



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

## **The IUGG Electronic Journal**

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This informal newsletter is intended to keep IUGG Member National Committees informed about the activities of the IUGG Associations, and actions of the IUGG Secretariat. Past issues are posted on the IUGG website (<http://www.iugg.org/publications/ejournals/>). Please forward this message to those who will benefit from the information. Your comments are welcome.

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### **1. Comptes Rendus of the 26<sup>th</sup> IUGG General Assembly**

The Comptes Rendus of the 26<sup>th</sup> IUGG General Assembly is now available at the IUGG website (<http://www.iugg.org/assemblies/2015prague>). Thanks to all who helped to compile the proceedings of the General Assembly! The Comptes Rendus will be printed soon and sent to the Council Delegates, National Committee officers, representatives of Adhering Bodies, Executive and Finance Committee, major libraries, and others.

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### **2. IUGG Council (2016-2019) formed**

IUGG's affairs are directed by the Union Council governed by the Statutes and By-Laws of the Union. Until 2015 the Union Council Delegates were appointed only for the duration of Council meetings held at IUGG General Assemblies and, therefore, major decisions could only be taken every four years. To modernize the Union's practices and to improve the flexibility in decision-making, the IUGG Council at its meeting in Prague in June 2015 decided to extend the term of office of Council Delegates to 4 years (the time between two consecutive General Assemblies). According to the IUGG Statutes, “between meetings of the Council, the direction of the affairs of the Union shall be vested in the Bureau and the Executive Committee” with specific responsibilities defined in the Statutes. The responsibilities of the Standing Council will be to consider, discuss and decide on major scientific proposals, initiatives, and urgent administrative issues of the Union,

which the Bureau and the Executive Committee consider important, and a decision requires voting by the Council. The IUGG Council is composed of one credentialed delegate (and an alternate, if required) from each Adhering Body. The IUGG Council Delegates (2016-2019) are listed at the IUGG website: <http://www.iugg.org/administration/council.php>

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### **3. Future of the Seas and Oceans: IUGG response to the G7 Science Ministers proposal**

At the G7 Meeting of the Science Ministers in Berlin, Germany, on 8-9 October 2015, the Ministers resolved to take action to further develop a global knowledge society. In their final communiqué they stated that they “commit to continuing discussions and developing a proposal for how we can most effectively enhance international co-operation among the G7 and other interested countries ahead of the next Science Ministers meeting in Japan 15-17 May 2016”. Recognizing that science plays a pivotal role in providing solutions to today’s environmental and health issues the Ministers wish to engage in closer co-operation with the international scientific community on four topics, one being the *Future of the Seas and Oceans*.

To this end, the IUGG Secretary General Alik Ismail-Zadeh requested the International Association for the Physical Sciences of the Oceans (IAPSO) to consider this important topic. The IAPSO President Denise Smythe-Wright took an initiative, together with the Scientific Committee on Oceanic Research (SCOR) of the International Council for Science (ICSU), to set up an ad-hoc working group of experts with the intention to develop a white paper related to the topics highlighted in the G7 final communiqué. The topics are marine litter, ocean acidification, biodiversity loss, de-oxygenation, warming, degradation of marine ecosystems, and environmental impacts of deep sea mining. The synthesis paper will be accompanied by a summary for policymakers to be submitted to the G7 Science Ministers before their next summit in May 2016.

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### **4. Report on the SIRGAS School on Reference Systems and the Symposium SIRGAS 2015**

The current activities, advances, and new challenges of Sistema de Referencia Geocéntrico para las Américas (SIRGAS) are reported, discussed, and re-oriented, if required, at the annual SIRGAS meetings (school/symposium), which have been held since 1993. The *VII SIRGAS School on Reference Systems* on 16-17 November 2015 and the *SIRGAS2015 Symposium* on 18-20 November 2015 were held in Santo Domingo, Dominican Republic and hosted by the Universidad Nacional Pedro Henríquez Ureña. The meetings were developed within the framework of the IUGG project “Monitoring crustal deformation and the ionosphere by GPS in the Caribbean” under the auspices of the International Association of Seismology and Physics of the Earth’s Interior (IASPEI), the International Association of Geodesy (IAG), and the International Association of Geomagnetism and Aeronomy (IAGA).

The SIRGAS School was attended by 60 participants from 19 countries: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Germany, Guatemala, Haiti, Honduras, Mexico, Monserrat (UK), Panama, Puerto Rico (USA), Uruguay, USA, and Venezuela. The subject of the school concentrated on strengthening the basic concepts needed for the appropriate generation and use of fundamental geodetic and geophysical data in the Caribbean Region, especially for studying, understanding and modelling deformations of the Earth’s surface and features of the ionosphere and its influence on navigation systems used for civil aviation.



*Attendees of the VII SIRGAS School on Reference Systems.*



*Attendees of the SIRGAS2015 Symposium.*

The Symposium SIRGAS2015 was attended by 148 participants from the same 19 countries. In 54 oral presentations and 15 posters, the following topics were presented: SIRGAS advances and new challenges, maintenance and new perspectives for the continental reference frame, national reference frames, geodetic estimation of geophysical parameters, height systems, gravimetry and geoid, geodetic analysis of the Earth's crust deformation, and practical applications and use of reference frames. The presentations are available at the SIRGAS website ([www.sirgas.org](http://www.sirgas.org)).

In the framework of this Symposium, the SIRGAS Directing Council elected William Martínez-Díaz (Colombia) and Virginia Mackern (Argentina) as the new SIRGAS President and Vice-President. They will coordinate SIRGAS activities for the next four years.

Thanks to the support of the IUGG, the IAG, and the Pan-American Institute of Geography and History (PAIGH), it was possible to provide a partial travel support to 20 SIRGAS colleagues from nine countries. SIRGAS deeply acknowledges this support.

Submitted by Claudio Brunini and Laura Sánchez, School and Symposium co-organizers

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## **5. News from the International Council for Science (ICSU)**

### ***Executive Director of the Integrated Research on Disaster Risk (IRDR) program***

The International Council for Science (ICSU), the International Social Science Council (ISSC) and the United Nations Office for Disaster Risk Reduction (UNISDR) invite applications for the post of Executive Director of the Integrated Research on Disaster Risk (IRDR) program, which will be

vacant on 1 June 2016. Information on the position application can be found at the ICSU website: <http://bit.ly/1KpvMkr>. The closing date for applications is 18 March 2016.

IRDR is an international research program addressing all hazards bringing together the natural, social, medical and engineering sciences. Its objectives are the scientific characterization of natural and human-induced environmental hazards, vulnerability and risk; the understanding of decision-making in complex and changing risk contexts; and the reduction of risk and curbing losses through knowledge-based actions (<http://www.irdrinternational.org>).

Source: ICSU website

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## 6. UNESCO water programs: 50 years for sustainable development

UNESCO celebrated the 50<sup>th</sup> anniversary of its water programs. In 1965, UNESCO and the World Meteorological Organization (WMO) began the first worldwide program of studies of the hydrological cycle – the International Hydrological Decade (IHD) – complemented by a major effort in the field of hydrological education and training. Conscious of the need to expand upon the efforts of the IHD, UNESCO launched the International Hydrology Programme (IHP) in 1975 to follow the Decade. The International Hydrological Programme is the only intergovernmental program of the UN system devoted to providing policy advice, mobilizing international cooperation, and developing institutional and human capacities within the water sector. Over the past 50 years, UNESCO’s water programs have evolved from an internationally coordinated hydrological research program into an encompassing, holistic program to facilitate education and capacity building, and enhance water resources management and governance. Today in its Eighth Phase (IHP-VIII), IHP facilitates an interdisciplinary and integrated approach to watershed and aquifer management, which incorporates the social dimension of water resources, and promotes and develops international research in hydrological and freshwater sciences to meet current water challenges at national, regional and global level, especially through the worldwide network of the UNESCO Water Family.

The international water community, including experts of the International Association of Hydrological Sciences (IAHS) of IUGG, has been contributing to the IHP’s goal of building a more prosperous water future for humanity. It has been “long recognized the importance of water for human rights and dignity, for sustainable development, for lasting peace” told Irina Bokova, UNESCO Director General. “There is no road ahead other than water, it is the most important resource humanity has. It is not only a prerequisite for life, but an essential component for social, environmental and economic development and a fundamental factor in peace, social cohesion and poverty reduction. This is why water has been a centerpiece of UNESCO’s initiatives for fifty years – a period that has borne witness to significant outcomes which are a source of pride and celebration”, mentioned David Korenfeld Federman, chairperson of the IHP Intergovernmental Council.

A special volume “Water, People and Cooperation: 50 Years of Water Programmes for Sustainable Development at UNESCO” was published as a part of the celebrations marking the fortieth anniversary of the creation of the IHP and the fiftieth of the launch of UNESCO’s studies in water resources. It was released on 2 December 2015 during Water and Climate Day at the 2015 Paris Climate Conference (COP21). This book summarizes the past achievements, current activities as well as options for the desired future of IHP in an illustrated colorful publication in English, French, and Spanish. Christophe Cudennec, IAHS Secretary General and the IUGG liaison officer to the

IHP-UNESCO, attended the meeting and spoke about the long-lasting partnerships between IAHS and IHP.

More information on the book can be found at the UNESCO website: <http://en.unesco.org/50-years-unesco-water-programmes/publication>

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## **7. International Year for Global Understanding 2016**

The increasingly noticeable global consequences of local action call attention to the fact that changing the world is everyone's business. Taking action on global issues locally involves an understanding of the manifold ways in which the local and the global are intertwined. This is the central idea of the 2016 "International Year of Global Understanding" (IYGU). The international year is supported by the international scientific umbrella organizations ICSU (International Council for Science), ISSC (International Social Science Council), and CIPSH (International Council for Philosophy and Human Sciences). In cooperation with the International Geographical Union (IGU), Benno Werlen, a social geographer at the Friedrich-Schiller-University of Jena, Germany, initiated and developed the IYGU.

The International Year was officially inaugurated on 2 February 2016 in Jena, Germany. Klaus Töpfer, the former German Federal Minister for the Environment and the former Executive Director of the United Nations Environment Programme (UNEP), delivered the keynote address. A great number of high-level guests from all over the world participated in the opening ceremony. Jena University's President Walter Rosenthal, the Federal State's Minister of Economy and Science Wolfgang Tiefensee, the IGU President, representatives of the International Science Councils (CIPSH, ISSC, and ICSU), and the Executive Director of Future Earth welcomed the participants. The keynote presentations covered all of the main elements: education, (natural, social, and human) sciences, and information. Benno Werlen emphasized: "We wish to build bridges between global thinking and local action. IYGU will encourage people to make their everyday choices in the light of global challenges." IUGG is a co-sponsor of the IYGU. IUGG Secretary General Alik Ismail-Zadeh attended the IYGU Opening ceremony.

More information on the IYGU: <http://www.global-understanding.info/>

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## **8. International Conference "Data Intensive System Analysis for Geohazard Studies"**

The Russian National Geophysical Committee for IUGG, the Ministry of Education and Science of the Russian Federation, and the International Institute of Applied System Analysis (IIASA) are principal organizers of the International Conference "Data Intensive System Analysis for Geohazard Studies" to be held in Sochi, Russia, on 18–21 July 2016. The IUGG/IAGA and ICSU Committee on Data for Science and Technology (CODATA) are among the co-organizers of the conference. The conference will focus on geophysical observations, data mining, geoinformatics and systems analysis applications to discuss extreme natural hazard events such as earthquakes, storms, and volcanic eruptions, as well as certain human-induced hazards. They can be detected by different techniques routinely employed for monitoring the relevant geophysical parameters. As the size of remote sensing and Earth surface observations grow, the volume of the data has become overwhelming. This needs implementation of systems analysis embracing sophisticated data analysis and holistic Earth science approaches in order to get comprehensive information on the phenomena of different degrees of hazard and multi-scale extremes. The Conference will bring

together research scientists, observers, computer experts, practitioners, technical end-users and decision makers concerned with monitoring of the Earth's environment, detection of hazards, data analysis and modeling, vulnerability and risk assessment. Along with these topics, the key themes of the Conference are: data flow, open data, and big data for geophysical monitoring and systems analysis; evolution of geophysical systems towards extreme conditions; observations, data processing, recognition and analysis; space weather and hazards in Earth's electro-magnetic environment. Special attention will be paid to geophysical and ecological extremes in the Arctic region. The Conference will combine formal talks, poster sessions and round-table discussions. More information on the conference can be found at the website: <http://sochi2016.gcras.ru/>

Roman Krasponerov, Secretary, Russian National Committee for IUGG

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## 9. 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 also list more meetings on their websites according to their disciplines.

### *March*

- 2-4, GCOS, Amsterdam, The Netherlands, Global Climate Observation. The Road to the Future. Web: <http://www.gcos-science.org/>
- 9-12, IAG, Hartebeesthoek Radio Astronomy, South Africa, 2nd IVS Training School on VLBI for Geodesy and Astrometry. Web: [http://www.evga.org/2nd\\_vlbi\\_school.html](http://www.evga.org/2nd_vlbi_school.html)
- 13-19, IAG, WDS, Johannesburg, South Africa, 9th IVS General Meeting. Web: <http://events.saip.org.za/conferenceDisplay.py?confId=56>
- 13-20, IAVCEI, IUGG, Yaoundé, Cameroon, 9th Workshop of the IAVCEI Commission on Volcanic Lakes (CVL9). Web: [http://www.satreps.u-tokai.ac.jp/activity/2015/CVL9\\_Cameroon\\_2nd\\_circular\\_.pdf](http://www.satreps.u-tokai.ac.jp/activity/2015/CVL9_Cameroon_2nd_circular_.pdf)
- 20-24, IAGA, IUGG, Hurghada, Egypt, IAGA-IV Symposium: "Influence of short and long term solar variability on climate". Web: <http://iaga.cu.edu.eg/>
- 30 March – 1 April, IAG, Vienna, Austria, 3rd Joint International Symposium on Deformation Monitoring (JISDM). Web: <http://www.jisd2016.org/>
- 30 March – 1 April, IAPSO, IUGG, Lerici, Italy, 2016 Arctic-Subarctic Ocean Fluxes (ASOF). Web: <http://asof.npolar.no/>
- 30 March – 7 April, IAGA, Levi, Finland, Space Climate 6. Space Climate School & Space Climate Symposium. Web: <http://www.spaceclimate.fi/SC6>

### *April*

- 2-5, IASPEI, IUGG, Luxor-Aswan, Egypt, First General Assembly of the African Seismological Commission (AfSC 2016). Web: <http://afsc2016.org>
- 5-7, DLR, UNOOSA, Cologne, Germany, DLR Conference on Climatic Change – Challenges for Atmospheric Research. Web: <http://www.ccc2016.net/home>
- 6-8, WCRP, WWRP, IAMAS/ICDM, Reading, UK, Workshop on Atmospheric Blocking. Web: [http://www.sparc-climate.org/meetings/Workshop\\_on\\_Atmospheric\\_Blocking\\_Reading\\_April2016](http://www.sparc-climate.org/meetings/Workshop_on_Atmospheric_Blocking_Reading_April2016)
- 12-13, ICSU, Paris, France, Scientific Unions Meeting.
- 12-14, IAMAS, SCOSTEP, SCAR, Cambridge, UK, 3rd International ANtarctic Gravity Wave Instrument Network (ANGWIN) science workshop (VARSITI-SCOSTEP/SCAR). Web: <https://www.eventbrite.co.uk/e/3rd-international-antarctic-gravity-wave-instrument-network-angwin-science-workshop-registration-20754077003>

- 12-15, IAG, St. Petersburg, Russia, IAG Symposium on Terrestrial Gravimetry: Static and Mobile Measurements. Web: <http://www.elektropribor.spb.ru/tgsmm2016/eindex.ru>
- 17-22, EGU, Vienna, Austria, European Geosciences Union General Assembly 2016. Web: <http://www.egu2016.eu>
- 16-22, IAMAS, IUGG, Auckland, New Zealand, International Radiation Symposium 2016. Web: <http://irs2016.org>

**May**

- 17-20, WCRP, Stockholm, Sweden, International Conference on Regional Climate-CORDEX 2016 (ICRC-CORDEX 2016). Web: <http://www.icrc-cordex2016.org>
- 18-20, IAHS, IUGG, Bochum, Germany, 7th International Water Resources Management Conference of ICWRS. Web: <http://iahs-rub.hydrology.ruhr-uni-bochum.de>
- 22-27, AGU, Dubrovnik, Croatia, Chapman Conference on Currents in Geospace and Beyond. Web: <http://chapman.agu.org/spacecurrents>
- 23-27, IAPSO, IUGG, Liège, Belgium, 48th International Liège Colloquium on Ocean Dynamics: “Submesoscale Processes: Mechanisms, Implications and new Frontiers”. Web: <http://modb.oce.ulg.ac.be/colloquium>
- May 23-June 3, ICTP, IUGG, Trieste, Italy, Eighth ICTP Workshop on the Theory and Use of Regional Climate Models. Web: <http://indico.ictp.it/event/7613>
- May 30-June 5, IASPEI, IUGG, Apatity, Kola Peninsula, Russia, X International Workshop “Physics and forecasting of rock destruction”.

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*End of IUGG Electronic Journal Volume 16 Number 3 (1 March 2016)*

Editors: Tom Beer, Alik Ismail-Zadeh (Editor-in-Chief), Franz Kuglitsch (Associate Editor), and Kathryn Whaler.