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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 about the actions of the IUGG Secretariat, Bureau, and Executive Committee. Past issues are posted on the IUGG website (<http://www.iugg.org/publications/ejournals/>). E-Journals may be forwarded to those who will benefit from the information. Your comments are welcome.

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1. Editorial: Highlights of 2018

The year 2018 was a successful year for the International Union of Geodesy and Geophysics (IUGG). The Union was involved in various activities during the last year and showed its strength in international cooperation, science promotion and diplomacy. Major activities and events are highlighted below.

- *New Members of IUGG.* Algeria became a Regular Member, Serbia and Uruguay Associate Members of the Union.
- *Association and Union Commission activities.* The IUGG Associations and Union Commissions have been intensively working on scientific programs for the 27th IUGG General Assembly to be held in Montréal, Canada from 8 to 18 July 2019. The Union Commission on Mathematical Geophysics organized an international Conference on Mathematical Geophysics (CMG2018) in Nizhny Novgorod, Russia; the Union Commission on Geophysical Risk and Sustainability organized an international symposium on Disaster Science jointly with the American Geophysical Union in Washington, D.C., USA; and the Union Commission on Study of the Earth's Deep Interior held its 16th SEDI Symposium in Edmonton, Canada.
- *Scientific meetings.* IUGG co-sponsored 17 scientific meetings in Argentina, Azerbaijan, Brazil, Canada, Chile, China, Denmark, Germany, Indonesia, Japan, Malta, Morocco, and the USA.

- *Research programs and projects.* IUGG together with the International Union of Geological Sciences (IUGS) continued to support the International Lithosphere Program (ILP).
- *Science education.* IUGG and the Abdus Salam International Centre for Theoretical Physics (ICTP) in Trieste, Italy, have continued their cooperation in geophysical and geodetic education and science collaboration. IUGG co-sponsored six geoscience education events held at ICTP in Trieste, Italy as well as in Brazil, Ghana, and Tunisia.



(Photo: F. Kuglitsch)

- *New publication.* The Union Commission on Climatic and Environmental Change produced a volume for the IUGG Special Publications series “Global Change and Future Earth” that was published by the Cambridge University Press.
- *Centennial activity.* Several activities in Member countries have been supported via the IUGG Grants Program to celebrate the IUGG Centennial in 2019. Some of the Centennial events were organized in 2018 in China, Japan, Mexico, Turkey, and the USA. A Special Volume “The International Union of Geodesy and Geophysics: From Different Spheres to a Common Globe” of the Journal “History of Geo- and Space Sciences” consisting of papers on the history of IUGG and its associations is under a judgement and planned for publication in June 2019.
- *International Science Council.* IUGG has been an inaugural Union Member of the International Research Council (IRC, 1919-1931), and its successors, the International Council of Scientific Unions (ICSU, 1931-1998), and the International Council for Science (ICSU, 1998 - present). In October 2017, ICSU and the International Social Science Council (ISSC) members agreed to merge the two councils and to form a new International Science Council (ISC). The inaugural General Assembly of the new Council was held on 3-5 July in Paris, France. IUGG Secretary General Alik Ismail-Zadeh was elected the Secretary of the ISC Governing Board.
- *Cooperation.* (i) IUGG continued to strengthen its cooperation with ISC scientific unions including the GeoUnions and the International Union of Biological Sciences (IUBS). The IUGG President and Secretary General met with their colleagues from other eight GeoUnions (<http://www.icsu-geounions.org>) in Paris, France, and in Istanbul, Turkey, to discuss joint activities and the interaction with ISC. Together with IUBS and other international partners, IUGG participated in the ICSU project “Trans-disciplinary Research Oriented Pedagogy for

Improving Climate Studies and Understanding”. (ii) IUGG continued its cooperation with several interdisciplinary bodies of ICSU. In particular, the Union representatives attended the International Data Week in Gaborone, Botswana and participated in the General assembly of ISC-CODATA. (iii) IUGG contributed to the development of the scientific program of the Science & Technology Conference of the Preparatory Commission on the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) in Vienna, Austria. (iv) IUGG participated in the work of the Program Board of the Group on Earth Observations (GEO). (v) IUGG continued its cooperation with the World Meteorological Organization (WMO), the Intergovernmental Panel on Climate Change (IPCC), the United Nations Education, Science and Culture Organization (UNESCO) via its International Hydrological Program (IHP), Earth Science and Geohazard Risk Reduction section, and the Intergovernmental Oceanographic Commission (IOC) as well as with scientific programs such as the World Climate Research Programme (WCRP), the Integrated Research on Disaster Risk (IRDR) Programme, the Global Framework for Climate Services (GFCS), Future Earth and with some other international and intergovernmental organizations, professional societies of geoscientists, and international programs.

- *Business meetings.* The annual meeting of the IUGG Bureau was held in El Colegio Nacional, Mexico City, Mexico, from 24 to 26 October 2018.

The IUGG Executive Committee and the Secretariat thanks the Adhering Bodies and National Committees, Union Associations and Union Commissions as well as all individuals who helped make the year 2018 exciting and productive and who contributed to strengthening international scientific cooperation in Earth and space sciences for the benefit of society.

We wish all IUGG scientists happiness, health and scientific success in 2019, the IUGG Centennial year! Please join us to celebrate this event in Montréal, Canada, at the IUGG XXVII General Assembly.

2. Uruguay becomes an Associate Member of IUGG

An application for admission of Uruguay to IUGG as an Associate Member was received from the Military Geographical Institute of Uruguay. The IUGG Executive Committee welcomed this application, and it was placed before the IUGG Adhering Bodies in regular status (dues paid) for a vote by correspondence. The vote is now complete, and the application was accepted unanimously. According to the IUGG Statutes and By-Laws, the membership of Uruguay is provisional until the approval of the vote by the IUGG Council. Congratulations to the new officers of the Uruguayan National Committee for Geodesy and Geophysics! They are Norbertino Suárez (President and IAG Correspondent), Héctor Rovera (Vice-President), Jorge Faure (Second Vice-President), Francisco Kellner (Secretary General), Natalia Venturini (IACS), Leda Sánchez (IAGA and IASPEI), Pablo Gamazo (IAHS), Madeleine Renom (IAMAS), Gustavo Nagy (IAPSO), and Rossana Muzio (IAVCEI).

3. Union membership and financial situation

As of 1 January 2019, IUGG has 72 National Members including 57 countries in paying status (although some issues still exist for Iran, F.Y.R. Macedonia, Bulgaria and Nicaragua). The paying members are placed in categories from 1 to 14 depending on their financial contribution to the Union (the membership dues rise with increasing category number). At present, the highest category used is

category 11. The members pay dues according to a number of units assigned to their category (in category 1 the number of units is 1, and in category 11 the number is 35). According to a decision made at the XXII IUGG General Assembly (Boulder, USA, 1995), the price of 1 unit is determined every year using an inflator index obtained from the Bureau of Labor Statistics, U.S. Department of Labor. In 2019, the price of 1 unit will be US\$ 2,020. The 57 paying members represent a total of 274 units, which is equivalent to a total income of US\$ 553,480. The funds received as dues are the basis for IUGG's operations as a scientific union, although Union Associations may have their own funds earned through book sales, donations, or others. The funds are spent to support (i) scientific activities of Union Associations and Commissions; (ii) international scientific programs, projects and services; (iii) general and scientific assemblies, symposia, workshops, and schools; (iv) the IUGG Grants Program; (v) the International Lithosphere Program; (vi) the International Science Council; (vii) travel of students, early career scientists, and scientists from developing countries to attend scientific meetings; and (viii) administration and management.

Aksel W. Hansen, IUGG Treasurer

4. Yearbook for 2019

The IUGG Yearbook is available (<http://www.iugg.org/publications/yearbooks/yearbook2019.pdf>) at the IUGG website. Thanks to the National Committees, the Associations and Commissions for helping to update the information in the Yearbook! During 2019, updates on addresses and other information in the Yearbook should be sent to the IUGG Secretariat (secretariat@iugg.org) as soon as they are known. Our aim is to update the Yearbook as needed throughout the year.

5. Proposed changes to IUGG Statutes and By-laws due 8 January 2019

Adhering Bodies of IUGG Member Countries, through their National Committees, may submit proposals for modifications to the IUGG Statutes and By-Laws. The proposals must reach the IUGG Secretary General Alik Ismail-Zadeh by 8 January 2019. The Secretary General shall notify all Member Countries of any proposed change by 8 March 2019.

The Committee appointed to accept and coordinate the proposed changes consists of the following members: Chair: Charles Fierz (Switzerland); Members: Charles Barton (Australia), Jeffrey Freymueller (USA), Ajai Manglik (India), and Kathryn Whaler (UK, ex-officio). To permit the Committee to prepare a summary of the proposed changes and their consequences, please send proposals before 8 January 2019 to Franz Kuglitsch, IUGG Executive Secretary / Assistant Secretary General.

6. Delegate certifications needed for the IUGG Council Meeting

The official notification of the XXVII IUGG General Assembly was sent to IUGG Adhering Bodies and National Committees on 7 September 2018. The letter asked the Adhering Bodies to send the name of their Delegate to the IUGG Council to the IUGG Secretariat by **5 February 2019**. This deadline ensures that the Council Delegates will receive the Council Meeting Agenda documents and

other important information such as the venue of the meetings. In addition, all Adhering Bodies should issue credentials for their Delegates to the Association business/plenary meetings.

7. Important deadlines for the XXVII IUGG General Assembly

The Local Organizing Committee and the Scientific Program Committee of the XXVII IUGG General Assembly announced the following important deadlines:

- **Monday, 18 February 2019**, due date for abstract submission and travel grant application;
- **Saturday, 30 March 2019**, due date for the notification of paper acceptance and decisions on grant application; and
- **Friday, 5 April 2019**, due date for early bird registration.

Please read carefully the abstract submission guidelines before submitting your abstract at: <http://www.iugg2019montreal.com/abstract-submission.html>. For all abstract submission and registration details, and the scientific program outline, go to: <http://www.iugg2019montreal.com>.

8. IUGG grants to support geoscience education events in 2019

IUGG awarded six grants (US\$15,000 in total) to support workshops and training schools organized by the Abdus Salam International Centre for Theoretical Physics (ICTP, Trieste, Italy) in 2019 as recommended by the IUGG Committee on Capacity Building and Education and in accordance with the Memorandum of Understanding between IUGG and ICTP signed in 2015. The list of the events co-sponsored by IUGG is as follows:

- International Space Weather Initiative Workshop, 20-24 May 2019, ICTP, Trieste, Italy
- Workshop on Water Resources in Developing Countries, 27 May – 7 June 2019, ICTP, Trieste, Italy
- Advanced School on Evaluating, Monitoring and Communicating Volcanic and Seismic Hazards in Sub-Saharan Africa, June 2019, Kigali, Rwanda
- Advanced School on American Monsoons - Progress and Future Plans, 19-23 August 2019, Sao Paulo, Brazil
- Advanced Workshop on Earthquake Fault Mechanics, 2-14 September 2019, ICTP, Trieste, Italy
- Workshop on Distilling Climate Information for Sectoral Applications, 2-6 December 2019, Manila, Philippines

Founded in 1964 by the late Nobel Laureate Abdus Salam and co-sponsored by UNESCO, IAEA, and the Italian government, the Abdus Salam International Centre for Theoretical Physics - ICTP (<http://www.ictp.it>) 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 developing world. 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. IUGG and ICTP decided to enhance geophysical and geodetic education and science collaboration and signed a Memorandum of

Understanding to promote educational programs related to geodesy and geophysics for 2012-2015 and extended the agreement for the period of 2016-2019. The agreement encourages collaboration in the organization of advanced schools/workshops in geodesy and geophysics in ICTP or in economically less-affluent countries, and in the dissemination of information on educational and scientific meetings.

9. News from the International Science Council (ISC)

The International Network for Government Science Advice held its biennial conference in Tokyo, Japan, with speakers such as Helen Clark calling on scientists to work with policy-makers in order to achieve the Sustainable Development Goals. More information:

<https://council.science/current/news/science-advice-for-a-changing-world-highlights-from-ingsa2018>

The International System of Units for the kilogram, ampere, kelvin and mole were redefined based on values deduced from fundamental laws. The redefinition was informed by the work of the ISC Committee on Data (CODATA) Task Group on Fundamental Physical Constants. More information:

<https://council.science/current/news/a-milestone-in-the-history-of-science-based-on-work-of-the-committee-on-data-for-science-and-technology-codata>

The ISC is helping to coordinate the participation of the Science & Technology (S&T) Community in the Global Platform on Disaster Risk Reduction (GPDRR), which takes place 13-17 May 2019 in Geneva, Switzerland. ISC is planning a Science Policy Forum for the Implementation of the Sendai Framework together with UNISDR, the UNISDR Science Technology Advisory Group, and the Integrated Research on Disaster Risk programme as a fringe activity. The Science Policy Forum will take place on 13-14 May 2019. Interested experts active in the S&T preparatory work for the 2019 GPDRR, including the Science Policy Forum, are asked to complete a short survey by 15 January 2019 (<https://www.surveymonkey.com/r/Science-at-GPDRR>).

Source: ISC Newsletters

10. Report on the GeoUnions Meeting

The GeoUnions Steering Committee met on 9 and 10 November 2018 in Istanbul, Turkey, to discuss future joint activities in the framework of the new International Science Council (ISC). The Officers of the GeoUnions introduced their current activities and highlighted the types of memberships in their Unions, discussed budget construction, constraints, and how the budget is used. The GeoUnions Officers explored possible new joint ISC/GeoUnions initiatives. ISC options for project development and sponsoring were discussed. Several ideas have been explored including “Digital Earth”, and further development of the Earth and Space Science Education initiative. Some time was dedicated to drafting the basic ideas of the educational proposal, defining its goal as geoscience for sustainable development; conditions, which would require partnership with ISC members and the proposal to be inter- and trans-disciplinarity by its nature; it should be in the framework of the four new ISC challenge domains; and address students, peers, society, decision makers, NGOs, and other stakeholders. The project should cover history, present and future, measurement techniques, data discovery and management, theory, and its impact on Earth, space and society. Also, GeoUnions identified several other topics for joint activities: geoscience and developing nations; early career scientists in geosciences; and women in geosciences.

GeoUnions is a network of top representatives of the international scientific unions of the ISC dealing with Earth and space sciences. The GeoUnions established a Steering Committee in 2004 (in Paris, France) to promote the sciences worldwide, to communicate and to coordinate scientific activities of individual unions, and to speak on behalf of GeoUnions members to the ISC Governing Board, ISC Members and its interdisciplinary bodies and at an international level, especially to the United Nations organizations and other global stakeholders. The current Members of the GeoUnions are the International Astronomical Union (IAU), International Cartographic Association (ICA), International Geographical Union (IGU), International Union of Quaternary Research (INQUA), International Society for Photogrammetry and Remote Sensing (ISPRS), International Union of Geodesy and Geophysics (IUGG), International Union of Geological Sciences (IUGS), International Union of Soil Sciences (IUSS), and International Union of Radio Sciences (URSI).

Alik Ismail-Zadeh, IUGG Secretary General

11. Meeting calendar

A calendar of meetings of interest to IUGG disciplines (especially those organized by IUGG Associations) is posted on the IUGG website (<http://www.iugg.org/calendar.php>). Individual Associations may list more meetings on their websites according to their disciplines.

- February 11-15 | AGU | Pasadena CA, USA | Chapman Conference on Scientific Challenges Pertaining to Space Weather Forecasting Including Extremes| Website: <https://connect.agu.org/aguchapmanconference/upcoming-chapmans/space-weather-forecasting>
 - March 9-15 | URSI | New Delhi, India | 2019 URSI Asia-Pacific Radio Science Conference| Website: <http://aprasc2019.com/>
 - March 11-13 | IAHS, WMO | New York City NY, USA | MOXXI 2019. Measurements and Observations in the 21st Century| Website: <https://iahs.info/Commissions--W-Groups/Working-Groups/MOXXI/Information/MOXXI-2019.do>
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Editors: Tom Beer, Alik Ismail-Zadeh (Editor-in-Chief), Franz Kuglitsch (Associate Editor), and Kathryn Whaler.

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