



**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. GIRGEA promotes an international cooperation in Earth and space sciences (Feature Article)**

At the IUGG General Assembly in Vancouver, Canada, in 1987, the IAGA Inter-Divisional Commission for Developing Countries proposed to establish a research group to promote studies of the equatorial electrojet. The International Research Group in Geophysics Europe Africa-Asia-America (**G**roupe **I**nternational de **R**echerche en **G**éophysique **E**urope **A**frique-**A**sie-**A**mérique - **GIRGEA**) was formed in 1995 to continue the research work initiated during the International Equatorial Electrojet Year (IEEY). Presently GIRGEA consists of researchers from 26 countries including 13 from Africa. The GIRGEA was involved in three major international projects: IEEY (1992-1994), the International Heliophysical Year (2005-2009), and the International Space Weather Initiative (2010-2012). In the framework of these projects several scientific tools were installed in the southern hemisphere (Africa, Asia, and America). GIRGEA scientists study the connections between the Sun and the Earth mainly through electrodynamics, magnetic and dynamic physical processes.

Training is one of the main objectives of GIRGEA. The group organizes schools on space weather for Master and PhD students to improve the level of research in the African and Asian countries and to enable the scientists to participate in and contribute to international projects (see figure, left panel). The key training points are (i) the competence to use existing data sets and tools related to studies of space weather; (ii) the use of data recently collected in Africa by African scientists, and the data existing in the database (it was estimated that only 10% of the existing data in Africa are in

use); (iii) development of space weather research combining ground and satellite data (i.e. use of GPS for geophysical studies, navigation, etc.)



*Space weather school in Algeria, May 2013*



*School Sainte-Marie, Côte d'Ivoire/ Sep. 2013*

The schools included lectures (on space weather and solar physics and their impacts on the environment near Earth: magnetosphere, ionosphere, atmosphere; including recent discoveries about the Sun, studies of the impact of the Sun on the Earth's plasma environment and the Sun's influence on Earth's atmosphere); computer labs (using existing databases); use of the existing relevant data in different databases and the old data with the instruments deployed within the major international projects. It is remarkable to mention that all students attending the courses could obtain a job in their countries. Scientific lectures on Sun-Earth system are also delivered in secondary schools (see figure, right panel). 30 research papers and 5 PhD defended are the results of the GIRGEA activities for the last three years. The scientific results cover the impacts of the Sun's events on the ionized environment, long trend in geomagnetic activity and ionospheric ionization, ionospheric conductivities, solar wind and geomagnetism, biochemistry of the Congo river, atmospheric circulation over Africa and some others. Today 30 PhD students work on these and other topics including new fields of research as lightning and geodesy. More information about the activities of GIRGEA can be found at web: [www.girgea.org](http://www.girgea.org).

Christine Amory, GIRGEA co-leader

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## **2. Nominations for IUGG Officers (2015-2019)**

Nominations are invited for the Bureau and the Finance Committee of the Union. The first deadline for nominations is **15 September 2014**. The Adhering Bodies of the Member Countries, the Officers of the Union, and the Officers of the Associations are eligible to submit candidates. Guidelines for nominations have been sent to Adhering Organizations and IUGG/Association officers.

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## **3. Nominations for IUGG Fellows**

The Fellowship (Honorary Membership) of the IUGG is a tribute to individuals who have made exceptional contributions to international cooperation in geodesy or geophysics and attained eminence in the field of Earth and space sciences. Nominations for an IUGG Fellowship can be submitted by Adhering Bodies/National Committees, Union Associations or Affiliated organizations. They should be addressed to Joyce E. Penner, Chair of the Union Fellow Selection

Committee, and submitted before **22 September**. More information can be found at the IUGG webpage: <http://www.iugg.org/honors/Fellowship.pdf>

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#### **4. Report on the WMO Executive Council 2014**

The sixty-sixth session of WMO's Executive Council was held in Geneva from 18 to 27 June 2014.

***Meteorological research and volcanic ash.*** The brief presentations on meteorological research and aeronautical meteorology made appropriate references to collaboration with IUGG (IAMAS and IAVCEI). Regarding the WMO-IUGG Volcanic Ash Scientific Advisory Group, "the Council, whilst fully supporting the ongoing fruitful cooperation between WMO and IUGG, encouraged the VASAG to review its terms of reference after the Conjoint ICAO/WMO MET Divisional Meeting in July 2014 with a view to proposing any necessary amendments for consideration by EC-67."

***Polar activities.*** WMO's polar activities are overseen by a Panel of the Executive Council. In his brief introduction to the work of this Panel, the Secretariat member in charge mention that WMO had a link with IACS amongst many other bodies active in polar research. In discussion, "the Council agreed that the Panel, through the Global Cryosphere Watch (GCW), should further engage with the World Glaciology Monitoring Service (WGMS) to monitor these glaciers using appropriate in-site and space technologies." Note that the WGMS is a service of the International Association of Cryospheric Sciences (IACS) of IUGG.

***The challenge of globalization.*** Over the last ten to twenty years we have seen a dramatic increase in the ability of institutes in neighboring countries, or even in remote large computing centers, to model and forecast local conditions without the co-operation or even agreement of the National Meteorological and Hydrological Services (NMHSs) that are the national counterparts of WMO. This has been one of the great achievements of meteorology in recent years and no-one denies its benefit to the NMHSs in poorer countries which have difficulty maintaining their national services. However, the meteorological services of many poor countries rely for their very existence on the fees they charge airline companies for the briefings that pilots are obliged to receive before they depart. When the briefings are not up to the standard that the airlines want or the charges are, in their view, too high, they are tempted to look elsewhere for their metrological information. As the aviation world moves inexorably towards greater and greater regionalization, even globalization, of many of its services, this may lead to a call for regional even global meteorological forecasting services. In its debate on trends in aeronautical meteorology, the "Council noted serious concerns expressed by some Members relating to the assigning of the provision of meteorological service for international air navigation to entities outside the NMHS, in some cases, private entities. This issue was considered detrimental for many NMHSs due to loss of revenue from the aviation sector with implications on their viability and sustainability."

The same technical developments have led a number of institutions in different parts of the world to develop regional flood awareness schemes which are designed to provide early warning of the likelihood of floods to NMHSs. These developments were discussed briefly at the side meeting of hydrologists. Some concern was expressed that some groups appear to be moving in the direction of issuing what would amount to flood forecasts and warning on the internet i.e. to the general public, without any contact with the NMHSs who are legally responsible for issuing such warnings. It is interesting to see that the EU's European Floods Awareness System (EFAS) is specifically announced as being "an early flood warning system complimentary to national and regional systems. It provides the national institutes and the European Commission with information on possible river flooding to occur within the next three or more days. Since flood warning is a

Member State responsibility, only archived flood warnings can be made publically available. The real-time warnings are made available to the national partner institutes only.”

**Future meetings.** The next session of WMO’s Congress will meet in Geneva from 25 May to 12 June 2015. This will be followed immediately by the next session of its Executive Council from 15 to 17 June 2015. The Council further tentatively scheduled the sixty-eighth session of the Council to be held at the WMO headquarters from 25 May to 3 June 2016. IUGG will be invited to send a representative to all three meetings.

Arthur Askew, IUGG Liaison officer to WMO

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

### *ICSU grants programme open for applications*

ICSU Members are invited to submit applications for the 2015 ICSU grants programme. Following a review conducted by the ICSU Committee on Scientific Planning and Review (CSPR), the programme has been developed to place a particular focus on innovative, multidisciplinary activities. In addition, proposals will now need to be led by an ICSU Scientific Union, with encouragement to involve other organizations in the ICSU family (Scientific Unions, Interdisciplinary Bodies, Joint Initiatives, ICSU Regional Offices, National Scientific Members, or International or National Scientific Associates) as Formal Supporting Applicants.

Source: ICSU webpage

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## 6. Awards and Honors

**Jeffrey Freymueller** (USA), President of the U.S. National Committee for Geodesy and Geophysics, **Daniel Rothman** (USA), Immediate Past President of the IUGG Union Commission on Mathematical Geophysics, and **Hubert Savenije** (Netherlands), IAHS President were elected AGU Fellows. Congratulations to Jeff, Dan and Hubert!

**Demetris Koutsoyiannis** (Greece), IAHS Editor, was awarded the Dooge Medal and **Jun Xia** (China) was awarded the Volker Medal. Both Medals are awarded under the 2014 International Hydrology Prize of IAHS, UNESCO and WMO. Congratulations to the recipients!

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## 7. Obituary

### *Elvin Kejlsø (1919-2014)*

Elvin Kejlsø, former IUGG Treasurer (1971-1979), died 30 July 2014 at the age of 95. Elvin Kejlsø was employed by the Geodetic Institute in Copenhagen for his whole working life. After obtaining a Master degree in Geodesy from the University of Copenhagen in 1945, his career started with surveying expeditions to Greenland, the Faroe Islands, and Iceland. Later he was promoted to management positions in the scientific department of the Institute. As a leader he created very

fruitful working conditions for his colleagues based on confidence and support, and the department obtained a strong international position. Kejlsø had the ability to make the right decisions and take fruitful initiatives. He was among the first to see the possibilities of the use of satellites for geodetic purposes, and he elaborated these themes as senior lecturer at the University of Copenhagen. He took part in the early European Stellar Triangulation project, and shortly before his retirement he obtained an EU research grant for a hydrostatic levelling across Fehmarn Belt 1987. Kejlsø held important positions in international organisations, such as the ICSU Federation of Astronomical and Geophysical Data Services (FAGS) and IUGG. He was strongly engaged in the geodetic cooperation in the Nordic Countries and became president of NKG (Nordiska Kommissionen för Geodesi). Kejlsø was conferred Commander of the order of the Dannebrog.

Ole Bedsted Andersen and Carl Christian Tscherning

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## 8. IUGG-related meetings occurring during September – November

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>). Specific information about these meetings can be found there. Individual Associations also list more meetings on their websites according to their disciplines.

### *September*

- 1-4, IAG, Leeds, UK, 18th WEGENER General Assembly “Measuring and Modelling our Dynamic Planet”. Web: <http://see.leeds.ac.uk/wegener/>
- 9-13, IAVCEI, Yogyakarta, Indonesia, Cities on Volcanoes 8.  
Web: <http://citiesonvolcanoes8.com>
- 15-20, IUGG, IAGA, ESA, EGU, Rhodes, Greece, Geospace revisited: a Cluster/MAARBLE/Van Allen Probes Conference. Web: <http://geospacerev.space.noa.gr/>
- 22-24, IAG, IAU, St. Petersburg, Russia, Journées 2014 "Systèmes de Référence Spatio-Temporels". Web: <http://journées2014.gao.su/>
- 22-26, IUGG, IAMAS, WCRP, WMO, Natal, Brazil, 13th Quadrennial iCACGP Symposium and 13th IGAC Science Conference on Atmospheric Chemistry.  
Web: <http://igac-icacgp2014.org/>
- 22-26, EMSEV, Warsaw, Poland, International Workshop on Electromagnetic Studies of Earthquakes and Volcanoes. Web: <http://emsev2014.cbk.waw.pl/>

### *October*

- 6-8, IUGG, IASPEI, EGU, Rhodes, Greece, Mega earthquakes and tsunamis in subduction-zones: forecasting approaches and implications for hazard assessment.  
Web: <http://www.gein.noa.gr/metsz/>.
- 7-16, IAGA, Hyderabad, India, XVI IAGA Workshop on Geomagnetic Observatory Instruments, Data Acquisition and Processing. Web: [http://www.ngri.org.in/iaga2013\\_14](http://www.ngri.org.in/iaga2013_14)
- 12-18, SCOSTEP, Xian, China, SCOSTEP's 13th Quadrennial Symposium on Solar-Terrestrial Physics. Web: <http://stp13.csp.escience.cn/dct/page/1>
- 13-17, ICTP, IUGG, Trieste, Italy, 2nd TOSCA training school on solar variability and climate response. Web: <http://tosca.sciencesconf.org/>
- 13-17, IAG, Luxembourg, Symposium 2014 on Reference Frames for Applications in Geosciences (REFAG2014). Web: <http://iag.uni.lu/?id=189#355>
- 13-17, WCRP, Darmstadt, Germany, The Climate Symposium 2014. Web: <http://www.theclimatesymposium2014.com/>

- 13-25, ICTP, IUGG, Trieste, Italy, Advanced Workshop and School on Megathrust Earthquakes and Tsunamis.  
Web: [http://cdsagenda5.ictp.trieste.it/full\\_display.php?smr=0&ida=a13230](http://cdsagenda5.ictp.trieste.it/full_display.php?smr=0&ida=a13230)
- 13-26, IAVCEI, Olot, Spain, 3rd International Course on Volcanology (in Spanish).  
Web: [http://www.gvb-csic.es/CURSO/CURSO\\_OLOT/Home.html](http://www.gvb-csic.es/CURSO/CURSO_OLOT/Home.html)
- 24-26, CNC-IUGG, Beijing, China, 1st Congress of China Geodesy and Geophysics .
- 27-28, IAG, Konstanz, Germany, IDS Workshop 2014.  
Web: <http://ids-doris.org/report/meeting-presentations/ids-workshop-2014.html>
- 27-30, GCW, Santiago, Chile, CryoNet South America Workshop.  
Web: [http://www.wmo.int/pages/prog/www/OSY/Meetings/GCW-CN-SouthAmerica/CryoNet\\_SoutAmerica\\_DocPlan.html](http://www.wmo.int/pages/prog/www/OSY/Meetings/GCW-CN-SouthAmerica/CryoNet_SoutAmerica_DocPlan.html)
- 27-31, IAG, Annapolis, MD, USA, 19<sup>th</sup> International Workshop on Laser Ranging.  
Web: <http://ilrs.gsfc.nasa.gov/ilrw19/index.html>

### **November**

- 2-5, CODATA, WDS, New Delhi, India, 24th International CODATA Conference and 29th CODATA General Assembly Web: <http://www.scidatacon2014.org/>
- 10-11, IAHS, Abu Dhabi, United Arab Emirates, 5th STAHY International Workshop.  
Web: <https://www.stahy2014.org/ehome/index.php?eventid=88946&>
- 12-14, UNISDR, WMO, Guayaquil, Ecuador, 3rd International Conference on ENSO. Web: [http://www.ciifen.org/index.php?option=com\\_content&view=category&layout=blog&id=117&Itemid=172&lang=es](http://www.ciifen.org/index.php?option=com_content&view=category&layout=blog&id=117&Itemid=172&lang=es)
- 17-20, IAG, Denver, CO, USA, PECORA 19. In conjunction with the Joint Symposium of ISPRS Technical Commission I and IAG Commission 4. Sustaining Land Imaging: UAVs to Satellites. Web: <http://pecora.asprs.org/index.php>
- 17-20, IASPEI, ASC, Makati City, Philippines, 10th ASC General Assembly, Web: <http://asc2014ph.phivolcs.dost.gov.ph>
- 17-21, UNESCO-IOC, Barcelona, Spain, 2nd International Ocean Research Conference.  
Web: <http://www.iocunesco-oneplanetoneocean.fnob.org>
- 17-22, IAVCEI, Queretaro, Mexico, 5th International Maar Conference.  
Web: <http://maar2014.geociencias.unam.mx/venue-and-access>
- 17-25, IAVCEI, Atacama, Chile, 12th Field Workshop on Volcanic Gases.  
Web: <http://iavcei12.campoalto.cl/>
- 18-21, IUGG, GRC, Madrid, Spain, GEORISK 2014 “Improving Geophysical Risk Assessment, Forecasting, and Management”. Web: <http://georisk2014.com/Home.html>
- 20-22, IUGG, IAG, La Paz, Bolivia, School on Vertical Reference Systems - Escuela en Sistemas de Referencia Vertical. Web: <http://www.sirgas.org/index.php?id=227&L=2>
- 24-26, IUGG, IAG, La Paz, Bolivia, Symposium SIRGAS 2014. Web: <http://www.sirgas.org/index.php?id=193&L=2>
- 26-28, IAG, ICA, ISPRS, FIG, Vienna, Austria, 11th Symposium on Location-Based Services. Web: <http://lbs2014.org/>

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Editor: Alik Ismail-Zadeh, Secretary General ([Alik.Ismail-Zadeh@kit.edu](mailto:Alik.Ismail-Zadeh@kit.edu))

Associate Editor: Franz Kuglitsch, Executive Secretary / Assistant Secretary General ([fgkugl@gfz-potsdam.de](mailto:fgkugl@gfz-potsdam.de))

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