



**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 Web site (<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. IUGG Annual Report for 2012**

The IUGG Annual Report provides a summary of the activities of the Union and the IUGG Associations as well as of the Union and Inter-Unions Commissions. Thanks to the input from the Union Associations, the Union Commissions, and the International Lithosphere Program. The 2012 IUGG Annual Report is now completed and posted on the web page: <http://www.iugg.org/publications/reports/report2012.pdf>. We invite you to download this impressive summary of last year’s activities. The report will be printed together with the 2013 IUGG Yearbook and will be mailed to the Adhering Organizations, National Committees, International partners, and major libraries in May 2013.

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### **2. CCEC website is now available**

The official website of IUGG new Union Commission on Climatic and Environmental Change (CCEC) is now available at <http://ceec-iugg.org>.

CCEC was established by the Executive Committee of IUGG in 2012 in order to promote the advancement of scientific understanding of climatic and environmental change, to boost research in reducing uncertainties in climate and environmental models, to define criteria for collaborative trans-disciplinary research on climate and environmental change, to fulfill the objectives of IUGG and its associations, to provide an all-Union perspective on climatic and environmental change, and to make available the knowledge and insights developed through scientific research to the benefit of

society and planet Earth, including the consideration of the science of global environmental and climate change, related vulnerability and impacts, and potential responses.

CCEC provides scientific expertise in climate and environment related areas across all IUGG disciplines and associations. CCEC enables the breadth of IUGG expertise to be brought to bear at the global level through collaborating with ICSU and other international organizations. To date, CCEC has interacted with ICSU scientific unions and inter-disciplinary bodies to scope possible activity in Weather, Climate and Food Security. CCEC will run sessions on this topic at the AGU Meeting of the Americas in Cancun, Mexico, in May and at the AOGS meeting in Brisbane, Australia, in June 2013.

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### **3. Report on the workshop “eGYAfrica - better Internet connectivity for research and education institutions in Africa”**



The eGYAfrica Awareness and Planning Workshop was held in Nairobi, Kenya, 26-28 October 2012. The workshop was co-sponsored by the International Council for Science (ICSU) and IUGG/UCDI. The Workshop brought together scientists and teachers, who share a common desire to improve Internet access in research and education institutions in Africa.

27 participants from 13 countries attended the workshop to review progress in eGYAfrica and NREN (Research and Education Network), to introduce newcomers to eGYAfrica, to prepare a work plan for the next period (approximately 2 years), and to expand the network of national eGYAfrica groups. The number of national eGYAfrica groups has expanded from 5 to 12 as a result of the Workshop. Given the rapid increase in Internet capability in Africa following the installation of undersea fibre-optic cables linking Africa to the rest of the world, the need for eGYAfrica was examined. The unanimous view was that eGYAfrica is still very much needed and provides a valuable mechanism for staff in research and education institutions to voice their concerns about Internet needs. The comprehensive range of presentations by delegates forms an excellent statement about the status of Internet developments in various parts of Africa. Sharing such information is emerging as a useful role for eGYAfrica. For the first time the scope of the Workshop was expanded by including secondary schools. This demonstrated that some secondary schools have better Internet access than universities.

Guidelines for the establishment of national eGYAfrica focus groups have been developed and posted on the website. Focus group contacts have been established in Cote d'Ivoire, D.R. Congo, Ethiopia, Ghana, Kenya, Malawi, Mozambique, Namibia, Nigeria, Rwanda, Senegal, Uganda, and Zimbabwe. Suitable contacts have been identified for Algeria, Burkina Faso, R. Congo, and South Africa. Increasing importance should be placed on establishing these national groups, as they are the key for engaging with decision makers and delivering eGYAfrica outcomes.

The results of the *PingER project* (<http://www-iepm.slac.stanford.edu/pinger/>) provide objective information about the Internet performance in Africa and allow a valuable reality check on exaggerated claims. eGYAfrica is proving to be a fertile environment for securing more PingER sites in Africa. For example, Malawi is expected to become a much-needed PingER host. Dr. Les Cottrell, who runs the project, participated in the Nairobi Workshop.

*NREN developments in Africa.* The National Research and Education Network (NREN) is a specialized Internet service provider dedicated to supporting the needs of research and education

communities within a country. Dr. Francis Tsubira, CEO of Ubuntunet, participated in the Nairobi Workshop. Membership of the UbuntuNet Alliance, a regional REN (RREN) supported by the Association of African Universities (AAU), has increased from 5 NREN in 2005 to 14 NREN members today. West and Central Africa were lagging behind on research and education networking. In 2006, when the AAU established a REN Unit, there was one single REN in this region. Today, through the stakeholders' commitment and AAU's effort, five NREN have been established in the region, and a West and Central African Research and Education Network (WACREN) has been established. With the Arab Scientific and Research Education Network (ASREN) covering Northern Africa, all African countries are now covered by at least one regional REN. Many countries are about to establish their NREN, a good number of them with the support of the AAU. The African REN Forum (AFREN) is now an annual rendezvous for REN stakeholders in Africa and beyond to network and exchange experiences.

Peter Fox, Chair of the IUGG Union Commission for Data and Information, participated in the Nairobi Workshop and proposed to explore possibilities within the African Geospace Society to establish an informatics group to deal with data and information issues and to link to eGYAfrica. Strong links have developed with IUGG's GIRAF program in Africa. Anna Nguno, a member of GIRAF, is the new secretary of eGYAfrica. eGYAfrica communicates regularly with IGIRGEA. The eGYAfrica Committee believes that eGYAfrica is too small and would be more effective if it functioned within the framework of a larger, well-established group. The two outstanding candidates are the Association of African Universities, and the ICSU Regional Office for Africa.

Major outcome of the workshop

- Expansion of participating countries from 5 to 12.
- New opportunities for the PingER project to measure the Internet performance in Africa.
- Emerging role for eGYAfrica in providing information and NREN developments.
- Scientists should be better positioned to influence decision makers regarding better Internet capabilities at the working place.
- Reinvigoration of eGYAfrica with new officers and a clear work plan.

More information about eGYAfrica and the Workshop (e.g., program, participants, presentations) can be found on the eGYAfrica website (<http://egy.org/egyafrika.php>).

Received from Charles Barton, Workshop Organizer

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#### **4. Report on the SIRGAS Workshop on Vertical Datum Standardization**

SIRGAS is the Sub-commission 1.3b (Regional Reference Frame for South and Central America) of the International Association of Geodesy (IAG) and a Working Group of the Cartographic Commission of the Pan American Institute for Geography and History (PAIGH). Besides the establishment and maintenance of the geocentric reference frame for the region, SIRGAS is responsible for the definition and realization of a gravity-field related vertical reference system that guarantees consistency and reliability continent-wide (heights with the same accuracy everywhere) and a long-term stability (heights with the same order of accuracy at any time). This is, e.g., needed for any global change research (sea level variation, crustal deformation). One of the key aspects to achieve this purpose is the unified adjustment of the level differences measured along the national first order vertical networks. As these networks have been established since the 1940's, the South American countries were requested during the last decade to compile and prepare in digital form all the necessary data (level differences, gravity values, vertical international connections, etc.) for the

unified adjustment. However, progress amongst them has been heterogeneous, varying from completeness (cases where all leveling and gravity information is already available) to total absence of information. In order to advance the implementation of a homogeneous, comprehensive database continent-wide, a SIRGAS Workshop on Vertical Datum Standardization was held in Rio de Janeiro, Brazil, 3-6 December 2012. The workshop focused on (a) the preparation of leveling and gravity data following a unified set of standards and procedures to filter out inconsistencies and gross errors, (b) the adjustment of leveled differences in terms of geopotential numbers and (c) the computation of correspondent physical normal heights. This included as main topics:

- A review of terminology and basic theoretical concepts regarding first order leveling procedures and physical heights, including the sequence of computation from height differences and gravity values up to physical heights.
- A review of the data format used by each country and inclusion of formulas for generating standard text-only files.
- The preparation and evaluation of first order leveling data organized as lines composed by individual sections, i.e., accumulated height differences and other information between successive benchmarks.
- The preparation and evaluation/interpolation of gravity values at leveled benchmarks.
- The adjustment of geopotential numbers along leveling networks.

These activities were extended by complementary meetings held in Bogotá, Colombia, La Paz, Bolivia, and Lima, Peru, between 28 January and 4 February 2013. In total, 33 representatives from Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Peru, and Uruguay participated in the activities. The main problems in the national vertical networks were identified and the actions for the near future were outlined. The corresponding advances and new activities to be faced after this starting workshop will continue being discussed during the next SIRGAS annual meeting in Panama City, Panama, 21-26 October 2013.

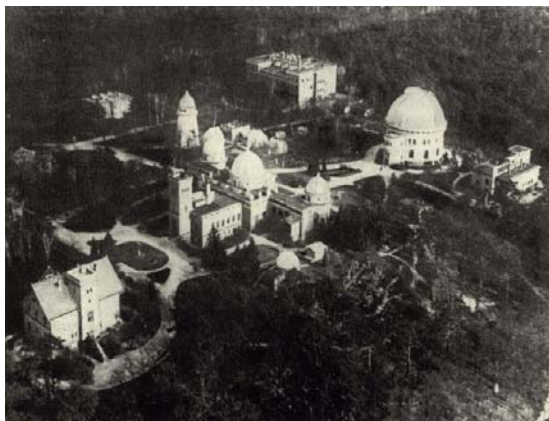
Received from Claudio Brunini, SIRGAS President,  
and Laura Sánchez, SIRGAS Vice-President

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## **5. Anniversary Assembly of IAG: 150 Years of International Cooperation in Geodesy**

In 1862, the Prussian General Johann Jacob Baeyer initiated the Central European Arc Measurement (“Mitteleuropäische Gradmessung”) project. By the end of that year fifteen countries had affirmed their participation, and in 1864 the first General Conference was held in Berlin. In 1870 the Prussian Geodetic Institute was established and entrusted with the operation of the Central Bureau. General Baeyer’s project is considered the forerunner to today’s International Association of Geodesy (IAG). IAG will celebrate its 150<sup>th</sup> anniversary with a Scientific Assembly in Potsdam, Germany, 1-6 September 2013.

The local organization of the Assembly is being undertaken by the GFZ German Research Center for Geosciences, the scientific successor of the Geodetic Institute, located in Potsdam, Germany. Potsdam is undoubtedly one of Germany’s most beautiful cities with a magnificent diversity of architectural monuments and gardens, and offers a fascinating range of attractions, such as the Babelsberg Filmpark and boat tours on the Havel River. Potsdam’s key attractions are the Sanssouci Palace, summer residence of King Frederick II, and Cecilienhof Palace, venue of the 1945 Potsdam Conference.



*Potsdam, Telegrafenberg (19<sup>th</sup> century)*



*Potsdam, Telegrafenberg (21<sup>st</sup> century)*

Hundreds of scientists from all over the world are expected to attend the Assembly. The scientific sessions will be held in the 4-star Hotel Dorint Sanssouci in Potsdam City. A session on IAG's history will be followed by a walk-through of the historic buildings at the Telegrafenberg, site of the past Geodetic Institute and of the GFZ today. An exciting program of presentations will highlight the contributions of Modern Geodesy to science and society. For details see <http://www.iag2013.org>.

Received from Hermann Drewes, IAG Secretary General

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## **6. IUGG-related meetings occurring during April – June**

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.

### ***April***

- 4-5, SCAR/SCOR, London, United Kingdom, Holocene Climate Change Meeting. Web: <http://www.geolsoc.org.uk/holocene13>.
- 7-12, EGU, Vienna, Austria, EGU General Assembly. Web: <http://www.egu2013.eu/>.
- 15-19, IAG, Warsaw, Poland, 17<sup>th</sup> International Symposium on Earth Tides. Web: <http://www.cgs.wat.edu.pl/ETS2013>.
- 16-17, IAMAS, Beijing, China, Expert Assessment Workshop on Decadal Climate Variability and Cross-Scale Interactions. Web: <http://iccl2013.csp.escience.cn/>.
- 21-26, IAHS, Gainesville, Florida, USA, IAHS Groundwater Quality Conference (GQ13). Web: <http://conference.ifas.ufl.edu/GQ13/index.htm>.
- 24-28 IAVCEI, Görlitz, Germany, Basalt 2013 – Cenozoic Magmatism in Central Europe. Web: <http://www.senckenberg.de/basalt2013>.
- 29 April - 1 May, IAMAS, Exeter, UK, SPARC Reanalysis/Analysis Intercomparison Project (S-RIP) Planning Meeting. Web: <http://www.sparc-climate.org/activities/emerging-activities/>.
- 30 April - 2 May, IAG, Tainan, Taiwan, International Symposium on Mobile Mapping Technology 2013 (MMT2013). Web: <http://conf.ncku.edu.tw/mmt2013/wm02.htm>.



## May

- 6-9, IAG, Westford, MA, USA, Seventh IVS Technical Operations Workshop. Web: <http://ivscc.gsfc.nasa.gov/meetings/tow2013/>.
- 13-16, IAHS, Rennes, France, HydroEco2013, 4<sup>th</sup> International Multidisciplinary Conference on Hydrology and Ecology: Emerging Patterns, Breakthroughs and Challenges. Web: <http://osur.univ-rennes1.fr/HydroEco2013/>.
- 13-16, WCRP, Toulouse, France, International workshop on seasonal to decadal prediction. Web: <http://www.meteo.fr/cic/meetings/2013/s2d/>.
- 14-17, AGU, Cancun, Mexico, Joint Meeting of the Americas. Web: <http://moa.agu.org/2013>.
- 19-23, UNISDR, Geneva, Switzerland, Global Platform for Disaster Risk Reduction, Fourth Session – Invest Today for a Safer Tomorrow. Web: <http://www.preventionweb.net/globalplatform/2013/>.
- 23-24, SCAR/SCOR, Shanghai, China, SOOS – Southern Ocean Observing System Asian Workshop. Web: <http://www.soos.aq/index.php/calendar?view=event&cid=42>.
- 26-30, CMOS-CGU-CWRA, Saskatoon, Saskatchewan, Canada, 2013 Joint Scientific Congress “Bringing Environmental Science, Policy and Resource Management”. Web: <http://www.cmos.ca/congress2013/index.htm>.
- 29-31, IAG, Budapest, Hungary, European Reference Frame (EUREF) Symposium. Web: <http://euref2013.fomi.hu/>.
- 30 May - 2 June, IAG, Ilulissat, Greenland, International Symposium: Reconciling Observations and Models of Elastic and Viscoelastic Deformation due to Ice Mass Change. Web: <http://www.dtu.dk/subsites/iag.aspx>.

## June

- 3-7, IAHS, Koblenz, Germany, Water and Environmental Dynamics - VI International Conference on Water and Environmental Research. Web: <http://www.water-environment.org/waterandsediment/>.
- 9-12, IAMAS. Madison, Wisconsin, USA, 8<sup>th</sup> Antarctic Meteorological Observation, Modeling, and Forecasting Workshop. Web: <http://amrc.ssec.wisc.edu/meetings/meeting2013/>.
- 10-13 IAHS, The Hague, The Netherlands, International Conference on Land Use and Water Quality: Reducing Effects of Agriculture. Web: <http://www.luwq2013.nl>.
- 17-21, CTBTO, Vienna, Austria, CTBTO Science and Technology Conference. Web: <http://www.ctbto.org/specials/snt2013/>.
- 17-21, IAG, Rome, Italy, VIII Hotine-Marussi Symposium. Web: <http://w3.dicea.uniroma1.it/hotine-marussi-2013/>.
- 23-28, IAMAS, Fort Collins, USA, 19<sup>th</sup> International Conference on Nucleation and Atmospheric Aerosols. Web: <http://chem.atmos.colostate.edu/icnaa/>.
- 24-28, AOGS/AGU/EGU/IUGG, Brisbane, Australia, Asia Oceania Geosciences Society Annual Meeting. Web: <http://www.asiaoceania.org/aogs2013/public.asp?page=home.htm>.

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**Note: Contributions to IUGG E-Journal are welcome from members of the IUGG family. Please send your contributions to Alik Ismail-Zadeh by e-mail (insert in Subject line: *contribution to E-Journal*). The contributions will be reviewed and may be shortened.**