectric dams in Tahiti (French Polynesia) (#IUGG-4584)
Lucie Pheulpin (French Polynesia)
Tuesday, June 23

**Joint Inter-Association Symposia**

**15:00-16:30, Poster Area (Foyer)**

**JC2/C13 Cold Regions Cryosphere and Hydrosphere (IACS, IAHS/ICSIH, IAMAS, IPA)**

**JC02p**

**JC02p-181** Combined influence of enso and PDO on mountain glaciers in the Cordillera Blanca, Peru: case study on Nevado Huascaran (90s)

*IUGG-1004*

Bijeesh Kozhikkodan Veettil (Brazil)

**JC02p-182** Glacier changes and glacial lake variations on the debris-covered Baitoro and Bilafond glaciers, Karakoram Himalayas (1978-2014)

*IUGG-1005*

Bijeesh Kozhikkodan Veettil (Brazil)

**JC02p-183** Variation trend of snowfall in the Japanese Alps region

*M010-1060*

Keisuke Suzuki (Japan)

**JC02p-185** SLF permanent borehole temperature monitoring network: data processing and selected results

*R020-1491*

Rachel Luthi (Switzerland)

**JC02p-187** Preliminary study on permafrost and periglacial phenomena of Gokyo Valley, Sagarmatha (Everest) National Park, Nepal

*M010-1562*

Tanuja Shrestha (Nepal)

**JC02p-188** Estimating the effect of different influencing factors on rock glacier characteristics and frequency in the Swiss Alps

*M010-2398*

Robert Kenner (Switzerland)

**JC02p-189** The separated effects of atmospheric forcing and changes in ice cover on runoff in the Öztal catchment

*M010-2497*

Kay Helfricht (Austria)

**JC02p-190** Controls of Mosses on Water Fluxes in an Alpine Shrub site in Qilian Mountains of China

*M010-2564*

Zhangwen Liu (China)

**JC02p-191** Spatiotemporal changes in the Austrian snow cover 1948-2009

*M010-2901*

Thomas Marke (Austria)

**JC02p-192** Condensation water hydrological process in the alpine meadow region of Hulu watershed in the Qilian Mountain

*M010-3427*

Rensheng Chen (China)

**JC02p-193** The CHARISS project - The contribution to high asian runoff from ice and snow

*M010-3823*

Richard Armstrong (USA)

**JC02p-194** Condensation water hydrological process in the alpine meadow region of Hulu watershed in the Qilian Mountain

*M010-3858*

Chuntan Han (China)

**JC02p-197** The cryosphere, its future and ongoing trends

*M010-4533*

Charles Friess (Switzerland)

**IAMAS (Meteorology)**

**15:00-16:30, Poster Area (Foyer)**

**M04p**

**M04p-196** Study on the future ship accessibility at the Arctic Sea based on the IPCC fifth assessment report

*M010-0287*

Jhalo Oh (Korea, Republic of Korea)

**M04p-197** An analysis of simulated global sea ice extent, thickness, and causes of error with the BCC_CSM Model

*M010-1372*

Lujun Zhang (China)

**M04p-198** Applications of a Polar Automatic Weather Station Network to benefit polar numerical modeling

*M010-1428*

Matthew Lazzara (USA)

**M04p-199** Regional climate simulations over Antarctica with ACCESS and CCAM models

*M010-1627*

Siobhan OFarrell (Australia)

**M04p-201** Surface radiation balance, surface layer climate and turbulent exchange in the ablation zone of the Pine Island Glacier

*M010-2876*

Georges Djoumna (United Arab Emirates)

**M04p-202** Amplification of Arctic warming by air pollution reductions in Europe

*M010-4436*

Ilona Blipten (Sweden)

**M04p-203** Modeling the atmospheric river in East Antarctica

*M010-4935*

Maria Tsukernik (Switzerland)

**IAMAS (Meteorology)**

**15:00-16:30, Poster Area (Foyer)**

**M05p**

**M05p-204** Determining the most suitable Artificial Neural Network for short term fog forecasting at Urmia Airport

*M010-0325*

Sohrab Hejami (Iran)

**M05p-205** Homogenization of the GNSS-derived atmospheric water vapour time series

*M010-1026*

Tong Ning (China)

**M05p-206** Aerosol effects on Cloud Condensation Nuclei over Europe

*M010-1705*

Luke Hende (Germany)

**M05p-207** Study and mitigation of calibration error sources in a water vapor Raman lidar

*M010-2883*

Leslie David (France)

**M05p-208** Modelling of entrainment rate for cumulus parameterization based on cloud-resolving model

*M010-3149*

Yuya Baba (Japan)

**M05p-209** Evolution of cloud population and convection associated with the Madden-Julian Oscillation over the tropical Indian Ocean and Maritime Continent

*M010-3674*

Wen-Ting Chen (Taiwan - China)

**M05p-210** Simultaneous cloud and drizzle properties in the stratocumulus-to-cumulus transition zone over the Pacific

*M010-3761*

Mark David Fielding (United Kingdom)

**M05p-212** Four-years of microwave radiometer measurements of atmospheric water vapour and cloud liquid water path at the island of Lampedusa

*M010-4224*

Giandomenico Pace (Italy)

**M05p-213** A budget analysis of variance of total water in shallow cumulus convection

*M010-4993*

Vera Scherm (Germany)

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228  26th IUGG, PRAGUE, CZECH REPUBLIC, JUNE 22 – JULY 2, 2015
Wednesday, June 24

**IAGA (Aeronomy, Geomagnetism)**

15:00-16:30, Poster Area (Foyer)

A14 Equatorial Spread-F, Equatorial Ionization Anomaly (EIA) and F3-Layer Studies During Geomagnetic Quiet and Disturbed Periods (Div. II-E)

A14p

A14p-247 Rocket in-situ observation of equatorial plasma irregularities over Brazilian tropical sector (#IUGG-0299)  
Slomel Savio (Cuba)

A14p-248 Equatorial F-layer irregularities over Indonesia during an equinoctial month (#IUGG-0449)  
Dyah Rahayu Martiningrum (Japan)

A14p-249 Seasonal variation of F-layer quadruple-stratification near equatorial region, as a function of solar activity (#IUGG-0589)  
Alexandre Tardelli (Brazil)

A14p-250 Seasonal and longitudinal variations of the post-midnight vertical plasma drift during the solar minimum (#IUGG-4840)  
Woo Kyoung Lee (Korea, Republic of Korea)

**IAGA (Aeronomy, Geomagnetism)**

15:00-16:30, Poster Area (Foyer)

A20 ULF waves in the inner magnetosphere (Div. III)

A20p

A20p-252 Correspondence between the Pc5 wave power latitudinal distribution and auroral oval (#IUGG-0371)  
Olga Kozyreva (Russia)

A20p-253 Coupled guided modes in the magnetotails: spatial structure and ballooning instability (#IUGG-0542)  
Danil Kozlov (Russia)

A20p-254 Response of energetic particles to second harmonic poloidal waves: Observations by the Van Allen Probes (#IUGG-1514)  
Kazue Takahashi (USA)

A20p-255 Observations of magnetospheric high-m poloidal waves by ST-S satellites in low Earth orbit during geomagnetically quiet times (#IUGG-5451)  
Peter Chi (USA)

**IAGA (Aeronomy, Geomagnetism)**

15:00-16:30, Poster Area (Foyer)

A21 Wave and Particle Dynamics in the Radiation Belts and Ring Current (Div. III)

A21p

A21p-256 Systematic investigation of power line harmonic radiation using the DEMETER spacecraft (#IUGG-1319)  
Frantisek Nemec (Czech Republic)

A21p-257 Relation of lightning generated whistlers to the overall VLF wave intensity (#IUGG-1362)  
Jan Zemlicka (Czech Republic)

A21p-258 Simultaneous measurements of quasi-periodic emissions by spacecraft and ground-based instruments (#IUGG-1443)  
Barbora Bezdekova (Czech Republic)

A21p-259 A raytracing study of equatorial noise emissions observed by the DEMETER spacecraft (#IUGG-1670)  
Miroslav Hanzelka (Czech Republic)

A21p-260 Expected Composition of the Confined Energetic Particle Populations in the Inner Magnetosphere of the Earth, Mass and Charge Distributions (#IUGG-2016)  
Walther Spjeldvik (USA)

A21p-261 Determining ULF wave radial diffusion in the radiation belts through a multi-parameter study (#IUGG-2229)  
Stavros Dimitrakoudis (Greece)

A21p-262 Chorus rising tones seen inside their source region by the THEMIS spacecraft (#IUGG-3482)  
Ulrich Taubenschuss (Austria)

A21p-263 Pc5 geomagnetic fluctuations in response to solar wind excitation and their relationship with relativistic electrons in the outer radiation belt (#IUGG-3645)  
Mauro Regi (Italy)

A21p-264 Pc5 geomagnetic fluctuations in response to solar wind excitation and their relationship with relativistic electrons in the outer radiation belt (#IUGG-3748)  
Patrizia Francia (Italy)

A21p-265 Inner radiation zone and slot region electron fluxes: ECT/ImagEIS data (#IUGG-4152)  
Joseph Fennell (USA)

A21p-266 Analysis of the source region of equatorial noise emissions measured by the WBD instrument (#IUGG-4999)  
Zuzana Savorova (Czech Republic)

**IAGA (Aeronomy, Geomagnetism)**

15:00-16:30, Poster Area (Foyer)

A30 Multi-Spectral Studies of Solar Flares (Div. IV)

A30p

A30p-267 Modern models of solar flares: diversity and similarity (#IUGG-0380)  
Subhon Ibadov (Tajikistan, Republic of)

A30p-268 The 26 December 2001 solar event responsible for Ground Level Enhancement 63 (#IUGG-0703)  
Valentin Kiseliev (Russia)

A30p-269 The Spectrometer/Telescope for Imaging X-rays (STIX) on Solar Orbiter (#IUGG-2172)  
Marina Battaglia (Switzerland)

A30p-270 Electron acceleration by dispersive scale Alfvén waves in solar coronal plasmas (#IUGG-5408)  
Peter Damiano (USA)
26th IUGG, PRAGUE, CZECH REPUBLIC, JUNE 22 – JULY 2, 2015

Wednesday, June 24

IAGA (Aeronomy, Geomagnetism) 15:00-16:30, Poster Area (Foyer)

A37 Geophysical and Geomagnetic Diagnosis of the Sun and Near-Earth Space (Div. V/Div. III)

A37p-271 Short-term variability of the magnetopause standoff distance (#IUGG-0598)
Cristiana Stefan (Romania)

A37p-272 On the very-high-frequency radar echoes at auroral latitudes: signs of ground echoes modulated by the ionosphere (#IUGG-2230)
Karela Kozlovsky (Finland)

A37p-273 The importance of the QDC reference level for the Polar Cap index (#IUGG-3083)
Peter Stauning (Denmark)

A37p-274 Reconstruction of energetic electron precipitation for the past 150 years (#IUGG-3107)
Timo Asikainen (Finland)

IAGA (Aeronomy, Geomagnetism) 15:00-16:30, Poster Area (Foyer)

A41 Lithospheric Field Modeling, the WDMAM and Tectonic Implications (Div. V)

A41p-275 The preliminary study of regional geomagnetic field modeling by CHAMP satellite and three-dimension Taylor Polynomial method (#IUGG-0357)
Yong Jianga (China)

A41p-276 Using a Ship Three Component Magnetometer (STCM) to improve our knowledge of magnetic anomalies of the Southern Ocean (#IUGG-0984)
Manuel Catalán (Spain)

A41p-277 The imaging of Sub-basalt structures in the western offshore India from the potential method (#IUGG-1603)
Pranad Kumar (India)

A41p-278 Grenvillian-age magmatism and Pan-African collision in East Antarctica as revealed from aeromagnetic and gravity imaging over the Recovery Frontier (#IUGG-1821)
Fausto Ferraccioli (United Kingdom)

A41p-279 New aeromagnetic and gravity anomaly compilations help unveil the evolution of an Early Paleozoic subduction system in East Antarctica (#IUGG-2156)
Fausto Ferraccioli (United Kingdom)

A41p-280 Estimating the total magnetization direction of approximately spherical bodies (#IUGG-2600)

A41p-281 Global Large Igneous Provinces (LIPs): An integrated approach to decipher the connection between surface and deep Earth (#IUGG-3051)
Arne Døssing (Denmark)

A41p-282 Modelling the local lithospheric magnetic field using an equivalent source method and airborne magnetic data (#IUGG-3150)

A41p-283 The magnetic anomalies map of the sector of Northern Eurasia (#IUGG-3538)
Petr Martyshko (Russia)

A41p-284 Continental rifting and microplate motion in the Weddell sea during gondwana break-up revisited in light of magnetic and gravity constraints (#IUGG-3693)
Tom Jordan (United Kingdom)

A41p-285 A multi-scale map of the Earth’s magnetization (#IUGG-4190)
Foteini Vervelidou (Germany)

A41p-286 Geophysical model of the Leka Ophiolite Complex (#IUGG-4612)
Alexander Michels (Norway)

A41p-287 Marine magnetic anomalies in the Caribbean plate and surrounding areas (#IUGG-4792)
Andreina Garcia (France)

A41p-288 Evaluating the equivalent magnetization over the World’s Ocean from WDMAM v.2 (#IUGG-5452)
Yujin Choi (France)

A41p-289 Research on relationship between lithosphere magnetic field and seismological activity (#IUGG-5493)

A41p-290 Tectonic nature of lithospheric (regional) magnetic anomaly in Russia (#IUGG-5525)
Lei Wang (China)

A41p-291 The World Digital Magnetic Anomaly Map version 2 (#IUGG-5796)
Jerome Dymtent (France)

IAGA (Aeronomy, Geomagnetism) 15:00-16:30, Poster Area (Foyer)

A41p-292 Towards an integrative, automatic tool for glacier flowline modelling (#IUGG-2787)
Kevin Fourteau (France)

A41p-293 Spatial and temporal variability of winter mass balance on four French alpine glaciers (#IUGG-4344)
Marion Reveillet (France)

A41p-294 Application of the mass balance model to the Hurlbut Ice Cap in northeastern Greenland (#IUGG-4561)
Keiko Konya (Japan)

A41p-295 Thresholds for growth and decay of Hans Tausen Iskappe (Greenland) (#IUGG-5348)
Harry Zeckollari (Belgium)

IAGA (Aeronomy, Geomagnetism) 15:00-16:30, Poster Area (Foyer)

A41p-296 The preliminary study of regional geomagnetic field modeling by CHAMP satellite and three-dimension Taylor Polynomial method (#IUGG-0357)
Yong Jianga (China)

A41p-297 The imaging of Sub-basalt structures in the western offshore India from the potential method (#IUGG-1603)
Pranad Kumar (India)

A41p-298 Grenvillian-age magmatism and Pan-African collision in East Antarctica as revealed from aeromagnetic and gravity imaging over the Recovery Frontier (#IUGG-1821)
Fausto Ferraccioli (United Kingdom)

A41p-299 New aeromagnetic and gravity anomaly compilations help unveil the evolution of an Early Paleozoic subduction system in East Antarctica (#IUGG-2156)
Fausto Ferraccioli (United Kingdom)

A41p-300 Estimating the total magnetization direction of approximately spherical bodies (#IUGG-2600)

A41p-301 Global Large Igneous Provinces (LIPs): An integrated approach to decipher the connection between surface and deep Earth (#IUGG-3051)
Arne Døssing (Denmark)

A41p-302 Modelling the local lithospheric magnetic field using an equivalent source method and airborne magnetic data (#IUGG-3150)

A41p-303 The magnetic anomalies map of the sector of Northern Eurasia (#IUGG-3538)
Petr Martyshko (Russia)

A41p-304 Continental rifting and microplate motion in the Weddell sea during gondwana break-up revisited in light of magnetic and gravity constraints (#IUGG-3693)
Tom Jordan (United Kingdom)

A41p-305 A multi-scale map of the Earth’s magnetization (#IUGG-4190)
Foteini Vervelidou (Germany)

A41p-306 Geophysical model of the Leka Ophiolite Complex (#IUGG-4612)
Alexander Michels (Norway)

A41p-307 Marine magnetic anomalies in the Caribbean plate and surrounding areas (#IUGG-4792)
Andreina Garcia (France)

A41p-308 Evaluating the equivalent magnetization over the World’s Ocean from WDMAM v.2 (#IUGG-5452)
Yujin Choi (France)

A41p-309 Research on relationship between lithosphere magnetic field and seismological activity (#IUGG-5493)

A41p-310 Tectonic nature of lithospheric (regional) magnetic anomaly in Russia (#IUGG-5525)
Lei Wang (China)

A41p-311 The World Digital Magnetic Anomaly Map version 2 (#IUGG-5796)
Jerome Dymtent (France)

IAGA (Aeronomy, Geomagnetism) 15:00-16:30, Poster Area (Foyer)

A41p-312 Towards an integrative, automatic tool for glacier flowline modelling (#IUGG-2787)
Kevin Fourteau (France)

A41p-313 Spatial and temporal variability of winter mass balance on four French alpine glaciers (#IUGG-4344)
Marion Reveillet (France)

A41p-314 Application of the mass balance model to the Hurlbut Ice Cap in northeastern Greenland (#IUGG-4561)
Keiko Konya (Japan)

A41p-315 Thresholds for growth and decay of Hans Tausen Iskappe (Greenland) (#IUGG-5348)
Harry Zeckollari (Belgium)
### Wednesday, June 24

#### IAHS (Hydrology) 15:00-16:30, Poster Area (Foyer)

**HW01 Exchange Processes at Aquatic Boundaries and Their Effects on Ecosystems**

**HW01p**

- **HW01p-311** Low Oxygen means no-vertical migration in the Eastern Mexican tropical Pacific (IUGG-1456)  
  - Jaime Färber Lorda (Mexico)
- **HW01p-312** Integrated surface water and groundwater modelling of flooding in the Lower Murrumbidgee River, Australia (IUGG-3198)  
  - Michael Butts (Denmark)
- **HW01p-313** Presence of nitrous oxide hotspots in the coastal upwelling area off central Chile; a time series study (IUGG-4684)  
  - Laura Farias (Chile)
- **HW01p-314** Impacts of Chencun reservoir on flow regimes based on ecohydrological indices at various time scales (IUGG-5637)  
  - Qihui Chen (China)

#### IAHS (Hydrology) 15:00-16:30, Poster Area (Foyer)

**HW14 Advancing Water Quality Prediction at the Catchment Scale: New Theories and Approaches**

**HW14p**

  - Morufudeen Adabanija (Nigeria)
- **HW14p-316** Integrated stormwater management system using SWMM hydrological model, automatic monitoring system and on-site treatment facilities on urban catchment scale (IUGG-1936)  
  - Dongli Song (Korea, Republic of Korea)
- **HW14p-317** Riverine nitrogen concentrations under different bioenergy crop management practices in central Germany (IUGG-2948)  
  - Michael Rode (Germany)
- **HW14p-318** Evaluation of Nonpoint sources pollution contribution and its Best Management Practices with SWAT model in Jialu river basin (IUGG-3385)  
  - Jing Xu (China)

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### Session Details:
- **IAHS (Hydrology)**
- **IAAS (Cryosphere)**
- **IAHS (Hydrology)**

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**Institutions:**
- **IAHS**
- **IAAS (Cryosphere)**
- **IAHS**
IAHS (Hydrology) 15:00-16:30, Poster Area (Foyer)

HW15 Tracer Methods for Understanding the Response of Hydrological Systems to Transient Contamination Inputs

HW15p-319 Contamination of groundwater by intrusion of sea water of Tsunami on March 11 in 2011 in Tohoku of Japan (#IUGG-1002)
Ichiro Kiyohara (Japan)

HW15p-320 Evaluation of substances coexisting with volatile organic compounds in contaminated groundwater as a tracer for identifying the pollutant source (#IUGG-2545)
Takashi Kakimoto (Japan)

HW15p-321 Characterization of preferential flow path in the fractured rock using nano-iron tracer (#IUGG-3500)
Yeeping Chia (Taiwan - China)

HW15p-322 Impact of a rainfall intensity on water flow and solute transport through unsaturated zone: a lysimeter study (#IUGG-5508)
Anna Zurek (Poland)

HW15p-323 Use of environmental tracers to assess vulnerability of a high mountain karst system (Tatra Mts., Poland) (#IUGG-5604)
Joanna Siwek (Poland)

IAHS (Hydrology) 15:00-16:30, Poster Area (Foyer)

HW18 Advances in Remote Observation of Snow

HW18p-324 Mapping snow cover extent (MODIS Terra) and snowmelt dynamics (QuikSCAT) in the Hindu Kush Himalayan region (#IUGG-0218)
Giriraj Amarnath (Sri Lanka)

HW18p-325 Intra-seasonal variability of snow spatial patterns on glaciers and the potential of Unmanned Aerial Vehicle photogrammetry (#IUGG-0860)
Saskia Gindraux (Switzerland)

HW18p-326 Spatio-temporal estimation of snow in a mountainous region using a time-lapse camera network and unmanned aerial vehicles (UAVs) (#IUGG-1637)
Yoshinobu Sato (Japan)

HW18p-327 Airborne measurements of snowpack properties (#IUGG-2511)
Yves Bühler (Switzerland)

HW18p-328 Multispectral airborne LiDAR observations of the McMurdo Dry Valleys (#IUGG-3139)
Juan Fernandez Diaz (USA)

HW18p-329 Multi-source testing of distributed snow models (#IUGG-3867)
Juraj Parajka (Austria)

HW18p-330 Towards the assimilation of MODIS reflectance into the detailed snowpack model SURFEX/ISBA-Crocus (#IUGG-4031)
Luc Farin (France)

HW18p-331 Studying snow cover in European Russia and West Siberia with the use of remote sensing methods (#IUGG-4914)
Anna Tadegeina (Russia)

HW18p-332 Estimating the spatial-temporal distribution of snow depth in a forest catchment (#IUGG-5134)
Yoichi Fujiiara (Japan)

HW18p-333 Use of various satellite snow products in short term hydrological forecasting (#IUGG-5593)
A. Arda Sorman (Turkey)

Joint Inter-Association Symposia 15:00-16:30, Poster Area (Foyer)

JG1 Dynamics of the Cryosphere from Geometric and Gravimetric Observations (IAG, IACS)

JG01p-393 Bayesian inversion of glacial isostatic adjustment beyond linear viscoelasticity using Burgers rheology (#IUGG-1554)
Caron Lambert (France)

JG01p-394 An investigation of ice flow and retreat of the Baltic Ice Stream from a new rich submarine glacial landform record (#IUGG-1958)
Per Holmlund (Sweden)

JG01p-395 Glacial isostatic Adjustment and gravity gradients anomalies over North America (#IUGG-3048)
Laurent Metivier (France)

JG01p-396 Detection of local irregular displacements on Greenland ice sheet by double differential interferometric synthetic aperture radar (#IUGG-3061)
Koichiro Doi (Japan)

JG01p-397 Stable ice-surface height above subglacial Lake Vostok, central East Antarctica:Geodetic observations and implications (#IUGG-3625)
Mirko Scheinert (Germany)

JG01p-398 How to reduce the uncertainty of observed Antarctic mass balance? (#IUGG-5441)
Martin Horwath (Germany)

JG01p-399 Contribution of present-day ice reservoir ablations to sea-level rise (#IUGG-5733)
C.K. Shum (USA)
Wednesday, June 24

**Joint Inter-Association Symposia**

**JH03/JG03 Assessment of Climate and Anthropogenic Changes Impacts on the Terrestrial Hydrosphere (IAHS, IAMAS) / Variations of the Hydrosphere from Satellite Gravity Missions (IAG, IAHS)**

**JH03p**

JH03p-334 Effect of climate change on the contribution of groundwater to the root zone for winter wheat in Hualabei Plain, China

Yonghua Zhu (China)

JH03p-335 Temporal characteristics of various land mass changes and their comparisons to land water storage changes with a land-surface hydrological model

Stefan N. Skov (Denmark)

Toshiyuki Nakaegawa (Japan)

JH03p-336 Towards the assimilation of GRACE data into a high-resolution hydrological model over Europe

Anne Springer (Germany)

JH03p-337 Predicting the variation of water storage by river discharge with aid of climate indices

Jinwei Zhang (Germany)

JH03p-338 Impacts of climatic and anthropogenic changes on runoff of the Ying River catchment, China

Guoqing Wang (China)

JH03p-339 Analysis on runoff and sediment trend and influence factors in Jinghe River Basin

Qiang Huang (China)

JH03p-340 Impacts of intensive irrigation and armed conflict on a semi-arid Mediterranean catchment: The Orontes River basin (Lebanon and Syria)

Myriam Saadé-Sbeih (Switzerland)

JH03p-341 Assessing vegetation response to meteorological drought in the Loaehae catchment, North China

Jing Xu (China)

JH03p-342 A hybrid approach for extending hydrometric series

Dong Wang (China)

JH03p-343 Hydrological and meteorological stochastic simulation based on minimum relative entropy

Dengfeng Liu (China)

JH03p-344 Study of subsurface hydrological impacts of agricultural irrigation and precipitation variability in Chikugo-Saga plain, Japan based on groundwater flow modelling

Yi Cai (China)

JH03p-345 Influence of climate change on sediment transportation in the Yangtze river estuary

Sha Lou (China)

**IAMAS (Meteorology)**

**M02 Advances in Atmospheric Dynamics Including Topographic Forcing**

**M02p**

M02p-346 The utility of enstrophy based diagnostic tools in examining atmospheric blocking

Anthony Lupe (USA)

M02p-347 The continuous vibration of Eurasia with the northern cyclone

Yanbin Zhang (China)

M02p-348 The variation of different blocking highs and its influence on temperature in North Hemisphere

Yan Li (China)

M02p-349 Climatological analysis of the tendencies of the slope of isentropic surfaces over the North Atlantic

Lukas Papritz (Switzerland)

M02p-350 On the Co-Occurrence of Warm Conveyor Belt Outflows and PV Streamers

Erica Madonina (USA)

M02p-351 Disentangling the co-variability of jet location and intensity

Thomas Spengler (Norway)

M02p-352 Temporal Clustering of Regional-scale Extremes Events in Southern Switzerland

Paraski Giannakaki (Switzerland)

M02p-353 Simultaneous multiple radiosonde launches across a mountain range captured two types of strong local winds

Kensuke Komatsu (Japan)

M02p-354 The theoretical study of the time tendency equation of the frontogenesis function

Zhaohua Hu (China)

M02p-355 Sensitivity of circulation biases to orographic drag

Annelize van Niekerk (United Kingdom)

M02p-356 Mountain gravity waves: A new family of solutions

Francois Lott (France)

M02p-357 Forecast errors of Rossby waveguides: An object-based spatial forecast verification tool and a short climatology of forecast errors

Sha Lou (China)

M02p-358 Leading modes of variability in AP simulations

Paraski Giannakaki (Switzerland)

M02p-359 High-resolution measurements of vertical velocity and their power spectra observed with the MAARSY radar at Andøya, Norway

Qiang Li (China)

M02p-360 Influence of summer blocking on atmospheric circulation in East Asia

Joong-Bae Ahn (Korea, Republic of Korea)

M02p-361 Phase-speed analysis of annular mode anomalies

Nick Byrne (United Kingdom)

M02p-362 Stratified water tank experiments of lee wave and rotor development in flow over double ridges

Stefano Sarafin (Australia)

M02p-363 The splitting of synoptic systems at the Rocky mountain barrier

Thomas Spengler (Norway)
M02p-364  Dynamics of a local Alpine flooding event in October 2011: Moisture source and large-scale circulation (#IUGG-4065)
Nicolas Piaget (Switzerland)

M02p-365  A high quality reprocessed ground-based GPS dataset for atmospheric process studies, radiosonde and model evaluation, and reanalysis of HYMEX SOP (#IUGG-4147)
Alvey Geib (France)

M02p-366  Diurnal cycle of convective activity in the Tropics observed by Rain Radar mounted on the Tropical Rainfall Measuring Mission satellite (#IUGG-4354)
Masayuki Hara (Japan)

M02p-367  Impact of mesoscale meteorological processes on anomalous radar propagation conditions (#IUGG-4632)
Maja Telisman Prtenjak (Croatia)

M02p-368  Impacts of convection initiation on the diurnal rainfall cycle over tropical lands (#IUGG-4954)
Yi-Chi Wang (Taiwan - China)

M02p-369  Numerical investigation for effects of vertical wind shear on cloud droplet spectra broadening at lateral boundary of cumulus clouds (#IUGG-1517)
Yongqing Wang (China)

M02p-370  Analysis of the barotropic sudden warming in a global model (#IUGG-5297)
Richard Scott (United Kingdom)

M02p-371  Equilibration of the wave energy spectrum in different jet regimes (#IUGG-5572)
Nilli Harini (Israel)

IAMAS (Meteorology)

M08/M09 Comparative Planetary Atmospheres within and beyond the Solar System / Solar System Exploration of Atmospheres with Ground-Based and Space-Based Platforms
M08p

M08p-372  VIIRS and RADAR investigation of Titan's equatorial regions (#IUGG-2227)
Athena Coustenis (France)

M08p-373  Topographically driven wind events on Mars and in Antarctica (#IUGG-2265)
Constantino Listowski (United Kingdom)

M08p-374  High-altitude clouds on Earth, Mars and Venus (#IUGG-2269)
Constantino Listowski (United Kingdom)

M08p-375  Atmospheric structure in the venusian polar region; first report on reproduction by general circulation model (#IUGG-3369)
Norihiko Sugimoto (Japan)

M08p-376  Climate states of the giant planets and Sun (#IUGG-3979)
Howard Huben (USA)

M08p-377  Investigation of planetary lightning with ground-based and space-based platforms (#IUGG-4245)
Georg Fischer (Austria)

M08p-378  First detection of 63µm oxygen line in the thermosphere of Mars from GREAT/SOFIA (#IUGG-4636)
Ladislav Rezac (Germany)

M08p-379  Photochemistry in saturn's ring-shadowed atmosphere: Modulation of key molecules and observations of dust content (#IUGG-4779)
Scott Edgington (USA)

M08p-380  Is nitrogen dioxide content in the lower troposphere affected by solar variability? (#IUGG-5335)
Mirela Voiculescu (Romania)

M08p-381  Temporal variations in the cloud cover of Venus - detection of a seasonal signature (#IUGG-5580)
Sanjay Limaye (USA)

M08p-382  Sulfur Dioxide variability in the Venus atmosphere (#IUGG-5598)
A.C. Vandaele (Belgium)

M08p-383  Venus atmospheric structure: Intercomparison of recent observations of thermal structure (#IUGG-5613)
Sanjay Limaye (USA)

M08p-389  Water Contents of Habitable Zone Rocky Planets Around M dwarfs (#IUGG-5786)
Feng Tian (China)

M08p-500  Biosignature Detection in the Atmospheres of Rocky Planets Around M dwarfs (#IUGG-5787)
Feng Tian (China)

M08p-501  Evolving Role of Photochemical Escape from Early Mars (#IUGG-5788)
Feng Tian (China)

Union Symposia

U2 Integrated Disaster Risk Science: Accounting for Extremes
U02p

U02p-384  Extreme energetic atmospheric events from comets/asteroids impacts: Actual global problem of the Earth’s protection (#IUGG-0378)
Subhun Ibadov (Tajikistan, Republic of)

U02p-385  Tsunami events and lessons learned - Environmental and societal significance (#IUGG-0432)
Yevgenyi Kontar (USA)

U02p-386  Determination of landslide and deformation with GNSS measurements, religious high schools, GUMUSHANE (#IUGG-0831)
Selma Zengin Kazanci (Turkey)

U02p-387  Recognition of strong earthquake prone areas in the Caucasus, California and the Andes using clustering of epicenters (#IUGG-1361)
Alexey Gvishiani (Russia)

U02p-388  Understanding climate extremes and climate services in a changing environment (#IUGG-1608)
Roger Pulwarty (USA)

U02p-389  Sea level prediction for the tsunami warning system (#IUGG-1768)
Viktor Getmanov (Russia)

U02p-390  Effects of geologic and geomorphic parameters on 2014 Hiroshima Landslides based on GIS analysis (#IUGG-2981)
Daisaku Kawabata (Japan)

U02p-391  Extreme multihazards and their cascading causes and effects (#IUGG-4558)
Joan Marti (Spain)

U02p-392  Space hazard assessment: Characterization, simulation and classification of possible impact consequences (#IUGG-5129)
Maria Gritsevich (Finland)
Thursday, June 25

IAGA (Aeronomy, Geomagnetism) 15:00-16:30, Poster Area (Foyer)

A03 Electromagnetic Imaging from the Near-Surface, Lithosphere-Asthenosphere, to the Core: Results and Interpretations (Div. I)

A03p

A03p-001 The lithospheric electrical resistivity structure of the Marwar craton, Rajasthan, India (#IUGG-0628)
  Koppireddi Veeraswamy (India)

A03p-002 Electric lithosphere-asthenosphere boundary in the North-West Fennoscandia as revealed from magnetotelluric data (MaSca project) (#IUGG-0993)
  Maria Cherewatova (Finland)
  Anatoly Rybin (Kyrgyzstan)

A03p-003 Lithosphere of Pamir and Tien-Shan conjunction zone: geoelectric model and tectonic constraints (#IUGG-1539)
  Jiehao Yuan (China)

A03p-004 The magnetic susceptibility structure of profile in the north region of North-South Seismic Belt (#IUGG-1863)
  Yang Xiang (Japan)

A03p-005 Magnetotelluric regularized inversion using minimum support gradient stabilizing functional (#IUGG-1866)
  Pengfei Liang (Japan)

A03p-006 Three-dimensional inversion of seafloor electromagnetic data based on the integral equation solver (#IUGG-1980)
  Domenico Di Mauro (Italy)

A03p-007 Systematic errors in direction estimates of intense lightning strokes deduced from Q-bursts recorded at Nagycenk, Hungary (#IUGG-2095)
  Jozsef Bor (Hungary)

A03p-008 Conductivity structure of the central part of the Parana Basin (#IUGG-2679)
  Nikolay Palshin (Russia)

A03p-009 Electrical conductance for Central Italy: A model from geomagnetic variations (#IUGG-3007)
  Domenico Di Mauro (Italy)

A03p-010 Finite difference inverse modeling of VLF and VLF-R data over 2-D Earth: A development and comparison (#IUGG-3030)
  Sohail Masood (Pakistan)

A03p-011 Characterization of Paranal cratonic basin, Brazil, from magnetotelluric imaging (#IUGG-3333)
  Flora Solon (Brazil)

A03p-012 Magnetotelluric study of the lithosphere in West Greenland (#IUGG-3679)
  Nynne L. B. Lauritsen (Denmark)

A03p-013 Geoelectrical cross-section of lake Ladoga anomaly zone on the results of new synchronous MT/MV soundings experiment (#IUGG-3758)
  Maxim Smirnov (Finland)

A03p-014 Deep conductivity structure of the Eastern Carpathians and its relation to the seismicity of the region (#IUGG-4418)
  Svetlana Kovacikova (Czech Republic)

A03p-015 EMTEZ-Pomerania experiment: the latest results in the interpretation of the MV and MT data in the EMTEZ-Pomerania deep sounding array (#IUGG-4440)
  Svetlana Kovacikova (Czech Republic)

A03p-016 Imaging parecis basin with magnetotelluric data (#IUGG-4443)
  Leonardo Miquelutti (Brazil)

A03p-017 The 3-D magnetic imaging using the L-1 norm regularization (#IUGG-4553)
  Mitsuru Utsugi (Japan)

A03p-018 Upper mantle conductivity structure of the western Baltic margin (#IUGG-4582)
  Sofie Gradmann (Norway)

A03p-019 Construction of apriori model for magnetotellurics field data 3D inversion (#IUGG-4744)
  Thomas Beka (Norway)

A03p-020 Resistivity imaging of the Iwaki source regions of normal faulting sequences by using phase tensors and induction vectors (#IUGG-4941)
  Makoto Uyeshima (Japan)

A03p-021 Three-dimensional magnetotelluric imaging of crustal structure beneath the Central Domain of the Borborema Province, NE Brazil (#IUGG-5017)
  Antonio Padilha (Brazil)

A03p-022 Near-surface electromagnetic measurements in the Mygdonian basin, Greece - comparison with a seismic result (#IUGG-5191)
  Uula Autio (Finland)

A03p-023 Analysis of magnetotelluric array data from Northern Fennoscandia (#IUGG-5201)
  Uula Autio (Finland)
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A06/A07 Applied Rock Magnetism (Div. I) / Theoretical and Experimental Rock Magnetism (Div. I)

A06p-024 Environmental magnetism of late Pleistocene paleosols from Pampean loess (Argentina). Influence of volcanic glass content
Maria Julia Orgeira (Argentina)

A06p-025 Temperature and grain size dependence of the attempt time t₀ for fine magnetic particles (#IUGG-0502)
Thomas Berndt (United Kingdom)

A06p-026 Does size matter?: Maxwell-Boltzmann statistics for a small number N of magnetic particles (#IUGG-0513)
Thomas Berndt (United Kingdom)

A06p-027 Magnetic properties of the polymorphs alpha-Fe₂O₃ and epsilon-Fe₂O₃ after high temperature thermal treatment (#IUGG-1442)
Thelma Berquo (USA)

A06p-028 A model for anisotropy of magnetic susceptibility of superparamagnetic particles (#IUGG-1486)
Luca Landi (Italy)

A06p-029 Development of integrated geophysical/geochemical methods of soil and groundwater pollution assessment and control in problematic areas (#IUGG-3930)
Tadeusz Magiera (Poland)

A06p-030 MSP-Tool: A VBA-based software tool for the analysis of multispecimen palaeointensity data (#IUGG-3934)
Monica Monster (Netherlands)

A06p-031 Thermal controls on the occurrence of pyrrhotite in magnetite-bearing remagnetized limestones. Results from dikes of the Moroccan High Atlas (#IUGG-4346)
Juan Jose Villalain (Spain)

A06p-032 Synthesis and characterization of ferrimagnetic ferritin cage nanoparticles (#IUGG-5270)
Yongxin Pan (China)

IAGA (Aeronomy, Geomagnetism) 15:00-16:30, Poster Area (Foyer)

A09/A05 Open Symposium on Paleomagnetism and Rock Magnetism (Div. I) / Paleomagnetic reference models, Apparent Polar Wander Paths, and their use in Global and Regional Tectonics (Div. I)

A09p-033 Correlation between geomagnetic field reversals and climatic variations during Brunhes Chron (#IUGG-0336)
Ana Maria Sinito (Argentina)

A09p-034 New constraints on the evolution of the Gibraltar Arc from palaeomagnetic data of the Ceuta and Beni Bousera peridotites (Rif)
Thomas Berndt (United Kingdom)

A09p-035 New archean-late proterozoic paleomagnetic results from the Karelian craton, baltica - implications for precambrian supercontinents (#IUGG-2664)
Lauri Pesonen (Finland)

A09p-036 Magnetometry as a high-resolution tool for deciphering subtle differences in various soil types (#IUGG-3165)
Maria Teisseyre-Jelenska (Poland)

A09p-037 Magnetic mineralogy of anthropogenic pollution inside indoor dust from Warsaw apartments (#IUGG-3166)
Maria Teisseyre-Jelenska (Poland)

A09p-038 Paleomagnetic and rock magnetic characteristics of an andesitic aa flow in a vertical section (#IUGG-3278)
Hiroyuki Hoshi (Japan)

A09p-039 Magnetic and Sedimentological data as a contribution for mass transport deposits identification on Southern Portuguese Margin (#IUGG-3542)
Pedro Silva (Portugal)

A09p-040 Towards a better constrained selection of the paleomagnetic poles for APWPs determination: Case study of the Western Gondwana (#IUGG-3906)
Mohammed Amenna (Algeria)

A09p-041 Paleomagnetic pole and rock magnetic characterization of the Leka Ophiolite Complex (#IUGG-4079)
Alexander Michels (Norway)

A09p-042 Magnetic prospection on mysterious dune in Miasteczko Slaskie (Southern Poland) (#IUGG-5510)
Maria Mendakiewicz (Poland)
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A10 Paleomagnetism and Magnetic Fabrics Applied to Tectonic and Volcanic Processes (Div. I)

A10p

A10p-043 Magnetic fabrics and paleomagnetism of Mesozoic dike swarms from the coastline of São Paulo state (SE Brazil) (#IUGG-0477)
Irene Raposo (Brazil)

A10p-044 Vertical-axis rotations related to strike-slip kinematics: Paleomagnetic evidence from Liquiñe-Ofqui fault zone (38°-41°S) (#IUGG-0877)
Catalina Hernandez Moreno (Italy)

A10p-045 Tectonic reconstructions in Permian and Jurassic rocks in Dinarides (Croatia) based on synfolding late Jurassic and Tertiary remagnetizations (#IUGG-1108)
Tomasz Werner (Poland)

A10p-047 Small scale shear zone in calcite: AMS and microstructure (#IUGG-1977)
Zuzana Roxerová (Czech Republic)

A10p-048 Anisotropy of magnetic susceptibility and hysteresis in hematite ore deformed in torsion (#IUGG-2181)
Matej Machek (Czech Republic)

A10p-049 Timing of the clockwise rotation of Southwest Japan: New paleomagnetic evidence from Miocene sedimentary rocks (#IUGG-2793)
Hiroaki Hashi (Japan)

A10p-050 Constraining chronology and time-space evolution of Holocene volcanic activity on the Capelo Peninsula (Faial Island, Azores): The paleomagnetic contribution (#IUGG-2828)
Anita Di Chiara (Brazil)

A10p-051 The motion of stable Adria from 190 to 150Ma from direct paleomagnetic results from the foreland of the Southern Alps (#IUGG-2833)
Emo Marton (Hungary)

A10p-052 Discordant the Silurian paleomagnetic pole position as evidence of tectonic rotation in the Dniester River Basin area (SW Ukraine) (#IUGG-2956)
Marina Orlova (Ukraine)

A10p-053 Paleomagnetic study of Central Azores Archipelago: Volcano-tectonic implications (#IUGG-3616)
Pedro Silva (Portugal)

A10p-054 Paleomagnetic results for the West African Craton (Anti-Atlas inliers) at the Proterozoic (#IUGG-4894)
Pedro Silva (Portugal)

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A23 Different Response Modes of the Magnetosphere to Solar Wind Driving (Div. III)

A23p

A23p-055 Dynamical response of the magnetotail to the vertical directional changes of solar wind flow (#IUGG-1759)
Dana Saxonbergova (Czech Republic)

A23p-056 Typical structure of geoeffective events and average reaction of the terrestrial magnetosphere during solar cycle-23: CIRs/CMEs comparison (#IUGG-2769)
Rémi Benacquista (France)

A23p-057 Modeling of geomagnetic storms by means of an analytical model and artificial neural networks (#IUGG-3472)
Milos Revollo (Slovak Republic)

A23p-058 THEMIS observations of double-onset substorms in response to IMF variations during geomagnetic quiet times (#IUGG-3530)
Ching-Chang Cheng (Taiwan - China)

A23p-059 Wavelet images of moderate and strong magnetic storms (#IUGG-3572)
Oksana Mandrikova (Russia)

A23p-060 Pressure balance across the magnetopause: Global MHD results (#IUGG-5639)
Ming Wang (China)

A23p-061 Transition between modes of magnetotail - ionosphere coupling during passage of aninterplanetary CME: Role of solar wind dynamic pressure (#IUGG-5766)
Charles Farrugia (USA)

IAGA (Aeronomy, Geomagnetism) 15:00-16:30, Poster Area (Foyer)

A26 High-Latitude Electrodynamics and the Polar Cap (Div. III)

A26p

A26p-062 Inter-hemispheric magnetic conjugacy in null-separator models of the magnetosphere (#IUGG-0385)
Konstantin Kabin (Canada)

A26p-063 Consistency and discrepancy between Polar Cap (PC) indices in the northern and southern polar caps (#IUGG-3221)
Peter Stauning (Denmark)

A26p-064 Characteristic feature of cusp plasma irregularity obtained in ICI sounding rocket campaign (#IUGG-3499)
Takumi Abe (Japan)

A26p-065 O+ outflow and escape in the terrestrial magnetosphere (#IUGG-4163)
Rikard Slapak (Sweden)

A26p-066 The statistical difference between bending arcs and regular polar arcs (#IUGG-4836)
Anita Kullen (Sweden)
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IAGA (Aeronomy, Geomagnetism) 15:00-16:30, Poster Area (Foyer)

A35 High Resolution Data for Space Plasma Turbulence, and Applications to Space Weather and Space Climate (Div. V/Div. IV/Div. III)

A35p

A35p-067 Small-scale turbulence in the Earth's magnetosheath: On the nature of kinetic-scale fluctuations (IUGG-3526)  
  Hugo Breuillard (Sweden)

A35p-068 Long-term evolution of solar wind turbulence observed by Cluster (IUGG-3738)  
  Pauli Väisänen (Finland)

A35p-069 On the intermittent features of solar wind passive scalars (IUGG-3780)  
  Giuseppe Consolino (Italy)

A35p-070 An empirical mode decomposition approach to turbulent plasmas (IUGG-3781)  
  Giuseppe Consolino (Italy)

A35p-071 A preliminary statistical study on the polar ionosphere features during periods of radial interplanetary magnetic field (IUGG-3786)  
  Maria Federica Marucci (Italy)

A35p-072 Rank-Ordered Multifractal Analysis (ROMA) of solar wind turbulence (IUGG-4755)  
  Munteanu Costel (Romania)

A35p-073 Observations in space of signals from a SuperDARN coherent backscatter radar (IUGG-4823)  
  Gordon James (Canada)

A35p-074 Intermittency of the inertial range turbulence in the solar wind at 0.72 AU (IUGG-4907)  
  Eliza Teodorescu (Romania)

IAGA (Aeronomy, Geomagnetism) 15:00-16:30, Poster Area (Foyer)

A38/A40 Geomagnetic Observations under a Quiet Sun: the 50th Anniversary of the “International Year of the Quiet Sun” (Div. V/Div. II/Div. III/Div. IV) / Use of Indices and Recovered Analogue Records in Geophysical Data Analysis (Div. V)

A38p

A38p-075 The modulated baseline and anomalies of geomagnetic field during geomagnetic storms (IUGG-1850)  
  Mirko Piersanti (Italy)

A38p-076 Occurrence of high-speed solar wind streams over the Grand Maximum (IUGG-2152)  
  Kalevi Mursula (Finland)

A38p-077 A new vision of the magnetic indices for the Sun-Earth connection (IUGG-2481)  
  Sandrine Rochel (France)

A38p-078 The Quiet Sun of 1964-65 and the following solar cycle 20, an expression of long-term evolution of solar activity (IUGG-2825)  
  Crisan Demetrescu (Romania)

A38p-079 Long-term evolution of geomagnetic activity. Analysis of its solar and magnetospheric sources (IUGG-3180)  
  Venera Dobrica (Romania)

A38p-080 Magnetic activity during substorms expressed with the new global magnetic index a (IUGG-3734)  
  Rémi Benacquista (France)

A38p-081 New international service of geomagnetic indices’ web site (IUGG-3894)  
  Aude Chambodut (France)

A38p-082 Subauroral magnetic activity during magnetic quiet periods as described using 15-minutes alpha magnetic index (IUGG-3901)  
  Aude Chambodut (France)

A38p-083 Estimation of magnetospheric plasma ion composition for 1956-1975 by using high-time resolution geomagnetic field data created from analog magnetograms (IUGG-4183)  
  Masahito Nose (Japan)

A38p-084 The Study of Sq Equivalent Current during the Solar Cycle (IUGG-4357)  
  Xudong Zhao (China)

A38p-085 Geomagnetic Tides of Honolulu (IUGG-4611)  
  E. Joshua Rigler (USA)

IACS (Cryosphere) 15:00-16:30, Poster Area (Foyer)

C03p

C03p-000 COSMO-SkyMed data in classification (bare ice and wet snow surfaces) of the glacier Polar Club in Potter Peninsula, Maritime Antarctica (IUGG-3307)  
  André Medeiros de Andrade (Brazil)

C03p-001 Response of land-terminating King George Island Glaciers to climate change on a multi-decadal timescale (IUGG-0887)  
  Jefferson Cardia Simões (Brazil)

C03p-002 Variability of Antarctic proglacial lakes through numerical and remote sensing investigations, King George Island (IUGG-1920)  
  Franciele Schwanck (Brazil)

C03p-003 The Results of Monitoring Glaciers Destruction and Icebergs Formation Processes by Seismic–Infrasonic Method (IUGG-1976)  
  Yury Vinogradov (Russia)

C03p-004 The increase of debris cover of glaciers in eastern side of the Northern Patagonia Icefield in the last 70 years (IUGG-2203)  
  David Farias Barahona (Chile)

C03p-005 Short-term elevation change in the accumulation area of the Northern Patagonia Icefield, Chile (IUGG-3558)  
  David Farias Barahona (Chile)

C03p-006 Surface elevation change of Andean glaciers in Central Chile, based upon airborne laser altimetry and ground-truth GPS measurements (IUGG-3559)  
  Gonzalo Barcaza (Chile)

C03p-007 Surface elevation change of Andean glaciers in Central Chile, based upon airborne laser altimetry and ground-truth GPS measurements (IUGG-3611)  
  Gonzalo Barcaza (Chile)
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**C03p-048** Ice front and flow speed variations of marine-terminating outlet glaciers along the coast of Prudhoe Land, northwestern Greenland  
Dai Kazakura (Japan)

**C03p-049** Glaciers of Chukotka (Northern Far East Russia) – assessment of the present state and projection by a regional model scenario  
Maria Ananieva (Russia)

**C03p-050** Sub-regional climate influences on the mass balance and proglacial discharge of two small glaciers in Svalbard  
Grzegorz Rachlewicz (Poland)

**C03p-051** Separating snow and ice on glacier surfaces using remote sensing for the Hunza basin: Towards an automated method?  
Adina Racoviteanu (USA)

**C03p-052** Surface elevation change of Andean glaciers in Central Chile, based upon airborne laser altimetry and ground-truth GPS measurements  
Gonzalo Barcaza (Chile)

**C03p-053** Surface elevation change of Andean glaciers in Central Chile, based upon airborne laser altimetry and ground-truth GPS measurements  
Gonzalo Barcaza (Chile)

**IACS (Cryosphere) 15:00-16:30, Poster Area (Foyer)**

**C05p Impacts of Dust and Black Carbon on Snow and Glaciers**

**C05p-086** Characteristics of dust deposition at high elevation sites recorded in shallow ice cores, Mt. Elbrus and Mt. Kazbek, Caucasus, Russia  
Stanislav Kutuzov (Russia)

**C05p-087** Not only on the snow. The impact of debris and black carbon depositions on glacier ice as well  
Roberto Sergio Azzoni (Italy)

**C05p-088** Evaluation of MODIS albedo product over Vatnajökull and Langjökull ice caps (Iceland) and impact of volcanic eruptions on albedo  
Simon Gascoin (France)

**C05p-089** Spatial and temporal patterns of albedo changes on Icelandic ice caps as a result of the 2010 Eyjafjallajökull volcanic eruption  
Rebecca Möller (Germany)

**C05p-090** Snow cover sensitivity to black carbon deposition in the Himalayas: From atmospheric and ice core measurements to regional climate simulations  
Gerhard Krinner (France)

**C05p-091** Scanning electron microscopy (SEM) analysis of black carbon in Arctic snow  
Naoko Nagatsuka (Japan)

**C05p-092** Impact of BC and dust on the seasonal snowpack of the high altitude regions of the Himalayas  
Hans-Werner Jacobi (France)

**C05p-093** Quantification of impacts of black carbon on snow via bidirectional reflectance measurements  
Maria Gritsevich (Finland)

**C05p-094** Optical properties and climate forcing of Icelandic dust  
Pavlí Dággson Waldhauserova (Iceland)

**IACS (Cryosphere) 15:00-16:30, Poster Area (Foyer)**

**C08p Ice Cores and Climate**

**C08p-095** A new East Antarctic (Northern Victoria Land) ice core record and its tephrochronology  
Biancamaria Narcisi (Italy)

**C08p-096** Water stable isotope records from the GV7 drilling site (Dates Coast, East Antarctica): Preliminary results  
Giuliana Drossi (Italy)

**C08p-097** Characteristics of spacial distributions of ions and trace metals concentration in the snows on Lambert Glacier, East Antarctica  
Pavel Dággson Waldhauserova (Iceland)

**C08p-098** Scanning electron microscopy (SEM) analysis of black carbon in Arctic snow  
Naoko Nagatsuka (Japan)

**C08p-099** Laboratory experiments on frozen aqueous solutions and artificial snow: Spectroscopy and microscopy  
Dominik Hegger (Czech Republic)

**C08p-100** Nevado Illimani (Bolivia) accumulation rate as a proxy for Amazon precipitation  
Jefferson Cardia Simões (Brazil)

**C08p-101** Natural periodicities and Northern-Hemisphere - Southern-Hemisphere connection of temperature changes during the last glacial period: EDML and NGRIP revisited  
Fabio Lepreti (Italy)
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IAHS (Hydrology) 15:00-16:30, Poster Area (Foyer)

**HW03 Multivariate Analysis in Hydrological Modelling**

**HW03p-102** Simulating hydrological processes of a cold catchment in north China with a Water Balance Model (#IUGG-3348)
Guoping Wang (China)

**HW03p-103** A multivariate smoothed bootstrap approach for specification and simulation of climate change scenarios with spatially correlated hydrological variables (#IUGG-3457)
Varvara Vetрова (New Zealand)

**HW03p-104** Simulating hydrological processes of a cold catchment in north China with a water balance model (#IUGG-3578)
Guoping Wang (China)

**HW04 Hydrological Change in Statistical Perspective**

**HW04p-105** Hydrological drought in Transcarpathia (#IUGG-0095)
Valeriy Ovcharuk (Ukraine)

**HW04p-106** Probability Distribution of Long-term Annual Rainfall Erosivities in Korea (#IUGG-0190)
Joo-hak Lee (Korea, Republic of Korea)

**HW04p-107** Hydrologic risk analysis according to extreme drought applying a climate change scenario (#IUGG-1009)
Joo-Heon Lee (Korea, Republic of Korea)

**HW04p-108** Design discharges in Slovenian rivers and climate change (#IUGG-2162)
Nejc Bezak (Slovenia)

**HW04p-109** Quantification of the effect of forest harvesting versus climate on streamflow cycles and trends in an evergreen broadleaf catchment (#IUGG-2202)
Naoki Kabeya (Japan)

**HW04p-110** Investigating the hydrological seasonality of the upper Zhang River catchment in a changing climate (#IUGG-5631)
Sicheng Wan (China)

**HW05 Societal Relevance of Groundwater: Ever Increasing Demands on a Limited Resource**

**HW05p-111** How do sugarcane irrigation system affects ground water quality (HW05) (#IUGG-0192)
Louis Nyrirongo (Malawi)

**HW05p-112** Improvement of drinking water (surface and ground) quality Beneficial to human use (#IUGG-0364)
Rafat Abdeldayem (Egypt)

**HW05p-113** Renewable groundwater resources of European Russia (#IUGG-0641)
Roald Zhdamalov (Russia)

**HW05p-114** Nonlinear baseflow recession analysis for karst watersheds (#IUGG-0962)
Ebru Eris (Turkey)

**HW05p-115** Accelerating surface and ground water interactions to augment sub-surface storage in the Ramganga sub-basin of the Ganges (#IUGG-2505)
Upali Amarasinghe (India)

**HW05p-116** Augmenting sub-surface storage for sustainable eco-systems services in the Ganges basin (#IUGG-3424)
Lal Mutuwatte (India)
### IAHS (Hydrology) 15:00-16:30, Poster Area (Foyer)

#### HW06 Socio-Hydrology: The Dynamic Interplay between Water and Human Systems

**HW06p**

- **HW06p-117** A socio-hydrology perspective of the agriculture industry in the Murrumbidgee, Australia: The "Pendulum Swing" in water resource management and sustainability (IUGG-0677)
  - Markus Meinhardt (Germany)
- **HW06p-118** Characterising and quantifying water demands in mountain tourist resorts (IUGG-0981)
  - Martin Calianno (Switzerland)
- **HW06p-119** Assessment of severity levels of Damming Hydrogeological Events in Calabria (Southern Italy) (IUGG-1845)
  - Olga Petrucci (Italy)
- **HW06p-120** Relationship between flooding and Net Primary Productivity in the downstream basin of the Mekong River (IUGG-1912)
  - Yusuke Hiraga (Japan)
- **HW06p-122** Flood victims, what we could learn (IUGG-2113)
  - Mitja Brilly (Slovenia)
- **HW06p-123** Assessing the impacts of Land Cover Change on Surface Water Sources in Southwestern Nigeria: The Role of Communities’ Local Experts (IUGG-3348)
  - Amidu Owolabi Ayeni (Nigeria)
- **HW06p-124** Constraints to public participation in the Pitimbu River Basin Committee, Brazil (IUGG-2830)
  - Lúcio Moreira (Brazil)
- **HW06p-125** An ecohydrologic framework for modeling stream-fed irrigation in dryland environments (IUGG-3211)
  - Drew Gower (USA)
- **HW06p-128** Understanding the Socio-Hydrology System of the Kissimmee River Basin, Florida (IUGG-4720)
  - Murugesu Sivapalan (USA)
- **HW06p-129** Converging stakeholders’ climate change adaptation visions through hydrologic modeling (IUGG-4845)
  - Manfred Lange (Cyprus)
- **HW06p-130** Inter-model comparison of industrial and domestic water demand under consistent future socioeconomic scenarios (IUGG-5002)
  - Yusuke Satoh (Japan)
- **HW06p-131** Modeling as a tool to predict bargaining over scarce water resources in Israel and Palestine (IUGG-5195)
  - Rogier Burger (Netherlands)
- **HW06p-132** Le risque inondation: l’issu des interactions et rétroactions entre rivières et sociétés. L’exemple de la ville de Tecuci (Roumanie) (IUGG-5347)
  - Liliana Zahaia (Romania)
- **HW06p-133** The interplay between groundwater-agriculture hydrosystems and their societal implications for managing arid coastal regions (IUGG-5577)
  - Jens Grundmann (Germany)
- **HW06p-134** Integrated hydrological modeling system: A platform for flood risk management support (IUGG-5581)
  - Andrei Bugaets (Russia)
- **HW06p-561** Differentiating the social in socio-hydrology: The dynamics of land use changes in Southwest Bangladesh (IUGG-3444)
  - Anna Wesselin (Netherlands)

#### HW12 Using Environmental Observatories in Catchment Studies and Management

**HW12p**

- **HW12p-135** Variability of stream flows for the Xiang River under a changing environment (IUGG-2761)
  - Guoqing Wang (China)
- **HW12p-136** Sharing water-related information to tackle changes in the hydrosphere – for operational needs (SWITCH-ON) (IUGG-3592)
  - Berit Altheimer (Sweden)
- **HW12p-137** Extreme event measurement with ADCP; comparison, lessons learnt and way forward for the Madeira River, Amazon Basin, Brasil (IUGG-4767)
  - Victor Hugo da Motta Paca (Netherlands)
- **HW12p-138** Stream flow velocity measurement with smartphones: a technique for citizen observatories, decision-making, and water management (IUGG-4812)
  - Hendrik Huwald (Switzerland)
- **HW12p-139** Land-atmosphere interactions in cold environments (LATICE): the role of atmosphere - biosphere – cryosphere – hydrosphere interactions under climate change (IUGG-5204)
  - John Barkhurst (Norway)

#### IAHS (Hydrology) 15:00-16:30, Poster Area (Foyer)

#### HW16 Observations and Modelling of Land-Atmosphere-Society Interactions in Hydrology

**HW16p**

- **HW16p-140** Modeling of Okavango sub-catchments with JAMS in different spatiotemporal resolutions (IUGG-5531)
  - Markus Meinhardt (Germany)
- **HW16p-141** Evaluating the impact of changing land use and farm dams on the Gaborone dam catchment: a process-based distributed modelling approach (IUGG-5534)
  - Markus Meinhardt (Germany)
- **HW16p-142** Structure and initial application of a decision support system for hydrological systems analysis (IUGG-5595)
  - Markus Meinhardt (Germany)
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**IAHS (Hydrology)**

**HW19 Remote Sensing Retrievals of Precipitation and Evapotranspiration**

**HW19p**

HW19p-143 Validation of evapotranspiration and its long-term trend over the Yellow River source region (IUGG-1013)

Rong Liu (China)

HW19p-144 Satellite calibration and validation for NOAA and other precipitation products (IUGG-1075)

Jian-Jian Wang (USA)

HW19p-145 Assessment of an energy-balance model for evapotranspiration mapping over the Andean páramos (IUGG-4472)

Galo Carrillo Rojas (Ecuador)

**Joint Inter-Association Symposia**

**JA01 Joint Inversion and Mutually Constrained Inversion of Geophysical Observations (IAGA, IAG, IASPEI)**

**JA01p**

JA01p-146 Joint inversion modeling of geological CO2 storage using time lapse microgravity and ground deformation (IUGG-0902)

Hoqat Kabirzadeh (Canada)

JA01p-147 Land surface temperature forecasting using MODIS Imagesand Modular Neural Networks (IUGG-1390)

Farahnaz Taghavi (Iran)

JA01p-148 3D inversion of magnetic anomaly data using a genetic algorithm (IUGG-1916)

Fuensanta G. Montesinos (Spain)

JA01p-149 Joint inversion of magnetotelluric, receiver function and gravity data using a combination of correlation and gradient approaches (IUGG-1952)

Matthieu Plasman (France)

JA01p-150 A new gravity study to model crustal structures of the volcanic island of Gran Canaria (Spain) (IUGG-2035)

Jose Armoso (Spain)

JA01p-151 Features of the deep structure of some volcanic islands of the Canary Archipelago from the passive seis-mo-prospecting method (IUGG-2107)

Jose Armoso (Spain)

JA01p-152 Features of the subsurface structure of the Timanfaya volcanic area (Lanzarote) from a joint analysis of magnetic and gravimetric maps (IUGG-2111)

Fuentesanta G. Montesinos (Spain)

JA01p-153 Simultaneous measurements of elastic wave velocity and electrical conductivity in a brine-saturated granitic rock under confining pressures (IUGG-2649)

Tohru Watanabe (Japan)

JA01p-154 Short-scale crustal density variations in Australia revealed by global gravity model GGMplus and terrestrial gravity observations (IUGG-2922)

Sten Claessens (Australia)

JA01p-155 Geophysical insights on the deep structure of Ciomadul volcano through interpretation of potential field data (IUGG-3045)

Luminita Zlagnean (Romania)

JA01p-156 Refinement of Tibetan crust density distribution and determination of Tibetan geoid and Moho depth (IUGG-4886)

Wendin Shen (China)

JA01p-157 Improving velocity models using surface waves for moment tensor of M~5.0 earthquakes at large distances (>300 km), examples from Brazil (IUGG-5142)

Fabric Diaz (Brazil)

JA01p-158 Evaluation methods of geophysical data for deciphering the deep geological structure in Curvature Carpathians zone (IUGG-5157)

Laurentiu Asimopolos (Romania)

**Joint Inter-Association Symposia**

**JA02 Modelling of Space Weather Effects: Solar, Magnetospheric and Earth Resistivity Constraints (IAGA, IAMAS)**

**JA02p**

JA02p-159 Testing the global magnetohydrodynamic models against the empirical statistical relationships (IUGG-0927)

Evgeny Gordeev (Russia)

JA02p-160 Regional estimation of geomagnetically induced currents based on the local magnetic or electric field (IUGG-1243)

Arki Viljanen (Finland)

JA02p-161 Importance of Earth resistivity and power network status in modelling geomagnetically induced currents (IUGG-2187)

J.M. Torta (Spain)

JA02p-162 A COSPAR/ILWS roadmap towards advanced space weather science to protect society’s technological infrastructure (IUGG-2438)

Hermann Opgenoorth (Sweden)

JA02p-163 Application of space radiation environment information to operations of spacecraft and manned space mission in Japan Aerospace Exploration Agency (IUGG-2538)

Hideki Koshiishi (Japan)

JA02p-164 Compilation of 3-D global conductivity model of the Earth for space weather applications (IUGG-5559)

Dmitry Alekseev (Russia)
### Joint Inter-Association Symposia

**AJ04p Results from SWARM, Ground Based Data and Earlier Satellite Missions - Recognition of Eigil Friis-Christensen (IAGA, IAG, IAMAS)**

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<td>JA04p-194</td>
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### Joint Inter-Association Symposia

**JH1 Extreme Hydrological Events (IAHS, IACS, IAG)**

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Thursday, June 25

**IAMAS (Meteorology)**

**15:00-16:30, Poster Area (Foyer)**

**M12 Tropical Dynamics**

M12p

- M12p-218 Physical processes of Northern Hemisphere wintertime surface air temperature response to the Madden-Julian oscillation (IUGG-0414)
  
  Kyong-Hwan Seo (Korea, Republic of Korea)

- M12p-219 Assessment of the climate modeling in climate models from higem family (IUGG-0888)
  
  Maria Custodio (Brazil)

- M12p-220 Mesoscale convective systems over the Amazon Region during the First Campaign of Green Ocean Amazon (GOAmazon) (IUGG-0942)
  
  Amanda Rebhein (Brazil)

- M12p-221 Vertical structure and diabatic processes of the Madden-Julian Oscillation: Biases and uncertainties at short range (IUGG-1633)
  
  Prince Xavier (United Kingdom)

- M12p-222 Temporal and spatial intermittency of sub-daily tropical precipitation in general circulation models (IUGG-1688)
  
  Nicholas Klingaman (United Kingdom)

- M12p-223 Rainfall studies using radars in Darwin, Australia (IUGG-1805)
  
  Bronwyn Dolman (Australia)

- M12p-224 Sensitivity of tropical circulation to air-sea roughness in aquaplanet simulations (IUGG-2393)
  
  Inna Polichtchouk (United Kingdom)

- M12p-225 Predicting the MJO at various resolutions with the new global model ICON (IUGG-4052)
  
  Julia Keller (Germany)

- M12p-226 Impact of high-resolution on seasonal forecast in the tropics (IUGG-4650)
  
  Francois Massonnet (Belgium)

- M12p-227 Influence of Atlantic basin tropical easterly waves activity by the intraseasonal variability in 2004 (IUGG-4654)
  
  Cristiano Prestrelo (Brazil)

- M12p-228 Characteristics of the maritime continent convection during the preconditioning stage of the Madden-Julian Oscillation (IUGG-5081)
  
  Hisayuki Kubota (Japan)

- M12p-229 The Madden-Julian Oscillation and extratropical interactions (IUGG-5104)
  
  Charles Jones (USA)

- M12p-230 Influence of Atlantic basin tropical easterly waves activity by the intraseasonal variability in 2004 (IUGG-5643)
  
  Cristiano Prestrelo (Brazil)

**Union Symposia**

**U8 Geo-Monitoring in the 21st Century**

**15:00-16:30, Poster Area (Foyer)**

U08p

- U08p-232 Vernal point in the study and monitoring of earth sciences phenomena (IUGG-0437)
  
  Israel Chavez Sumarriva (Peru)

- U08p-233 WebGIS technologies for monitoring and analysis of natural processes (IUGG-2174)
  
  Valeri Gits (Russia)

- U08p-234 Wavelet analysis of GRACE K-band range rate measurements related to Urmi basin in Iran (IUGG-2219)
  
  Amirreza Moradi (Iran)

- U08p-235 Analysis of the magnetic data from NEMO-SN1 cabled seafloor observatory (off-shore Eastern Sicily, Italy) (IUGG-2525)
  
  Angelo De Santis (Italy)

- U08p-236 Satellite observations of enhanced trace gas emissions from wildfires during the 2010-11 La Niña across northern Australia (IUGG-2634)
  
  Stefan Schreier (Germany)

- U08p-237 Study of reservoir permeability using water level monitoring and pore-scale modelling based on X-ray microtomography scanning of the rock samples (IUGG-3890)
  
  Alexey Ostapchuk (Russia)

- U08p-238 Monitoring subsidence of railway network from InSAR technology (IUGG-4700)
  
  Mehdi Birang (Iran)

**IAVCEI (Volcanology, Geochemistry)**

**15:00-16:30, Poster Area (Foyer)**

VW05p

- VW05p-239 Advanced imaging and quantification of volcano deformation in analogue models using computed X-ray micro-tomography (IUGG-1618)
  
  Sam Poppe (Belgium)

- VW05p-240 Monitoring analogue volcanological models using Kinect v1 and v2 sensors (IUGG-2197)
  
  Marta Rincon (Spain)

- VW05p-241 The effect of inertial particles on turbulent entrainment in volcanic plumes (IUGG-2206)
  
  David Jessop (France)

- VW05p-242 Analog earthquake models: Some scaling and monitoring issues (IUGG-2711)
  
  Michael Rudolf (Germany)

- VW05p-243 Distinguishing volcano sagging and spreading behaviors by using a Digital Image Correlation approach to quantifying analog models (IUGG-2962)
  
  Audray Delcamp (Belgium)

- VW05p-244 Using PIV, DIC and rheometry to characterise magma intrusion dynamics in gelatine analogue models (IUGG-4403)
  
  Janine Kavanagh (United Kingdom)

- VW05p-245 Why geology is important to model volcanic processes (IUGG-5046)
  
  Joan Marti (Spain)
Friday, June 26

IAGA (Aeronomy, Geomagnetism) 15:00-16:30, Poster Area (Foyer)

A16 Energetic Particle Precipitation into the Atmosphere: Sources and Atmospheric Impacts (Div II-D/IAGA Div II-VERSIM/ICMA)
A16p
A16p-247 HEPPA-II model-observation intercomparison project: EPP indirect effects during the dynamically perturbed NH winter 2008/2009 (IUGG-1673)
Perfid Tunko (Turkey)
A16p-248 Contribution of proton and electron precipitation to the observed electron concentration in October-November 2003 and September 2005 (IUGG-4264)
Monika Andersson (Finland)
A16p-249 A detailed analysis of amplitudes of chorus wave packets (IUGG-4482)
Eva Macusova (Czech Republic)

IAGA (Aeronomy, Geomagnetism) 15:00-16:30, Poster Area (Foyer)

A17 The Earth’s Plasmasphere: Remote Sensing and Modelling (Div. II-VERSIM)
A17p
A17p-250 Whistlers as possible indicators of active impact on an ionosphere (IUGG-3664)
Nina Cherneva (Russia)
A17p-251 Unusual 4-12 kHz VLF emissions observed after sferics-filtering (IUGG-3998)
Jyrki Manninen (Finland)
A17p-252 Temporal-spatial variations of cold plasma mass density in the inner magnetosphere from field line resonances detected at EMMA magnetometer network (IUGG-4392)
Alfredo Del Corpo (Italy)
A17p-253 Storm-related VLF emissions observed at Kannuslehto in Northern Finland (IUGG-5063)
Jyrki Manninen (Finland)

IAGA (Aeronomy, Geomagnetism) 15:00-16:30, Poster Area (Foyer)

A18 Sun-Earth System Response to Extreme Solar Events and Space Weather (Div. II/Div. III)
A18p
A18p-332 Simulating the ionospheric storms with IRI-Plas-Storm2 model (IUGG-0573)
P. B. Ask (Canada)
A18p-333 A study of magnetosphere-ionosphere coupling as a precursory indicator of seismic events (IUGG-0664)
Victor Nwankeve (India)
A18p-334 GPS phase scintillation at high latitudes during geomagnetic storms (IUGG-1184)
Paul Prikryl (Canada)
A18p-335 Simulated hemisphere differences in the response of the upper atmosphere to the August 2011 Storm (IUGG-1193)
Erdal Yigit (USA)
A18p-336 Using dynamical networks to quantify the substorm spatio-temporal correlation seen in SuperMAG database of ground based magnetometer stations (IUGG-1507)
Sandra Chapman (United Kingdom)
A18p-337 Different response of the magnetosphere to the different solar wind drivers during the magnetic storms (IUGG-1864)
Yuri Yermolaev (Russia)
A18p-338 Storm-time magnetosphere and ionosphere disturbances on March 7-11 and July 14-17, 2012 (IUGG-2346)
Vladimir Kurkin (Russia)
A18p-339 Automated geomagnetic storm detection: a comparison of methods at the Conrad Observatory (IUGG-2387)
Rachel Bailey (Austria)
A18p-340 Features of ionospheric storms according to the data of Russia north-eastern stations (IUGG-3027)
Igor Solovev (Russia)
A18p-341 Statistical study of the magnetosphere-ionosphere response to different types of solar wind streams (IUGG-3627)
Yuri Yermolaev (Russia)
A18p-342 Storm effects in the southern high latitude ionosphere (IUGG-4030)
Marta M. Zossi (Argentina)
A18p-343 On the dynamics of travelling ionospheric disturbances over Europe (IUGG-4282)
Claudia Barries (Germany)
A18p-344 Statistical analysis of CMEs’ geoeffectiveness over one year of solar maximum during cycle 23 (IUGG-5570)
Aude Chambodut (France)

IAGA (Aeronomy, Geomagnetism) 15:00-16:30, Poster Area (Foyer)

A24 The Plasmasheet - Ionosphere, a Coupled System: Sinks, Sources, Transport and the Roles of Field-Aligned Currents and Ion Outflow (Div. III/Div. II)
A24p
A24p-254 What happens to bursty bulk flows as they propagate towards the Earth? (IUGG-2443)
Maria Hamrin (Sweden)
A24p-255 Azimuthal velocity shear within an earthward fast flow - further evidence for magnetotail untwisting? (IUGG-3759)
Timo Pikkänen (Sweden)
**IAGA (Aeronomy, Geomagnetism)**

**A28/A29 New advances in Solar and Interplanetary Physics (Div. IV) / Wave and Turbulence in the Solar Atmosphere and Solar Wind (Div. IV)**

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<td>Solar photospheric eruptions due to comet impacts with the Sun (IUGG-0379) Subhun Ilabav (Tajikistan, Republic of)</td>
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<td>Magnetohydrodynamic waves and Instabilities of a temperature-anisotropic solar wind plasma (IUGG-0444) Vladimir Kuznetsov (Russia)</td>
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<td>Exact analytical solutions of continuity equation for electron beams precipitating in ohmic and mixed energy losses (IUGG-0657) Rytis Dobranskis (United Kingdom)</td>
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<td>A Study in a Decaying Ephemeris Region on the Correlations of Coronal Properties and Solar Magnetic Field (IUGG-1631) Yuan-Kuen Ko (USA)</td>
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<td>Parametric Study of a Helicity-based Method to Infer the Near-Sun Magnetic Field of Coronal Mass Ejections (IUGG-2004) Spiros Patsourakos (Greece)</td>
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<td>Scattering of high energy particles at a collisionless shock front (IUGG-3699) Michael Gedalin (Israel)</td>
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<td>Solar wind drivers of geomagnetic activity during different phases of solar cycles (IUGG-3884) Tamara Kuznetsova (Russia)</td>
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<td>A gyrokinetic approach to low frequency anisotropy-driven instabilities in the solar wind (IUGG-4188) Jay Johnson (USA)</td>
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<td>Spectral shape of the 17 May 2012 SEP event: comparison between multiplatform observations and the NMBANGLE PPOLA model (IUGG-4770) Giuseppe Consortini (Italy)</td>
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<td>Dynamics of High-Velocity Evanescent Clumps Emitted from Dusty Comet C/2011 L4 as Observed by STEREO (IUGG-5795) Nour Eddine Raouafi (USA)</td>
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**IAGA (Aeronomy, Geomagnetism)**

**A32 Studies of the Quiet Sun and Active Regions (Div. IV)**

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<td>Vortex flows in the solar atmosphere - new results and implications (IUGG-4955) Sven Wedemeyer (Norway)</td>
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<td>A32p-281</td>
<td>SSALMON - the solar simulations for the atacama large millimeter observatory network (IUGG-4957) Sven Wedemeyer (Norway)</td>
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**IAGS (Cryosphere)**

**C07 Understanding Linkages between Different “Elements” of the High-Latitude Cryosphere**

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<td>Frequency and distribution of winter melt events from passive microwave satellite data in the pan-Arctic (IUGG-5495) Libo Wang (Canada)</td>
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<td>Understanding interactions between different polar cryosphere elements: A new WCRP CiC (Climate and Cryosphere) initiative (IUGG-5750) Rob Massom (Australia)</td>
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Friday, June 26
IAG (Geodesy) 15:00-16:30, Poster Area (Foyer)

C9 Water Stable Isotopes as Tools to Elucidate Atmosphere, Hydrosphere and Cryosphere Interactions

C09p

C09p-284 Isotopic composition and sources of atmospheric precipitation in Central Yakutia in 2013-2014 (#IUGG-0636) Natalia Malygina (Russia)

C09p-285 A weather system-based investigation of midlatitude isotope meteorology in the period 1979-2000 in a millennium simulation (#IUGG-2701) Franziska Aemisegger (Sweden)

C09p-286 Quantification of factors impacting seawater and calcite d18O during Heinrich Stadials 1 and 4 (#IUGG-3112) Witold Bagiński (Australia)

C09p-287 Reconstructing paleosalinity from d18O: Coupled model simulations of the last glacial maximum, last interglacial and late holocene (#IUGG-3607) Max Holloway (United Kingdom)

C09p-288 Comparison between air temperature and stable isotope ice core data recorded at the Mount Ortles drilling site (South Tyrol, Italy) (#IUGG-6635) Giuliano Drossi (Italy)

C09p-289 Stable water isotopes in the Arctic Circle: a review of existing data (#IUGG-5258) Mathias Moys (France)

C09p-290 What controls the isotopic composition of surface snow? Understanding the processes influencing the surface snow isotopic composition (#IUGG-5313) Hans-Christian Steen-Larsen (Denmark)

C09p-291 Understanding climatic controls on Svalbard water vapour and precipitation isotopic composition (#IUGG-5589) Hans-Christian Steen-Larsen (France)

IAG (Geodesy) 15:00-16:30, Poster Area (Foyer)

G06p Unifying Height Systems

G06p-345 Wo determination for Argentinean height system unification (#IUGG-0368) Claudia Tocho (Argentina)

G06p-346 The gravimetric boundary value problem in spheroidal approximation and its role in the height datum problem (#IUGG-1028) Georgios Panou (Greece)

G06p-347 Vertical reference surfaces in the North Sea area: review and numerical validation (#IUGG-2325) Judith Schall (Germany)

G06p-348 Practical applications of up-to-date geopotential value W0 after its worldwide acceptance (#IUGG-3130) Viliam Vatrt (Slovak Republic)

G06p-349 Revised determination of geopotential value at the polish tide gauges using GPS data and geoid model (#IUGG-3799) Joanna Kuczynska-Siehien (Poland)

G06p-350 Deformation of Chilean Vertical Network due to post-seismic effect of the Maule earthquake (2010) based on GRACE and GPS data (#IUGG-4064) Silvio de Freitas (Brazil)

G06p-351 Analysis of systematic effects in the national vertical reference system of the Czech Republic (#IUGG-4861) Otakar Nesvadba (Czech Republic)

G06p-352 Comparison of different approaches to determine geopotential numbers – case study on the Slovak National Levelling Network (#IUGG-5385) Juraj Papco (Slovak Republic)

G06p-353 Differential geometry of equipotential surfaces and its relation to parameters of Earth’s gravity field models (#IUGG-5440) Petr Holota (Czech Republic)

IAG (Geodesy) 15:00-16:30, Poster Area (Foyer)

G07 Geohazards Monitoring

G07p

G07p-354 Determining vertical displacements along the Tuzla Fault (Izmir-Turkey) by precise levelling technique (#IUGG-0874) Aslı Sabuncu (Turkey)

G07p-355 Analysis of land displacements an urbanized area in Curitiba, Brazil (#IUGG-0900) Renata Werlich (Brazil)

G07p-356 A new algorithmic method to identify ground strike points from individual return stroke data provided by Lightning Location Systems (#IUGG-0943) Leandro Campos (Brazil)

G07p-357 Application of terrestrial laser scanning for fluvial transport monitoring in riverbed: Case study Lomniczka River, Karkonosze Mts (#IUGG-1354) Andrzej Borkowski (Poland)

G07p-358 Quality assessment of airborne laser scanning data for landslide study in forested areas (#IUGG-1356) Andrzej Borkowski (Poland)

G07p-359 The PS-InSAR Time Series Analysis Application in Land Subsidence Monitoring (#IUGG-1581) Sun Zhan Yi (China)
Friday, June 26

G07p-360 Continuous kinematic GPS monitoring of a glacier lake outburst flood (#IUGG-1743)
Cornelia Zech (Germany)

G07p-361 The effect of instrumental precision on optimisation of displacement monitoring networks (#IUGG-1780)
Mohammad Amin Alizadeh Khamehni (Sweden)

G07p-362 Land subsidence detected by persistent scatterer InSAR at Nakagawa lowland in the central part of the Kanto Plain, Japan (#IUGG-2349)
Shoichi Hachinohe (Japan)

G07p-363 Groundwater budgeting over desert area by GRACE, case study at Arabian Peninsula (#IUGG-2527)
Susanne Weyand (Germany)

G07p-364 Cosinomic slip model of the 2014 Kangding seismic sequence from PALSAR-2 interferometry data (#IUGG-2863)
Yanfang Wen (China)

G07p-365 Atmospheric precipitable water in Somma-Vesuvius area during extreme weather from ground-based GPS measurements (#IUGG-3423)
Umberto Tammaro (Italy)

G07p-366 On the impact of rockfall catch fences on ground-based radar interferometry (#IUGG-3430)
Mariusz Frukacz (Switzerland)

G07p-367 Subsidence Monitoring Using InSAR and PSI Techniques: A Case Study of Port Harcourt, Rivers State, Nigeria (#IUGG-3459)
Mohammed Shuaibu (Nigeria)

G07p-368 Continuous lava extrusion after the 2011 Shinmoedake eruption investigated by airborne and spaceborne InSAR (#IUGG-4109)
Taku Ozawa (Japan)

Jorge Garate (Spain)

G07p-370 Thermal and mechanical properties of the nucleus soil at the Philae landing site (#IUGG-4931)
Tilman Spohn (Germany)

G07p-371 Geodetic monitoring of severe near-fault activity in southwestern Taiwan and its impact on Geohazard mitigation (#IUGG-5349)
Ming Yang (Taiwan - China)

G07p-372 Signature on GNSS PWV estimates of relevant storms affecting Iberia in recent years (#IUGG-5430)
Rui Fernandes (Portugal)

G07p-373 South Aegean geodynamic and tsunami monitoring platform project: Preliminary results (#IUGG-5512)
Demitris Anastasiou (Greece)

Joint Inter-Association Symposia 15:00-16:30, Poster Area (Foyer)

JG2 Modelling the Atmosphere and Ionosphere by Space Measurements (IAG, IAGA, IAMAS, IACS)

JG02p

JG02p-374 Inversion of ionogram data for reconstruction of model based ionospheric electron density (#IUGG-0482)
Gokhan Gok (Turkey)

JG02p-375 Status of neutrophobic delay modeling in Brazil and GNSS positioning improvement using Numerical Weather Prediction Models (#IUGG-0802)
Tayna Gouveia (Brazil)

JG02p-376 Effect of Ionospheric Scintillation on GNSS Positioning at low and medium latitude areas (#IUGG-0912)
Tayna Gouveia (Brazil)

JG02p-377 Analysis of Precipitable Water Vapor over South America (#IUGG-0965)
Clara Bianchi (Argentina)

JG02p-378 First results of the real-time multi-GNSS troposphere parameters demonstration campaign at the Royal Observatory of Belgium (#IUGG-1860)
Jan Douss (Belgium)

JG02p-379 Global Analysis of the Zenith Wet Delay to Precipitable Water Vapour Conversion Methods using Radiosonde Observations and Numerical Weather Models (#IUGG-1933)
Szabolcs Rozsa (Hungary)

JG02p-380 Ray-traced model of the upper atmosphere using GNSS measurements (#IUGG-2199)
Mehdi Alizadeh (Germany)

JG02p-381 Advances in the GNSS based estimation of atmospheric water vapour and its application in numerical weather prediction (#IUGG-2509)
Szabolcs Rozsa (Hungary)

JG02p-382 Preconditions to GNSS tomography of the troposphere (#IUGG-3127)
Gregor Möller (Austria)

JG02p-383 Contribution of GPS technology to the study of intense tropical weather events (#IUGG-3224)
Samuel Nahmani (France)

JG02p-384 Homogeneous tropospheric path delays from GNSS re-processing by Geodetic Observatory Pecný (#IUGG-3237)
Jan Douss (Czech Republic)

JG02p-385 On the assessment of surface pressure and mean temperature data for the conversion of GPS ZTD to IWV (#IUGG-3690)
Ana Parracho (France)

JG02p-386 Study on optimal temporal approximation of meteorological and tropospheric parameters (#IUGG-3709)
Michal Elias (Czech Republic)

JG02p-387 Effects of integration of pressure sensor data in the Virtual Reference Station technique for Network Real Time Kinematic satellite navigation (#IUGG-3923)
Paolo Zoccarato (Italy)

JG02p-388 Dense and sparse network solutions of zenith wet delays for real time kinematic precise point positioning (#IUGG-4384)
Paolo Oliveira Jr (France)

JG02p-389 Global validity and behaviour of tropospheric gradients estimated by GPS (#IUGG-4463)
Laurent Morel (France)

JG02p-390 Modelling of the global ionosphere by means of a data adaptive technique using observations acquired from various space geodetic systems (#IUGG-4676)
Michael Schmidt (Germany)

JG02p-391 Assessing Galileo precise point positioning capability for integrated water vapor estimation (#IUGG-4857)
Marcelo Santos (Canada)
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Joint Inter-Association Symposia

**15:00-16:30, Poster Area (Foyer)**

**JM02/JM01 Climate Variability and Earth Systems Modelling (IAMAS, IAPSO, IACS) / Earth Systems Dynamics, Predictability and Probabilistic Forecasting (IAMAS, IAG, IAGA, IAPSO, IASPEI)**

**JM02p**

JM02p-294 Finite-volume Atmospheric Model of the IAP/LASG (FAMIL) (#IUGG-0346)
Qing Bao (China)

JM02p-295 Analysis and forecasting of climate variability on basis of solar activity (#IUGG-0442)
Bakhram Nurtayev (Germany)

JM02p-296 Synoptic Situations Causing Extreme Heavy Snowfall Events in the Pacific Coast of Japan in February 2014 (#IUGG-2485)
Meiji Honda (Japan)

JM02p-297 Causes of the large warm-bias in the Angola-Benguela Frontal Zone in the Norwegian Earth System Model (#IUGG-2555)
Shunya Koseki (Norway)

JM02p-298 Impacts of sea ice / SST changes for the observed climate change-GREENICE project- (#IUGG-2596)
Fumiaki Ogawa (Norway)

JM02p-300 Winter weather in Japan controlled by large-scale atmospheric and small-scale oceanic phenomena (#IUGG-2721)
Yuta Ando (Japan)

JM02p-301 Wind and fog driven by a sea surface temperature front observed by 3-ship simultaneous atmospheric sounding in the Kuroshio Extension (#IUGG-3290)
Hatsumi Nishikawa (Japan)

JM02p-302 Effects of interactive atmospheric chemistry on the climate sensitivity of an Earth system model (#IUGG-3484)
Shingo Watatane (Japan)

JM02p-303 Response of explosively developing extratropical cyclones to sea surface temperature variations over the Kuroshio Extension (#IUGG-3531)
Hidetaka Hirata (Japan)

JM02p-305 Inter-comparison of air-sea sensible and latent heat fluxes variability in CMIP5 model simulations and observational datasets (#IUGG-4242)
Ilya Serykh (Russia)

JM02p-306 A linkage between summer Arctic sea ice concentration and winter snowfall variability in Japan (#IUGG-4261)
Katsushi Iwamoto (Japan)

JM02p-307 Analysis of global climate variability from homogenously reprocessed ground-based GNSS measurements (#IUGG-4262)
Mahmoud Ahmed (Luxembourg)

JM02p-308 Oceanic forcing of Antarctic climate change: a study using a stretched-grid atmospheric general circulation model (#IUGG-4280)
Gerhard Krinner (France)

JM02p-309 Heliogeophysical basics of the long-term temperature trends (#IUGG-4379)
Bakhram Nurtayev (Germany)

JM02p-311 Impacts of climate change to extreme hydrological event for the Huaihe river basin, China (#IUGG-4716)
JW Junliang (China)

JM02p-312 A generation model for tropical cyclone tracks for GCM outputs (#IUGG-4932)
Kazue Suzuki (Japan)

JM02p-313 Long-term trend of polar cold air mass amount below a designated potential temperature in winter hemispheres (#IUGG-5108)
Yuki Kanno (Japan)

**Joint Inter-Association Symposia**

**15:00-16:30, Poster Area (Foyer)**

**JS2/JS1/JA3 Physics and Chemistry of Earth and Planetary Interiors with Implications for their Structure, Process and Evolution (IASPEI, IAVCEI, IAGA, SEDI, IACS) / Planetary Physics (IASPEI, IACS) / Geophysical Constraints on Geodynamical Processes (IAGA, SEDI, IASPEI, IAVCEI)**

**JS02p**

JS02p-395 Application of experimental rheology to natural deformation (#IUGG-0285)
Sadaf Mollaei (Iran)

JS02p-396 The frequency-dependent seismic properties of cracked and fluid-saturated synthetic glass media (#IUGG-3086)
Ian Jackson (Australia)

JS02p-397 Experimental investigation on the low-temperature plasticity of garnet (#IUGG-3374)
Shenghua Mei (China)

JS02p-398 Studying the activity of slip systems of lower mantle minerals (#IUGG-4897)
Sergio Speziale (Germany)

JS02p-399 The location of slabs, plumes and LLSVPs (#IUGG-5488)
Eh Tan (Taiwan - China)
### Joint Inter-Association Symposia

**JS3 Geophysical Imaging of Natural Resources (IASPEI, IAG, IAGA, SEG)**

**JS03p**

**M11 Tropical Cyclones**

**M11p**

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<td>Transforming matrices in the space domain for concurrent upward continuation and differentiation of potential fields: an application to multiscale methods (#IUGG-0370)</td>
<td>Anmin Duan (China)</td>
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M14 Middle Atmosphere Science

M14p-407 Characterization of the lower atmosphere over the Ganges-Brahmaputra-Meghna basin based on GNSS-COSMIC remote sensing products (#IUGG-0228)
Joseph Awange (Australia)

M14p-408 An emerging precursor signal in the stratosphere in recent decades for the Indian summer monsoon onset (#IUGG-0349)
Rongcai Ren (China)

M14p-409 Influence of dynamical processes in the tropics on the stratosphere (#IUGG-0465)
Kanykei Kandieva (Russia)

M14p-410 Perturbations of the ozone content during the active dynamical processes in the boreal stratosphere (#IUGG-0588)
Katsiyana Drashtseuckaya (Russia)

M14p-411 Influence of the QBO phase on the propagation conditions of stationary planetary waves (#IUGG-0596)
Olga Leite (Russia)

M14p-412 Localized IGW breaking region and its implications for middle atmospheric circulation (#IUGG-0622)
Petra Sácha (Czech Republic)

M14p-413 Influence of tropospheric disturbances on retrieval of middle-atmosphere characteristics from radiometry data (#IUGG-0629)
Mikhail Belkovich (Russia)

M14p-414 Effects of stratospheric climate change on downward wave coupling in the Northern and Southern Hemispheres (#IUGG-0805)
Sandor Lubis (Germany)

M14p-415 Interannual variations of planetary wave activity and stratospheric regime during sudden stratospheric warming events in the Northern Hemisphere (#IUGG-0953)
Elena Savenkova (Russia)

M14p-416 Interaction between the troposphere and stratosphere at sudden stratospheric warming events (#IUGG-0959)
Anna Kanukhina (Russia)

M14p-417 Modelling of the general stratospheric circulation: quasi-oscillational characteristics, the semiannual oscillations, problem of synchronization (#IUGG-1007)
Dmitry Kulyamin (Russia)

M14p-418 Polar stratospheric cloud observations by the Spaceborne Cloud-Aerosol Lidar with orthogonal polarization: 2006-2015 (#IUGG-1278)
Lamont Poole (USA)

M14p-419 On the recovery of the Northern Hemisphere extratropical ozone (#IUGG-1535)
Janusz Kryszcin (Poland)

M14p-420 Sources of UTLs orographic and non-orographic gravity waves observed by VHF radar at Davis, Antarctica (#IUGG-1654)
Simon Alexander (Australia)

M14p-421 A scale invariance criterion for subgrid-scale parametrizations of general circulation models (and others) (#IUGG-2025)
Urs Schaefer-Rolffs (Germany)

M14p-422 Stratosphere-troposphere exchange in the vicinity of North Atlantic cyclones (#IUGG-2028)
Philipp Reutter (Germany)

M14p-423 The relevance of the location of blocking highs for stratospheric variability in a changing climate (#IUGG-2236)
Ilia Mihok (Latvia)

M14p-424 Dynamical effects of EEP induced polar ozone loss in WACCM (#IUGG-2533)
Michal Kopecky (Czech Republic)

M14p-425 Comparison of rotational temperature data from various instruments measured OH and O2 bands (#IUGG-2584)
Sven Oehrlein (Germany)

M14p-426 Fast stratospheric chemistry for climate models (#IUGG-2625)
Ennio Scheffler (Germany)

M14p-427 Transport anomalies of heat and minor constituents over Europe during extreme polar temperature events in the stratosopause region (#IUGG-2681)
Dieter H.W. Peters (Germany)

M14p-428 Diabatic processes and the tropopause inversion layer in baroclinic life cycles (#IUGG-2934)
Daniel Kunkel (Germany)

M14p-429 Reassessment of the airglow continuum in the optical wavelength range (#IUGG-2966)
Stefan Unterfiggenberger (Austria)

M14p-430 Frozen-In Anticyclones simulated by CESM-WACCM (#IUGG-3026)
Remi Thibélémont (Germany)

M14p-431 Variations of the continuum characteristics of the upper atmosphere (#IUGG-3065)
Irina Medvedeva (Russia)

M14p-432 Large scale kelvin and Rossby gravity waves in general circulation models (#IUGG-3279)
Francois Lott (France)

M14p-433 Stable water isotopes in stratosphere retrieved from Odin/SMR (#IUGG-3362)
Tongmei Wang (China)

M14p-434 Effect of the lower atmosphere gravity wave regional distribution on the middle atmospheric circulation in a global numerical model (#IUGG-3429)
Friederike Lilienthal (Germany)

M14p-435 Inter-comparison of stratospheric mean meridional circulation and eddy mixing among six reanalyses (#IUGG-3541)
Kazuyuki Miyazaki (Japan)

M14p-436 In-situ detection of stratosphere-troposphere-exchange of cirrus particles in thermid-latitudes (#IUGG-3556)
Peter Hoor (Germany)

M14p-437 Transport of nitrogen oxides through the mesopause region (#IUGG-3565)
Katharina Meraner (Germany)

M14p-438 Recent progress of a synthetic system for atmospheric profiling from troposphere to lower thermosphere (#IUGG-3638)
Daren Lyu (China)
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M14p-439  Thermosphere general circulation modelling with calculation of the radiative processes (#IUGG-3669)
Dmitry Kulikov (Russia)

M14p-440  On the coupling between gravity waves and background field including tides observed with MF radar at Poker Flat, and Tromsø
Takanori Kinoshita (Japan)

M14p-441  Modulation of the boreal summer water vapour and ozone in the UTLS as simulated by Chemistry Climate models (#IUGG-4095)
Markus Kunze (Germany)

M14p-442  Persistent cooling of the polar stratosphere in 2011 winter and spring (#IUGG-4124)
Kazuki Nishi (Japan)

M14p-443  Basic state and gravity wave simulated by high-top global non-hydrostatic atmospheric model NICAM (#IUGG-4200)
Chihiro Kodama (Japan)

M14p-444  Stratrophic gravity waves in the southern-hemisphere high latitudes and their correlation with jetfrontal system in the troposphere (#IUGG-4311)
Hye-Young Chun (Korea, Republic of Korea)

M14p-447  Vertical winter atmospheric temperature variations over Yakutsk by optical measurements (#IUGG-4646)
Semen Nikolashkin (Russia)

M14p-448  Semi-annual variation of ozone amounts in the lower thermosphere observed by SMILES from International Space Station (#IUGG-4707)
Kota Kuribayashi (Japan)

M14p-449  The direct radiative effect of ozone on planetary temperature waves (#IUGG-4805)

M14p-450  A nudged-CCM simulation of chemical constituent distribution at Northern Hemisphere high latitudes observed by SMILES during the 2010 SSW (#IUGG-5163)
Hideharu Akiyoshi (Japan)

M14p-451  Boulder ozone sonde data analyses for multiple tropopause origins (#IUGG-5284)
Irina Petrovaplovskikh (USA)

M14p-452  Balloon Measurements of the Asian Tropopause Aerosol Layer: BATAL-2014 (#IUGG-5351)
Tobias Wegner (USA)

M14p-453  Stratrophic ozone trends derived from a combined OSIRIS - SAGE II time series (#IUGG-5409)
Doug Degenstein (Canada)

M14p-454  A combined Odin-OSIRIS and SAGE II stratospheric aerosol data record (#IUGG-5522)
Adam Bourassa (Canada)

M14p-455  Satellite aliasing issues and their impact on tidal and planetary wave determinations (#IUGG-5622)
William Ward (Canada)

M14p-561  Ground based simultaneous microwave measurements of the lower and middle atmosphere characteristics during sudden stratospheric warming (#IUGG-918)
Mikhail Kulikov (Russia)

IAPSO (Physical Oceanography) 15:00-16:30, Poster Area (Foyer)

P08p and Deep Currents

P08p-456  Deep Western Boundary Current measurements at 34.5°S in the South Atlantic: Observed variability and structure during 2009-2014 (#IUGG-1421)
Christopher Meinen (USA)

P08p-457  Abyssal Flows through the Gaps in the Azores Ridge (37° N) in the East Atlantic (#IUGG-1582)
Roman Tarakanov (Russia)

P08p-458  Freshwater advection into the Labrador Sea (#IUGG-4602)
Lena Schulze (United Kingdom)

IAPSO (Physical Oceanography) 15:00-16:30, Poster Area (Foyer)

P13p Internal waves dynamics in world oceans: from remote sensing, in situ monitoring to numerical modelling

P13p-459  Observation of internal wave polarity conversion generated by a rising tide (#IUGG-1380)
Caixia Wang (China)

P13p-460  Observed upper ocean response to typhoon Megi (2010) in the Northern South China Sea (#IUGG-2234)
John Huthnance (United Kingdom)

P13p-461  Satellite observations of the internal waves in the Skagerrak (#IUGG-3791)
Olga Lavrova (Russia)

P13p-462  Trains of internal waves on the Black Sea shelf: The first simultaneous observation by high resolution SAR and ADCP (#IUGG-3855)
Andrey Serebryany (Russia)

P13p-463  Global mapping of low-mode semi-diurnal and diurnal internal tides with a data-assimilative reduced gravity model (#IUGG-5416)
Gary Egbert (USA)

IAPSEI (Seismology, Geophysics) 15:00-16:30, Poster Area (Foyer)

S01c Seismological Observation and Interpretation: Triggered and Induced Seismicity

S01c-464  Reservoir triggering seismicity in Greece: An evidence based review (#IUGG-0555)
Kyriaki Pavlou (Greece)

S01c-465  Physics of triggered and induced seismicity abstract (#IUGG-1496)
Guilnara Rasulova (Uzbekistan, Republic of)

S01c-467  Reservoir induced seismicity in the region of Song Tranh 2 dam, Central Vietnam (#IUGG-1967)
Jan Wiznioswki (Poland)

S01c-468  Physical Simulation of Earthquake Triggering by Fluid Migration into the Fault Area (#IUGG-2150)
Vladimir Zeigarnik (Russia)

S01c-469  Wastewater injection, induced seismicity and pore-pressure related variation of crustal properties: the Val d’Agri (Italy) case study (#IUGG-2378)
Davide Piccinini (Italy)
Friday, June 26

**IAVCEI (Volcanology, Geochemistry)**
15:00-16:30, Poster Area (Foyer)

**VS15/VS30/VS34 Water and Magma / Volcaniclastic Sediments: Modern Applications for Marine and Earth Sciences / Effects of Water on Subaerial Volcanic Eruptions and Ash Dispersal**

**VS15p**

**VS15p-477** Non-explosive and explosive magma - water interaction in the volcanic evolution of Oas-Gutai Mountains (Eastern Carpathians), Romania
(USA)
Ashley Davies

Marcel Kovacs (Romania)

**VS15p-478** The great lahar deposit “Mera” in the upper Amazon basin—formed by transformation of a volcanic avalanche in Ecuador’s Sierra
(USA)
Elena Kozlovskaia (Finland)

Pedro Alejandro Espín Bedón (Ecuador)

**VS15p-479** Late cretaceous hydrovolcanism of Hajeg Country Dinosaurs Geopark, Romania
(USA)
Ruslan Dyagilev (Russia)

Izvan Gabriel Popa (Romania)

**VS15p-480** Source fluid conditions inferred from mineralogy in eruptive products derived from subvolcanic hydrothermal systems
(USA)
Lucas Barros (Brazil)

Tsukasa Ohba (Japan)

Meng Chen (China)

Stella Tamburrino (Italy)

Takumi Imura (Japan)

Ming Chen (China)

Takumi Imura (Japan)

**VS15p-487** Present-day knowledge on the Marsili Seamount (Southern Tyrrhenian Sea)
(USA)
José Luis Martínez (Spain)

Stella Tamburrino (Italy)

Takumi Imura (Japan)

**VS15p-488** Mineralogical study of non-juvenile material in volcanic products of the 1926 and the 4.7-3.3 ka eruptions at Tokachidake volcano, Japan
(USA)
José Luis Martínez (Spain)

Takumi Imura (Japan)

Mitsuru Utsugi (Japan)

**VS15p-489** The temporal changes of the shallower resistivity structure associated with the eruption on 2011 at Aso volcano, Japan
(USA)
Hug Tuffen (United Kingdom)

Hugh Tuffen (United Kingdom)

**IAVCEI (Volcanology, Geochemistry)**
15:00-16:30, Poster Area (Foyer)

**VS18 Rock Physics in Crustal Processes**

**VS18p**

**VS18p-486** The response of visco-elastic crust and mantle to magmatic activities: The numerical experiments based on 3D finite element model
(USA)
Tsukasa Ohba (Japan)

Tadashi Yamasaki (Japan)

Tadashi Yamasaki (Japan)

**VS18p-487** Deformation of dry, weak, volcanic rocks: A source of Long Period seismicity?
(USA)
Philip Benson (United Kingdom)

Philip Benson (United Kingdom)

Philip Benson (United Kingdom)

**VS18p-488** Laboratory simulations of fluid-induced seismicity in shallow volcanic faults
(USA)
Philip Benson (United Kingdom)

Philip Benson (United Kingdom)

Philip Benson (United Kingdom)

**VS18p-489** The imaging of Brittle Ductile Transition beneath the Campi Flegrei-Ischia Volcanic District and its impact on natural seismicity
(USA)
Raffaele Castaldo (Italy)

Raffaele Castaldo (Italy)

Raffaele Castaldo (Italy)

**VS18p-490** Mobility of bi-dispersed granular flows and the dominant role of the basal boundary
(USA)
Jeremy Phillips (United Kingdom)

Jeremy Phillips (United Kingdom)

**IAVCEI (Volcanology, Geochemistry)**
15:00-16:30, Poster Area (Foyer)

**VS25/VS09 Remotely Sensed Mapping of Volcanic Regions / Statistics in Volcano Remote Sensing**

**VS25p**

**VS25p-491** Raman spectroscopic setup for the remote monitoring of high temperature volcanic solids and fluids
(USA)
Guillaume Guimbertiere (France)

Guillaume Guimbertiere (France)

Guillaume Guimbertiere (France)

**VS25p-492** Mapping volcanic deposits: Topographic change on Montserrat and associated ground deformation
(USA)
Henry Odbert (United Kingdom)

Henry Odbert (United Kingdom)

Henry Odbert (United Kingdom)

**VS25p-493** Population estimation in hazardous areas based on high resolution remotely sensed images
(USA)
Sophie Mossoux (Belgium)

Sophie Mossoux (Belgium)

Sophie Mossoux (Belgium)

**VS25p-494** Using statistical measures of surface roughness to differentiate basaltic lava textures
(USA)
Patrick Whelley (USA)

Patrick Whelley (USA)

Patrick Whelley (USA)

**VS25p-562** The NASA Volcano Sensor Web: Using EO-1 to monitor the 2014-2015 eruptions of Nomahraun (Iceland) and Kilauea (Hawai‘i, US)
(USA)
Ashley Davies (USA)

Ashley Davies (USA)

Ashley Davies (USA)

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Saturday, June 27

**IAGA (Aeronomy, Geomagnetism)**

**15:00-16:30, Poster Area (Foyer)**

**A33/A22/A31 Boundary Layers in the Heliosphere (Div. IV) / Magnetospheric Boundary Layers (Div. III) / Crossing the Heliopause into the Interstellar Medium (Div. IV)**

**A33p**

- **A33p-001** Supersolitons and the tripoal electric field structures at the magnetospheric boundary layers: a comparative study (#IUGG-0746)
  
  **SUKTISAMA GHOSH** (India)

- **A33p-002** Plasma velocities in the low-latitude boundary layer (#IUGG-0779)
  
  **Svetlana Znakova** (Russia)

- **A33p-003** Statistical comparison of the magnetopause crossings in a quiet geomagnetic conditions and during magnetic storms according to the THEMIS data (#IUGG-0801)
  
  **Maria Pulenets** (Russia)

- **A33p-004** Earth magnetic dipole inclination and eccentricity influence on the magnetopause location (#IUGG-1422)
  
  **Anna Michkova** (Czech Republic)

- **A33p-005** A comparison of Themis observed bow shock positions with model predictions (#IUGG-1756)
  
  **Jiri Simunek** (Czech Republic)

- **A33p-006** Turbulence in the terrestrial foreshock (#IUGG-1849)
  
  **Alexander Pita** (Czech Republic)

- **A33p-007** Wave-particle interactions in the exterior cusp region and in the nearby magnetosheath (#IUGG-2060)
  
  **Benjamin Grison** (Czech Republic)

- **A33p-008** On the Stability of Cylindrical Tangential Discontinuity, Generation and Damping of Helical Waves (#IUGG-2121)
  
  **Peter Israelevich** (Israel)

- **A33p-010** Comparison of the ion shock ramp of low-Mach number fast forward interplanetary shocks and bow shocks (#IUGG-2813)
  
  **Oleksandr Goncharov** (Ukraine)

- **A33p-011** Statistical study of foreshock effects: Themis observations (#IUGG-2893)
  
  **Jaroslav Urban** (Czech Republic)

- **A33p-012** Modification of the LBL structure under radial IMF conditions (#IUGG-3570)
  
  **Kostiantyn Ggyrosov** (Czech Republic)

- **A33p-013** A statistical study of the Bz-dips in front of magnetotail dipolarization fronts (#IUGG-3739)
  
  **Martin Volwerk** (Austria)

- **A33p-014** Contribution of shock heating and plasma expansion to ion temperatureanisotropy and low frequency wave generation in subsolar magnetosheath (#IUGG-4514)
  
  **Jan Sourek** (Czech Republic)

- **A33p-015** Electrostatic solitary waves and electrostatic waves at the magnetopause and in the magnetosheath (#IUGG-4795)
  
  **Daniel Graham** (Sweden)

- **A33p-016** Identification of higher frequency plasma waves inside a Kelvin-Helmholtz vortex responsible for plasma heating and mixing (#IUGG-5092)
  
  **Thomas Moore** (USA)

- **A33p-017** The role of Kelvin-Helmholtz waves in magnetosphere-ionosphere coupling (#IUGG-5242)
  
  **Kyoung-Joo Hwang** (USA)

- **A33p-018** The Dipole Tilt Angle Dependence of the Bow Shock for Southward IMF: MHD Results (#IUGG-5484)
  
  **Ming Wang** (China)

**IACS (Cryosphere)**

**15:00-16:30, Poster Area (Foyer)**

**C12 Coupling Processes between the Atmospheric Boundary-Layer and Snow/Ice Surfaces: Observations and Modelling**

**C12p**

- **C12p-495** The low-level jet : a hint for understanding the turbulent structure of the summer boundary-layer above the antarctic plateau (#IUGG-0207)
  
  **Etienne Vignon** (France)

- **C12p-496** Study of the upper boundary condition for a permafrost thermal model in the Qinghai-Tibet Plateau (#IUGG-1373)
  
  **Mingyi Zhang** (China)

- **C12p-497** Observational studies seasonal frozen area of black soil hills of gently sloped farmland variation of available phosphorus during freeze-thaw period (#IUGG-2316)
  
  **Xianbo Zhao** (China)

- **C12p-499** Comparison of snow depth on the sea ice between buoys and CFSR data (#IUGG-2358)
  
  **Kazutoshi Sato** (Japan)

- **C12p-500** Mass balance and runoff simulations for glacierized catchments in the Ötztal Alps (Austria) (#IUGG-2444)
  
  **Florian Hanzer** (Austria)

- **C12p-502** Particle transport property of snow particles using random-flight model of blowing snow (#IUGG-2588)
  
  **Hirofumi Niwya** (Japan)

- **C12p-503** The influence of air and tree temperature on sub-canopy incoming longwave radiation modelling (#IUGG-2844)
  
  **Clare Webster** (United Kingdom)

- **C12p-504** A computation research of the snow deposition over complex terrains (#IUGG-3356)
  
  **Zhengshi Wang** (China)

- **C12p-505** MeteoIO: A Pre-Processing Library for Numerical Models (#IUGG-4452)
  
  **Mathias Bavay** (Switzerland)

- **C12p-506** Cooling by the melting of snowfall on the Toyama Plain during the winter monsoon (#IUGG-4575)
  
  **Takao Yoshikane** (Japan)

- **C12p-507** Potential impact of glacier surface on local precipitation study based on micrometeorite observations in a continental glacier valley (#IUGG-4713)
  
  **Dongqi Zhang** (China)

- **C12p-508** A high density observation station network in the Berchtesgaden Alps for snow hydrological model evaluation (#IUGG-5343)
  
  **Michael Warscher** (Germany)
IAG (Geodesy) 15:00-16:30, Poster Area (Foyer)

G08 Sea-Level Observation and Modelling
G08p

G08p-059  Optimal threshold level determination of waveform retracking based on least variance criterion (IUGG-0685)
Yunzhong Shen (China)

G08p-060  Determination of sea-surface height and sea-surface topography in the Mediterranean by means of laser altimetry onboard the GEOHALO mission (IUGG-1506)
Peter Henkel (Germany)

G08p-061  GNSS reflectometry for tide gauge levelling (IUGG-1619)
Alvaro Santamaria-Gomez (Spain)

G08p-062  Validation of altimetry-derived Ocean Dynamic Topography by in-situ measurements of ocean currents (IUGG-1698)
Denise Dettmering (Germany)

G08p-063  Modeling the response of the Mediterranean sea level to global and regional climatic phenomena (IUGG-1874)
Georgios Vergos (Greece)

G08p-064  GGOS Theme 3: Understanding and Forecasting Sea-Level Rise and Variability (IUGG-1941)
Tilo Schone (Germany)

G08p-065  Subsidence Monitoring with GNSS-controlled Tide Gauges in Indonesia (IUGG-2224)
Julia Illigner (Germany)

G08p-066  Impact of Limited Multi-GNSS Visibility on Vertical Land Movement Estimates (IUGG-2508)
Kibrom Ebuy Abraha (Luxembourg)

G08p-067  Water in Central Asia - Lake and Reservoir Level Monitoring with Radar Altimetry (IUGG-2636)
Tilo Schone (Germany)

G08p-068  Tide gauge benchmark monitoring – The IGS TIGA project (IUGG-2801)
Tilo Schone (Germany)

G08p-069  Observing and interpreting sea level variations with focus on the Northeastern Adriatic (IUGG-3002)
Susanna Zerbini (Italy)

G08p-070  Mean Sea Level determination in Deception and Livingston Islands (Antarctica) and its contribute to estimate a precise local geoid (IUGG-3162)
Goncalo Prates (Portugal)

G08p-071  The WHU2013 global mean sea surface height model (IUGG-3866)
Taoyong Jin (China)

G08p-072  Satellite altimetry Calibration/Validation at the Australian Bass Strait site in the context of the new missions Jason-3 and Sentinel-3 (IUGG-4114)
Benno Legresy (Australia)

G08p-073  GNSS observation of semi-diurnal and quarter diurnal ocean tidal loading waves (IUGG-4149)
Jean-Paul Boy (France)

G08p-074  Mediterranean Steric Sea Level (SSL) variations between 1993-2014 (IUGG-4342)
Maria Dolores Sempere Beneyto (Spain)

G08p-075  Mediterranean sea level variability derived by wavelet multiresolution analysis (IUGG-4416)
Sofiane Khelifa (Algeria)

G08p-076  ICESat Laser Validation with Airborne LiDAR in SONMICH-BCN (IUGG-4630)
Juan Jose Martinez-Benjamin (Spain)

G08p-077  Temporal evolution analysis of imbituba brazilian vertical datum from tide gauge, GNSS observations and satellite altimetry (IUGG-4663)
Luciana Da Silva (Brazil)

G08p-078  Calibration of the tide gauge at King Edward Point, South Georgia Island, South Atlantic Ocean (IUGG-4912)
Felix Norman Tefere (Luxembourg)

G08p-079  Mean sea surface determination in the Arctic Ocean using CryoSat-2 observations (IUGG-4920)
Lars Stenseng (Denmark)

G08p-080  Analysis of tide-gauge data and correlation with flooding incidents in the UK (IUGG-5282)
Panagiotis Pismoulis (United Kingdom)

G08p-081  Analysis of coastal inundation using geodetic data and tsunami model: a case study in Taiwan (IUGG-5117)
Pin-Chieh Chen (Taiwan)

GGOS Theme 3: Understanding and Forecasting Sea-Level Rise and Variability

Tilo Schone (Germany)

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IAG (Geodesy) 15:00-16:30, Poster Area (Foyer)

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Pin-Chieh Chen (Taiwan)
**IAHS (Hydrology)**

**HS02 Hydrologic Non-Stationarity and Extrapolating Models to Predict the Future**

**HS02p**

**HS02p-028** Non-stationarity driven by long-term change in catchment storage: Possibilities and implications  
Jai Vaze (Australia)

**HS02p-029** Analysis on domestic water demand in Haihe river basin of China under future environmental changes (IUGG-0016)  
Xiaoqun Wang (China)

**HS02p-030** Streamflow predictions in regulated river systems: Hydrological non-stationarity versus anthropogenic water use  
Jai Vaze (Australia)

**HS02p-031** Scaling behaviour in the relationship between land use changes and flood regime (IUGG-0038)  
Luis Pena (Spain)

**HS02p-032** Advanced modelling of hydrologic non-stationarity and its role on improvement in biogeochemical cycle in inland water (IUGG-0040)  
Tadanobu Nakayama (Japan)

**HS02p-033** Comparison of nonstationary generalized logistic models based on Monte Carlo simulation (IUGG-0045)  
Sooyoung Kim (Korea, Republic of Korea)

**HS02p-034** Drought Assessment and Trends Analysis from 20th Century to 21st Century over China (IUGG-0084)  
Xiaoli Yang (China)

**HS02p-035** The evaluation of regional frequency analysis methods for nonstationary data (IUGG-0086)  
Woosung Nam (Korea, Republic of Korea)

**HS02p-036** Characterization of the space-time variability of annual precipitations in the area of the upstream Boughezoul (IUGG-0090)  
Benina Touallia (Algeria)

**HS02p-037** Non-stationarity in extreme daily rainfall and its impact on reservoirs operation rules (IUGG-0093)  
Mohammed Al Saij (Ireland)

**HS02p-038** Method of determining characteristics maximum spring flood runoff in Ukraine in view of global and regional climate change (IUGG-0094)  
Valeriy Ovcharuk (Ukraine)

**HS02p-039** Evaluation of monotonic trends for streamflow in austral Amazon, Brazil: a case study for the Xingu and Tapajós rivers (IUGG-0096)  
Leonardo Zandonadi Moura (Brazil)

**HS02p-040** Non-stationarity of Owo River catchment in South Western Nigeria (IUGG-0135)  
Olabunmi Adenug (Nigeria)

**HS02p-041** Evaluation for the effect of non-stationary nutrient transport on the coastal seaweed cultivation in western Japan (IUGG-0140)  
Mitsuyo Saito (Japan)

**HS02p-042** Detection of climate change using statistical tests in the Dorudzan Dam Basin, Iran (IUGG-0143)  
Reza Afshin Shariﬁan (Iran)

**HS02p-043** Discrete wavelet transform coupled with ANN for daily discharge forecasting into Três Marias reservoir using TRMM data (IUGG-0149)  
Celso Santos (Brazil)

**HS02p-044** Non-stationary statistical modeling of maximum annual floods in the Cauca river, Colombia. Inﬂuence of climate variability and reservoirs operation rules (IUGG-0150)  
Ruth Karime Sedano Cruz (Columbia)

**HS02p-045** Effects of precipitation and potential evaporation on actual evapotranspiration over the Laohahe basin, northern China (IUGG-0153)  
Liliang Ren (China)

**HS02p-046** Monitoring and modeling of slope processes in a dynamic watershed – combining hydrology, soil science, remote sensing and geomorphology (IUGG-0157)  
Fabian Neugirg (Germany)

**HS02p-047** Estimation of the climate change effect on the long-term variation in river water temperature in a temporal snow-covered watershed (IUGG-0159)  
Yutaka Maruyama (Japan)

**HS02p-048** Land cover and climate change effects on streamflow and sediment yield: a case study of Tapacurá catchment, Brazil (IUGG-0165)  
Richarde Silva (Brazil)

**HS02p-049** Coupled regional climate and hydrological modeling system for analysis of climate hydrology interactions in mountainous watersheds in Northwest China (IUGG-0170)  
Chansheng He (USA)

**HS02p-050** Inﬂuence of climate variability on large rivers runoff (IUGG-0174)  
Bakhram Nurtaev (Germany)

**HS02p-052** Modelling experiments to assess implications of hydrologic non-stationarity on model predictions (IUGG-0180)  
Jai Vaze (Australia)

**IAHS (Hydrology)**

**HW07 Control of Water Resource Systems**

**HW07p**

**HW07p-053** Vulnerability assessment of drinking water production facility to chemicals from watershed (IUGG-1187)  
Sang-II Lee (Korea, Republic of Korea)

**HW07p-054** Downstream accentuation of hydrological alterations by dams in heavily regulated basins of Catalonia, Spain (IUGG-1752)  
Juan Ignacio López-Moreno (Spain)

**HW07p-055** Application of controlled breaching scenarios in fl ood risk management (IUGG-2534)  
Joanna Doroszkiewicz (Poland)

**HW07p-056** Determining the soil layer depth of a green roof (IUGG-2915)  
Jeonghoon Lee (Korea, Republic of Korea)
### Joint Inter-Association Symposia

**15:00-16:30, Poster Area (Foyer)**

**JAS Physical Processes Prior to and During Earthquakes, Reliability of Precursors (IAGA, IASPEI)**

#### JA05p

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<td>Study of seismic electromagnetic signals and their relation with tectonophyscs in the central region of Colombia</td>
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<td>Scrutiny of non-seismic multi-Geophysical time series of Garhwal Himalaya for earthquake precursory research</td>
<td>Naresh Kumar (India)</td>
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<td>JA05p-076</td>
<td>Variability of seismo-atmospheric-ionospheric coupling: Dependence on the atmospheric conditions</td>
<td>Elvira Astafyeva (France)</td>
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<td>JA05p-077</td>
<td>Short-term warnings for moderate earthquakes based on cluster location of small magnitude events in Vrancea (Romania)</td>
<td>Angiela Constantin (Romania)</td>
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<td>JA05p-078</td>
<td>Anomalies in geomagnetic secular variations and their relationship to tectonic processes around Japan islands, revisited</td>
<td>Ken’ichi Yamazaki (Japan)</td>
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<td>JA05p-079</td>
<td>EMSEV - RAS Bishkek Research Station cooperation on electrical and seismic phenomena in Kyrgyzstan: 2011-2014</td>
<td>Alexey Ostapchuk (Russia)</td>
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<td>JA05p-080</td>
<td>Geo-electrical potential variation observed in the Erino area associated with 2011 Tohoku Earthquake and Tsunami</td>
<td>Toru Mogi (Japan)</td>
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<td>JA05p-081</td>
<td>Ionospheric images of seismic fault. The M7.3 pre-Tohoku earthquake</td>
<td>Ksenia Shults (Russia)</td>
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<td>JA05p-082</td>
<td>Automated hourly process for global ionospheric map using near-real-time spaceborne and ground GPS observables</td>
<td>Hu-Fang Tsai (Taiwan - China)</td>
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<td>JA05p-083</td>
<td>Inversion of tsunami height using ionospheric observations. The case of the 2012 Haida Gwaii tsunami and earthquake</td>
<td>Rakoto Virgile (France)</td>
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<td>JA05p-084</td>
<td>Ionospheric electron enhancement 20-80 minutes before large earthquakes: Examples from 8 earthquakes with Mw 8.2-9.2</td>
<td>Kosuke Heki (Japan)</td>
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Joint Inter-Association Symposia 15:00-16:30, Poster Area (Foyer)

**JC1 Sea Ice in the Arctic and Southern Oceans (IACS, IAMAS, IAPSO)**

JC01p

JC01p-084 Large-scale patterns of Arctic sea ice variability and links to climatic forcing (#IUGG-0760)
Antoine Martin (France)

JC01p-085 Impact of sea ice cover on phytoplankton primary production in polar seas: The case study of the Barents Sea (#IUGG-2702)
Vladimir Ryabchenko (Russia)

JC01p-086 Impact of the resolution on the simulation of sea ice using NEMO-LIM3 (#IUGG-3265)
Jonathan Raulier (Belgium)

JC01p-087 Operation IceBridge data products and access: data management and airborne campaigns (#IUGG-4911)
Steve Tanner (USA)

JC01p-088 The impact of surface mixing on the Arctic river water distribution and stratification in global models (#IUGG-5086)
Yoshiki Komuro (Japan)

JC01p-089 Sea ice of the Eurasian Arctic seas from models and historical data (#IUGG-5190)
Leonid Bobylev (Russia)

Joint Inter-Association Symposia 15:00-16:30, Poster Area (Foyer)

**JM3 Geochemical Process and Cycles (IAMAS, IAPSO, IAVCEI, IAHS, IACS)**

JM03p

JM03p-531 Uncertainty of sulfate aerosols against differences between host climate models (#IUGG-2280)
Daisuke Goto (Japan)

JM03p-532 Rapid economic growth leads to boost in NO2 pollution over India, as seen from space (#IUGG-2451)
Andreas Hilboll (Germany)

JM03p-533 Detected methane emissions from landfills in the Los Angeles Basin during the COMEX campaign by airborne remote-sensing and in-situ measurements (#IUGG-3225)
Sven Krautwurst (Germany)

JM03p-534 Impacts of manufactured nanomaterials on marine ecosystem: Toxicity and interaction with the existing pollutants (#IUGG-3554)
Xiaoshan Zhu (China)

JM03p-535 Space-borne measurement of sun-induced terrestrial plant fluorescence (#IUGG-3736)
Narges Khosravi (Germany)

JM03p-536 Evaluation of the terrestrial carbon cycle under nitrogen limitation in the common land model (#IUGG-5609)
Qian Zhang (China)

JM03p-537 Impact of central European cities emissions on the regional air-quality (#IUGG-5635)
Tomás Halenka (Czech Republic)

Joint Inter-Association Symposia 15:00-16:30, Poster Area (Foyer)

**JP1 Sea Level Change and Variability: Past, Present and Future (IAPSO, IAG, IACS)**

JP01p

JP01p-091 Celebrating 30 years of the South Atlantic Tide Gauge Network (#IUGG-1107)
Philip Woodworth (United Kingdom)

JP01p-092 New and improved data products from the Permanent Service for Mean Sea Level (#IUGG-2394)
Svetlana Jevrejeva (United Kingdom)

JP01p-093 Altimetry based global estimates of propagating wave characteristics compared to predictions by linear theory based on climatological hydrographic data (#IUGG-2514)
Bendix Vogel (Germany)

JP01p-094 Contribution of inter-annual wind stress variability to recent global and basin-averaged steric sea level changes (#IUGG-2834)
Tatsuo Suzuki (Japan)

JP01p-095 Sources of Spread in Multi-model Projections of the Greenland Ice-Sheet (#IUGG-2904)
Fuyuki Saito (Japan)

JP01p-096 Predictibility of regional sea level on seasonal-to-decadal time scales in a global climate model (#IUGG-3124)
Chris Roberts (United Kingdom)

JP01p-097 Sensitivity of sea-level rise reconstruction from 1900 to present (#IUGG-4107)
Benoit Legresy (Australia)

JP01p-098 The regional sea surface height response to volcanic eruptions in CMIP5 models (#IUGG-4319)
Kristin Richter (Australia)

JP01p-099 Recent and future sea level changes in the Eastern Pacific and US West-Coast: new insights from observations and CMIP5 models (#IUGG-4844)
Felix Landerer (USA)

JP01p-100 The praia grande sea level limits (#IUGG-5783)
A. R. Mesquita (Brazil)

JP01p-611 Extreme sea levels along the coast of the Baltic Sea (#IUGG-2108)
Evgeni Kulikov (Russia)
Joint Inter-Association Symposia

JS06/JP06 Array Techniques for Monitoring the State of the Earth (IASPEI, IAPSO, IAGA) / Acoustical Oceanography (IASPEI, IAPSO)

JS06p

JS06p-538 Advances in subterranean electric instrumentation applying on a global scale (#IUGG-0531)
Vadim Bobrovskiy (Russia)

JS06p-539 The NORSAR Long Period Detector: a tool for surface waves detection and parameter extraction (#IUGG-0643)
Nicolas Luca Celli (Italy)

JS06p-540 Regional seismic monitoring using 3-C array (#IUGG-1513)
Irina Sanina (Russia)

JS06p-541 Improvement of the automated data processing system at KNDC (#IUGG-1645)
Dmitry Gordenko (Kazakhstan)

JS06p-542 Localization of Infrasound Event Epicenters with use of the Data of Two Kazakhstan Infrasound Arrays (#IUGG-1870)
Alexandr Smirnov (Kazakhstan)

JS06p-543 The experience of seismic monitoring of Nuclear Power Plants territory with small seismic array (#IUGG-2225)
Svetlana Kishkina (Russia)

JS06p-544 On analytical computation of acoustic scattering by prolate and oblate spheroids and its applications to ocean acoustics (#IUGG-2272)
Silvia Blanc (Argentina)

JS06p-545 Depth estimation of Hindu Kush earthquakes using 3D backprojection of kurtosis processed regional P-waves (#IUGG-2911)
Garrett Euler (USA)

JS06p-546 Northern Finland seismological network: A tool to analyse long-period seismological signals (#IUGG-2983)
Elena Kozlovskaya (Finland)

JS06p-547 Geoacoustics in a canyon system (#IUGG-3250)
Roberta Ivaldi (Italy)

JS06p-548 The upgraded ENIGMA magnetometer array (#IUGG-3600)
George Balais (Greece)

JS06p-549 Deconvolution enhanced direction of arrival estimation applied to ocean induced microseisms (#IUGG-3724)
Martin Gal (Australia)

JS06p-550 Improving estimates of transfer functions for electromagnetic arrays using multivariate approach (#IUGG-3745)
Maxim Smirnov (Finland)

JS06p-551 Improved detection and parameter estimation for regional S-phases using the fully 3-component ARCES array (#IUGG-4631)
Steven J. Gibbons (Norway)

JS06p-552 A new digital system of pinger control of deep-water oceanographic devices (#IUGG-5141)
Tatiana Demidova (Russia)

JS06p-553 High-resolution variations of teleseisms recorded by a highly-dense array on the San Jacinto fault zone (#IUGG-5725)
Francis Wu (USA)

IAMS (Meteorology)

M01 Clouds, Precipitation and Aerosols and their Influence on Climate at High Latitudes, including the Role of the Southern Ocean and Sea Ice

M01p

M01p-101 The spectral transparency of the surface layer marine atmosphere (#IUGG-0229)
Gennady Kaloshin (Russia)

M01p-103 Scanning electron microscopy of aerosol particles on the White Sea coast (#IUGG-1280)
Dina Starodymova (Russia)

M01p-104 The Antarctic Clouds and Radiation Experiment at Macquarie Island (54S) and Davis (69S) (#IUGG-1659)
Simon Alexander (Australia)

M01p-105 High Latitude CCN Measurements in the Arctic and Antarctic Region (#IUGG-2189)
Heike Wex (Germany)

M01p-106 An Evaluation of Boundary Layer Cloud Forecasts over the Southern Ocean in a Limited-area Numerical Weather Prediction System (#IUGG-2520)
Steven Siems (Australia)

M01p-108 Comparing microphysical conditions of high-latitude low-level maritime clouds in the northern and southern hemispheres (#IUGG-2805)
Thomas Chubb (Australia)

M01p-109 A combined microwave and infrared retrieval for measuring liquid water path in the Arctic (#IUGG-3419)
Giandomenico Pace (Italy)

M01p-110 A-train observations of maritime mid-latitude storm-track cloud systems: Comparing the Southern ocean against the north Atlantic (#IUGG-3463)
Yi Huang (Australia)

M01p-111 Windsat observations of Southern ocean cyclone structure (#IUGG-3883)
Adrian McDonald (New Zealand)

M01p-112 Non-stationary Relationship between Cloud Radiative Forcing and Sea Ice Concentration in the Arctic Ocean during Summer (#IUGG-4100)
Hyeewong Jang (Korea, Republic of Korea)

M01p-113 Aerosol physical properties studied in Spitsbergen (#IUGG-4499)
Dorota Gutowska (Poland)

M01p-114 Poleward moisture transport in Antarctica: an objective look (#IUGG-4921)
Maria Tsuchemik (USA)
Saturday, June 27

**IAPSO (Physical Oceanography)**

15:00-16:30, Poster Area (Foyer)

**P01 General Topics on the Physical Science of the Oceans**

**P01p**

P01p-554 Quasi-decadal variation of volume transport-weighted temperature of the North Pacific subtropical interior flow during 1993-2012 (IUGG-0319)
Akira Nagano (Japan)

P01p-555 Influence of the Arctic Ocean surface layer processes on the sea ice cover (IUGG-0415)
Ekaterina Cherniavskaja (Russia)

P01p-556 Pathways of iron in the tropical Pacific (IUGG-0691)
Xuering Qin (Australia)

P01p-557 The DEBOT model, a new global barotropic ocean tidal model: test computations and the application in related geophysical disciplines (IUGG-1192)
David Einspigel (Czech Republic)

P01p-558 Remote contribution to the recent warming trend in the tropical Atlantic (IUGG-2177)
Jonathan Durgadoo (Germany)

P01p-559 Lagrangian evolution of a mid ocean anticyclonic eddy (IUGG-3189)
Diana Grisolia-Santos (Spain)

P01p-560 Intercomparison of salinity minimum water in the North Pacific simulated by climate models (IUGG-3202)
HongSik Min (Korea, Republic of Korea)

P01p-561 Seasonal variation of the Pacific water intrusion into Otsuchi Bay, northeast of Japan; a numerical simulation with an OGCM (IUGG-3859)
Takashi Sakamoto (Japan)

P01p-562 ENSO and southern oscillation-pacific decadal oscillation connections in paleoclimate intercomparison project phase 3 (IUGG-4218)
MinHo Kwon (Korea, Republic of Korea)

P01p-563 The anisotropy of ocean eddies (IUGG-4719)
Julien Le Sommer (France)

P01p-564 Interannual zonal displacement of the formation region of the North Pacific Central Mode Water (IUGG-4927)
Toshio Suga (Japan)

P01p-565 Analysis of shoreline change in Sodol beach (IUGG-5251)
Inho Kim (Korea, Republic of Korea)

P01p-566 Development of ocean model LSOMG (IUGG-5292)
Libor Sach (Czech Republic)

P01p-567 Evaluation of a tracer conservation method in a two-way global nested-grid ocean model (IUGG-5376)
Masao Kurogi (Japan)

P01p-568 Mixing of water masses in an intrathermocline eddy (IUGG-5532)
Ángeles Marrero-Díaz (Spain)

P01p-569 Analysis of rip currents occurrence in Cheonjin beach (IUGG-5597)
Kim JinHoon (Korea, Republic of Korea)

P01p-570 Analysis of shoreline change in Anmok beach (IUGG-5670)
Nam Jung Min (Korea, Republic of Korea)

**IAPSO (Physical Oceanography)**

15:00-16:30, Poster Area (Foyer)

**P09 The North Atlantic and Climate Change**

**P09p**

P09p-115 Application of the d18O as tracer of fresh water masses in the Fram Strait (IUGG-0241)
Irina Semenyyuk (Russia)

P09p-116 Sources, variability and pathways of the Denmark Strait Overflow Water (DSOW) in an eddy-resolving resolution model (IUGG-0249)
Erik Behrens (New Zealand)

P09p-117 Solar wind: A possible trigger to result in the tripolar SST mode over the North Atlantic (IUGG-0355)
Ziniu Xiao (China)

P09p-118 Influence of Arctic freshwater inflow on thermohaline anomalies in Northwest Atlantic and Nordic Seas (IUGG-0431)
Anastasia Viazilova (Russia)

P09p-119 North Atlantic wave climate and storms: the SW Spanish and Wales coasts examples (IUGG-0626)
Nelson Guillermo Rangel Buitrago (Columbia)

P09p-120 Multiple steady solutions of a model subpolar ocean forced by localized wind (IUGG-0761)
Thomas Haine (USA)

P09p-121 A simple model of ocean dynamics in Nares Strait (IUGG-1924)
Renske Gelderloos (United Kingdom)

P09p-122 Impact of Barents Sea air-sea exchanges on Fram Strait dense water transport (IUGG-1986)
Ben Moat (United Kingdom)

P09p-123 A modeling study on the inflow of the Atlantic Water to the Arctic Ocean (IUGG-2466)
Takao Kawasaki (Japan)

P09p-124 Sea-level fluctuations show ocean circulation controls Atlantic multi-decadal variability (IUGG-2939)
David Smeed (United Kingdom)

P09p-125 Dissolved Inorganic Carbon budget in the eastern Subpolar North Atlantic in the 2000s: Anthropogenic perturbation versus biological activity (IUGG-2958)
Patricia Zunino (France)

P09p-126 Arctic oscillation or atlantic multidecadal oscillation: Oceanic or atmospheric influences on the arctic temperatures? (IUGG-4517)
Renske Gelderloos (United Kingdom)

P09p-127 The Mediterranean overflow water and its effect on the north Atlantic (IUGG-5165)
Erik Behrens (New Zealand)

P09p-128 Recent hydrographic variability along the outer continental margin off Atlantic Canada (IUGG-5623)
Igor Vashyayev (Canada)
Saturday, June 27

IASPEI (Seismology, Geophysics)

15:00-16:30, Poster Area (Foyer)

S01d Seismological Observation and Interpretation: Macroseismology and Historical Earthquakes

S01dp

15:00-16:30, Poster Area (Foyer)

S01d Experimental Studies of Volcanic Systems

15:00-16:30, Poster Area (Foyer)

S02 50 Years of the ISC Service to Seismology

15:00-16:30, Poster Area (Foyer)

Union Symposia

15:00-16:30, Poster Area (Foyer)

U11 Early Career Scientists Symposium

15:00-16:30, Poster Area (Foyer)

IAVCEI (Volcanology, Geochemistry)

15:00-16:30, Poster Area (Foyer)

VS08 Experimental Studies of Volcanic Systems

15:00-16:30, Poster Area (Foyer)

VS22 Volcanic Risk - Bridging Hazard Assessment, Modeling Volcanic Processes, and Society

15:00-16:30, Poster Area (Foyer)

IASPEI (Seismology, Geophysics)

15:00-16:30, Poster Area (Foyer)

S02 50 Years of the ISC Service to Seismology

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IAVCEI (Volcanology, Geochemistry)

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VS08 Experimental Studies of Volcanic Systems

15:00-16:30, Poster Area (Foyer)

VS22 Volcanic Risk - Bridging Hazard Assessment, Modeling Volcanic Processes, and Society

15:00-16:30, Poster Area (Foyer)
Sunday, June 28

A11 Electrodynamics and Energetics of the Middle Atmosphere Exploration with Ground and Space Experiments (Div. II-A)

A11p

A11p-132 The axially-symmetric plasma-chemical model of sprite (#IUGG-0621)
Andrey Evtushenko (Russia)

A11p-133 Atmospheric background and burst gamma radiation recorded on board the Russian Segment of the International Space Station (#IUGG-0820)
Vladimir Kuznetsov (Russia)

A11p-134 Semi-annual oscillation (SAO) of the nighttime ionospheric D-region, detected through ground-based VLF receivers (#IUGG-1267)
Israel Silver (Israel)

A11p-135 Geophysical surveys in Hessdalen valley (Norway): New light on Hessdalen lights (#IUGG-1367)
Jacques Zlotnicki (France)

A11p-136 Overview of the transient luminous events in Hessdalen, Norway (#IUGG-1593)
Erling Strand (Norway)

A11p-137 Broad band high frequency analyzer for measurements of lightning-induced signals onboard the TARRANIS satellite (#IUGG-1790)
Ondrej Sontak (Czech Republic)

A11p-138 Sprites observed by all-sky cameras in Slovakia (#IUGG-2627)
Adriena Ondraskova (Slovak Republic)

A11p-139 Variations of the natural neutron flux (0.02 Ev–10 MeV) observed at ground level in the Brazilian tropics: Possible causes (#IUGG-3597)
Martin Alves (Brazil)

A11p-140 Two methods of the Schumann resonance modal frequencies determination (#IUGG-3902)
Adriena Ondraskova (Slovak Republic)

A11p-141 Map of low frequency electromagnetic noise in the sky (#IUGG-5425)
Martin Fullekrug (United Kingdom)

A11p-142 Theoretical model of unipolar and bipolar trains of magnetic field pulses preceding lightning discharges (#IUGG-5756)
Petr Kaspar (Czech Republic)

IAGA (Aeronomy, Geomagnetism)

A12 Coupling Processes in the Atmosphere-Ionosphere System (Div. II-C/ICMA/SCOSTEP)

A12p

A12p-143 The sudden stratospheric warmings: signatures in the thermosphere/ionosphere (#IUGG-0350)
Edward Kazimirovsky (Russia)

A12p-144 Morphological features of the north and south Equatorial Ionization Anomaly crests near the 120°E sector (#IUGG-0423)
Donghe Zhang (China)

A12p-145 Study on medium-scale gravity waves using airglow images and satellite data (#IUGG-0438)
Igo Paulino (Brazil)

A12p-146 Mesosphere and ionospheric responses during sudden stratospheric warming events at low and high solar activity (#IUGG-0461)
Sathishkumar Sundararaman (India)

A12p-147 Impact of midnight temperature maximum dynamics on the Nighttime equatorial vertical drifts (#IUGG-0524)
Tzu-Wei Fang (USA)

A12p-148 Characterization of seasonal and longitudinal variability of Equatorial electrojet in the Indian region (#IUGG-0585)
Phani Chandrasekhar (India)

A12p-149 Variability of Equatorial Counter Electrojet observations in the Indian region (#IUGG-0587)
Phani Chandrasekhar (India)

A12p-150 WAVE-4 pattern of the plasma bubble statistics: modulation effect from troposphere (#IUGG-0744)
Larisa Sidorova (Russia)

A12p-151 Post seismic ionospheric response to the 11 April 2012 East Indian Ocean doublet earthquake (#IUGG-0750)
SUNIL KUMAR A S (India)

A12p-152 Czech-lead international network of ionospheric Doppler shift measurements and results towards gravity and infrasonic waves (#IUGG-0924)
Tereza Sindelarova (Czech Republic)

A12p-153 Observations of wave activity in the ionosphere on geomagnetically quiet and disturbed days (#IUGG-1929)
Jan Lastovicka (Czech Republic)

A12p-154 The stratosphere jet stream effects in variations of ionosphere parameters according to vertical radio sounding data (#IUGG-1940)
 Boris Shpynev (Russia)

A12p-155 Coherent structures in the Es layer and neutral middle atmosphere (#IUGG-2048)
Zbynek Mosna (Czech Republic)

A12p-156 Wave-like structures within ionospheric drift data series (#IUGG-2127)
Daniel Koubal (Czech Republic)

A12p-157 Wave activity seasonal dependence in variations in parameters of the neutral upper atmosphere and ionosphere (#IUGG-2366)
Irina Medvedeva (Russia)

A12p-158 Influence of major sudden stratospheric warming on the neutral upper atmosphere and ionosphere over Eastern Siberia (#IUGG-2578)
Irina Medvedeva (Russia)

A12p-159 Variability of the ionosphere over Eastern Siberia, according to the oblique incidence sounding data (#IUGG-2759)
Vladimir Kurkin (Russia)

Fedor Bessarab (Russia)

A12p-161 Testing SKYMET Meteor Radar capability for inferring vertical winds in the MLT region (#IUGG-3092)
Vanja Fatima Andrioli (Brazil)
A12p-162 Influence of meteorological systems on the ionosphere over Europe ([#IUGG-4039])
Petra Koucka Knizova (Czech Republic)

A12p-163 Wind and airglow irradiance correlations observed at the polar environment atmospheric research laboratory ([#IUGG-4971])
William Ward (Canada)

A12p-164 Seasonal, diurnal, and solar cycle variations of the thermospheric neutral mass density structure in low latitudes ([#IUGG-5080])
Young-Sil Kwak (Korea, Republic of Korea)

A12p-165 Airglow structures of mesospheric mesoscale wave observed from the International Space Station ([#IUGG-5442])
Yuta Hozumi (Japan)

A12p-166 Current status of Equatorial MU Radar project ([#IUGG-5500])
Mamoru Yamamoto (Japan)

A12p-167 Ice Sheet - stratosphere coupling at mid-latitudes during the 2013 stratospheric warming ([#IUGG-5708])
Galina Gordiyenko (Kazakhstan)

IAGA (Aeronomy, Geomagnetism) 15:00-16:30, Poster Area (Foyer)
A25 Auroral Processes (Div. III)
A25p

A25p-168 The response of the nighttime aurora to the negative Si impulse ([#IUGG-0955])
Valdimir Belakhovskiy (Russia)

A25p-169 Undergraduate Student Instrumentation Project (USIP) to develop new technology to Study the aurora and stratospheric chemistry using ultralight balloon payloads ([#IUGG-1680])
Edgar Bering (USA)

A25p-170 Statistical decomposition of auroral images measured by the ASK1 imager ([#IUGG-2216])
Mervyn Freeman (United Kingdom)

A25p-171 Omega-like auroral undulations observed during the late recovery phase of a substorm ([#IUGG-4366])
Costel Bunescu (Romania)

A25p-172 Night-time Pc3 pulsations ([#IUGG-5027])
Nataliya Nosikova (Russia)

IAGA (Aeronomy, Geomagnetism) 15:00-16:30, Poster Area (Foyer)
A36 Planetary Magnetic Fields and Geomagnetic Secular Variation (Div. V/Div. I)
A36p

A36p-173 On the traveling speeds of the ~80-year variation field features at the top of the core ([#IUGG-0591])
Cristiana Stefan (Romania)

A36p-174 Some evidence for a Turbulent Diffusion in the Geodynamo from geomagnetic global models of the last few millennia ([#IUGG-0808])
Enrico Filippi (Italy)

A36p-175 Stochastic predictions for the Earth magnetic field ([#IUGG-0839])
Olivier Barrois (France)

A36p-176 Further examination of the geoelectromagnetic jerk hypothesis ([#IUGG-1893])
Hisayoshi Shimizu (Japan)

A36p-177 Decomposition of geomagnetic repeat station data for Bulgaria ([#IUGG-2065])
Metodi Metodiev (Bulgaria)

A36p-178 Are geomagnetic data consistent with stably stratified flow at the core-mantle boundary? ([#IUGG-2544])
Kathy Whaler (United Kingdom)

A36p-179 GRIMM. 42: The latest version of the GRIMM series of magnetic field models ([#IUGG-2573])
Vincent Lesur (Germany)

A36p-180 Correlation based modelling of the Earth magnetic field ([#IUGG-2858])
Vincent Lesur (Germany)

A36p-181 The magnetization distribution responsible for the observed Martian magnetic field ([#IUGG-4306])
Foteini Vervelidou (Germany)

A36p-182 Swarm SCARF Comprehensive Inversion Chain - First Results ([#IUGG-4345])
Lars Tøffner-Clausen (Denmark)

A36p-183 Analysis of geomagnetic observatory data regarding the occurrence of geomagnetic jerks and inferences on their properties ([#IUGG-5616])
Erik Poller (Germany)

IACS (Cryosphere) 15:00-16:30, Poster Area (Foyer)
C06 Ice Sheet and Ocean Interactions on Multiple Scales
C06p

C06p-184 Parametrization of melting along the calving face of Jacobshavn Glacier, Greenland ([#IUGG-3327])
Pierre Mathiot (United Kingdom)

C06p-185 Effect of tides and eddies on Ross Ice Shelf basal melt from a regional ocean model ([#IUGG-4419])
Stefanie Mack (USA)

C06p-186 Response of the cryosphere to ocean warming below Filchner Ronne Ice Shelf ([#IUGG-4560])
Ralph Timmermann (Germany)

C06p-187 Paleo-environments analysis based on marine microfossils, admiral bay, King George island, antarctica maritime ([#IUGG-4945])
Rosemary Vieira (Brazil)
### Sunday, June 28

#### IAG (Geodesy) 15:00-16:30, Poster Area (Foyer)

**G01 Reference Frames**

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<td>Effect of combining GNSS and SLR measurements via their space-ties on the definition of the terrestrial reference frame parameters (#IUGG-2977)</td>
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<td>Progress in determining ties between kinematic and dynamic reference frames through differential very long baseline interferometry (#IUGG-3599)</td>
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<td>Evolution of DORIS data processing at analyses center GOP (#IUGG-4510)</td>
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**Sunday, June 28**

**IAHS (Hydrology)**

**15:00-16:30, Poster Area (Foyer)**

**HW17 Hydrological Forecasting and Predictive Uncertainty: Advances and Challenges of Transferring Science into Operational Practice**

**HW17p**

- **HW17p-188** Artificial Neural Networks based modelling for flood hazard zonation in response to mitigation of extreme hydrological events in Ilorin, Nigeria (IUGG-5212) 
  *Levi Nwankwo* (Nigeria)

- **HW17p-189** Ensemble streamflow simulations based on multiple parameter sets in the Huahe River basin (IUGG-0323) 
  *Ruochen Sun* (China)

- **HW17p-190** Identifying useful information in climate indices oscillations by means of Ensemble Empirical Mode Decomposition to improve precipitation forecasting (IUGG-0797) 
  *Oguchanri Rim* (Nigeria)

- **HW17p-191** A Demonstration of BNU Hydrological Ensemble Prediction System in the Yangtze River Basin (IUGG-1675) 
  *Qingyun Duan* (China)

- **HW17p-192** Ensemble river flow prediction by coupling a distributed hydrological model and an analogue-based ensemble meteorological prediction system (IUGG-2322) 
  *Philippe Crochet* (Belgium)

- **HW17p-193** An inverse algorithm to identify inundation zone triggered by dam failure (IUGG-2521) 
  *K Lee* (Korea, Republic of Korea)

- **HW17p-194** Research and operational efforts to face the challenge of providing forecasts with uncertainties in France in 2015 (IUGG-2961) 
  *Carina Furusho* (France)

- **HW17p-195** Severity-duration-frequency analysis of droughts: A planning tool for post-mining ecosystem restoration (IUGG-3504) 
  *Sven Arnold* (Australia)

- **HW17p-196** Evaluating the effects of lake and reservoir parameterization in a global river routing model on uncertainty of daily river discharge (IUGG-3892) 
  *Beatriz Revilla-Romero* (Italy)

- **HW17p-197** Probabilistic hydrological forecasting on the Rhône River: How to ensure spatial and temporal coherence? (IUGG-4288) 
  *Joseph Bellier* (France)

- **HW17p-198** A long-term simulation of regional climate model using three reanalysis datasets and its evaluation with river runoffs in Japan (IUGG-4848) 
  *Xinyao Ma* (Japan)

- **HW17p-199** Development of a drought forecasting system and reservoir management model for water supply: Case-study of the Arzal Dam (Brittany, France) (IUGG-4583) 
  *Louise Crochonmore* (France)

- **HW17p-200** Hydrological model complexity as stability of underlying system representation (IUGG-5156) 
  *Saket Pande* (Netherlands)

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**Joint Inter-Association Symposia**

**15:00-16:30, Poster Area (Foyer)**

**JAS Data on the Edge: Preservation and Utilization of Historical Data in the Geosciences (IAGA, IASPEI, IAMAS, IAG, IAHS, IACS)**

**JA06p**

- **JA06p-201** Evaluation of the accuracy of Robert Sterneck’s gravity pendulum measurements in the Czech territory (IUGG-2567) 
  *Martin Lederer* (Czech Republic)

- **JA06p-202** Rescue of Historical Data in the World Data Center for Solid Earth Physics (IUGG-2585) 
  *Mikhail Nisilevich* (Russia)

- **JA06p-203** Historical geophysical data of two Austrian (research) expeditions during the 19th Century (IUGG-3331) 
  *Bruno Besser* (Austria)

- **JA06p-204** From historical to modern seismology: The case of the 1917 Monterchi (Italy) earthquake (IUGG-3830) 
  *Thomas Braun* (Italy)

- **JA06p-205** Using historical data to determine the past seismicity in Georgia (IUGG-4051) 
  *Nino Tsereteli* (Georgia)

- **JA06p-206** Preservation of historical tsunami data: Know the past to better understand the future (IUGG-4117) 
  *Kelly Stroker* (USA)

- **JA06p-207** ERS-ENVISAT compatible altimetry for longer term, coherent, continental surfaces studies (IUGG-4219) 
  *Benoit Legresy* (Australia)

- **JA06p-208** An online digital archive of magnetograms from 1846 to 1987 (IUGG-4753) 
  *Ellen Clarke* (United Kingdom)

- **JA06p-209** Sunspots during the Maunder Minimum from “Machina Coelestis” by Hevelius (IUGG-4944) 
  *Jose Vaquero* (Spain)

- **JA06p-210** Building a geophysical historical data archive in Brazil (IUGG-5159) 
  *Marcio Belenanti De Bianchi* (Brazil)

- **JA06p-211** Early pyrheliometer measurements from Astronomical Observatory of Madrid (1903-1934) (IUGG-5332) 
  *Jose Vaquero* (Spain)

- **JA06p-607** Preservation of Historical Tsunami Data: Know the Past to Better understand the Future (IUGG-3941) 
  *Kelly Stroker* (USA)
### Sunday, June 28

#### Joint Inter-Association Symposia

**JS5 Glacier, Ice Sheet and Snow Seismology (IASPEI, IACS)**

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<td>Alexey Danilov (Russia)</td>
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<td>JS5p-213</td>
<td>Multi-seasonal seismic monitoring of the fracture drainage system at the base of Rhonegletscher, Switzerland (#IUGG-1294)</td>
<td>Fabian Walter (Switzerland)</td>
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<td>Wavelet analysis of high-frequency seismic events triggered by the interaction of ice sheet flow with the Ser Rondane Mountains, East Antarctica (#IUGG-2186)</td>
<td>Fabienne Collin (Belgium)</td>
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<td>JS5p-215</td>
<td>Seismic and infrasound data analysis to assess the possibility of an avalanche triggered by a local earthquake (#IUGG-2207)</td>
<td>Cristina Perez-Guillen (Spain)</td>
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<td>DETECTING AVALANCHE ACTIVITY USING DISTRIBUTED ACOUSTIC FIBER OPTIC SENSING (#IUGG-2395)</td>
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<td>Distributed seismic network (“geooPebbles”) on ice sheets and glaciers: Results from West Antarctica (#IUGG-4467)</td>
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#### IAMAS (Meteorology)

**M06 Observations of Anthropogenic Aerosol-Cloud Interactions**

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<td>Jung-Eun Chu (Korea, Republic of Korea)</td>
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<td>Nikolay Ilm (Russia)</td>
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#### IAMAS (Meteorology)

**M22 Understanding and Predicting High-impact Weather and Climate Extremes**

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<td>Luana Pampuch (Brazil)</td>
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M22p-281 Verification of weather research and forecasting model in predicting heavy precipitation from tropical cyclone Gonu off the coast of Iran (IUGG-0872) Parvin Ghafrarian (Iran)

M22p-282 Data assimilation and simulation of high impact weather events by using WRF model (IUGG-0968) Mohan Kumar Das (Bangladesh)

M22p-283 Changes in Patterns of the hottest cities in Eastern China since the 21st Century (IUGG-0982) Rongshuo Cai (China)

M22p-284 Evaluation of the summer precipitation over China simulated by BCC_CSM model with different horizontal resolutions during the recent half century (IUGG-1070) Anning Huang (China)

M22p-285 Numerical simulation and diagnosis of the anomalous track of typhoon Muifa (IUGG-1374) Min Yuan (China)

M22p-286 A comparative study of the atmospheric circulations associated with rainy-season floods between the Yangtze and Huaihe River Basins (IUGG-1406) Fan Ping (China)

M22p-287 Tendencies of change of atmospheric convective activity in Northern Eurasia (IUGG-1536) Alexander Chernokulsky (Russia)

M22p-288 A New Perspective on Precipitation Trends during the 1979-2013 Warming (IUGG-1569) Chao Yuli (China)

M22p-289 Flow-dependent predictability of summertime Euro-Atlantic weather regimes at medium-range timescale (IUGG-1663) Mio Matsueda (Japan)

M22p-290 An empirical relation between Swiss hail occurrence and monthly environmental parameters (IUGG-1957) Erica Madonna (Switzerland)

M22p-291 Composite Maps for Extreme Rainfall in Indonesia (IUGG-2289) Heri Kuswanto (Indonesia)

M22p-292 Case study of the hailstorm event on 13 June 2014 in the Tokyo Metropolitan Area, Japan (IUGG-2405) Kenichi Shimose (Japan)

M22p-293 Future precipitation extremes are linked to changes in moisture flux anomalies (IUGG-2456) Luke Harrington (New Zealand)

M22p-294 Influence of La Nina on high impact weather over Eurasia in summer 2010 (IUGG-2683) Dieter H.W. Peters (Germany)

M22p-295 Attribution of the record high Central England Temperature of 2014 to anthropogenic influences (IUGG-2736) Andrew King (Australia)

M22p-296 Intrinsic predictability of the tornadic thunderstorm event in Oklahoma on 20 may 2013 at storm scales (IUGG-3194) Julia Keller (Germany)

M22p-297 A statistical analysis on the dependence of tropical cyclone intensification rate on the storm intensity and size (IUGG-3343) Jing Xu (China)

M22p-298 Ensemble forecast of beijing 07.21' flooding event at convective permit resolution and its comparison with global ensemble forecast (IUGG-3381) Kefeng Zhu (China)

M22p-300 Bayesian spatial-temporal additive modeling of climate extremes with nonparametric spatially varying regression effects and applications (IUGG-3451) Chi Yang (China)

M22p-301 Half-Hour Rainfall Retrieval based on multispectral geostationary satellite images (IUGG-3490) Yuan Wang (China)

M22p-302 The synoptic and dynamic structure of heavy snow event over southern coast of the Caspian Sea on February 2014 (IUGG-3512) Parvin Ghafrarian (Iran)

M22p-303 Characteristics of TIGGE in representing forecast variability associated with extratropical transition (IUGG-3617) Julia Keller (Germany)

M22p-304 Predictability of offshore wind energy and wave energy (IUGG-3857) Wataru Sasaki (Japan)

M22p-305 Present and future climatologies of polar lows over the Norwegian Sea (IUGG-3905) Clio Michel (Norway)

M22p-306 MJO dependency of summertime California Central Valley extreme hot weather (IUGG-3976) Richard Grothjahn (USA)

M22p-307 Variability of the relation of the North Atlantic Oscillation and European winter windstorms during the last millennium (IUGG-4044) Judit Bartholy (Hungary)

M22p-308 Assessment of past and projected future trends of precipitation in the Carpathian Region (IUGG-4080) Judit Bartholy (Hungary)

M22p-309 Extreme value analysis and evaluation of indices using wind speed data sets for Hungary (IUGG-4083) Judit Bartholy (Hungary)

M22p-310 Development of high wind now-casting system using X-band radar network and its implementation (IUGG-4132) Motohiro Homma (Japan)

M22p-311 The Tokyo metropolitan area convection study for extreme weather resilient cities (TOMACS) (IUGG-4230) Kazuo Saito (Japan)

M22p-312 Droughts in the Nortn Eurasian regions: Probability estimates for different El Nino / La Nina phases (IUGG-4400) Alexander Timazhev (Russia)

M22p-313 Fingerprint of the 2010 Russian heat wave in tree-ring width chronologies of pine (Pinus sylvestris) and oak (Quercus robur) (IUGG-4600) Olga Solomina (Russia)

M22p-314 Origins of large scale precipitation deficiencies in Europe and Africa (IUGG-4658) Christophe Lavaysse (Belgium)

M22p-315 Numerical simulation of the explosive cyclone that caused a severe snowstorm in Hokkaido, Japan on March 2 2013 (IUGG-5098) Tetsuya Kawano (Japan)
M22p-316 The predictability of frontal waves and cyclones (#IUGG-5428)
Thomas Frame (United Kingdom)

M22p-609 Spatio-temporal analysis of the annual maximum multi-day precipitation amounts in Croatia (#IUGG-0759)
Irena Nimac (Croatia)

M22p-610 The extreme European cold spell in 2011/12 winter: Observed features and possible causes (#IUGG-3087)
Hisashi Nakamura (Japan)

IAPSO (Physical Oceanography) 15:00-16:30, Poster Area (Foyer)
P05 Southern Hemispheric Forcing of the MOC and Carbon Cycle in Past, Present, and Future Climate Change
P05p-224 The South Atlantic meridional overturning circulation and the simulation of its variability and change during the period 1948-2007 (#IUGG-2820)
Lina Elisabet Sitz (Argentina)

IAPSO (Physical Oceanography) 15:00-16:30, Poster Area (Foyer)
P12 IOE to IOE-2 - Five Decades of Indian Ocean Oceanography: Challenges in Physics and Biogeochemistry of Indian Ocean
P12p
P12p-225 Quantification of gas-hydrates from seismic velocity-resistivity transformed data in Krishna-Godavari basin, eastern Indian margin (#IUGG-0394)
Kalachand Sain (India)
P12p-226 Multidisciplinary Seaglider surveys in the Gulf of Oman (#IUGG-2062)
Karen Heywood (United Kingdom)
P12p-227 Effects of salinity on geostrophic transport of the Indonesia Throughflow (#IUGG-3995)
Tony Lee (USA)

IASPEI (Seismology, Geophysics) 15:00-16:30, Poster Area (Foyer)
S01b Seismological Observation and Interpretation: 3D Velocity Models for Seismic Observatory Applications
S01bp
S01bp-317 The 3D-strain tensor analysis of seismic deformations in Turkey using GPS velocity field (RTK-CORS Network) (#IUGG-0427)
Mustafa Toker (Turkey)
S01bp-318 Crustal tomography of South-Eastern Alps (#IUGG-0937)
Leonardo Colavitti (Italy)
S01bp-319 iLoc: new developments on the ISC locator (#IUGG-1114)
Istvan Bondar (Hungary)
S01bp-320 Ground classification and seismic geotechnical characteristics in Eastern Ardakan city (#IUGG-1157)
Jafar Rahnamad (Iran)
S01bp-321 Local earthquake tomography including steep topography at very local spatial scales – Mount Hochstaufen, Germany (#IUGG-2102)
Stefanie Donner (Germany)
S01bp-322 Mantle wedge heterogeneous structure beneath the Japan Sea revealed by long-term seafloor seismic observations (#IUGG-2603)
Kazuo Nakahigashi (Japan)
S01bp-323 Temporal changes of seismic velocity in crustal associated with M > 6.0 earthquakes, Taiwan in recent years (#IUGG-2859)
Kuan-Fu Feng (Taiwan - China)
S01bp-324 Receiver function travel (time tomography) (#IUGG-3113)
Kazuo Hirahara (Japan)
S01bp-325 Joint inversion of seismic and gravity data for velocity structure and hypocentral locations of the Colombian subduction zone (#IUGG-3187)
Ellen Syracuse (USA)
S01bp-326 Simultaneous determination of the 1D velocity structure and hypocentral parameters in the Gyeongju area, South Korea (#IUGG-3523)
Woohan Kim (Korea, Republic of Korea)
S01bp-327 Seismic array observation and lithospheric structure in the southwestern region of China (#IUGG-3729)
Zhifeng Ding (China)
S01bp-328 Incorporating normal mode data into the Comprehensive Seismic Earth Model (#IUGG-4616)
Michael Afanasiev (Switzerland)
S01bp-329 Empirical travel-time tables for the SIL network in Iceland (#IUGG-5176)
Claudia Abnli (Sweden)
S01bp-330 Local earthquake tomography in the Tjornes fracture zone (North Iceland) (#IUGG-5180)
Claudia Abnli (Sweden)

IASPEI (Seismology, Geophysics) 15:00-16:30, Poster Area (Foyer)
S04 Earthquake Generation Process: Physics, Modeling and Monitoring for Forecast
S04p
S04p-331 Recovering period of postseismic fluid pressure in fault valve (#IUGG-0275)
Chen Zhang (China)
S04p-332 Extraction of crustal deformation from seafloor hydraulic pressure gauges to estimate interplate coupling for subduction plate boundaries (#IUGG-0376)
Keisuke Akiyoshi (Japan)
S04p-333 Long period anomalous tremor wave and its characteristics before a violent earthquake (#IUGG-0463)
Jun Jiang (China)
S04p-334 Earthquake source scaling and non-self-similarity of Kachchh, Gujarat (#IUGG-0490)
MANISH KUMAR (India)
S04p-335 Seismicity and geometry properties of the Hellenic subduction zone (#IUGG-0500)
Eleftheria Papadimitriou (Greece)
S04p-336 Seismicity properties in the Western part of Corinith Gulf (Greece) revealed from relocated earthquake catalog (#IUGG-0517)
Maria Mesimeri (Greece)

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**JV03p-044** Multiparametric Volcano Monitoring System (MVMS) in Deception Island (Antarctica): Ground deformation, marine and terrestrial thermal anomalies and sea level variation (#IUGG-3476)
Gonçalo Prates (Portugal)

**JV03p-045** Magma on the move, monitoring magma propagation in Iceland with GPS Geodesy (#IUGG-3509)
Sigrun Hreinsdottir (New Zealand)

**JV03p-046** 3D Velocity structure of the Katla volcano - Southern Iceland (#IUGG-3673)
Zeinab Jeddi (Sweden)

**JV03p-047** Geochemical, gravity and magnetic signals from the “Salinelle” mud volcanoes south of Mt. Etna (Italy) (#IUGG-3806)
Rosalba Napoli (Italy)

**JV03p-048** Atmospheric-electric effect and thunderstorm activity of Shiveluch Volcano eruption on November, 16th, 2014 (#IUGG-3853)
Roy Yaniv (Israel)

**JV03p-049** The Unrest phenomenon at Mauna Loa volcano detected via multi-temporal and multi-platform InSAR measurements (#IUGG-3970)
Nina Cherneva (Russia)

**JV03p-050** Short-term gravity signal during major eruptions at Sakurajima volcano since 2012 (#IUGG-4172)
Shuhei Okubo (Japan)

**JV03p-051** Scientific and technological improvements of Etna’s gravity network due to the installation of an iGrav™ superconducting gravimeter (#IUGG-4299)
Filippo Greco (Italy)

**JV03p-052** Long-term versus short-term deformation processes at Mt. Etna volcano (#IUGG-4548)
Giuseppe Solaro (Italy)

**JV03p-053** The 2011 unrest at Katla volcano: Location and interpretation of the tremor source (#IUGG-4586)
Giulia Spattoni (Iceland)

**JV03p-054** The nature of unrest phenomena at Yellowstone Caldera discriminated via integrated modeling of remote sensing data and geophysical investigation (#IUGG-4680)
Raffaele Castaldo (Italy)

**JV03p-055** Two decades of eruptive activity and associated magnetic signals: Popocatépetl Volcano (Mexico) (#IUGG-5047)
Ana Lillian Martín (Mexico)

**JV03p-056** Continuous magnetotelluric monitoring at geothermal site – application to Rittershoffen project, northern Alps (IUGG-5177)
Yassine Abdeddettah (France)

**IAMAS (Meteorology)**

**M03/M15 Weather and the Global Atmospheric Electric Circuit / Electrical Charging and Discharging in Thunderclouds**

**M03p**

**M03p-043** Diurnal variation of the vertical E-field during fair weather days in Israel on annual and seasonal scales (#IUGG-0277)
Roy Yaniv (Israel)

**M03p-044** Spatial and time distribution of the flash rate over the central Andes (#IUGG-0386)
M Gabriela Nicora (Argentina)

**M03p-045** Numerical simulation of influence of tilting effect on intra-cloud lightening using an explicit 1-D time-dependent cloud model (#IUGG-0475)
Maryam Gharaylou (Iran)

**M03p-046** Prediction of lightning potential index using WRF model: a case study over Iran (#IUGG-0507)
Maryam Gharaylou (Iran)
### Monday, June 29

**IUGG (Meteorology)**

**15:00-16:30, Poster Area (Foyer)**

**M16 Radiation in the Climate System**

**M16p**

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**IUGG (Meteorology)**

**10:00-16:30, Poster Area (Foyer)**

**M16 Radiation in the Climate System**

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<td>Study on the effect of volcanic aerosol at Mt. Baekdu on East Asian climate in simulation of GloSea5 (#IUGG-3095)</td>
<td>Byeong Hyeon Kim (Korea, Republic of Korea)</td>
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<td>M16p-501</td>
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<td>Makiko Hashimoto (Japan)</td>
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<td>Stefan Kinne (Germany)</td>
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<td>Assessment of clear-sky solar radiation in WRDC surface observations and in IPCC-AR5/CMIP5 GCMs (#IUGG-3543)</td>
<td>Blanka Bartok (Switzerland)</td>
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<td>Importance of the direct radiative effect of aerosols in numerical weather prediction for the European region (#IUGG-4019)</td>
<td>Veile Toll (Germany)</td>
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<td>Correction and homogenization of BSRN radiation records using updated calibrations from the World Standard Group of short- and longwave radiometers (#IUGG-4122)</td>
<td>Stephan Nyeki (Switzerland)</td>
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<td>A climatology of cloud optical depth in the central Mediterranean (Lampedusa) based on solar surface radiation (#IUGG-4158)</td>
<td>Stavros Dafis (Greece)</td>
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<td>Intercorrelation of polarized radiative transfer models and establishment of benchmark dataset (#IUGG-4683)</td>
<td>Claudia Emde (Germany)</td>
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<td>Impact of central European cities emissions on the regional climate (#IUGG-4797)</td>
<td>Tomas Halenka (Czech Republic)</td>
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<td>M16p-511</td>
<td>MAX-DOAS technique in the analysis of the vertical distribution of aerosols in São Paulo/Brazil, incorporating data from a LIDAR system (#IUGG-5103)</td>
<td>Érico Augusto Leiva (Brazil)</td>
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<td>Return glider radiosonde to measure temperature, humidity and radiation profiles through the atmosphere (#IUGG-5550)</td>
<td>Andreas Kraechi (Switzerland)</td>
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<td>Impact of four-stream radiative transfer algorithm on aerosol direct radiative effect and forcing (#IUGG-5680)</td>
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IAMAS (Meteorology) 15:00-16:30, Poster Area (Foyer)

M18/M17 Past Climate Changes: a Key for the Future / Science of Adaptation to Climate Change

M18p

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<td>Pranay Kumar Singh (India)</td>
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<td>Jaehyun Lim (Korea, Republic of Korea)</td>
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<td>Impact of stratospheric ozone on surface climate in an Earth system model: the Antarctic sea ice change in mid-Holocene (#IUGG-2334)</td>
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<td>Drivers and mechanisms for enhanced summer monsoon precipitation over East Asia during the mid-Pliocene in the IPSL-CM5A (#IUGG-3561)</td>
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<td>Modeling MIS M2 glacial period during the early late warm Pliocene: Sensitivity experiment with shallow open Panama isthmus (#IUGG-3688)</td>
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<td>Fergus Howells (United Kingdom)</td>
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<td>Shih-Chun Lung (Taiwan - China)</td>
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S01p 15:00-16:30, Poster Area (Foyer)

S01p

P11 Wind Waves, Including Extreme Waves

P11p

P11p-058 The analysis of the cyclone movement by continental seismological observation (#IUGG-0405)
Yanbin Zhang (China)

P11p-059 Freak waves in soliton gas in the framework of modified Korteweg – de Vries equation (#IUGG-0441)
Ekaterina Shurgalina (Russia)

P11p-060 Significant wave height of extreme marine environment in the east China sea (#IUGG-3325)
Han Shuzong (China)

P11p-061 Linear Hydrodynamnic Dissipative Instability of Hagen-Poiseuille, Plane Poiseuille and Couette Flows, and Possible Mechanism of Freak Waves Airing (#IUGG-5243)
Sergey Chefranov (Russia)

IASPEI (Seismology, Geophysics) 15:00-16:30, Poster Area (Foyer)

S01p

S01p-029 Declustering of the seismic catalogue of Caucasus (#IUGG-0235)
Nato Jorjashvili (Georgia)

S01p-030 Stratigraphy and geoacoustic model of the late Quaternary shelf sediments in the South Sea, Korea (#IUGG-0244)
Dae Kim (Korea, Republic of Korea)

S01p-031 Establishment of seismic network in the Taiwan mountain area (#IUGG-0245)
Win Gee Huang (Taiwan - China)

S01p-032 Using the Empirical mode decomposition method for seismogram interpretation (#IUGG-0248)
Sadaf Mollah (Iran)

S01p-033 Rapid concurrent epicentre and hypocentre localisation for tracking earthquakes in real-time upon their initial detection: a review (#IUGG-0255)
George Daglish (United Kingdom)

S01p-034 Analysis and research on microseismic signal in continental seismological observation (#IUGG-0406)
Yanbin Zhang (China)

S01p-035 On revision of Bakanas earthquake parameters of 1979 (Kazakhstan), \$\nu=5.7$ basing on digitized analogue seismograms (#IUGG-0434)
Natalya Mikhailova (Kazakhstan)

S01p-036 Focal mechanisms as criterion for explosions discrimination (#IUGG-0439)
Natalya Poleshko (Kazakhstan)

S01p-037 Location of seismic events in the Eastern Barents Sea region (#IUGG-0511)
Yana Konechnaya (Russia)

S01p-038 Signal enhancement of OBS data using wavefield separation in Mahanadi offshore basin, India (#IUGG-0567)
Satyavani Nittala (India)

S01p-039 Similar earthquakes extracted from the Japanese seismic network (#IUGG-0617)
Toshhiro Igarashi (Japan)

S01p-040 Mathematical modelling of the wave fields in anisotropic media and determining the earthquake source parameters (#IUGG-0631)
Anastasia Pavlova (Ukraine)

S01p-041 Complex networks for seismicity analysis and hazard assessment of large earthquakes: the 2009 L’Aquila Earthquake as a Case study (#IUGG-0653)
Elena Daskalaki (Greece)

S01p-042 Seismic waves in layered media and the inversion for source parameters (#IUGG-0827)
Dmytro Malyshtky (Ukraine)

S01p-043 Are there attractors in seismic time series? (#IUGG-0841)
Tamaz Chehidze (Georgia)

S01p-044 Non-random component of the spatial-temporal earthquake distribution between the Northern part and the Southern part of the Pacific (#IUGG-1093)
Boris Levin (Russia)

S01p-045 Recent seismicity Crimea (#IUGG-1160)
Ludmila Shumlyanska (Ukraine)

S01p-046 Automatic analysis of joint data from seismo-acoustic network and infrasonic arrays in Israel (#IUGG-1292)
Vladimir Pinsky (Israel)

S01p-047 This is my abstract title: Romania National Data Centre contribution to the regional earthquakes relocation (#IUGG-1314)
Maria-Marielina Rocezea (Romania)

S01p-048 Initial report about the Middle-Lower Yangtze Metallogenic Belt seismic experiment in East China (#IUGG-1343)
Xinfu Li (China)

S01p-049 The 19 October 2013 M=6.3 Loreto region, Gulf of California, Mexico, earthquake (#IUGG-1449)
Raul Castro Escamilla (Mexico)

S01p-050 Earthquake Sequence in East Vrancea Crustal Region (Romania), November 2014 - January 2015: Source Characteristics and Seismotectonics (#IUGG-1615)
Ana Otilia Placinta (Romania)

S01p-051 Morlet Wavelet Analysis of Earthquakes in the Taipei Metropolitan Area (#IUGG-1797)
Kou-Cheng Chen (Taiwan - China)

S01p-052 Seismotectonics of southeast of Iran subduction zone, with emphasis on the 2013 earthquake in Sistan (#IUGG-1834)
Hesaneh Mohammedi (Iran)

S01p-053 Measurement of anomalous radon gas emanation across the Yamounneh fault in Southern Lebanon: A possible approach to earthquake prediction (#IUGG-1906)
Mohamed Ali Kobeissi (Lebanon)

S01p-054 Azimuth verification of the MSQ-net accelerographs –towards the imaging of ground motions in the Tokyo metropolitan area – (#IUGG-2044)
Hiromichi Nagao (Japan)
Monday, June 29

S01p-555 Casual seismic noise and its influence on the detection efficiency of earthquakes of small magnitude – case study in Hungary
    (IUGG-2046) Jozef Bor (Hungary)

S01p-556 Attenuation of high-frequency body waves in the crust of the Central Dinarides (IUGG-2151)
    Iva Dasovic (Croatia)

S01p-557 New sensor for monitoring seismic rotational ground displacement (IUGG-2168)
    Jan Kozak (Czech Republic)

S01p-558 Seismic activity near the Mt. Hotaka in the Hida mountain range, central Japan, detected by the matched filter method (IUGG-2204)
    Shiro Ohm (Japan)

S01p-559 A preliminary catalog of full moment tensors for Hungary using waveform inversion technique (IUGG-2353)
    Zoltan Weber (Hungary)

S01p-560 A local seismic network and automatic data processing around a planned nuclear power plant (IUGG-2462)
    Timo Tiira (Finland)

S01p-561 Spatial variations of the Vp/Vs ratios and b-values beneath the West Anatolian Extensional Province in Turkey (IUGG-2671)
    Gonca Orgulu (Turkey)

S01p-562 Automatic classification of regional seismic events with Support Vector Machine (IUGG-2748)
    Timo Tiira (Finland)

S01p-563 The monitoring of the local seismic activity in Romania – performance level of the present national seismic network (IUGG-2835)
    Luminita Angela Ardeleanu (Romania)

S01p-564 The International Training Center at the premises of KNDC as a result of Kazakhstan-Norway cooperation (IUGG-2840)
    Irina Aristova (Kazakhstan)

S01p-565 Finite source inversions using strong motion waveforms of Taiwan TSMIP data (IUGG-3031)
    Kaivien Chang (Taiwan - China)

S01p-566 Cooperation between the ISC and the arkhangelks seismic network (IUGG-3220)
    Galina Antonovskaya (Russia)

S01p-567 Potential indicator of moment tensors with isotropic component – results for synthetic tests and two contrasting Greek shallow earthquakes (IUGG-3285)
    Dana Krizova (Czech Republic)

S01p-568 Characteristics of 2013 Yellow Sea events, Korea (IUGG-3298)
    In-Kyeong Hahm (Korea, Republic of Korea)

S01p-569 Adjoint tomography imaging of the crustal structure beneath the Kanto Plain in Japan (IUGG-3360)
    Takayuki Miyoshi (Japan)

S01p-570 A four-stage model of earthquake dynamics by means of precursory high frequency fracture induced electromagnetic emissions (IUGG-3601)
    George Balasis (Greece)

S01p-571 North America and China regionalization based on clustering analysis of receiver functions (IUGG-3696)
    Carene Larmat (USA)

S01p-572 Using neural networks to study the long series of seismological data to identify precursors of strong seismic events (IUGG-3697)
    Dmitry Likhodeev (Russia)

S01p-573 Application of modified short-period seismometer for earthquake monitoring (IUGG-3726)
    Alexey Ostapchuk (Russia)

S01p-574 Seismicity of the Lofoten area, Norway (IUGG-3789)
    Jan Michalek (Norway)

S01p-575 Seismic activity in the southern source region of the 2011 Tohoku earthquake by long-term ocean bottom seismometers (IUGG-3850)
    Masanori Shinozuka (Japan)

S01p-576 Estimation of subsurface structure using microtremor in Karaj city, Iran (IUGG-3918)
    Nastaran Ehsani (Iran)

S01p-577 Performance test of first body-wave arrival times for constraining a slow mantle wedge in a subduction zone (IUGG-4131)
    Keiko Kuge (Japan)

S01p-578 Systematic monitoring of seismic instrumentation condition in high-density broadband seismic networks (IUGG-4318)
    Takeshi Kimura (Japan)

S01p-579 Revision of the NE Iberian peninsula instrumental catalog in terms of location quality parameters (IUGG-4382)
    Josep Batll (Spain)

S01p-580 Aftershock sequence analysis of the 11 August 2012 doublet earthquakes (Mw 6.5, 6.4) in NW Iran (IUGG-4500)
    Mehdi Rezapour (Iran)

S01p-581 Rupture model for the 2011 Tohoku-Oki earthquake from high-rate and ocean-bottom GPS (IUGG-4709)
    Zhen Wang (Japan)

S01p-582 Automated determination of local, regional, and teleseismic P- and S-phase onset time at German Regional Seismic Network
    (IUGG-4769)
    Luigi Cedrino (Germany)

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    Lars Ottemoller (Norway)

S01p-584 Variable multi-window method of source time function in rupture process inversion (IUGG-5502)
    Lei Yi (China)

S01p-585 Developing regional multiband magnitude scale for Kamchatka earthquakes: stage 1 (IUGG-5682)
    Danila Chebrov (Russia)
**IASPEI (Seismology, Geophysics)**  
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**S06c Strong Ground Motion: Ground Motion Prediction Equations**  

**S06cp**

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Ground-motion prediction equations for South Korea peninsula ([IUGG-0087](#))  
C.D. Reddy (India)

**S06c-587**  
Ground motion prediction equations of engineering parameters for shallow crustal earthquakes of Iran ([IUGG-0089](#))  
Fatemeh Mehrabi (Iran)

**S06c-588**  
Investigating spatial dependence of PGA residuals between measurements and predictions in Austria ([IUGG-1353](#))  
Yan Jia (Austria)

**S06c-589**  
Applying of General Regression Neural Network to Ground Motion Prediction Equations of Induced Events in Lubin Copper Basin ([IUGG-1968](#))  
Jan Wisnioski (Poland)

**S06c-590**  
New worldwide ground motion prediction equations for energy-based intensity measures ([IUGG-3784](#))  
Mohsen Ghafory-Ashtiany (Iran)

**S06c-591**  
MARS: A new tool for macroseismic data regression and analysis ([IUGG-4067](#))  
Fabio Luca Bonali (Italy)

**S06c-592**  
The long-period surface motion of the Mw9.0 Tohoku-Oki earthquake based on GPS and strong-motion sensors ([IUGG-5281](#))  
Panagiotis Psimoulis (United Kingdom)

**IASPEI (Seismology, Geophysics)**  
15:00-16:30, Poster Area (Foyer)

**S06b/S08c Lithosphere Structure and Dynamics: Lithospheric Stress and Strain - Observations and Modelling, Plate Boundary Deformation at Lithospheric Scale**  

**S06b**

**S06b-062**  
Using of seismic data for monitoring of the stress state in order to short-term earthquake prediction ([IUGG-0259](#))  
Igor Garagash (Russia)

**S06b-063**  
Crustal images of the Southern Granulite Province of India and their geotectonic implications ([IUGG-0488](#))  
C.D. Reddy (India)

**S06b-065**  
Intenseismic and fault rupture processes related to the 2008 Wenchuan earthquake: FEM modelling ([IUGG-0897](#))  
Shouhiao Zhu (China)

**S06b-066**  
How Rigid are cratons? Relative Motion of cratons in Nubia Plate ([IUGG-0948](#))  
Mary Njoroge (USA)

**S06b-067**  
Present-day crustal movement and strain of the surrounding area of Ordos block derived from repeated GPS observations ([IUGG-0987](#))  
Duxin Cui (China)

**S06b-068**  
Spatial heterogeneities of deviatoric stress in Kyushu, Japan, inferred from the focal mechanism and their implication for seismic activity ([IUGG-1071](#))  
Satoshi Matsumoto (Japan)

**S06b-069**  
Borehole shape analysis and physical properties of the Costa Rica convergent margin sediments: IODP Exp. 334 (Sites 1378 and 1379) ([IUGG-1481](#))

**S06b-070**  
A geodetic study of the southern South Island of New Zealand: Evidence for strain partitioning ([IUGG-1605](#))

**S06b-071**  
The robustness of spectral methods that measure anisotropy in the effective elastic thickness ([IUGG-1657](#))

**S06b-072**  
Western Bohemian Massif – seismic anisotropy reveals crust-mantle detachment at Variscan plate boundary ([IUGG-1674](#))

**S06b-073**  
Characteristics of island arc deformation due to steady plate subduction ([IUGG-2090](#))

**S06b-074**  
The 2012 Ahar-Varzeghan, Iran, earthquake doublet (Mw 6.4 and 6.2) - rupture kinematics from regional waveforms and InSAR data ([IUGG-2182](#))

**S06b-075**  
Mantle dynamics, surface topography and lithospheric stresses since 400 Ma ([IUGG-3173](#))

**S06b-076**  
On the robustness of spectral methods that measure anisotropy in the effective elastic thickness ([IUGG-3173](#))

**S06b-077**  
Development of Tibetan crustal structure models from the data of satellite gravity missions ([IUGG-3461](#))

**S06b-078**  
The 2012 Ahar-Varzeghan, Iran, earthquake doublet (Mw 6.4 and 6.2) - rupture kinematics from regional waveforms and InSAR data ([IUGG-2182](#))

**S06b-079**  
Topographic evolution and climate aridification during continental collision: Insights from numerical modeling ([IUGG-3767](#))

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Contemporary stress and Tectonics in Italy ([IUGG-3871](#))

**S06b-081**  
Contemporary stress and Tectonics in Italy ([IUGG-3871](#))

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Long period GPS data from geodynamic active area in West Bohemia, Czech Republic ([IUGG-3895](#))

**S06b-083**  
Mantle dynamics, surface topography and lithospheric stresses since 400 Ma ([IUGG-3173](#))

**S06b-084**  
Mantle dynamics, surface topography and lithospheric stresses since 400 Ma ([IUGG-3173](#))

**S06b-085**  
Western Bohemian Massif – seismic anisotropy reveals crust-mantle detachment at Variscan plate boundary ([IUGG-1674](#))
Monday, June 29

**IASPEI (Seismology, Geophysics)**

**15:00-16:30, Poster Area (Foyer)**

**S09 Mantle and Core Structure and Dynamics**

**S09p**

- **S09p-593**
  - Small-scale upper mantle convection in the North China Craton and its geodynamic implications (#IUGG-0341)
  - Song Yang (China)

- **S09p-594**
  - Refraction tomography reveals subduction and exhumation features beneath the high-grade terrains in the Eastern Bohemian Massif (#IUGG-1781)
  - Miroslav Novotny (Czech Republic)

- **S09p-595**
  - Can we explain the D" reflector with the post-perovskite phase transition? (#IUGG-1869)
  - Christine Thomas (Germany)

- **S09p-596**
  - Is there any correlation between continents and elevated temperatures in the subcontinental mantle? (#IUGG-2144)
  - Charitra Jain (Switzerland)

- **S09p-597**
  - Early evolution and dynamics of Earth from a molten initial stage (#IUGG-2264)
  - Diogo Louro Lourenco (Switzerland)

- **S09p-598**
  - Role of viscoelasticity in mantle convection models (#IUGG-2331)
  - Vojtech Patoka (Czech Republic)

- **S09p-599**
  - P-wave velocity anomalies of the plume beneath the French Polynesia (#IUGG-2648)
  - Junko Yoshimitsu (Japan)

- **S09p-600**
  - Scaling laws for the internal temperature reached in the stagnant lid regime with depth-dependent non-Newtonian rheologies (#IUGG-3945)
  - Antoine Razo (Switzerland)

- **S09p-601**
  - Stagnant Honshu slab and its implication for Japan Sea Opening and off-arc volcanism (#IUGG-4121)
  - Masayuki Obayashi (Japan)

- **S09p-602**
  - Crustal anisotropy beneath the western segment of north Anatolian fault zone (#IUGG-4137)
  - Selda Altuncu Poyraz (Turkey)

- **S09p-603**
  - Linking the dynamics and evolution of lower mantle heterogeneities with surface plate motions (#IUGG-5205)
  - Abigail Bull (Norway)

- **S09p-604**
  - Mobilizing a very high viscosity lower mantle (#IUGG-5457)
  - Gary Jarvis (Canada)

**IASPEI (Volcanology, Geochemistry)**

**15:00-16:30, Poster Area (Foyer)**

**VS01 New Advances in Volcano Seismology and Related Geophysical Methods**

**VS01p**

- **VS01p-086**
  - Forecasting volcano seismicity evolution: Tools developed during the El Hierro (Canary Islands) volcanic process (#IUGG-0560)
  - Ramon Ortiz Ramis (Spain)

- **VS01p-087**
  - Finite-source waveform inversion of Long Period (LP) volcanic events on Etna volcano (Italy): synthetic test (#IUGG-2007)
  - Claudio Trovato (France)

- **VS01p-088**
  - Volume source representations: a unified explanation based on the representation theorem (#IUGG-2417)
  - Nobuki Kame (Japan)

- **VS01p-089**
  - Exploring the broad-band nature of volcanic long-period events: Example from Turrialba volcano (#IUGG-3025)
  - Johannes Thun (Ireland)

- **VS01p-090**
  - S wave attenuation and high-frequency seismic wavefield at Taal volcano, Philippines, inferred from high-frequency seismic waveform simulations (#IUGG-3571)
  - Hanae Miorioka (Japan)

- **VS01p-091**
  - Seismic signatures considering fluid-rock dynamic interaction (#IUGG-4468)
  - Alejandra Arciniega-Caballo (Mexico)

- **VS01p-092**
  - Try to draw the volcanic eruptions and earthquake activity in the same figure in and around Japan (#IUGG-4818)
  - Yuzo Ishikawa (Japan)

- **VS01p-093**
  - A multi-parameter investigation into the recent and ongoing volcano-seismic unrest on Nisyros volcano, Greece (#IUGG-5377)
  - Helen Kinvig (United Kingdom)

**IASPEI (Volcanology, Geochemistry)**

**15:00-16:30, Poster Area (Foyer)**

**VS04 Collapse Calderas**

**VS04p**

- **VS04p-094**
  - Karymskaya as the first supervolcano in Kamchatka: boundaries, structure, volcanic stages, volume of pyroclastics (#IUGG-0662)
  - Aleksii Rogozin (Russia)

- **VS04p-095**
  - Detailed morphology and structure of a caldera lake: Lake Towada (Towada Caldera), NE Japan Arc (#IUGG-2599)
  - Teruki Oikawa (Japan)

- **VS04p-096**
  - Geothermal activity associated with unrest at subglacial calderas in Iceland, explored with numerical reservoir simulations (#IUGG-5006)
  - Hannah Reynolds (Iceland)

**IASPEI (Volcanology, Geochemistry)**

**15:00-16:30, Poster Area (Foyer)**

**VS13/VS05 Environmental and Health Effects of Natural Mineral Dusts / Recent Eruption Impacts and Mitigation within Urban Areas**

**VS13p**

- **VS13p-097**
  - Magmatic volatiles in ash leachates and environmental impact assessment of the 29-30 October 2014 eruption of Turrialba volcano (#IUGG-0818)
  - Maria Martinez Cruz (Costa Rica)

- **VS13p-098**
  - Improving assessment and prediction of agricultural losses due to tephra fall (#IUGG-1826)
  - Heather Craig (New Zealand)

- **VS13p-099**
  - Mineralogical and sulfur isotopic study on volcanic ash of the 27th September 2014 phreatic eruption at Ontake volcano (#IUGG-2575)
  - Yusuke Minami (Japan)
Monday, June 29

### IAVCEI (Volcanology, Geochemistry) 15:00-16:30, Poster Area (Foyer)

#### VS17 Dynamics of Eruption Clouds

**VS17p**

- **VS17p-103** Three-Dimensional Radar Data Analysis Tools of Volcanic Ash Cloud (IUGG-1983) 
  - **Matsui Maki** (Japan)

- **VS17p-104** Quantification of the erupted volume and total grain size distribution of the 23 February 2013 Etna lava fountain (IUGG-2605) 
  - **Matthieu Poret** (France)

- **VS17p-105** On-line transport of volcanic particles using multiscale meteorological models: an improvement on classical off-line models (IUGG-3384) 
  - **Alejandro Marti** (Spain)

- **VS17p-106** In-situ measurement of the jet velocity and mass flux at Volcán de Colima, Mexico, with a Doppler radar (IUGG-3788) 
  - **Matthias Hort** (Germany)

- **VS17p-107** The paroxysm of Etna (Italy) on 23rd November 2013: Ballistics shower and hazard zones implications (IUGG-3958) 
  - **Susie Pepe** (Italy)

- **VS17p-108** Comparison of volcanic ash deposition simulations using a general purpose dispersion model (HYSPLIT) and a specialized ash deposition model (ASHFALL) (IUGG-4069) 
  - **Tony Hurst** (New Zealand)

- **VS17p-109** Aircraft measurement results of the Bardarbunga-Holuhraun eruption plume compared with the weather research and forecast model calculations (IUGG-5668) 
  - **Konradin Weber** (Germany)

### IAVCEI (Volcanology, Geochemistry) 15:00-16:30, Poster Area (Foyer)

#### VS26 Volcanic Landscapes across the Solar System: from Field to Remote Sensing Analysis

**VS26p**

- **VS26p-110** DEM-based analyses of the morphometry of lava domes; a case study from the Taupo Volcanic Zone, New Zealand (IUGG-0467) 
  - **Szabolcs Kosik** (New Zealand)

- **VS26p-111** Visible and infrared hyperspectral survey of volcanic lava flows on Tenerife (Canary Islands, Spain) (IUGG-0710) 
  - **Long Li** (Belgium)

- **VS26p-112** Flood lava volcanism on Mars: Age estimation of the Cerberus Fossae 2 Unit in Elysium Planitia using crater size-frequency distributions (IUGG-1725) 
  - **Christopher Hamilton** (USA)

- **VS26p-113** Using Lava Tube Skylights to Derive Eruption Temperatures on Io (IUGG-1819) 
  - **Ashley Davies** (USA)

- **VS26p-114** New map of Io’s volcanic heat flow (IUGG-2985) 
  - **Ashley Davies** (USA)

- **VS26p-115** 2014 strombolian effusive activity monitored by TET-1 satellite (IUGG-3438) 
  - **Matthias Hort** (Germany)

- **VS26p-116** The influence of magma system properties and edifice load on volcano growth (IUGG-3513) 
  - **Maria Contraseras** (Chile)

- **VS26p-117** Automated detection of new impact craters on Mars using Bayesian models (IUGG-3708) 
  - **Christopher Hamilton** (USA)

- **VS26p-118** Retrieving reliable lava temperatures on Earth and Io using multispectral VNIR image data (IUGG-4670) 
  - **Laszlo Kestay** (USA)

- **VS26p-119** Evidence for Amazonian highly viscous lavas in the southern highlands on Mars (IUGG-5653) 
  - **Petr Brož** (Czech Republic)

### IAVCEI (Volcanology, Geochemistry) 15:00-16:30, Poster Area (Foyer)

#### VS32/VS33 Weather and Climate Effects of Volcanic Eruptions / VS33 Understanding Volcano-Climate Feedbacks

**VS32p**

- **VS32p-120** Mechanism of stratospheric decadal abrupt cooling in the Early 1990s as influenced by the Pinatubo eruption (IUGG-0278) 
  - **Dong Xiao** (China)

- **VS32p-121** Disentangling the eruption source parameters that control the climate effects of volcanic eruptions (IUGG-0515) 
  - **Lauren Marshall** (United Kingdom)

- **VS32p-122** Seasonally modulated geothermal meltwater release from the Katla volcanic system, Iceland (IUGG-2936) 
  - **Hugh Tuffen** (United Kingdom)

- **VS32p-123** On the fertilization of the surface ocean by volcanic ash remobilization from its deposits on land (IUGG-3814) 
  - **Matthias Hort** (Germany)

- **VS32p-124** Volcanic eruptions and the polar vortex: mechanisms and sensitivity to forcing structure (IUGG-4181) 
  - **Matthew Toohey** (Germany)

- **VS32p-125** Simulating the climate responses induced volcanic eruptions using a global aerosol model (IUGG-4461) 
  - **Virginie Poulain** (France)
Tuesday, June 30

**IAG (Geodesy)**

**15:00-16:30, Poster Area (Foyer)**

**G04 Earth Rotation and Geodynamics**

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**Joint Inter-Association Symposia**

**JP4 Satellite Oceanography and Climatology (IAPSO, IAG)**

**JP04p**
- Satellite and terrestrial data analysis of the Caspian Sea Level changes in relation to Cosmo-Geophysical Processes (#IUGG-0497)
- V. Kaftan (Russia)

**JP04p**
- Time-space variability of petroleum hydrocarbon background concentrations in the Baltic Sea based on remote sensing data and simulation (#IUGG-0832)
- Sergey A. Lebedev (Russia)

**JP04p**
- Climatic change of the Baltic Sea level and sea surface temperature based on remote sensing data (#IUGG-0834)
- Sergey A. Lebedev (Russia)

**JP04p**
- Estimation of topographic changes from the seasonal variation effect using waterline method (#IUGG-3346)
- ZHEN XU (Korea, Republic of Korea)

**JP04p**
- Statistical patterns of wind variability over the Japan Sea based on satellite scatterometer data (#IUGG-3550)
- Olga Trusenkova (Russia)

**JP04p**
- Investigation of the caspian sea level variations and sea surface temperature by the modern methods (#IUGG-3953)
- ElNur Safarov (France)

**JP04p**
- Evaluation of sea-surface salinity observed by Aquarius (#IUGG-4136)
- Hiroto Abe (Japan)

**JP04p**
- Dynamic response of ocean tides in the icy satellites (#IUGG-5325)
- Robert Tyler (USA)

**IAMAS (Meteorology)**

**M07p**
- The Relationship of Cloud Ice Properties and Processes in Observations and Models

**M07p**
- Relation between natural deposition ice nuclei concentration and precipitation at an urban site (#IUGG-0383)
- Eldo Avila (Argentina)

**M07p**
- An experimental study of the role of surfactant materials on warm cloud formation in laboratory (#IUGG-0610)
- Hamed Fahandezh Sadi (Iran)

**M07p**
- Comparative study of ice nucleating efficiency of K-feldspar in immersion, deposition and contact freezing modes (#IUGG-3219)
- Thibault Hiron (France)

**M07p**
- Immersion freezing experiments using PM10 filter samples from Cape Verde (#IUGG-3253)
- Andre Welti (Germany)

**M07p**
- “Real case study” simulations of aerosol-cloud interactions for the INUIT campaign at Jungfraujoch research station using different ice nucleation parameterizations (#IUGG-4476)
- Heike Kalesse (Germany)

**M07p**
- Millimeter cloud radar observations of mixed-phase clouds – The Doppler spectra story of a riming case study observed in Finland (#IUGG-4540)
- Monika Niemand (Germany)

**M07p**
- Ice nucleation by cellulose and its potential contribution to ice formation in clouds (#IUGG-5765)
- Ottmar Möhler (Germany)

**IAMAS (Meteorology)**

**M13p**
- Regional Climate Variability and Change

**M13p**
- Trends in the frequency of high relative humidity over China: 1979-2012 (#IUGG-0268)
- Rui Mao (China)

**M13p**
- Precipitation anomalous and its effects in Port Harcourt Metropolis of Rivers State Nigeria (#IUGG-0272)
- Fidelis Okorie (Nigeria)

**M13p**
- The continuum of wintertime Southern Hemisphere atmospheric teleconnection patterns (#IUGG-0416)
- Chueh-Hsin Chang (Taiwan - China)

**M13p**
- Black sea upwellings and its interaction with regional climate (#IUGG-0777)
- Eldo Avila (Argentina)

**M13p**
- Teleconnection between the concurrent variations of the East Asian jet stream and the heavy rainfall patterns in China (#IUGG-1073)
- Ying Huang (China)

**M13p**
- Link between climate change and halo formation (#IUGG-1125)
- Cem Ozsen (Turkey)

**M13p**
- Regionality of low temperature record-breaking events in China and its associated circulation (#IUGG-1186)
- Xueyuan Kuang (China)

**M13p**
- Trends in frequency and intensity of extreme temperatures of the Irtysk Basin (#IUGG-1249)
- Ying Huang (China)

**M13p**
- Harmonic analysis of Precipitation over Middle East (#IUGG-1516)
- Ahmad Taghavi (Iran)

**M13p**
- Effects of aerosols on regional climate in a chemistry-climate model (GRIMs-Chem) (#IUGG-1626)
- Robert Tyler (USA)

**M13p**
- Characteristics of Tropospheric NO2 over Northeast Asia Using OMI Satellite Data during the Year 2005–2010 (#IUGG-1667)
- Jeehyun Kim (Korea, Republic of Korea)

**M13p**
- Changes in summer precipitation of South Korea and relation with the large scale atmospheric phenomena (#IUGG-2139)
- Vladimir Kaftan (Russia)

**M13p**
- Effects of the soil freeze-thaw process on the regional climate of the Qinghai-Tibet Plateau (#IUGG-2293)
- Luo Shiqiong (China)
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- **P02p-221** Vertical distribution of autochthonous suspended particulate matter in the Caspian Sea in summer (#IUGG-2752)
  Marina Kravchishina (Russia)
- **P02p-222** Long-term comparison of satellite and in-situ sea surface temperatures in Northeastern Asia marginal (#IUGG-3280)
  Yang-Ki Cho (Korea, Republic of Korea)
- **P02p-223** Comparison of simulated and observed Lagrangian drift in the marine surface layer towards Marine Protected Areas in the Baltic Sea (#IUGG-3338)
  Nicole Delpeche-Ellmann (Estonia)
- **P02p-224** Seasonality in intraseasonal and interannual variability of mediterranean SST and its links to regional atmospheric dynamics (#IUGG-3339)
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  Hezi Gildor (Israel)
- **P02p-226** Vertical particle fluxes in the Caspian Sea in summer 2012 (#IUGG-3506)
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- **P02p-227** Power law dependence between relative diurnal variations and mean concentrations of hydrochemical parameters (#IUGG-3754)
  Boris Shevtsov (Russia)
- **P02p-228** Water masses transformation through the Strait of Gibraltar (#IUGG-3904)
  Cristina Naranjo Rosa (Spain)
- **P02p-229** Mapping Mediterranean tidal currents with surface drifters (#IUGG-3927)
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- **P02p-230** Energy budget of a small convectively driven marginal sea: The Gulf of Elat/Aqaba (northern Red Sea) (#IUGG-3991)
  Eli Biton (Israel)
- **P02p-231** The Suez Canal dynamic and its impacts on the water mass balance of the Mediterranean Sea: A modeling study (#IUGG-3992)
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- **P02p-232** Impacts of bottom-slope angle on phytoplankton blooms driven by riverine input of nutrients and fresh water (#IUGG-4238)
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- **P02p-233** Near surface low salinity intrusion in the central Baltic sea (#IUGG-4653)
  Berkay Basdurak (Germany)
- **P02p-234** Manifestation of overflow in the Stöðvík sill area of the Baltic Sea (#IUGG-4660)
  Vadam Paka (Russia)
- **P02p-235** Remote sensing of coastal upwelling in the se Baltic sea: Statistical properties and dynamical features (#IUGG-4848)
  Igor Kozlov (Russia)
- **P02p-236** Submesoscale physical and bio-geochemical structures in the German Bight (#IUGG-5277)
  Ryan North (Germany)
- **P02p-237** Near future projection of the Yellow Sea and the East China Sea using a coupled physico-biogeochemical model (#IUGG-5463)
  Hyoun-woo Kang (Korea, Republic of Korea)
- **P02p-238** Dredging impact on coastal ecosystem of Krishnapatnam port, south east coast of India: An integrated approach using RS & GIS (#IUGG-5748)
  Jayaraju Nadimikeri (India)

IAPSO (Physical Oceanography) 15:00-16:30, Poster Area (Foyer)

**P03**

**Ocean Mixing**

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  Barbara Franco (Argentina)
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  Siren Rühs (Germany)
- **P03p-242** Comparison of the mixed layer depth and its variation from observation and simulation (#IUGG-2815)
  Hyejin Ok (Korea, Republic of Korea)
- **P03p-243** Temperature statistics above a deep–ocean sloping boundary (#IUGG-2865)
  Hans van Haren (Netherlands)
- **P03p-244** New Lagrangian diagnostics for characterizing fluid flow mixing (#IUGG-2990)
  Hezi Gildor (Israel)
- **P03p-245** Surface diapycnal mixing in an intrathermocline anticyclonic eddy south of the Canary islands (#IUGG-3456)
  Sheela Estrada-Allis (Spain)
- **P03p-246** Distinguishing ichthyothenic turbulence from geophysical turbulence (#IUGG-3689)
  Kendaga Pujalna (USA)
- **P03p-247** Near-inertial waves trapping by a mid ocean anticyclonic eddy (#IUGG-3999)
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- **P03p-248** Estimating eddy viscosity profile from ekman spirals in the bottom boundary layer (#IUGG-4105)
  Yutaka Yoshikawa (Japan)
- **P03p-249** Small scale structure in temperature and salinity over the Mindanao Dome (#IUGG-4814)
  Takao Imaizumi (Japan)
- **P03p-250** Estimates of the attenuation rates of baroclinic tidal waves caused by resonant interactions with the background internal wave continuum (#IUGG-5276)
  Yohel Onuki (Japan)
- **P03p-251** Which are the sources of diapycnal mixing in the Atlantic Equatorial Undercurrent? (#IUGG-5378)
  Angel Rodriguez-Santana (Spain)
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**P04 Oceanic Boundary Current Systems**

**P04p**

**P04p-252** Transports along and across the North-West European shelf edge (#IUGG-0956)  
John Huthnance (United Kingdom)

**P04p-253** Eddy Vorticity Forcing of the Kuroshio Current off Taiwan in an Ocean General Circulation Model (#IUGG-2326)  
Julie McClean (USA)

**P04p-254** Dependency of mixed layer heat budget on the horizontal grid resolution of OGCM (#IUGG-2561)  
Ho Jin Lee (Korea, Republic of Korea)

**P04p-255** Effects of tides on the upwelling-downwelling regimes and cross-shelf exchange in the Arctic shelf seas (#IUGG-2996)  
Maria Luneva (United Kingdom)

**P04p-256** Simulation of boundary currents around Australia (#IUGG-3099)  
Charitha Pattiaratchi (Australia)

**P04p-257** Nutrient input into Australian ocean basins by ocean boundary currents (#IUGG-4685)  
Paulina Cetina-Heredia (Australia)

IAPSO (Physical Oceanography) 15:00-16:30, Poster Area (Foyer)

**P06 The Southern Ocean: where Ocean, Ice and Atmosphere Meet**

**P06p**

**P06p-258** A dynamical mechanism for the formation and maintenance of Southern Ocean storm tracks (#IUGG-0722)  
Christopher Chapman (France)

**P06p-259** Variability of Antarctic Slope Current transport using hydrographic measurements (#IUGG-0940)  
Marina Do Valle Chagas Azaneu (United Kingdom)

**P06p-260** Assessment of the representation of Antarctic Bottom Water properties in the ECCO2 reanalysis (#IUGG-0952)  
Marina Do Valle Chagas Azaneu (United Kingdom)

**P06p-261** Modeling the interplay between sea ice formation and the oceanic mixed layer: limitations of simple brine rejection parameterizations (#IUGG-1215)  
Antoine Barthélémy (Belgium)

**P06p-262** The role of extratropical cyclones and fronts for Southern Ocean freshwater fluxes (#IUGG-1286)  
Lukas Papritz (Switzerland)

**P06p-263** Mechanisms triggering the Weddell Sea polynya: insights from a high-resolution climate model (#IUGG-2294)  
Carolina Dufour (USA)

**P06p-264** An oceanographic database of the Amundsen Sea, Antarctica collected by seals (#IUGG-2465)  
Lars Boeheime (United Kingdom)

**P06p-265** Biogeochemical characteristics of nutrients, dissolved and particulate organic matters in the Amundsen Sea (#IUGG-2547)  
Jinyoung Jung (Korea, Republic of Korea)

**P06p-266** Seasonal cyclonic eddy in Amundsen Sea Polynya, Antarctica (#IUGG-2937)  
Tae-Wan Kim (Korea, Republic of Korea)

**P06p-267** Massive phytoplankton blooms in the Amundsen polynya, Southern Ocean (#IUGG-3164)  
Jisoo Park (Korea, Republic of Korea)

**P06p-268** Quantifying upwelling and nutrient fluxes in the Weddell Sea with helium isotope data (#IUGG-3410)  
Maren Walter (Germany)

**P06p-269** Abundance and production of heterotrophic bacteria during a phytoplankton bloom in the Amundsen Sea Polynya, Antarctica (#IUGG-4057)  
Paola Rivaro (Italy)

**P06p-270** Physical and biological forcing on the mesoscale variability of the carbonate system in the Ross Sea (Antarctica) in summer 2014 (#IUGG-4164)  
Paola Rivaro (Italy)

**P06p-271** Microzooplankton herbivory in the Amundsen Sea Polynya, Antarctica (#IUGG-4259)  
Eun Jin Yang (Korea, Republic of Korea)

**P06p-272** Circulation and hydrography in the Filchner Depression, Weddell Sea - Results from moored instruments (#IUGG-4263)  
Kjersti Daas (Norway)

**P06p-273** Interaction of the Weddell Sea continental shelf with the Antarctic coastal current/Antarctic slope front - an idealized model study (#IUGG-4766)  
Kjersti Daas (Norway)

**P06p-274** Stability properties of the Antarctic Slope Front and implications for cross-slope heat transport (#IUGG-5223)  
Qin Zhou (Norway)

**P06p-275** Can we map the interannual variability of the whole upper Southern Ocean with the current database of hydrographic observations? (#IUGG-5342)  
Frederic Vivier (France)
IASPEI (Seismology, Geophysics) 15:00-16:30, Poster Area (Foyer)

501a Seismological Observation and Interpretation: Seismic Swarms and Tectonic Tremors

501ap

501ap-276 Low frequency seismic swarms and tectonic tremors in China continent seismological observation (#IUGG-0462)
Jun Jiang (China)

501ap-277 The swarm characteristics in Shanxi rift and its application forecast research (#IUGG-0543)
Meiqing Song (China)

501ap-278 Variation of the Earth tide-seismicity compliance parameter for the west site of the Aegean Volcanic Arc, Greece (#IUGG-1873)
Georgios Vergus (Greece)

501ap-279 Detection of shallow crustal discontinuities from high-frequency waveforms of swarm earthquakes in West Bohemia/Vogtland seismogenic area (#IUGG-1992)
Pavla Hrubcová (Czech Republic)

501ap-280 Time reverse stacking of the West Bohemia earthquakes: Modelling of rupture process (#IUGG-1994)
Vojtech Lavicka (Czech Republic)

501ap-281 Approaching moment tensor inversion and Q factor tomography of Western Bohemia earthquake swarms (#IUGG-2537)
Marius Kriegerovski (Germany)

501ap-282 WEBNET versus REYKJANET: Comparing two local monitoring networks and results of data interpretation (#IUGG-2706)
Bohuslav Ruzek (Czech Republic)

501ap-283 Wadati method as a simple tool to study seismically active fault zones: A case study from the West-Bohemia/Vogtland region (#IUGG-2737)
Oldrich Novotny (Czech Republic)

501ap-284 Automatic event detection using artificial neural networks – application to swarms in West Bohemia (#IUGG-2749)
Jana Doubravova (Czech Republic)

501ap-285 Cluster analysis of earthquake swarms - results from West Bohemia/Vogtland and South-West Iceland (#IUGG-2794)
Hana Cermakova (Czech Republic)

501ap-286 Optimizing an array-network geometry to improve the monitoring of crustal earthquake swarms (#IUGG-3282)
Nasim Karamzadeh (Germany)

501ap-287 Aseismic transient driving the swarm-like seismic sequence in the Pollino range, Southern Italy (#IUGG-3770)
Luigi Passarelli (Germany)

501ap-288 Identifying earthquake swarms off the coast of Malta (Sicily Channel) (#IUGG-3969)
Sebastiano D’Amico (Malta)

501ap-289 Rupture propagation estimate from second-degree moments: application to 2014 earthquake swarm in West Bohemia/Vogtland (#IUGG-4296)
Petra Adamova (Czech Republic)

501ap-290 Precise tremor source locations in southern Taiwan (#IUGG-4507)
Wei-Fang Sun (Taiwan - China)

501ap-291 Long-term ocean bottom monitoring for shallow slow earthquakes in the Hyuga-nada, western part of the Nankai Trough (#IUGG-4973)
Yusuke Yamashita (Japan)

501ap-292 Vp/Vs ratio variations in the source region of West Bohemian earthquake swarms (#IUGG-5152)
Martin Bachura (Slovak Republic)

501ap-293 Rupture parameters of three M 3.5 - 4.5 mainshocks occurred in 2014 in West Bohemia/Vogtland determined by different methods (#IUGG-5614)
Lucia Fojtkova (Czech Republic)

IASPEI (Seismology, Geophysics) 15:00-16:30, Poster Area (Foyer)

501ep Seismological Observation and Interpretation: Real-Time Seismology and Early Warning

501ep

501ep-294 A P-wave based, on-site method for earthquake early warning (#IUGG-0824)
Alessandro Caruso (Italy)

501ep-295 Progress on development of an earthquake early warning system using low cost sensors (#IUGG-1181)
Yih-Min Wu (Taiwan - China)

501ep-296 New methodology for tsunami runup estimation based on finite fault models (#IUGG-1523)
Mauricio Fuentes (Chile)

501ep-297 PRESTO Early Warning Algorithm at Central and Eastern European Earthquake Research Network: Lessons from Configuring an High Density Seismic Network (#IUGG-2299)
Damiano Pesaresi (Italy)

501ep-298 Characteristics of ocean bottom seismograph data during strong shaking and influence on magnitude estimation for earthquake early warning (#IUGG-2445)
Naoki Hayashimoto (Japan)

501ep-299 Maximum likelihood earthquake location with multiple characteristics of P waves (#IUGG-2619)
Dong-Hoon Sheen (Korea, Republic of Korea)

501ep-300 The use of spectral content to improve earthquake early warning systems in Central Asia: Case study of Bishkek, Kyrgyzstan (#IUGG-2719)
Jaciek Stankiewicz (Luxembourg)

501ep-301 Site amplification factors of Japan area and their application to the real-time prediction of ground motion (#IUGG-2918)
Masashi Ogiso (Japan)

501ep-302 Near real-time seismic processing system for the Northern Caucasus region (#IUGG-2992)
Denis Shulakov (Russia)

501ep-303 ALERTES-SCL: A prototype of an Earthquake Early Warning System based on SeisComP3 (#IUGG-4142)
Pazos Antonio (Spain)

501ep-304 Use of regional mb calibration functions to speed up magnitude computation (#IUGG-5382)
Joachim Saul (Germany)
Tuesday, June 30

IASPEI (Seismology, Geophysics) 15:00-16:30, Poster Area (Foyer)

S06a/S06b Strong Ground Motion: Open session, SGM Record Selection and Earthquake Scenarios

S06p

S06p-305 An investigation of components of ground motion variability using data from Iranian Strong Motion Network (IUGG-0905)
Fateme Mehrabi (Iran)

S06p-306 Variability estimation in ground motion around Istanbul based on the probabilistic dynamic rupture scenarios along the North Anatolian fault (IUGG-1999)
Hideo Aochi (France)

S06p-307 Characterizing uncertainties in neo-deterministic seismic hazard maps (IUGG-3256)
Antonella Peresan (Italy)

S06p-308 Considering intensity measure distributions in the record selection procedure (IUGG-4088)
Aline Azrabakht (Iran)

S06p-309 A simplified source model for strong ground motion simulation - Pseudo point-source model (IUGG-4191)
Yosuke Nagasaka (Japan)

S06p-310 Study of the “damaging” features of a seismic signal trough the development of an adaptive filter based on the S-transform (IUGG-5074)
Maria Lancieri (Italy)

S06p-311 Frequency-dependent directivity effects from small earthquakes in Abruzzo region, Italy (IUGG-5703)
Francesca Pacor (Italy)

S06p-312 Comparison different intensity measures for SDOF systems due to pulse-likenear-fault ground motions (IUGG-5718)
Mohsen Ghafori-Ashtiany (Iran)

S06p-606 Stochastic earthquake source model: the omega-square hypothesis and the directivity effect (IUGG-5789)
George Molchan (Russia)

IASPEI (Seismology, Geophysics) 15:00-16:30, Poster Area (Foyer)

S07 Seismic Hazard and Risk

S07p

S07p-313 Identification of liquefiable soil layers by a proposed geotechnical based procedure- A case study (IUGG-0344)
Mehdi Ezati (Iran)

S07p-314 Towards a system with real-time capabilities for the analysis of risks generated by road networks after major earthquakes (IUGG-0576)
Dragos Toma-Danila (Romania)

S07p-315 Reassessment of active faulting in the Zanjan region (northwest Iran) using geomorphic and geophysical investigations (IUGG-0625)
Zara Zali (Iran)

S07p-316 Effect of alternative distributions of ground motion variability on results of Probabilistic Seismic Hazard Analysis (IUGG-0910)
Vasily Pavlenko (Russia)

S07p-317 Monte Carlo simulation for decision making in statistical estimation of maximum regional earthquake magnitude (IUGG-0946)
Vasily Pavlenko (Russia)

S07p-318 Subsurface structure and tectonic evolution of concealed active fault in the southern part of Sendai plain, northeast Japan (IUGG-1839)
Shinsuke Okada (Japan)

S07p-319 Seismic hazard assessment of the major pipeline “Yakutia-Khabarovsk”, Russia (IUGG-2002)
Vera Bykova (Russia)

S07p-320 Probabilistic Seismic Hazard Assessment at the Northwestern Part of Egypt (IUGG-2033)
Abouelela Amin Ahmed (Egypt)

S07p-321 Key aspects of a risk-targeted earthquake source model for South-East Asia (IUGG-2372)
Jochen Woessner (Switzerland)

S07p-322 Coseismic ruptured fault segment and unruptured segment during the Rikuu earthquake (M=7.2), northeast Japan: Subsurface structures revealed by seismic-reflection profiling (IUGG-2861)
Haruo Kimura (Japan)

S07p-323 Crossing the border again: Assessing the differences between Canada’s 2015 and the United States’ 2014 seismic hazard maps (IUGG-2868)
John Adams (Canada)

S07p-324 Statistical analysis of the seismic sources from the Eastern part of Romania and Black Sea for probabilistic seismic hazard assessment (IUGG-2897)
Angela Constantin (Romania)

S07p-325 Observations on intraplate seismicity in Central Fennoscandia (IUGG-2982)
Annakaisa Korja (Finland)

S07p-326 Empirical ground motion characterization for Fennoscandia; GMPE’s and spatial distribution (IUGG-3009)
Timo Tiira (Finland)

S07p-327 Seismic hazard maps for the Maltese archipelago (Central Mediterranean) (IUGG-3101)
Sebastiano D’Amico (Malta)

S07p-328 Identification of earthquake-prone areas in some intraplate regions (IUGG-3277)
Alexander Gorshkov (Russia)

S07p-329 Sensitivity analysis for the quantitative assessment of a source mechanism in a low-to-moderate seismicity environment (IUGG-3574)
Iliara Mosca (United Kingdom)

S07p-330 Earthquake loss estimation in the Gyeongju area, southeastern Korea, using a site classification map (IUGG-4049)
Su Young Kang (Korea, Republic of Korea)

S07p-331 Repeating microseismicity in the Seoul metropolitan area, Korea, and its implications for seismic risk (IUGG-4050)
Kwang-Hee Kim (Korea, Republic of Korea)

S07p-332 This is my abstract title: “Seismic hazard assessment of territory of Kyrgyz Republic” (IUGG-4385)
Kanatbek Abdakhamatov (Kyrgyzstan)

S07p-333 The use of probabilistic fault displacement methods in ground displacement and tsunami hazard (IUGG-4910)
Hong Kie Thio (USA)
IASPEI (Seismology, Geophysics) 15:00-16:30, Poster Area (Foyer)

S08/S08a Lithosphere Structure and Dynamics: Open session, Lithospheric Structure - LAB Observations and Models

S08p-334 The thermochemical structure of the lithosphere and upper mantle beneath South China: Results from multi-observable probabilistic inversion (#IUGG-0254)
Bin Shan (China)

S08p-335 Lithosphere structure underneath the North China Craton inferred from elevation, gravity and geoid anomalies (#IUGG-0279)
Kai Wang (China)

S08p-336 Modeling wide-angle seismic survey data for the crustal structure of Bohai Sea and adjacent Area (#IUGG-0300)

S08p-337 Shallow velocity structure of the Dharwar craton in southern India and its geotectonic implications (#IUGG-0399)
Kalachand Sain (India)

S08p-338 Architecture of West Bengal sedimentary basin, India: implications on breakup of East Gondwanaland (#IUGG-0408)
Kalachand Sain (India)

S08p-339 Structural model of the lithosphere-asthenosphere system and deep dynamics beneath the Qinghai-Tibet Plateau and its adjacent areas (#IUGG-1097)
Xuemei Zhang (China)

S08p-340 P and S-wave velocities in weak anisotropic rocks (#IUGG-1490)
Ivan Zel (Russia)

S08p-341 Tomographic Evidence of the Tan-Lu fault zone in the Bohai Sea of China (#IUGG-1583)
Yi Xu (China)

S08p-342 Fabrics of the Northern Fennoscandian lithosphere inferred from 3-D seismic anisotropy (#IUGG-1755)
Ludek Vecsey (Czech Republic)

S08p-343 INTEGRATED DENSITY MODELLING OF THE LITHOSPHERE IN CENTRAL EUROPE (#IUGG-1907)
Miroslaw Bielek (Slovak Republic)

S08p-344 Stress evolution and seismic hazard on the Maqin-Maq酥 segment of East Kunlun Fault zone from Co-, Post-, Inter-seismic stress changes (#IUGG-1966)
Xiong Xiong (China)

S08p-345 Geoacoustic provinces in the southwestern part of the Ulleung Basin, East Sea (#IUGG-2085)
Gwang-Soo Lee (Korea, Republic of Korea)

S08p-346 Crustal Structure of Southern Coast of Bahia de Banderas, Jalisco, Mexico (#IUGG-2594)
Francisco Javier Nunez Cornu (Mexico)

S08p-347 Radial anisotropy of the Australian lithosphere and asthenosphere (#IUGG-2647)
Kazunori Yoshizawa (Japan)

S08p-349 Upper mantle anisotropy around the oros block in China and its geodynamic significance (#IUGG-3527)
Liangsha Wang (China)

S08p-350 Crustal and mantle lithospheric structure of the Iberian Peninsula deduced from potential field and thermal modeling (#IUGG-3766)
Monserrat Torne (Spain)

S08p-348 Preliminary 3D electrical lithospheric structure of the Rajasthan, Northwest India and its tectonic implications (#IUGG-3987)
Koppireddi Veeraswamy (India)

S08p-349 Gravity anomalies and crustal density structure characteristics of profile Weixi-Guiyang,China (#IUGG-4229)
Chongyang Shen (China)

S08p-350 Lithosphere structure in the southern Madagascar from receiver function and ambient noise surface wave dispersion analysis (#IUGG-4252)
Flor de Lis Mancilla (Spain)

Christopher Jekeli (USA)

S08p-352 High resolution moho topography beneath central and eastern Betics, western Mediterranean region, by receiver function techniques (#IUGG-5064)
Elisa Josiane Rindraraisona (Germany)

S08p-353 Time-term analysis of crustal structural variations from first arrival data (#IUGG-5390)
Min-Hung Shih (Taiwan - China)

Elisa Josiane Rindraraisona (Germany)

S08p-355 High resolution moho topography beneath central and eastern Betics, western Mediterranean region, by receiver function techniques (#IUGG-5064)
Flor de Lis Mancilla (Spain)

S08p-356 Time-term analysis of crustal structural variations from first arrival data (#IUGG-5390)
Min-Hung Shih (Taiwan - China)
Tuesday, June 30

**IASPEI (Seismology, Geophysics)** 15:00-16:30, Poster Area (Foyer)

**S10b Earthquake Prediction: Earthquake Prediction Research**

*S10b-357* Influence of friction coefficient and fault parameters on Coulomb stress change calculations (*#IUGG-0645*)
Parthena Paradisopoulou (Greece)

*S10b-358* On the real-time earthquake prediction in Kamchatka region by the 1998-2014 data of Kamchatka Branch of Russian Expert Council (*#IUGG-0682*)
Vadim Saltykov (Russia)

*S10b-359* Heterogeneties of S-wave attenuation field and ring-shaped seismicity structures in the Pamir-Hindu Kush region: possible preparation for large crustal earthquakes (*#IUGG-1636*)
Inna Sokolova (Kazakhstan)

*S10b-360* Some possible precursors of lithosphere magnetic field before several earthquakes in the region of North-South Seismic Belt of China (*#IUGG-2243*)
Bin Chen (China)

*S10b-361* A study on the largest subsequent event of damaging Italian earthquakes (*#IUGG-2503*)
Rita Di Giovanbattista (Italy)

*S10b-362* Precursors of strong earthquakes in magnetic disturbances (*#IUGG-2554*)
Yury Kopytenko (Russia)

*S10b-363* Studies of short-term earthquake prediction with astronomical time-latitude observations (*#IUGG-2884*)
Bo Wang (China)

*S10b-364* Pre- and post-seismic heating phenomena of soil and waters before and after the 2012 Emilia earthquake: Mechanisms and potential predictors (*#IUGG-3364*)
Franco Tassi (Italy)

*S10b-365* Evidence from subsurface fluid to the stage of meta-instability of strong earthquakes (*#IUGG-3491*)
F. Huang (China)

*S10b-366* Experimental study of evolution of thermal field in the stage of meta-instability (*#IUGG-3494*)
Ren Yaqiong (China)

*S10b-367* Statistical analysis of earthquakes after 1999 MW 7.7 Chi-Chi earthquake based on a modified Reasenberg-Jones model (*#IUGG-3639*)
Yuh-Chin Chen (Taiwan - China)

*S10b-368* Appraisal and filtrations of the environmental/meteorological parameters on soil gas radon emission using singular spectrum analysis for earthquake precursory study (*#IUGG-4197*)
Arvind Kumar (Taiwan - China)

**IASPEI (Seismology, Geophysics)** 15:00-16:30, Poster Area (Foyer)

**S12 Ambient Noise**

*S12p-369* Analysis of ambient seismic noise recorded by DAFNE/FINLAND temporary seismic array in Northern Fennoscandia (*#IUGG-0917*)
Nikita Afonin (Russia)

*S12p-370* Various sources of secondary microseisms excitation (*#IUGG-1003*)
Pavel Kalenda (Czech Republic)

*S12p-371* Are there relationships between the formation of ore districts and deep velocity structure in the Middle-Lower Yangtze River region? (*#IUGG-1342*)
Hongyi Li (China)

*S12p-372* Detection of Subsurface Reflectors beneath Southwestern Japan using Seismic Interferometry (*#IUGG-1841*)
Shiro Ohtani (Japan)

*S12p-373* Seismic velocity changes associated with volcanic activity at Hakone volcano, central Japan, using ambient seismic noise records (*#IUGG-1913*)
Yohei Yukutake (Japan)

*S12p-374* Crustal velocity structure of Jeju Island constrained by ambient noise cross-correlation (*#IUGG-2694*)
Junkie Rhie (Korea, Republic of Korea)

*S12p-375* Tracking decollment zone and identification of mid-crustal low velocity layer under western part of the Himalaya using seismic tomography (*#IUGG-2777*)
Nares Kuma (India)

*S12p-376* Computing sensitivity kernels of noise correlations with respect to noise sources (*#IUGG-2822*)
Laurent Stebly (France)

*S12p-377* The inhomogeneous noise sources recorded from the non-linear interaction of the ocean current with the continental slope in Northern SCS (*#IUGG-2842*)
Emmy Chang (Taiwan - China)

*S12p-378* S-wave velocity structures of the Kaoshiung area, Taiwan, using microtremor array data (*#IUGG-2946*)
Huey-Chu Huang (Taiwan - China)

*S12p-379* Monitoring storms from seismic noise body waves (*#IUGG-3004*)
Eleonore Stutzmam (France)

*S12p-380* Estimation of shallow S-wave velocity structure at the northern Taichung area, Taiwan (*#IUGG-3018*)
Cheng-Feng Wu (Taiwan - China)

*S12p-381* Convergence of noise correlations for noise source mapping (*#IUGG-3310*)
Laura Ermert (Switzerland)

*S12p-382* High-resolution imaging of the San Jacinto fault zone with a dense seismic array and local seismic noise (*#IUGG-3397*)
Philippe Roux (France)

*S12p-383* On the noise level of the ambient noise cross-correlation function and its applications (*#IUGG-3409*)
Ying-Nien Chen (Taiwan - China)

*S12p-385* Towards a full waveform ambient noise inversion (*#IUGG-3861*)
Korbinian Sager (Switzerland)

*S12p-386* Monitoring two medieval towers through ambient seismic noise deconvolutions (*#IUGG-3920*)
Lucia Zecchline (Italy)

*S12p-387* Ambient noise tomography of Europe using data from the VEBSN and temporary arrays (*#IUGG-4026*)
Antonio Villasenso (Spain)
Lastarria volcano plumbing using seismic noise tomography to identify the origin of its gases (#IUGG-4249)

Denis Legrand (Mexico)

Subsurface velocity reduction due to the large earthquake that occurred along the north of the Itoigawa-Shizuoka Tectonic Line in Japan (#IUGG-4307)

Tomotake Ueno (Japan)

A quantitative method to map the source distribution of microseisms using noise covariograms; a case study from the SNSSN (#IUGG-4340)

Hamneh Sadeghisorkhani (Sweden)

Extracting traveltime information using a multi station cross correlation technique (#IUGG-4387)

Ka Lok Li (Sweden)

Determination of surface wave group and phase velocities in south Niigata prefecture, Japan using long-term continuous seismic waveform data (#IUGG-5234)

Takumi Hayashida (Japan)

IASPEI (Seismology, Geophysics) 15:00-16:30, Poster Area (Foyer)

S13 Terrestrial Heat Flow

Estimation of earth’s interior heat flow from spectral analysis of aeromagnetic data of Upper Sokoto Basin, Nigeria (#IUGG-0252)

Levi Nwankwo (Nigeria)

Meso-Cenozoic thermal-rheological structure in the Jiyang sub-basin, Bohai Bay Basin (#IUGG-1102)

Wei Xu (China)

Thermal history reconstruction based on vitrinite reflectance and thermochronostratigraphic data of the Sichuan basin, SW China (#IUGG-1122)

Chuanqing Zhu (China)

Global analysis of heat-flow data in 2015 (#IUGG-1424)

Francis Lucazeau (France)

Measured versus calculated thermal conductivity of high-grade metamorphic rocks - inferences on the lower crust at ambient and in-situ conditions (#IUGG-1458)

Andrea Foerster (Germany)

Heat and groundwater flow in the NE sector of the Morocco hot line (#IUGG-1861)

Massimo Verdoya (Italy)

Quantitative analyses of groundwater flow from thermal tests and temperature logs (#IUGG-1884)

Massimo Verdoya (Italy)

Energy Resources of the Some Geothermal Boreholes in Azerbaijan (#IUGG-2064)

Abdulvahab Mukhtarov (Azerbaijan)

Geothermal assessment of a MgCl2 heat transport fluid to evaluate the feasibility of using geothermal energy from saline systems (#IUGG-2116)

Kayla Moore (Canada)

Synthesis of subsurface temperature information and evaluation of the potential for setting up borehole heat exchanger in Obama Plain, Japan (#IUGG-2288)

Hideki Hamamoto (Japan)

Temperature and Heat Flow Data from Azerbaijan (#IUGG-2309)

Abdulvahab Mukhtarov (Azerbaijan)

Heat flow in South Portugal- A review (#IUGG-2374)

Maria Rosa Duque (Portugal)

Some comments about new heat flow data obtained in West Antarctica and Greenland (#IUGG-2401)

Maria Rosa Duque (Portugal)

Thermal logs as a tool for Darcy velocity determination (#IUGG-2807)

Diego Barbero (Italy)

Geothermal Climate Change Observatory, South India: Results from first five years of operation (#IUGG-3046)

Sukanta Roy (India)

High geothermal potential in the eastern Basin and Range, USA (#IUGG-3246)

David Chapman (USA)

Heat flow in the European Arctic region – preliminary results from a Norwegian - Russian cooperation (#IUGG-3249)

Carmen Gaina (Norway)

Present-day heat flow of the Jizhong Depression in Bohai Bay Basin, East China (#IUGG-3391)

Jian Chang (China)

The role of hydrogeological conditions and thermophysical properties on the evaluation of geothermal exchange potential (#IUGG-3458)

Jessica Chicco (Italy)

Shallow (0-200 m) Geothermal Atlas in Catalonia (NE-Spain) (#IUGG-3637)

Ignacio Marzan (Spain)

Anthropogenic signals in transient components of the subsurface temperature field (#IUGG-3757)

Petr Dedekcek (Czech Republic)

Heat flow and interstitial water chemistry in the flanks of the Oceanographer-Hayes segment of the Mid-Atlantic Ridge (#IUGG-4231)

Virginie Le Gal (France)

Recent earthquakes and geologically recent volcanoes in South-west Victoria, Australia (#IUGG-4293)

Gary Gibson (Australia)

Radiogenic heat production in paleozoic, mesozoic, and cenozoic sedimentary rocks from the central United States (#IUGG-4668)

Dylan Young (USA)

Environmental pre-exploitation monitoring of Torre Alfina geothermal system (Central Italy) (#IUGG-5229)

Alessandro Gattuso (Italy)

Thermal regime measured at volcanic areas in Japan (#IUGG-5603)

Akiko Tanaka (Japan)

New heat flow determination in northern Tarim Craton, northwest China (#IUGG-5679)

Shaowen Liu (China)
Union Symposia

15:00-16:30, Poster Area (Foyer)

U3 Mathematics and Observations of Earth Systems

U03p

U03p-421 Investigation for spatial and temporal variations of daily mean temperatures of Black Sea Region, Turkey (IUGG-0954)
Selma Zengin Kazand (Turkey)

U03p-422 Matrix eigenvalue approach for solid-Earth free-oscillation calculations and superconducting-gravimeter-data inversion (IUGG-1505)
Eliska Zabranov (Czech Republic)

U03p-423 Stochastic Modeling of Decadal Variability in Ocean Gyres (IUGG-1795)
Dmitri Kondrashov (USA)

U03p-424 Determination of the sensitive and important physical parameters combination within numerical models using a new approach (IUGG-2014)
Mu Mu (China)

U03p-425 New fuzzy logic technique for studying geomagnetic secular acceleration using on-ground observations (IUGG-3675)
Anatoly Soloviev (Russia)

U03p-426 New approach to the time-frequency analysis of acoustic emission signals (IUGG-4016)
Boris Shevtsov (Russia)

U03p-427 Optimal interpolation of spatially discretized geodetic data and its application to southern California GPS measurements (IUGG-4283)
Zheng-Kang Shen (China)

U03p-428 Refining the Flood Pulse concept: The role of non-river inundation water quality and river-derived particulate nutrients for floodplain vegetation patterns (IUGG-4294)
Paul Schot (Netherlands)

U03p-429 Creation of digital terrain models using surface evolution (IUGG-4576)
Michal Kollar (Slovak Republic)

U03p-430 Nonlinear diffusion filtering of data on closed surfaces (IUGG-4649)
Michal Kollar (Slovak Republic)

U03p-431 Laboratory study of suspension filtration trough porous medium (IUGG-4692)
Aliya Tairova (Russia)

U03p-432 Estimating climate sensitivity from an ensemble of GCM configurations optimized to outgoing TOA radiation (IUGG-5399)
Kuniko Yamazaki (United Kingdom)

U03p-433 On the spatial resolution of filters defined on the sphere (IUGG-5411)
Balaji Devaraju (Germany)

U03p-434 Transfer Entropy between South Atlantic anomaly and global sea level for the last 300 years (IUGG-5541)
Angelo De Santis (Italy)

U03p-435 Detection and classification of acousto-electromagnetic effects of the lithosphere based on wavelet transform (IUGG-5599)
Evgeniy Malkin (Russia)

Union Symposia

15:00-16:30, Poster Area (Foyer)

U4 Data Science and Analytics in Geodesy and Geophysics - Research and Education Progress and Opportunities

U04p

U04p-436 Determining the GPS/Levelling Geoid Undulations by interpolation methods and artificial neural networks method for region of Trabzon, Turkey (IUGG-0908)
Özge Karaaalan (Turkey)

U04p-438 Data management and service system for marine geology and geophysical data in Korea Institute of Ocean Science & Technology (IUGG-2878)
Sang-Hwa Choi (Korea, Republic of Korea)

U04p-439 Lab stand for study of fluid layer response to dynamic impact (IUGG-3949)
Alexey Ostapchuk (Russia)

U04p-440 Least-squares wavelet analysis (IUGG-3973)
Ebrahim Ghaderpour (Canada)

U04p-441 Experiments for the mashup of heterogenous data systems using semantic web concepts (IUGG-5673)
Bertil Ritshel (Germany)

IAVCEI (Volcanology, Geochemistry)

15:00-16:30, Poster Area (Foyer)

VS02p Lava Flows

VS02p-442 Emplacement of thick lava flows: The case of El Metate, Michoacán-Guanajuato Volcanic Field (MGVF), Central Mexico (IUGG-0950)
Magdalena Oryaelle Chevrel (France)

VS02p-443 Testing models of lava-water interaction with field data (IUGG-1689)
Laszlo Kestay (USA)

VS02p-444 Evidence for inflated lava flows near Hrad Vallis, Mars (IUGG-1710)
Christopher Hamilton (USA)

VS02p-445 Q-LavHA: A Quantum GIS plugin to simulate lava flows (IUGG-3119)
Sophie Mossoux (France)

VS02p-446 Rubbly-pahoehoe lavas from southern Paraná-Etendeke Continental Basaltic Province (IUGG-3924)
Lucas Rossetti (United Kingdom)

VS02p-447 Numerical simulations of lava flows. A calibration from thermal images of lava emplacement at El Reventador volcano (IUGG-3955)
Silvia Vallejo Vargas (France)

VS02p-448 Eruptive dynamics of Quaternary effusive volcanism from Laguna del Maule Volcanic Field (IUGG-3966)
Elias Zabranov (Chile)

VS02p-449 Satellite observations of the variability of lava effusion rates during terrestrial eruptions over the past 15 years (IUGG-4506)
Boris Shevtsov (Russia)

VS02p-450 Growth of the Holuhraun lava flow by sequential lobe emplacement, as quantified by time-lapse terrestrial lidar measurements (IUGG-5592)
Hugh Tuffen (United Kingdom)
Tuesday, June 30

IAVCEI (Volcanology, Geochemistry) 15:30-16:00, Poster Area (Foyer)

VS10/VS11/VS31 Probabilistic Volcano Hazard Analysis / Short-Term Forecasting of Volcanic Hazard: So Far, So Good? / Quantifying and Communicating Uncertainty During Volcanic Crisis

VS10p

VS10p-451 Precursors of Kamchatkan volcanoes eruptions (#IUGG-0361)
Olga Girina (Russia)

VS10p-452 A short-term, forecasting-based, Volcanic Activity Level selection method for the management of volcanic crises (#IUGG-0570)
Alicia Garcia (Spain)

VS10p-453 Towards a map of the background spatial probability of vent opening at Somma-Vesuvius caldera (#IUGG-0605)
Alessandro Tadini (Italy)

VS10p-454 Formalized approach to prediction of Bezymianny Volcano eruption from seismological data (#IUGG-0684)
Vladimir Saltykov (Russia)

VS10p-455 Detection of volcano unrest from multiparameter pattern classification (#IUGG-1816)
Susanna Falasperla (Italy)

VS10p-456 Activity of Kamchatkan and northern kuriels volcanoes database of Kamchatkan volcanic eruption response team (#IUGG-3214)
Olga Girina (Russia)

VS10p-457 Landslides susceptibility mapping in the Campi Flegrei volcanic areaby using a multidisciplinary approach (#IUGG-3303)
Marina Bisston (Italy)

VS10p-458 Probabilistic hazard assessment during non-magmatic unrest: Introducing BET_UNREST (#IUGG-3741)
Dmitri Rouvet (Italy)

IAVCEI (Volcanology, Geochemistry) 15:00-16:30, Poster Area (Foyer)

VS14/VS07 Unlocking the Enigma of Monogenetic Volcanism from a Historic Perspective to the Most Novel Recent Approaches / Explosive Basaltic Eruptions on Earth and other Planets

VS14p

VS14p-459 El Poyo Volcanic Complex, Mendoza-Argentina (#IUGG-0281)
Corina Rizzo (Argentina)

VS14p-460 Understanding the hazard of a frequently vent-shifting parasitic centre of the Ruapehu volcano, the Ohakune Complex, New Zealand (#IUGG-0478)
Szabolcs Kosik (New Zealand)

VS14p-461 Magmatic evolution of young, small volume mafic eruptive centers in the Chilean Altiplano utilizing in situ geochemical and isotopic data (#IUGG-0679)
Brennan van Alderwerelt (USA)

VS14p-462 A method to estimate monogenetic cones ages based on a new morphometric analysis: applications to the Chichinautzin monogenetic field, Mexico (#IUGG-1452)
Soraya Du La Cruz-reyna (Mexico)

VS14p-463 Evolution of a rhyolite monogenetic volcano: the peroxide deposit Lehotka pod Brehmi, central Slovakia (#IUGG-1641)
Jaroslav Lexa (Slovak Republic)

VS14p-464 Complex and unexpected evolution of some Czech monogenetic volcanoes inferred from combination of geophysical tomography, rock magnetism, petrography, and volcanology (#IUGG-1946)
Vladislav Rapprich (Czech Republic)

VS14p-465 Spatial distribution and morphology of satellite cones in the Virunga Volcanic Province (Rwanda, Uganda and Democratic Republic of Congo) (#IUGG-1950)
Sam Popppe (Belgium)

VS14p-466 Volcanology of a monogenetic silicic lava dome field, Tokaj Mountains, Carpathian Pannonian Region (#IUGG-2741)
Johanne Schmidt (Hungary)

VS14p-467 Spatio-temporal changes of pressure source prior to explosions at Stromboli volcano as inferred from tilt data analyses (#IUGG-3097)
Ryohpei Kawaguchi (Japan)

VS14p-468 A first 2-dimensional componentry map of a diatreme: New constraints on subsurface processes from the Ngatutura Volcanic Field, New Zealand (#IUGG-3464)
Rickus Van Niekerk (New Zealand)

VS14p-469 Sedimentology, eruptive mechanism and facies architecture of scoria cones in the Auckland Volcanic Field (New Zealand) (#IUGG-3540)
Karoly Nemeth (New Zealand)

VS14p-470 Basaltic tephra generation in large explosive basaltic eruptions from Katla volcano, Iceland (#IUGG-3743)
Johanne Schmidt (Denmark)

Benjamin van Wyk de Vries (France)

VS14p-472 Dynamics of strombolian eruptions at Batu Tara volcano (Indonesia) (#IUGG-4383)
Elisabetta Del Bello (Italy)

VS14p-473 A multi-disciplinary method for the understanding of melt distribution in the substrate at distributed volcanic fields (#IUGG-4486)
Aurelie Germa (USA)

VS14p-474 Variability of the monogenetic concept exampled by the Grand Sarcou dome (Chaine des Puys, France) (#IUGG-4688)
Didier Miallier (France)

VS14p-475 Porosity-permeability relationships in explosive basaltic andesite lapilli from Okmok Volcano, Aleutians Islands, Alaska (#IUGG-4847)
Jessica Larsen (USA)

VS14p-476 Magma mixing and compositional variation through the Surtsey eruption, 1963-1967 (#IUGG-5543)
James D.L. White (New Zealand)
Tuesday, June 30

IAVCEI (Volcanology, Geochemistry) 15:00-16:30, Poster Area (Foyer)

**VS28 Understanding VIPS (Volcanic and Igneous Plumbing Systems) through Multidisciplinary Research**

**VS28p**

**VS28p-477** Integration of geochemical, petrological and seismic data for the study of volcanic plumbing system of the 1975-76 Tolbachik fissure eruption (#IUGG-0530)
Anna Volynets (Russia)

**VS28p-478** Investigating magma flow within intrusions: Insights from magnetic anisotropy (#IUGG-0564)
Simon Martin (United Kingdom)

**VS28p-479** Magma mixing and mingling in Iceland: A case study of the Streitishvarf composite dyke, Eastern Iceland (#IUGG-0737)
Robert Askew (Iceland)

**VS28p-480** Petrological and experimental modelling of cooling histories in magma bodies (#IUGG-1219)
Andrew Gilbert (United Kingdom)

**VS28p-482** The Nealtican fissure eruption, Popocatépetl, Mexico: From magma mixing to eruption within days (#IUGG-1982)
Martin Mangler (United Kingdom)

**VS28p-483** Sill geometry and distribution in tectonically inert settings: The san rafael sub-volcanic field, Utah, USA (#IUGG-2921)
Takudzwa Kawanzaruwa (United Kingdom)

**VS28p-484** NIDIS: The non-isothermal diffusion incremental step model. A new approach to elemental diffusion in volcanic rocks (#IUGG-3474)
Chiara Maria Petrone (United Kingdom)

**VS28p-485** Potential for vanadium–titanium–iron mineralization in the 1.79 Ga Carson–Hart Large Igneous Province intrusive complex, northwestern Australia (#IUGG-4004)
Karin Orth (Australia)

**VS28p-486** Assessing the ambiguity and variability of potential field models of volcanic plumbing systems. Examples of maar-diatremes from southeastern Australia (#IUGG-5212)
Teagan Blaikie (Australia)

**VS28p-487** Geology, petrology and geochemistry of the tolbachik volcanic massif, Kamchatka, Russia (#IUGG-5770)
Tatiana Churikova (Russia)
Wednesday, July 1

**Joint Inter-Association Symposia**

**JM4 Data Assimilation in Geophysical Sciences (IAMAS, IAGA, IACS, IASPEI, IAPSO, IAG)**

**JM04p**

**JM04p-488** A particle swarm optimizer based on directions and its application to the four dimensional variational data assimilation (#IUGG-0304)

**JM04p-489** A simple evaluation of a ocean data assimilation system in the Indian-Pacific Oceans (#IUGG-0714)

**JM04p-490** Data assimilation of ionospheric magnetic field perturbations into a global magnetospheric model (#IUGG-2057)

**JM04p-491** An incremental local ensemble transform kalman filter method for mesoscale numerical weather prediction and its quantitative precipitation forecast performance (#IUGG-3210)

**JM04p-492** Inverse problem in volcanic lava flow modeling (#IUGG-3649)

**JM04p-493** A non-variational consistent hybrid ensemble filter (#IUGG-4328)

**Craig Bishop (USA)**

**Joint Inter-Association Symposia**

**JS4 Deformation of the Lithosphere: Integrating Seismology and Geodesy through Modelling (IASPEI, IAG)**

**JS04p**

**JS04p-494** Block modeling of crustal deformation in Tierra del Fuego from GNSS velocities (#IUGG-0881)

**Luciano Mendoza (Argentina)**

**JS04p-495** Earth’s surface deformation of Baikal zone from the data of 2011-2014 GNSS companies (#IUGG-1437)

**Alexey Basmanov (Russia)**

**JS04p-496** Kinematics and Seismotectonics of the Montello Thrust Fault (Southeasters Alps Italy) revealed by local GPS and Seismic networks (#IUGG-1758)

**Stefania Danesi (Italy)**

**JS04p-497** Crustal deformation and interplate coupling associated with the 2011 Tohoku-oki earthquake based on a viscoelastic earthquake cycle model (#IUGG-3435)

**Takeshi Sagiy (Japan)**

**JS04p-498** Origin of Chiayi blind backthrust beneath the foreland basin in southcentral Taiwan: Insight from seismic tomography and geodynamic modeling (#IUGG-4027)

**Wei-Hau Wang (Taiwan - China)**

**JS04p-499** A new recipe to compute internal deformation fields in a spherical earth excited by earthquakes (#IUGG-4115)

**Shuhei Okubo (Japan)**

**JS04p-500** 3D Surface Displacement Rates in the Upper Rhine Graben area, Southwest Germany, derived from leveling, GPS, and InSAR

**Thomas Fuhrmann (Germany)**

**JS04p-501** Stress analysis of plate motions (#IUGG-4541)

**Michal Kollar (Slovak Republic)**

**JS04p-502** Model of the horizontal deformation of the earth’s crust surface of the Sudeten (SW Poland) based on GPS data (#IUGG-4834)

**Bernard Kontny (Poland)**

**JS04p-503** Testing a cross-scale model of seismic cycle (#IUGG-4863)

**Iskander Muldashev (Germany)**

**IAMAS (Meteorology)**

**M19 El Niño / Southern Oscillation and Decadal Variability under Climate Change**

**M19p**

**M19p-504** Interdecadal variability of the mega-ENSO-NAO synchronization in winter (#IUGG-0226)

**Zhiwei Wu (China)**

**M19p-505** Global atmospheric oscillations and El Niño in dynamics of the recent climate (#IUGG-0282)

**Ilya Serykh (Russia)**

**M19p-506** Two key parameters for the El Niño continuum allowing for a simple and reliable El Niño prediction? (#IUGG-0305)

**Andy Lai (United Kingdom)**

**M19p-507** Composite analysis of the effects of El Nino Southern Oscillation events on Antarctica (#IUGG-1427)

**Lee Welhouse (USA)**

**M19p-508** Relative Importance of Tropical SSTA in Maintaining Western North Pacific Anomalous Anticyclone during El Niño to La Niña transition years (#IUGG-1760)

**Zhijing Wen (China)**

**M19p-509** The robust impact of El Niño on East Asian summer monsoon during the warm phase of Pacific Decadal Oscillation (#IUGG-2823)

**Xuguang Sun (China)**

**M19p-510** Evaluating consistency of ocean profiles in Equatorial Pacific Ocean (#IUGG-3017)

**King Yeung Cheung (China)**

**M19p-511** On solar variability and ENSO cycle (#IUGG-3133)

**Galina Khachikyan (Kazakhstan)**
## Wednesday, July 1

### IAPSO (Physical Oceanography)

**P10 Sub-Mesoscale Eddies**

**P10p**

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<td>Vertical diffusion enhancing the particle flux from the vortex into the sheared environment (#IUGG-0288)</td>
<td>Evgeny Ryzhov (Russia)</td>
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<td>P10p-513</td>
<td>QG dynamics of two surface vortex patches (#IUGG-0928)</td>
<td>Mikhail Sokolovskiy (Russia)</td>
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<td>P10p-514</td>
<td>Submesoscale eddies in the North Sea: observational evidence provided by satellite imagery (#IUGG-2161)</td>
<td>Svetlana Karimova (Germany)</td>
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<td>Modeling of eddy structures and their role in the restratification of Baltic Sea (#IUGG-3160)</td>
<td>Roman Vankevich (Ukraine)</td>
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<td>P10p-516</td>
<td>Chaotic advection above the ocean submerged obstacle of Gaussian shape (#IUGG-3405)</td>
<td>Olga Aleksandrova (Russia)</td>
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<td>P10p-517</td>
<td>Submesoscale disturbances associated with mesoscale phenomena: A case study in the Kuroshio-Oyashio mixed water region (#IUGG-4820)</td>
<td>Daiki Ito (Japan)</td>
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### IASPEI (Seismology, Geophysics)

**S03 Recent Large and Damaging Earthquakes**

**S03p**

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<td>Luyuan Huang (China)</td>
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<td>S03p-520</td>
<td>How the 2013 Lushan earthquake (Ms=7.0) triggered its aftershocks: Insights from static Coulomb stress change calculations (#IUGG-0964)</td>
<td>Shoubiao Zhu (China)</td>
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<td>S03p-521</td>
<td>Acceleration of seismicity in intraplate stress shadows (#IUGG-1200)</td>
<td>Tae-Kyung Hong (Korea, Republic of Korea)</td>
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<td>S03p-522</td>
<td>Correlation between Coulomb stress imparted by the 2011 Tohoku-Oki earthquake and seismicity rate change in Kanto, Japan (#IUGG-1646)</td>
<td>Takeo Ishine (Japan)</td>
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<td>S03p-523</td>
<td>Overview of seismicity changes inland Japan after the 2011 Tohoku-Oki earthquake and its interpretation (#IUGG-1647)</td>
<td>Takeo Ishine (Japan)</td>
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### IASPEI (Seismology, Geophysics)

**S06d/S06e Strong Ground Motion: Site Effects and Rotational Seismology**

**S06dp**

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<td>Khaled Omar (Egypt)</td>
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<td>S06dp-525</td>
<td>Prediction of peak ground acceleration with respect to site condition using artificial neural network: A case study for Iran (#IUGG-0369)</td>
<td>Abbas Abbassadeh Shahri (Iran)</td>
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<td>S06dp-526</td>
<td>Surface wave inversion using swarm intelligence methods and their application to microtremor measurements (#IUGG-1136)</td>
<td>Ahmad Zarean Shivanehdeh (Iran)</td>
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<td>S06dp-527</td>
<td>High Velocity Gradients in Shallow Sediment and its Effects on Strong Ground Motion Propagation (#IUGG-1687)</td>
<td>Bor-Shouh Huang (Taiwan - China)</td>
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<td>Effects of shallow subsurface structures to long-period ground motions, during the 2011 off the Pacific coast of Tohoku earthquake, Japan (#IUGG-1871)</td>
<td>Seiji Tsuno (Japan)</td>
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<td>S06dp-529</td>
<td>Analysis of the high-frequency attenuation parameter from the downhole array in Taipei Basin, Taiwan (#IUGG-2037)</td>
<td>Mingwey Huang (Taiwan - China)</td>
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<td>S06dp-530</td>
<td>Evaluation of liquefaction potential analysis using different artificial neural networks models (#IUGG-2082)</td>
<td>Mehdi Ezati (Iran)</td>
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<td>A study of topographic effects on strong ground motions by 2-D Fourier Transform of terrain (#IUGG-2502)</td>
<td>YeongTein Yeh (Taiwan - China)</td>
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<td>Earthquake Ground Motion in Sedimentary Basins: 3D Numerical Simulations, Verification and Comparison of Methods (#IUGG-2560)</td>
<td>Pierre-Yves Bard (France)</td>
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<td>Fabian Lindner (Germany)</td>
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<td>Jiri Malek (Czech Republic)</td>
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<td>Estimation of spectral decay parameter (K) and shear wave quality factor (QS) using acceleration data in NW, Iran (#IUGG-4596)</td>
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<td>Estimation of 2D shallow structure by miniature microtremor array method (cca method) for site effect evaluation (#IUGG-4787)</td>
<td>Takahisa Emamoto (Japan)</td>
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<td>S06dp-538</td>
<td>Benchmarking numerical simulation of 1-D nonlinear site response: Preliminary results from the PRENOLIN validation phase on real sites (#IUGG-5516)</td>
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<td>Shallow structure, basement depth and ground predominant period variation in Vina del Mar (Chile) (#IUGG-5740)</td>
<td>Francisco Vidal (Spain)</td>
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<td>Estimated ground motion in adra town (SE Spain) due to January 4th, 1994 local event (#IUGG-5741)</td>
<td>Manuel Navarro (Spain)</td>
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**IASPEI (Seismology, Geophysics)**

**S10/S10a Earthquake Prediction: Open session, Operational Earthquake Forecasting**

**S10p**

**S10p-541**

Osa-Burica peninsulas, Costa Rica: Attempting to reproduce the success in Nicoya capturing another large earthquake in the near field

Marina Pratelli (Costa Rica)

**S10p-542**

Forecasting Rates of Large Aftershocks ([IUGG-1779])

Peter Shebalin (Russia)

**S10p-543**

The Automated System “Huys” for Current Seismic Hazard Assessment ([IUGG-2673])

Hrachya Petrosyan (Armenia)

**S10p-544**

Toward a focal mechanism forecasts procedure applied in Italy ([IUGG-3753])

Pamela Rossi (Italy)

**S10p-545**

Long-term earthquake forecast for Iran ([IUGG-5715])

Mohammad Talebi (Iran)

**IASPEI (Seismology, Geophysics)**

**S01g/S11 Seismological Observation and Interpretation: The Future of the Global Seismic Infrastructures, Forensic Seismology and CTBTO Data**

**S11p**

**S11p-546**

Another view of the history of the Cepstrum ([IUGG-0263])

Robert Kemerait (USA)

**S11p-547**

Seismic and acoustic signals associated with flight of Carrier rockets launched from Baykonury cosmodrome on the records of Kazakhstan stations ([IUGG-0398])

Inna Sokolova (Kazakhstan)

**S11p-548**

Identification of natural phenomena (nontectonic) records by Kazakhstan seismic stations ([IUGG-0400])

Inna Sokolova (Kazakhstan)

**S11p-549**

Optimization of a waveform-fetching algorithm based on station detection capability thresholds ([IUGG-1010])

Konstantinos Lentes (United Kingdom)

**S11p-550**

BJT and its development ([IUGG-1012])

Li Li (China)

**S11p-551**

Announced test as a new challenge to the international monitoring system (IMS): a game theoretic perspective ([IUGG-1104])

Zhongliang Wu (China)

**S11p-552**

Improving CTBTO monitoring capabilities: the Italian proposal for a CNF ([IUGG-1161])

Damiano Pesaresi (Italy)

**S11p-553**

Estimation of the TNT equivalent charge for large surface experimental and accidental explosions based on seismo-acoustic observations ([IUGG-1167])

Yefim Gitterman (Israel)

**S11p-554**

On the possibility of imminent regional seismic activity forecasting using geomagnetic monitoring and Sun-Moon tide code data ([IUGG-1337])

Strachimir Mavrodiev (Bulgaria)

**S11p-555**

ADDOS: Autonomously Deployable Deep-ocean Seismic System - Communications Gateway for Ocean Observatories ([IUGG-1487])

Gabi Laske (USA)

**S11p-556**

Seismic Response Controlling of Structures with a New Semi Base Isolation Devices ([IUGG-1723])

Mehdi Ezati (Iran)

**S11p-557**

Earthquake monitoring in Greenland - benefits of the GLISN infrastructure ([IUGG-1973])

Peter Voss (Denmark)

**S11p-558**

Development of web application system for waveform data observed by real-time seafloor seismic network ([IUGG-1996])

Seiji Tsuboi (Japan)

**S11p-559**

The GEOSCOPE seismic network ([IUGG-2845])

Eleonore Stutzmann (France)

**S11p-560**

Seismic event identification by spectral pattern recognition and combination of array and network localization during IFE14 ([IUGG-2935])

Peter Labak (Austria)

**S11p-561**

The IRIS Federator: Accessing seismological data across data centers ([IUGG-3081])

Chad Trabant (USA)

**S11p-562**

Characteristics of regional seismic waves from large explosive events including Korean nuclear explosions ([IUGG-3329])

Eunyoung Jo (Korea, Republic of Korea)

**S11p-563**

The current status of the global seismographic network (GSN) ([IUGG-3510])

Katrin Hafner (USA)

**S11p-564**

A web service standard for seismological data ([IUGG-3652])

Chad Trabant (USA)

**S11p-565**

Community standard coming of age: Towards QuakeML 2.0 ([IUGG-3972])

Fabian Euchner (Switzerland)

**S11p-566**

The seismic broadband western Mediterranean network and other instrumentation in the western Mediterranean region ([IUGG-4143])

Pazos Antonio (Spain)

**S11p-567**

Introduction of digital object identifiers for seismic networks ([IUGG-4359])

A. Strollo (Germany)

**S11p-568**

This is my abstract title: “Scanning and digitizing of historical analogue seismograms recorded by seismic stations of the Kyrgyzstan”

Inna Sokolova (Kazakhstan)

**S11p-569**

Searchlight correlation detectors: Optimizing seismic monitoring using regional and global networks ([IUGG-4581])

Steven J. Gibbons (Norway)

**S11p-570**

Determination of 2013 North Korea nuclear test location using simulated annealing inversion method ([IUGG-4737])

Dimas Salomo Sianipar (Indonesia)
### Wednesday, July 1

**Union Symposia**

**15:00-16:30, Poster Area (Foyer)**

**U07/J02 The Potential for Carbon- and Climate-Engineering to Offset Global Change / The Potential for Carbon- and Climate-Engineering to Offset Global Change (IAPSO, IAMAS)**

**U07p**

S11p-571 Broader bandwidth seismic array in Micronesia tropical zone in the western Pacific: Forward to understanding of multi-layer's interaction and tectonics ([IUGG-4821](#IUGG-4821))

Yasuhi Ishihara (Japan)

S11p-572 Comparative noise performance of portable broadband sensor emplacements ([IUGG-5175](#IUGG-5175))

Kent Anderson (USA)

S11p-573 Instaseis: Instant global seismograms based on a broadband waveform database ([IUGG-5354](#IUGG-5354))

Simon Staehler (Germany)

S11p-574 Ready for RfC: QuakeML data models for peak ground motion, station characterization, and site characterization ([IUGG-5421](#IUGG-5421))

Fabian Euchner (Switzerland)

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**IAVCEI (Volcanology, Geochemistry)**

**15:00-16:30, Poster Area (Foyer)**

**VS12 Understanding Volcanic Lakes: a Multi-Disciplinary Approach**

**VS12p**

S11p-577 Determination of sulfur species of Chichón volcano crater's lake trough ion Chromatography ([IUGG-1696](#IUGG-1696))

Ana Casas (Mexico)

S11p-578 Bio-Activity Lakes: Essential features and monitoring approach ([IUGG-2753](#IUGG-2753))

Franco Tassi (Italy)


Franco Tassi (Italy)

S11p-580 50 years time series of water chemistry of crater lakes at Kusatsu-Shirane volcano, Japan ([IUGG-4168](#IUGG-4168))

Yoshikazu Kikawada (Japan)

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**IAVCEI (Volcanology, Geochemistry)**

**15:00-16:30, Poster Area (Foyer)**

**VS24 Volcano Geology**

**VS24p**

S11p-581 Explosive volcanic eruptions in the Upper Ordovician of the Siberian Platform ([IUGG-0267](#IUGG-0267))

Warren Huff (USA)

S11p-582 Advances in the Tephrostratigraphical characterization of the Post-glacial explosive activity of Melimoyu volcano, Southern Chile ([IUGG-0499](#IUGG-0499))

Carolina Geoffroy (Chile)

S11p-583 Stages of development of the magmatic system of Shiveluch Volcano: geochronological and termobarogeochemical results ([IUGG-0642](#IUGG-0642))

Maria Tolstykh (Russia)

S11p-584 Automated statistical matching of multiple tephra records ([IUGG-0648](#IUGG-0648))

Rebecca Green (New Zealand)

S11p-585 New data from Chaiten’s volcano plinian events in the Holocene ([IUGG-0673](#IUGG-0673))

Rayen Gho (Chile)

S11p-586 The Neogene Breiddalur Volcano, East Iceland, revisited ([IUGG-0730](#IUGG-0730))

Robert Askew (Iceland)

S11p-587 The deposits of Pululahua Volcanic Complex (PVC), Ecuador: estimation of the erupted magma mass/volume ([IUGG-0817](#IUGG-0817))

Viviana Valverde (Ecuador)

S11p-588 High-grade ignimbrites from the Neoproterozoic rhyolitic volcanism in Southernmost Brazil ([IUGG-1203](#IUGG-1203))

Carlos Augusto Sommer (Brazil)

S11p-589 Development of a new volcanological tag-based database for geo-science research ([IUGG-1263](#IUGG-1263))

Shinya Takahashi (Japan)

S11p-590 GeoLog2 : A public outcrop database for geo-science research and its supporting environment ([IUGG-1332](#IUGG-1332))

Masaru Okumura (Japan)

S11p-591 Complex emplacement of the 1802 AD volcanic debris avalanche at Tutupaca volcano, Southern Peru, as revealed by surface deposit structures ([IUGG-1595](#IUGG-1595))

Patricio Valderrama (Peru)

S11p-592 Pattern classification: a promising tool for the characterization of volcanic products at M. Etna ([IUGG-1792](#IUGG-1792))

Susanna Falsaperla (Italy)

S11p-593 First geological data of an unknown historical eruption (218 ± 14 aBP) at Tutupaca volcano (Southern Peru) ([IUGG-1939](#IUGG-1939))

Pablo Samaniego (France)

S11p-594 The eruptive chronology of the Ampato-Sabancaya volcanic complex (Southern Peru) ([IUGG-1939](#IUGG-1939))

Pablo Samaniego (France)

S11p-595 Faciologic of Neoproterozoic (Ediacaran) Volcanic Successions in the Nw Porion of the Sul-Rio-Grandense Shield, Southernmost Brazil ([IUGG-2097](#IUGG-2097))

Felipe Padilha Leitzke (Brazil)

S11p-596 A detailed study of a Debris Avalanche Deposit on a poorly constrained volcano: the case of Meru, Tanzania ([IUGG-2449](#IUGG-2449))

Audray Delcamp (Belgium)

S11p-597 Seafloor mapping of Palinuro Seamount, a volcanic ridge in Southern Tyrrhenian Sea ([IUGG-3566](#IUGG-3566))

Salvatore Passaro (Italy)

S11p-598 Detection of active fluid emissions in the Naples bay (Southern Italy): First hydroacoustic evidences ([IUGG-3576](#IUGG-3576))

Stella Tamburrino (Italy)

S11p-599 Devils Tower (Wy, USA) - A Lava Coulée Emplaced Into a Maar-diatreme Volcano? ([IUGG-3762](#IUGG-3762))

Petr Dedek (Czech Republic)

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**302 26th IUGG, PRAGUE, CZECH REPUBLIC, JUNE 22 – JULY 2, 2015**
### VS24p-600
Petrochemical characteristics of volcanic rocks of historic era at Mt. Baekdusan, Korea (IUGG-4678)
*Sung-Hyo Yun* (Korea, Republic of Korea)

### VS24p-601
Physical and mechanical characterization of hydrothermal altered rocks of the Acoculco Caldera, Puebla, Mexico (IUGG-4697)
*Antonio Pola* (Mexico)

### VS24p-602
Contribution of an airborne high-resolution Lidar survey to unravel the complexity of a monogenetic volcanic field (Chaine des Puys, France) (IUGG-5044)
*Didier Miallair* (France)

### VS24p-603
Reconstructing the 1730 - 1736 Timanfaya eruption (Lanzarote, Canary Islands) using tephrostratigraphy (IUGG-5093)
*James Muller* (USA)

### VS24p-604
Coupling long- and short-term ground deformation at Campi Flegrei (Southern Italy) to constrain the current dynamics of the caldera (IUGG-5115)
*Roberto Isia* (Italy)

### VS24p-605
Geologic map, volcanic stratigraphy and structure of the Cabo de Gata volcanic zone, Betic-Rif orogen, SE Spain (IUGG-5432)
*Guido Giordano* (Italy)

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### VW02 Best Practices and Recommendations for Tephra Measurements

**VW02p**

**VW02p-607** Tefranet: a collaborative system for tephra fallouts from Etna using mobile and web-based apps (IUGG-5185)
*Daniele Andronico* (Italy)
Convenors

Abesser, Corinna
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Aksoy, Hafizullah
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Altimari, Paolo
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Allison, Ian
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Ansrorg, Isabelle
P01
Aochi, Hideo
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26th IUGG, Prague, Czech Republic, June 22 – July 2, 2015

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Meeting Hall IV & V
North Hall
Terrace I & II
Poster Area
Exhibition Area
Speakers’ Preview Room

Meeting Rooms 2.1, 2.2
Association Secretary Rooms, IUGG President
IUGG Treasurer & FC, IUGG Council Members, LOC

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Staircase
Escalator
Lift
Toilet
Cloakroom
First aid / Doctor

Lunches
Coffeebreaks
Cashbar
Smoking area
Bank/ATM
Emergency exit
1 Holiday Inn PCC – Bitrod (international cuisine)
2 Corinthia Hotel Prague – Café Praha (snacks and sandwiches)
3 Restaurant Kandelab (Czech / international cuisine)
4 Yam Yam Restaurant (Thai cuisine)
5 Restaurant V Case (Czech cuisine)
6 Fine Café (mediterranean cuisine)
7 Restaurant Na Plani (Czech cuisine)
8 Arrosto Mediterranean Restaurant
Exhibition

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2) AGICO
Exhibitor: AGICO
Contact Person: Libor Vejmelek
Telephone: +420 511 116 303
Email: vejmelek@agico.cz
Website: www.agico.com

AGICO (Advanced Geoscience Instruments Company) is one of the most respected world producers of scientific instruments for rock magnetism, palaeomagnetism and environmental magnetism. AGICO instruments enable measurement of remanent magnetization, magnetic susceptibility and anisotropy of low-field magnetic susceptibility, measurement of frequency-dependent magnetic susceptibility, and investigation of anisotropy of magnetic remanence.

3) THE CANADIAN GEOPHYSICAL UNION (CGU)
Exhibitor: Canadian Geophysical Union
Contact Person: Marc-André Gemme
Telephone: +1 514 943-4894
Email: marc-andre.gemme@congresmtl.com
Website: http://bit.ly/1Pz9FtD

Earth Sciences are key to Canada’s prosperity, safety, sustainability and sovereignty. CGU provides a strong voice for Canadian geoscientists, representing their interests in many ways including organizing scientific meetings, interacting with funding agencies, and in advocating for the role of science in society and policy-making.

4) IAPSO-IAMAS-IAGA
Exhibitor: IAPSO-IAMAS-IAGA Joint Assembly Cape Town 2017
Contact Person: Isabelle Ansorge / Emlyn Balarin
Telephone: +27 21 6503280
Email: isabelle.ansorge@uct.ac.za
Website: TBC

The IAPSO-IAMAS-IAGA 2017 Joint Assembly will be in Cape Town, South Africa 27th August – 1st September 2017. This stand showcases Cape Town, its convention centre and the many tourist sights in and around the city centre. Further information on the Joint Assembly as well as tourist information on Cape Town and travelling beyond will be available at this stand.

5) International Union of Geodesy and Geophysics (IUGG)
Exhibitor: International Union of Geodesy and Geophysics (IUGG)
Contact Person: Franz Kuglitsch
Telephone: +49 331 288 1978
Email: secretariat@iugg.org
Website: http://www.iugg.org

The International Union of Geodesy and Geophysics (IUGG) is the international organization dedicated to advancing, promoting, and communicating knowledge of the Earth system and its space environment. Through its Associations, Commissions, and services, IUGG organizes scientific and educational events, undertakes research, coordinates activities, and liaises with other scientific bodies.
6) SPRINGER
Exhibitor: Springer-Verlag
Contact Person: Johanna Schwarz
Telephone: 0049-6221-4878614
Email: johanna.schwarz@springer.com
Website: www.springer.com

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7) EARTH, PLANETS AND SPACE
Exhibitor: Earth, Planets and Space
Contact Person: Hirokuni Oda
Telephone: +81-3-6425-6450
Email: chair@earth-planets-space.org
Website: www.earth-planets-space.org

Earth, Planets and Space (EPS) covers scientific articles in Earth and Planetary Sciences, particularly geomagnetism, aeronomy, space science, seismology, volcanology, geodesy, and planetary science. EPS also welcomes articles in new and interdisciplinary subjects, including instrumentations. Only new and original contents will be accepted for publication.

8) TRIMBLE
Exhibitor: Trimble Navigation Limited
Contact Person: Leonid Zimakov
Telephone: 214 440 1278
Email: leonid_zimakov@trimble.com
Website: www.trimble.com/infrastructure

Trimble’s portfolio of market-leading advanced positioning solutions (GNSS), application software and state-of-the-art REF TEK seismic recorders/sensors provide integrated proven tools for geodetic, seismological, and meteorological scientific research and monitoring applications. Our robust technologies provide an unprecedented level of capability and reliability to improve safety decisions, ensure structural integrity, and future-proof your investment.

9) CAMBRIDGE UNIVERSITY PRESS
Exhibitor: Cambridge University Press
Contact Person: Nina Wallis, Events Executive
Telephone: +44 (0)1223 358331
Email: information@cambridge.org
Website: www.cambridge.org

Cambridge University Press is a not-for-profit organization that advances learning, knowledge and research worldwide. It is an integral part of Cambridge University and for centuries has extended its research and teaching activities through an extensive range of academic books and journals. Visit our stand for 20% off titles on display.

10) KINEMETRICS
Exhibitor: Kinematics, Inc.
Contact Person: Edelvays Spassov
Telephone: 626-375-0164
Email: ens@kmi.com
Website: www.kinemetrics.com

Kinematics is the world leader in the innovative design, quality manufacture, timely field deployment and continuous operation of the most reliable, versatile and cost-effective seismic instruments for over 46 years. ISO 9001:2008 certified, Kinematics provides seismologists and structural engineers with the most advanced seismic instruments available on the market today.
11) OXFORD UNIVERSITY PRESS

Exhibitor: Oxford University Press
Contact Person: Sarah McMillan
Telephone: 00441865353117
Email: gab.exhibitions.uk@oup.com
Website: www.oup.com

Oxford University Press publishes some of the most respected geoscience books and journals in the world, including Geophysical Journal International (on behalf of the Royal Astronomical Society) and Bittilli/Campbell/Tomei's new Soil Physics with Python book. Visit our booth to discover more about our quality products and to pick up free sample copies.

12) IUGG 2019: Indian Bid

Exhibitor: IUGG 2019: Indian Bid
Contact Person: Dr. Ajai Manglik
Telephone: +91-40-27012884
Email: ajay@ngri.res.in

Under the sponsorship of the Ministry of Earth Sciences, the Indian bid to host IUGG 2019, has National Geophysical Research Institute as the host institution and Indian Meteorological Department, National Center for Antarctic and Ocean Research, Indian National Center for Ocean Information and Services, National Center for Earth Science Studies, and National Institute of Oceanography as the co-hosts.

13) ZH INSTRUMENTS

Exhibitor: ZH instruments
Contact Person: Ing. Zdeněk Hůlka
Telephone: +420 604 795 973
Email: zhinstruments@gmail.com
Website: www.zhinstruments.com

ZHinstruments is a company producing instruments for measuring magnetic susceptibility of rock. The crucial instruments are:

- SM30 – pocket size instrument measuring rock shaped as half-space, with high sensitivity 1*10e-7 in SI unit.
- SM150H/SM150L – measuring small samples up to 30 cm³. Measuring frequency and field strength can be adjusted. Frequency range is 65 Hz – 512 kHz.
- SM150A – special adapter for measurement automatization and thermal stabilization of sample.
- SM400 – measuring in holes with diameter 40 mm and depth up to 530 mm.