



**INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS
UNION GEODESIQUE ET GEOPHYSIQUE INTERNATIONALE**

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This monthly newsletter is intended to keep IUGG Members and individual scientists informed about the activities of the Union, its Associations and interdisciplinary bodies, and the actions of the IUGG Secretariat, Bureau, and Executive Committee. Past issues are posted [here](#). E-Journals may be forwarded to those who will benefit from the information. Your comments are welcome.

Contents

1. IUGG – The People at the Forefront (XXXVI): Archana Bhattacharyya, Finance Committee Member 2023-2027
2. IUGG – Geoscience Education: Continued Cooperation with ICTP
3. IUGG – Grants Program 2024-2025: Awardees
4. IUGG – Sponsored Meetings: Reports
 - Marine Heat Flow: Assessment of the Southern Hemisphere
 - 12th International Workshop on ‘Long-Term Changes and Trends in the Atmosphere’
 - School on ‘Operational Space Weather Fundamentals’
5. IAG – Discover the Importance of Terrestrial Reference Frames
6. IAHS – Meeting Announcement
 - 25th WaterNet Symposium
7. IAMAS – News from the Bureau
8. CMG – Call for proposals to host the IUGG Conference on Mathematical Geophysics in 2026
9. ISC – News
 - Science and the Future of Small Island Developing States
 - Governing Board 2024-2028: Call for Nominations
 - IRDR Scientific Committee: New Members
10. Royal Society – Photography Competition 2024
11. Awards and Honours
12. Meeting Calendar

1. IUGG – The People at the Forefront (XXXVI): Archana Bhattacharyya, Finance Committee Member 2023-2027

My career in Geomagnetism and the related field of Aeronomy had an unusual beginning. I was drawn to Physics after finishing high school, and earned my Bachelor and Master of Science degrees in Physics from the University of Delhi in India. During my years at the University of Delhi, I had the opportunity, as a National Science Talent scholar, to attend summer schools at some top scientific institutes in India, which played a role in my choice of a career in scientific research. After finishing my Masters course, I obtained an assistantship at a university in the USA, where I worked in the area of theoretical condensed matter physics. Soon after I defended my Ph.D. thesis, at Northwestern

University in 1975, I had to take a break in my career due to family reasons and we returned to India, where my husband had a job offer in Bombay (later called Mumbai). Looking for an institute in Bombay, where I would be able to carry out research in a physics-related area, I came across the Indian Institute of Geomagnetism (IIG). I knew very little about Geomagnetism and related areas at that time, but what I learnt about Geomagnetism in my brief introduction to the subject convinced me that I would enjoy working in this area. That is how I ended up joining IIG in 1978, and never regretted my decision to do so.



Archana Bhattacharyya (second from the left) showing old magnetograms at IIG to visitors in 2007

During my first two years at IIG, I rotated through a few different groups, learning about the work being done at the institute. I also enjoyed following the theoretical developments in some areas on my own. Most of the ionosphere over India is in the dip equatorial and low latitude region. Geometry of the geomagnetic field gives rise to some phenomena specific to the equatorial and low latitude ionosphere. So, I embarked on a theoretical study of plasma instabilities in the equatorial ionosphere, where the geomagnetic field played a key role and which gave rise to a highly structured ionosphere over the Indian region. In 1980, Prof. Ram Gopal Rastogi joined IIG as its Director, bringing with him digital data

of amplitude and phase of VHF radio signals transmitted from the geostationary satellite ATS-6 and recorded at a low latitude station in India. This was a collaborative experiment between NOAA, USA, and an Indian team led by Prof. Rastogi. At that time, Indian scientists in the team worked only with the analogue data collected during the course of the experiment. Prof. Rastogi asked me to take the lead in the analysis of the digital data, particularly related to the scattering of the incoming radio waves by ionospheric irregularities produced by plasma instabilities. I decided to also carry out theoretical investigation of the scattering process which gave rise to fluctuations or scintillations in the amplitude and phase of the recorded signals, and this enabled me to extract new information from the data. In an international conference held in New Delhi in 1983, I had the opportunity to discuss my approach with Prof. Kung Chie Yeh, of the University of Illinois, Urbana-Champaign, USA, who was well known for his work on ionospheric scintillations. For me, it was a thrilling experience to find that results I obtained from the data, agreed well with results of my theoretical calculations.

In 1986 I went to the USA to work with the group of Prof. Yeh for 15 months. Here I developed a theoretical framework for relating information derived from scintillation data under strong scattering conditions with the statistical characteristics of the ionospheric irregularities. This led me to extract useful results about the space-time evolution of the ionospheric structures from analysis of data, which often is in the strong scintillation category. After my return to India, I also worked on some facets of the temporal evolution of the main geomagnetic field, which interested me. With GPS reaching full operational capability in 1995, there was renewed interest in how the ionosphere would affect the operations of GPS. In 1998, I was offered a Senior Resident Research Associateship of the National Research Council, USA, to work at the Air Force Research Laboratory in Massachusetts, USA, for two years. There, in addition to working with data, I developed a theory for an electromagnetic plasma instability in the equatorial ionosphere, which could give rise to the ionospheric irregularities that cause scintillations, and also produce small fluctuations in the magnetic field being measured in situ by satellites such as CHAMP. After returning to India in 2000, I continued my research and guided Ph.D. students, and also worked along with some of my colleagues, to streamline the academic program at IIG.

During my tenure as the Director of IIG, from 2005 to 2010, I set up a regional centre of IIG in the northern city of Allahabad, which was equipped with both radio and optical instruments for observing the Earth's upper atmosphere. This centre also had a modern palaeomagnetic laboratory. I was elected a Fellow of the three science academies of India, and also of the Indian Geophysical Union (IGU). In 2008, I was awarded the K. R. Ramanathan medal of the IGU. It was a great learning experience to serve as an Associate Editor of the Journal of Geophysical Research: Space Physics, during 2008-2011. I chaired the Indian National Committee for COSPAR, URSI & SCOSTEP, India, during 2012-2015, and the Indian National Committee for IUGG and the IGU during 2020-2023.

The first IUGG General Assembly that I attended was in 2003, in Sapporo, Japan. This was followed by my participation in three more in Perugia, Melbourne, and Prague. I have also had the opportunity to participate in all the IAGA Scientific Assemblies since the 2005 one held in Toulouse, France. Initially, it was the thrill of meeting personally scientists, whose papers I had read with great interest. In a few of these meetings, the scientists I met, candidly admitted that when they read my papers, they assumed that the author was male! In later years, I looked forward to catching up with old friends and getting to know younger scientists from different parts of the world, while attending the IUGG and IAGA meetings. I have had the good fortune to deliver invited talks and chair sessions in most of these meetings. During the Perugia meeting, I was elected Chairperson of the Inter-divisional Commission for Developing Countries of IAGA, and this was followed by election to the Executive Committee of IAGA for two terms extending from 2011 to 2019. I cherish that experience of working alongside eminent scientists, for the growth of Geomagnetism and Aeronomy around the world. In 2019, I was made an Honorary Member of IAGA.

During 2004-2008, I was a member of an International Working Group under the SCOSTEP Program: Climate And Weather of the Sun-Earth System (CAWSES). I was a Co-convenor along with Nat Gopalswamy of NASA, of the 1st International Living With a Star (ILWS) workshop organised in India, in 2006. I was in the scientific organising committees of several other international conferences linked with the 'International Heliophysical Year' (IHY) and was a member of the National Steering Committee for the IHY. In 2019, I was made a Fellow of SCOSTEP. I have given lectures at many schools in India for Ph.D. students and also at international schools organised by SCOSTEP in Beijing, China and Irkutsk, Russia. I have particularly enjoyed giving talks at camps for school students drawn from different parts of India, to give them a glimpse of different topics in science. I am happy to serve as a member of the Finance Committee of IUGG, and learn from the vast knowledge and dedication of my fellow members of the committee.



Archana Bhattacharyya giving a talk at IIG to post-graduate Geoscience students from various Indian Universities

2. IUGG – Geoscience Education: Continued Cooperation with ICTP

IUGG and the Abdus Salam International Centre for Theoretical Physics ([ICTP](#)) will continue cooperating in geoscience education. On 21 May 2024, ICTP Director Atish Dabholkar and IUGG Secretary General Alexander Rudloff signed a Memorandum of Understanding (MoU) to promote educational programs related to geodesy and geophysics for 2024-2027. The agreement encourages collaboration in the organisation of advanced schools/workshops in geodesy and geophysics at ICTP in Trieste, Italy, at ICTP-EAIFR in Kigali, Rwanda, and other low- and middle-income countries.



Atish Dabholkar (left), ICTP Director, and Alexander Rudloff (right), IUGG Secretary General, signing the MoU between ICTP and IUGG (Photo credit: ICTP)

Founded in 1964 by the late Nobel Laureate Abdus Salam and co-sponsored by UNESCO, IAEA, and the Italian government, the ICTP seeks to accomplish its mandate by providing scientists from developing countries with the continuing education and skills that they need to enjoy long and productive careers. ICTP has been a major force in stemming the scientific brain drain from the Global South. The impact of ICTP extends well beyond the Centre's facilities to virtually every corner of the Earth. The Earth System Physics (ESP) Section of ICTP studies a wide spectrum of the Earth-system, from its fluid components (oceans and the atmosphere) to the planet's interior. In 2011, IUGG and ICTP agreed to enhance geophysical and

geodetic education and science collaboration and signed the first MoU to promote educational programs related to geodesy and geophysics for 2012-2015. In 2015, 2019, and 2024 further MoU were signed to extend the cooperation between IUGG and ICTP. More information about the IUGG sponsored activities can be found [here](#).

3. IUGG – Grants Program 2024-2025: Awardees

The [IUGG Grants Program](#) aims to support projects, of importance to the international geophysical and geodetic community, which explore new scientific ideas, develop future international initiatives, and promote geoscience education. For 2024-2025, IUGG awarded grants to the following projects:

- ***The GNSS enhancement to Tsunami Early Warning Systems (GeTEWS) Oceania 2024 Workshop*** (a joint project between GRC, IAG, and IAVCEI);
- ***Kyoto Landslide Commitment 2020*** (a joint project between GRC, IAG, IAPSO, IASPEI, and IAVCEI);
- ***2025 GIA Workshop: Advancing Models and Geodetic Constraints*** (a joint project between IACS, IAG, IASPEI, and SEDI);
- ***Precise height datum for Africa towards an international height datum (AFRHTD)*** (a joint project between IAG and IASPEI);
- ***ECSNet: the IUGG Early-Career Scientists Network*** (a joint project between IAGA, IACS, IAG, IAHS, IAMAS, IASPEI, and IAVCEI);
- ***Characterisation of the ionized atmosphere in terms of essential variables*** (a joint project between IAGA and IAG); and
- ***The infra-gravity wave initiative*** (a joint project between IAPSO, IACS, and CCEC)

More information about the awarded projects can be found [here](#).

4. IUGG Sponsored Meetings: Reports

Marine Heat Flow: Assessment of the Southern Hemisphere

The workshop ‘Marine Heat Flow: Assessment of the Southern Hemisphere’ and the associated kick-off for the development of marine heat flow as an Essential Ocean Variable (EOV), was held from 19 to 21 April 2024 in Vienna, Austria. The meeting was organised by the International Heat Flow Commission ([IHFC](#)), the Task Force VIII of the International Lithosphere Program ([ILP](#)), and the German Research Center for Geoscience ([GFZ](#)). Ten attendees from six countries (Mexico, Australia, Germany, France, Japan, Türkiye) participated in person. A further 7 were involved in the workshop preparation.



IHFC

INTERNATIONAL
HEAT FLOW COMMISSION

Heat flow, among the [EOVs](#) discussed, is crucial for understanding and monitoring the ocean's state and ecosystems. Its impact on marine ecosystems, ocean circulation, sea level rise, the carbon cycle, and natural resource management is significant. Monitoring heat flow helps in understanding and mitigating climate change impacts, disaster preparedness, and marine life conservation.

Significant achievements during the meeting and workshop included the recognition of marine heat flow's crucial role in ocean circulation dynamics, identification of variability along the ocean floor, and insights from modelling experiments indicating potential impacts on abyssal temperature rise, meridional overturning circulation, and sea level rise. Areas for future exploration were acknowledged, including mechanisms behind conductive and advective seabed heat flux, tectonic/geodynamic settings, and data gaps in Antarctica's offshore regions. Also the need was highlighted for a coherent semantic adoption that will help to bridge with the oceanographic community.

Future research directions include exploring rock thermal properties and heat flow in marine environments, investigating interactions between heat flow and marine tectonic activities, examining geological and geophysical indicators providing insights into seafloor thermal processes, identifying and filling data gaps in Antarctica's offshore regions, and assessing marine data in the Global Heat Flow Database to enhance coverage and reliability. Also potential technological developments were discussed.

The meeting and workshop facilitated fruitful discussions and laid a foundation for advancing marine heat flow research, highlighting its significance in understanding oceanic processes and climate change impacts. Based on the workshop findings, an application for the acceptance of the marine heat flow parameter as an EOV will be prepared. If you are interested in further details or would like to support this initiative, do not hesitate to contact the working group ‘[Marine Heat Flow](#)’ of IHFC.

Florian Neumann, Jeffrey Poort, Ben Norden, and Sven Fuchs for the IHFC

12th International Workshop on ‘Long-Term Changes and Trends in the Atmosphere’

The 12th International Workshop on ‘Long-Term Changes and Trends in the Atmosphere’ convened at Ourense, Galicia, Spain, with the participation of 75 scientists from around the world. The workshop aimed to share insights, foster collaboration, and address challenging issues regarding long-term changes and trends in the Earth's atmosphere. Notably, generous co-sponsorship from IUGG and other agencies extended to scientists from countries typically underrepresented in such



international forums ensured diverse perspectives and enriched discussions. The organisers extend their heartfelt gratitude to the sponsoring agencies whose support made this workshop a great success.

The workshop attendees represented countries spanning several continents. Among the attendees were scientists from Brazil, Spain, India, the United Kingdom, Ethiopia, the United States, Canada, Argentina, China, Germany, Finland, Egypt, the Republic of Korea, the Czech Republic, Nigeria, Russia, Switzerland, Bulgaria, Peru, Japan,

Kenya, Malaysia, Iran, and Türkiye. This global representation underscored the universality and urgency of addressing long-term changes in the atmosphere.

Throughout the workshop, participants engaged in robust discussions on various topics related to long-term changes and trends in the atmosphere. Key themes included: long-term variations trends in the middle atmosphere; long-term changes and trends in the ionosphere and thermosphere; dynamic, physical, chemical, solar, and radiative mechanisms of long-term variations and trends; changes in the middle and upper atmosphere and links to satellite navigation and debris; and miscellaneous topics relevant to long-term changes in the atmosphere.

The full programme of the workshop can be found [here](#).

To disseminate the insights and outcomes of the workshop to a broader audience, we are organising a special issue with *Annales Geophysicae*, ensuring maximum impact and visibility within the scientific community and beyond.

Juan A. Añel,

Chair of the Local Organising Committee and Co-chair of the Scientific Organising Committee

Liying Qian, Chair of the Scientific Organising Committee

School on ‘Operational Space Weather Fundamentals’

Organised by Consorzio Area di Ricerca in Astrogeofisica, Istituto Nazionale di Geofisica e Vulcanologia, Istituto Nazionale di Astrofisica, Università dell’Aquila, Dipartimento di Scienze Fisiche e Chimiche, and Millersville University, the school ‘Operational Space Weather Fundamentals’ took place at the Congress Center ‘Luigi Zordan’ of the University of L’Aquila, Italy, from 12 to 17 May 2024. It was directed by D. Di Mauro (Istituto Nazionale di Geofisica e Vulcanologia, Italy); S. Lepidi (Istituto Nazionale di Geofisica e Vulcanologia, Italy); M. Messerotti (Istituto Nazionale di Astrofisica, Italy), and T. Skov (Millersville University, USA).

The school consisted of seven lectures of 90-min each, five lectures of 60-min each (including questions and discussions) and more than eight hours of laboratory activity, given by 16 leading scientists of the sector (9 from European institutions and 7 from the USA). It provided an overview of the current knowledge of the multi-faceted field of space weather, covering solar-heliospheric, magnetospheric, and ionospheric weather, with a specialised focus on operations and forecasting. By establishing the links from research to operations (R2O) and from operations to research (O2R) and by highlighting the effects of space weather on technological systems and society, this curriculum was aimed at stimulating the involvement of the next-generation researchers in this rapidly growing discipline. Lectures on phenomenology were complemented by laboratory activities and applications with the direct and active involvement of the attendees. Another practical aspect has been covered by

the ‘career section’ aimed at illustrating which skills are desirable for a job in the frame of space weather research and surveillance centers, and how good strategies should be used for educational and communication purposes. All lessons will become available [here](#).

The school was attended by 50 students selected based on their CVs: 24 were from Italy, nine from the U.K., five from the U.S., two from Austria and Kazakhstan, one from Belgium, Colombia, Poland, Chile, Germany, France, Lithuania, and the Czech Republic. 21 of them were Ph.D. students. The school took place in a friendly atmosphere with continuous opportunities for close interactions among students and lecturers, also during social events (coffee breaks were provided by the school organisation), as well as three cultural events aimed at team building among the participants through the discovery of the area from a social, architectural, and historical perspective.

The IUGG contribution was used to allow three non-European students, who had provided a valid reason for requesting financial support and had an adequate academic record, to participate in the school free of charge or at a reduced fee.



Participants of the School on ‘Operational Space Weather Fundamentals’

Considering the success of this first edition of the school, the co-directors, along with the organisers, are contemplating the possibility of organising a follow-up school in a couple of years with updates on the topic addressed.

The Directors of the School

D. Di Mauro, Istituto Nazionale di Geofisica e Vulcanologia, Italy

S. Lepidi, Istituto Nazionale di Geofisica e Vulcanologia, Italy

M. Messerotti, Istituto Nazionale di AstroFisica, Italy

T. Skov. Millersville University, USA

5. IAG – Discover the Importance of Terrestrial Reference Frames



The Global Geodetic Observing System ([GGOS](#)) of the International Association of Geodesy ([IAG](#)) has released an enlightening 2 minute video showcasing the critical role of geodetic terrestrial reference frames in our world. This short film illustrates how these reference frames are essential to both science and society, enabling countless innovative, location-based applications. Every time you use your smartphone for navigation, you are relying on a precise, internationally

recognised terrestrial reference frame made possible by the science of Geodesy.

This video, available on the [GGOS YouTube channel](#), is in English with subtitles in more than 16 languages, making it accessible to a global audience. Watch the short version [here](#).

This short video supplements the very successful 10-minute long film version available since September 2023. The long version, narrated by native speakers in 12 languages, has been watched more than 40,000 times and provides a more comprehensive exploration of the importance of terrestrial reference frames. You can watch the long version [here](#).

Both videos were produced by GGOS within its Coordinating Office at the Federal Office of Metrology and Surveying ([BEV](#)) in Vienna, Austria. In addition, the short version was produced in collaboration with the United Nations Global Geodetic Center of Excellence ([UN-GGCE](#)) to better engage a general audience interested in understanding the benefits of geodesy.

Martin Sehnal, Director of the GGOS Coordinating Office

6. IAHS – Meeting Announcement

25th WaterNet Symposium

The 25th WaterNet/WARFSA/GWP-SA Symposium will be held in Maseru, The Mountain Kingdom of Lesotho at the Avani Maseru Hotel, from 30 October to 1 November 2024 under the theme **Enhancing Sustainability: Upscaling Innovations and Best Practices for Integrated Catchment And Water Resources Management (ICWRM) in Eastern and Southern Africa – Leaving No One Behind**. The 25th Symposium will be hosted by the National University of Lesotho in collaboration with other partners.



The Symposia have been held annually in the Eastern and Southern African regions for the past 24 years to promote interaction among policymakers, academics, practitioners from water and related sectors, and cooperating partners. Together, they identify regional issues, gaps and priorities that require further research and support. Great emphasis has been placed on integration of knowledge, particularly involving scholars from the natural and social sciences.

This year's symposium sub-themes have been aligned to the achievement of Sustainable Development Goals (SDGs) and the Southern African Development Community (SADC) Water Research Agenda under the Regional Strategic Action Plan (RSAP) on Integrated Water Resources Development and Management Phase V, whose main objective is: Promoting evidence-based implementation of SADC water programmes and projects through multi- and inter-disciplinary research, and synthesis of existing and new information, which will lead to a realisation of SADC developmental goals.

Are you interested in more IAHS news? [Sign up](#) for the IAHS newsletter!

Jean-Marie Kileshye Onema, IAHS Secretary General

7. IAMAS – News from the Bureau



*Keith Alverson, Mary Scholes, Andrea Flossmann,
Steve Ackerman, John Burrows, and John Turner
(from left to right)*

The IAMAS Bureau, comprising our President, Andrea Flossmann (France), two Vice-Presidents, Mary Scholes (South Africa) and John Burrows (Germany), and Secretary General, Keith Alverson (Canada), meets monthly by zoom for routine business. In 2024, from 21 to 23 May, the Bureau met over an extended three-day period in Paris, France. Invited in person guests were the Deputy Secretary General, and past Secretary General, Steve Ackerman (USA) and the Member-at-large, and past President, John Turner (UK). Remote participants included the Early Career Research team lead Jing Li (China) and the Tropical Meteorology Commission Planning lead Thara Prabhakaran (India). The Bureau thanks its French IUGG representative, Pierre Briole, and the Ecole Normale Superior for hosting our meeting.

The Bureau took advantage of the extended in-person meeting to go over in detail 100 proposed scientific sessions for our next joint assembly with IAPSO and IACS, [BACO-25](#), as well as to discuss potential bids for the following Assembly in 2029. We also agreed on proposed updates to the IAMAS strategic plan and statutes, progress towards potential adoption of a new Tropical Meteorology Commission, all to be decided at our next Assembly. Additional topics included boosting Early Career Scientist Engagement in IAMAS, future plans for the IAMAS Newsletter and its distribution, IAMAS liaison with partner organisations and IUGG Union Commissions as well as nominations for participation in IUGG committees, and finances.

Are you interested in more IAMAS news? [Sign up](#) for the IAMAS newsletter!

Keith Alverson, IAMAS Secretary General

8. CMG – Call for proposals to host the IUGG Conference on Mathematical Geophysics in 2026

The IUGG Commission on Mathematical Geophysics ([CMG](#)) invites proposals for hosting the Conference on Mathematical Geophysics in 2026. A series of the biennial conferences started in 1986. These interdisciplinary events aim to encourage exchange of ideas and information in all areas of geophysics, with emphasis on the application of mathematics, statistics and computer science to geophysical problems. They promote the development and application of mathematical methods and theoretical techniques for the solution of problems across the various geophysical disciplines as well as problems related to sustainability (e.g., climate, energy, natural hazards and disaster risks, ocean, water). The last five conferences have been held in Mexico (2014), France (2016), Russia (2018), Republic of Korea (2022), and India (2024). The conference typically attracts about 200 delegates for a 5-6 day meeting. IUGG members who may be interested in hosting the conference should contact the CMG Secretary, [Andrew Valentine](#) for more details.

Alik Ismail-Zadeh, CMG Chair

9. ISC – News

Science and the Future of Small Island Developing States

At the 4th International Conference on Small Island Developing States (SIDS4), the ISC SIDS Liaison Committee issued a declaration ‘From Shores to Horizons: Empowering Science for the Future of Large Ocean States’ calling for increased international support for science to bolster the resilience and sustainable development of the environmentally and economically vulnerable SIDS.



**International
Science Council**

Endorsements of the declaration can be made [here](#).

Governing Board 2024-2028: Call for Nominations

The ISC Members, which includes IUGG, are now invited to nominate candidates for the [ISC Governing Board 2024-2028](#). This includes the President-elect, Vice-President for Membership, Vice-President for Freedom and Responsibility in Science, and five ordinary members.

More information about the ISC Governing Board can be found [here](#).

Please let [us](#) know by **15 August 2024** of any high-profile scientists who are willing to be nominated, and for which position. The pool of candidates, together with all their information as requested by the [nomination form](#), will then be discussed by the IUGG Bureau.

IRDR Scientific Committee: New Members

New members of the [Scientific Committee](#) for the Integrated Research on Disaster Risk ([IRDR](#)) programme have been appointed by the ISC.

The committee provides scientific guidance for IRDR to deliver on its mission to mobilise science for the reduction of all types of disaster risk, building resilience and reducing vulnerability by integrating risk science with climate change adaptation and mitigation and sustainable development.

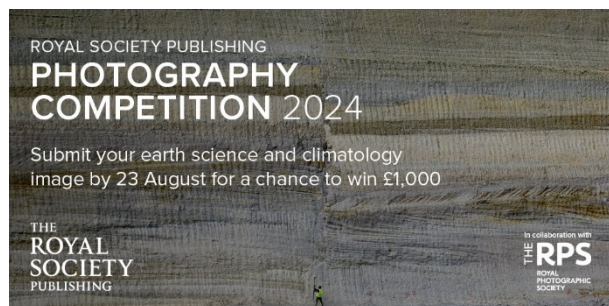
To achieve this mission, the IRDR will bring together expertise from sciences, technologies, engineering and more to improve knowledge and understanding of risk and uncertainty that hamper progress toward inclusive, safe and sustainable development; to promote innovation in research and action and effective solutions in Disaster Risk Reduction (DRR); and to build institutional capacity required under various socio-economic and cultural settings and development contexts for risk-informed sustainable development.

The 15 members of the committee represent different regions of the world and scientific domains, providing a broad range of expertise to support the IRDR objectives. Among the members are the following scientists who have been active in IUGG:

Alik Ismail-Zadeh (Germany), IUGG Secretary General 2007-2017 and Chair of the Union Commission on Mathematical Geophysics (CMG), since 2019; **Timothy Melbourne** (USA), Chair of the IAG/GGOS Focus Area ‘Geohazards Monitoring’ since 2023, and **Jaime Urrutia Fucugauchi** (Mexico), President of the IUGG National Committee for Mexico 2003-2007.

Congratulations!

10. Royal Society –Photography Competition 2024



Royal Society Publishing has issued a call to submit earth science and climatology images for the Photography Competition by **23 August 2024**.

More information can be found [here](#).

11. Awards and Honours

International Association of Hydrological Sciences (IAHS)

The winners of the 2024 IAHS-UNESCO-WMO International Hydrology Prize are **Lena Merete Tallaksen** (Norway; Dooge Medal) and **Heidi Kreibich** (Germany; Volker Medal).

The award ceremony is scheduled to take place in Florianopolis, Brazil, during the joint IAHS and the Brazilian Association of Water Resources ([ABRHidro](#)) conference from 4-7 November 2024.

As of 2014, two medals are 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.

Nominations for the annual 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.

National Academy of Sciences (NAS)

Geoffrey Blewitt (USA), President of IAG Commission 1: Reference Frames (2015-2019) and IAG Union Lecturer at the IUGG General Assembly 2023, was elected member of the National Academy of Sciences of the USA.

Congratulations!

12. Meeting Calendar

This calendar includes meetings which are planned to be organised under the umbrella of IUGG, and major conferences of IUGG's partner organisations (in *italics*). The calendar is updated regularly and is also available [online](#). If you would like to add a meeting, or report changes, please contact the [IUGG Secretariat](#).

July

- 1-5, IAG, Bern, Switzerland, [IGS 2024 Symposium and Workshop](#)
- 7-12, IAMAS, Sapporo, Japan, [9th Global Energy and Water Exchanges \(GEWEX\) Open Science Conference](#)
- 8-12, IAMAS, Jeju, Rep. of Korea, [11th International Cloud Modeling Workshop \(ICMW\) 2024](#)
- 12-13, IUGG, IAMAS, Jeju, Rep. of Korea, [Workshop on Evaluation of Cloud Probe Processing Software](#)
- 13-14, IUGG, IAMAS, Jeju, Rep. of Korea, [Workshop on Scientific Directions for Cloud Chamber Research](#)
- 13-21, COSPAR, IUGG, Busan, Rep. of Korea, [45th COSPAR Scientific Assembly](#)
- 14-19, IAMAS, Jeju, Rep. of Korea, [International Conference on Clouds and Precipitation](#)
- 15-19, IUGG, IAMAS, Boulder CO, USA, [Quadrennial Ozone Symposium](#)
- 15-20, IUGG, IAPSO, Buenos Aires, Argentina, [Summer School 'From meso to sub-mesoscale ocean circulation structures: satellite and in-situ measurements, physical mechanisms and biological impact'](#)
- 15-21, IAVCEI, Eastern Carpathians, Romania, [2nd edition of the Carpathian Fluid Geochemistry Summer School](#)
- 20, IAMAS, Jeju, Rep. of Korea, [A Short Course on Cloud Microphysics and Radar Observations](#)
- 20-25, IAHS, UNESCO-IHP, WMO, Cairo, Egypt, [IAHS Academy](#)
- 24-25, IAHS, Eichstätt, Germany, [International Commission on Continental Erosion \(ICCE\) Symposium 2024](#)

August

- 4-11, IAGA, IAPS, Tbilisi, Georgia, [ICPS 2024. 38th International Conference of Physics Students](#)
- 6-15, IAU, Cape Town, South Africa, [32nd IAU General Assembly](#)
- 19-23, SCAR, Pucón, Chile, [SCAR Open Science Conference 2024](#)
- 24-30, IGU, Dublin, Ireland, [35th International Geographical Congress](#)
- 25-30, IAG, Strasbourg, France, [20th Geodynamics and Earth Tides Symposium](#)
- 25-31, IUGS, Busan, Rep. of Korea, [37th International Geological Congress](#)

September

- 4-6, IAG, Thessaloniki, Greece, [Gravity, Geoid and Height Systems 2024](#)
- 7-13, IAGA, Beppu, Japan, [26th Electromagnetic Induction Workshop](#)
- 8-16, IAVCEI, Catania, Italy, [10th International Conference on Tephra Studies](#)
- 9-13, IAMAS, Kuala Lumpur, Malaysia, [16th International Commission on Atmospheric Chemistry and Global Pollution Symposium and 18th International Global Atmospheric Chemistry Science Conference](#)
- 16-20, IAGA, Kathmandu, Nepal, [2024 ISWI International School](#)
- 16-20, IASPEI, Corfu, Greece, [Young Seismologist Training Course](#)
- 16-21, IASPEI, IAVCEI, El Paso, La Palma, Spain, [Annual Workshop 2024 of the IASPEI/IAVCEI Inter-Association Commission on 'Volcano Seismology & Acoustics'](#)
- 18-20, IAVCEI, Catania, Italy, [6th Conference Alfred Rittmann](#)
- 22-27, IUGG, IASPEI, Corfu, Greece, [39th General Assembly of the European Seismological Commission](#)
- 25-27, IACS, Shanghai, China, [International Symposium on Geomatics, Remote Sensing and Climate Change in the Arctic, Antarctica and High Mountain Asia](#)
- 30-4 October, IAGA, Breckenridge CO, USA, [11th VLF and ELF Remote Sensing of the Ionosphere and Magnetosphere \(VERSIM\) Meeting](#)

October

- October, IAMAS, Qingdao, China, ICCL Conference
- 1-4, IAGA, Nagoya, Japan, [Joint Space Climate 9 Symposium and ISEE Symposium](#)
- 1-4, IUGG, IASPEI, Windhoek, Namibia, 4th General Assembly of the African Seismological Commission
- 5-13, IAVCEI, Nicolosi, Italy, [9th school on Convective and Volcanic Clouds \(CVC\) detecting, monitoring and modeling](#)
- 6-9, EMSEV, IAGA, IASPEI, IAVCEI, Chania, Greece, [Electromagnetic Studies of Earthquakes and Volcanoes](#)
- 7-9, IAG, IAGA, IUGG, GFZ, Potsdam, Germany, [GGOS Topical Meeting on the Atmosphere](#)
- 8-10, GFZ, Potsdam, Germany, [GRACE/GRACE-FO Science Team Meeting 2024](#)
- 10-11, IAG, Potsdam, Germany, [GGOS Days 2024](#)
- 14-18, IAMAS, Nanjing, China, [ICDM Workshop 2024](#)
- 20-26, IAG, Kunming, China, [23rd International Workshop on Laser Ranging](#)
- 30-1 November, IAHS, Maseru, Lesotho, [25th WaterNet Symposium](#)
- 31-6 November, IAGA, Vassouras, Brazil, [XXth IAGA Workshop on Geomagnetic Observatory Instruments, Data Acquisition and Processing](#)

November

- November, IAG, Bogota, Colombia, [SIRGAS 2024](#)
- 3-7, IUGG, IASPEI, Belek, Türkiye, [15th General Assembly of the Asian Seismological Commission](#)
- 4-7, IUGG, IAHS, Florianópolis, Brazil, [9th International Water Resources Management Conference of the International Association of Hydrological Sciences; 14th International Workshop on Statistical Hydrology of the International Association of Hydrological Sciences; and 1st Encontro Brasileiro de Hidrologia Estatística](#)
- 4-8, GRC, Suva, Fiji, [GeTEWS Oceania 2024](#)
- 4-8, IAVCEI, San Pedro de Atacama, Chile, [1st International Monogenetic Conference](#)
- 10-14, IAMAS, Goa, India, [9th SOLAS Open Science Conference](#)
- 11-14, UNESCO-IOC, IUGG, Banda Aceh, Indonesia, [2nd UNESCO IOC Global Tsunami Symposium](#)

December

- 9-13, AGU, Washington DC, USA, [AGU Fall Meeting 2024](#)

Association Scientific Assemblies 2025

- 29 June – 4 July, IAVCEI, Geneva, Switzerland, [IAVCEI Scientific Assembly 2025](#)
- 20-25 July, IACS, IAMAS, IAPSO, Busan, Rep. of Korea, [IACS-IAMAS-IAPSO Joint Scientific Assembly 2025](#)
- 31 August – 6 September, IAGA, IASPEI, Lisbon, Portugal, [IAGA-IASPEI Joint Scientific Assembly 2025](#)
- 1-5 September, IAG, Rimini, Italy, [IAG Scientific Assembly 2025](#)
- 5-10 October, IAHS, Roorkee, India, IAHS Scientific Assembly 2025

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Editors: Franz Kuglitsch, Mioara Manda, Alexander Rudloff (Editor-in-Chief), and Kathy Whaler.