



International Association of Geodesy

Newsletter

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The *IAG Newsletter* is under the editorial responsibility of the *Communication and Outreach Branch* (COB) of the IAG.

It is an open forum and contributors are welcome to send material (preferably in electronic form) to the IAG COB (newsletter@iag-aig.org). These contributions should complement information sent by IAG officials or by IAG symposia organizers (reports and announcements). The *IAG Newsletter* is published monthly. It is available in different formats from the IAG new internet site: <http://www.iag-aig.org>

Each *IAG Newsletter* includes several of the following topics:

- I. news from the Bureau Members
- II. general information
- III. reports of IAG symposia
- IV. reports by commissions, special commissions or study groups
- V. symposia announcements
- VI. book reviews
- VII. fast bibliography

Books for review are the responsibility of:

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General Announcements

Gravity and geoid in South America

The efforts in South America to improve the gravity data distribution is continuing. Starting in 2011 with activities going on presently, gravity surveys are underway in Argentina, Brazil, Ecuador and Paraguay. It is expected to improve the coverage by a few thousands of new points. During the second semester a new effort will be carried out to compute a new geoid model in the continent with the data available. The efforts are supported by many organizations, in particular, NGA (USA), GETECH (UK), IBGE (Instituto Brasileiro de Geografia e Estatística - Brazil), SGM (Servicio Geográfico Militar - Argentina), DISERGEMIL (Dirección del Servicio Geográfico Militar - Paraguay), IGM (Instituto Geográfico Militar - Ecuador).

In Brazil a new project is starting with the support of PETROBRAS (Brazil Oil Company) and GEORADAR Levantamentos Geofísicos S.A. under the coordination of the Polytechnic School – University of São Paulo, Laboratory of Geodesy and Surveying to establish an Earth tide model in Brazil. For this purpose two Micro LaCoste gravimeters are available. The project aims to establish 11 stations well distributed in Brazil, one of long term in Manaus, Amazon, and 10 others in a sequence of 6 months operation in different places. It is a project for the next five years.

MARIA CRISTINA PACINO
UNR (Universidad Nacional de Rosario)

DENIZAR BLITZKOW
Polytechnic School – University of São Paulo

Call for Participation on Assessment of GOCE Geopotential Models

The Gravity field and steady-state Ocean Circulation Explorer (GOCE) by European Space Agency (ESA) was launched on March 17th, 2009. Its objectives are to determine the Earth's gravity field with an accuracy of 1 mGal (one millionth of the Earth's gravity) and geoid with an accuracy of 1-2 cm at a spatial resolution of 100 km. Up to now, three releases of GOCE-only and joint GRACE-GOCE models have been made publically available together with full error variance-covariance matrices by ESA since the first release in 2010. To estimate accuracy of these models, external assessments are required. These assessments are commonly based on validation against high-quality external data that are direct and indirect observations of the Earth's gravity field. Such data include but are not limited to GPS and spirit levelling data, deflections of the vertical, airborne and ground gravity measurements, mean oceanographic sea surface topography models and altimetry observations, orbits from other geodetic and altimetry satellites etc. Each type of these data has its inherent sensitivity and limitation, and is complementary to other types of data. The GOCE science teams working with ESA conduct ongoing assessments using their own external data holdings in the generation of GOCE models and calibrations on their error estimates. However these assessments are by no means complete and inclusive in terms of both geographical coverage and spectral content subject to a limited access to external data and assessment methods. In order to achieve more complete and inclusive assessment of the GOCE models in a coordinated IAG project, a Joint Working Group (JWG 2.3) has been created by IGFS and the IAG Commission 2 during IUGG 2011 in Melbourne, Australia. This project is also in line with ESA's open and free data policy, and is highly recognized by ESA. Its objectives are to develop new standard validation/calibration procedures, and to perform the quality assessment of GOCE- GRACE&GOCE-based satellite-only and combined solutions for the static Earth's gravity field. In the spirit of openness by ESA, all scientists are invited to contribute to this project. The JWG will collect, review and publish assessment papers in a dedicated issue of the Newton's Bulletin in 2013, and do the synthesis of the assessment results to come up with final assessment reports.

GOCE-based gravity field models are produced according to different schools of thought, and are in fact delivered as 'pure GOCE' (i.e. GOCE-only) models as well as models which incorporate a range of other satellite (and also in-situ) data. GOCE science teams try to do their best to communicate these differences in methodology when publishing new models so that users are able to fully take these differences into account in their assessment and application. Key questions for assessment to answer are what new and improved gravity information GOCE has brought in, how accurate satellite-only models are in terms of both commission and omission errors, and how

the combined models have improved our overall knowledge on the Earth's gravity field. In this regard, new validation methods and data are particularly desirable and welcome.

This is an open call for participation. If you are interested in contributing to assessment of GOCE models, and submitting a paper for review and publication in the special issue of Newton's Bulletin in 2013, please feel free to contact me to express your interest of participation. You will be posted of future activities on GOCE assessment.

Sincerely yours,

JIANLIANG HUANG

The Joint Working Group 2.3 of IAG Commission 2 and IGFS on Assessment of GOCE Geopotential Models
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Useful links:

1. ESA GOCE and the special issue of Journal of Geodesy on GOCE (vol.15, no. 11):
<http://www.esa.int/esaLP/LPgoce.html>
<http://www.springerlink.com/content/0949-7714/85/11/>
2. International Centre for Global Earth Models:
<http://icgem.gfz-potsdam.de/ICGEM/>
3. EGM08 evaluation reports in Newton's Bulletin's n. 4, model and paper:
<http://www.iges.polimi.it/>
<http://bgi.omp.obs-mip.fr/index.php/eng/Publications/Newton-s-bulletin/Newton-s-bulletin-No-4>
<http://earth-info.nga.mil/GandG/wgs84/gravitymod/egm2008/index.html>
Pavlis, Nikolaos K.; Holmes, Simon A.; Kenyon, Steve C.; Factor, John K.
The development and evaluation of the Earth Gravitational Model 2008 (EGM2008) J. Geophys. Res., Vol. 117, No. B4, B04406, <http://dx.doi.org/10.1029/2011JB008916>
4. IAG Commission 2 and IGFS:
<http://www.iag-commission2.ch/>
<http://www.igfs.net/>

IAG monthly news for GIM – IAG page in the GIM International April and June 2012

The IAG become a partner with the magazine GIM International from the start of 2012. We would join sister geospatial organisations such as the FIG, ISPRS, ICA, GSDI & OGC in having a monthly page of news. The fourth and fifth articles titled “*The IAG and FIG Relationship*” for the *April 2012* issue and “*150 Years of the International Association of Geodesy*” for the *June 2012* issue of GIM are available from the webpages http://www.gim-international.com/issues/articles/id1860-The_IAG_and_FIG_Relationship.html and http://www.gim-international.com/issues/articles/id1886-Years_of_the_International_Association_of_Geodesy.html, respectively.

CHRIS RIZOS
President of IAG

Invitation for proposals for changes to the IAG Statutes and Bylaws

Article 16 of IAG's Statutes specifies that the Association shall review its Statutes and Bylaws to ensure an up-to-date structure of its scientific organization every eight years. The last time such a review was initiated was about eight years ago under the presidency of Gerard Beutler. It is now therefore time that we again take a fresh

look at our Statutes and Bylaws. To achieve this goal, a Review Committee (traditionally called the Cassinis Committee) was appointed in the fall of 2011 by the IAG Executive. The committee is chaired by Michael Sideris and includes as members Harald Schuh, Ruth Neilan and Yoichi Fukuda. A proposal with all suggested revisions will be made by the Cassinis Committee for consideration by the IAG Executive and possibly the Council at the 2013 Scientific Assembly. In this way, we are hoping to get the Council's reaction and input to the proposed changes before these are finalized and approved at the next IUGG General Assembly in 2015.

With this announcement, the Cassinis Committee is inviting proposals for changes of any article of the Statutes and Bylaws. Proposals can be submitted through the IAG website Forum (www.iag-aig.org/proposals). The actual Statutes and By-laws can be found on the IAG website. All proposals submitted **between March 1, 2012 and February 1, 2013** will be considered by the Cassinis Committee.

We are very much looking forward to receiving your contributions.

MICHAEL SIDERIS, HARALD SCHUH, RUTH NEILAN, YOICHI FUKUDA

Meeting Announcements

The 3rd IAG Symposium "Terrestrial Gravimetry: Static and Mobile Measurements - TGSMM-2013" - First Announcement

Concern CSRI "ELEKTROPRIBOR", St Petersburg, Russian Federation, 17-20 September 2013.

Chair: Vladimir G. Peshekhonov, Prof., Academician of Russian Academy of Sciences

Organizers:

Russian Foundation for Basic Research, St Petersburg Scientific Center of the Russian Academy of Sciences,
Committee for Science and Higher Education of St Petersburg Government
Concern CSRI "ELEKTROPRIBOR"

Symposium topics include:

- instrumentation and methods for absolute and relative gravimetry, measurement of gravity field, static and mobile gravity measurements and their applications to shipboard, airborne platforms (airplanes, helicopters, airships) and other mobile platforms;
- absolute ballistic gravimeters (including those based on the use of cold atoms), relative gravimeters of all types including superconducting gravimeters;
- gravity gradiometers;
- new results of measurement of gravity networks and the coverage of new regions;
- metrology issues in gravimetry, the results of the comparisons of absolute gravimeters, application of gravity measurements in metrology;
- standardization and databases of absolute measurements of the gravity field;
- gravitational experiments.
- new technologies and applications of gravity measurements such as planetary absolute and relative gravimetry;
- links between satellite and terrestrial or planetary gravity measurements;
- possible applications of terrestrial gravimetry in combination with GNSS technologies;
- gravimetry applications in navigation.

LEONID VITUSHKIN
President

IAG SC2.1 "Gravimetry and Gravity Networks"

Meetings Calendar

Candian Geophysical Union National Conference

June 5-8, 2012, Banff, Canada

URL: <http://www.elements2012.ca/>

The International Summer School on Mobile Mapping Technology

June 11-15, 2012, Tainan, Taiwan

URL: <http://conf.ncku.edu.tw/mmt2013/intro01.htm>

IUGG Conference on Mathematical Geophysics

June 18-22, 2012, Edinburgh, Scotland

URL: <http://www.cmgedinburgh2012.org.uk/>

SGEM 2012

June 17-23, 2012, Albena Summer Resort, Bulgaria

URL: <http://www.sgem.org/>

4th International Conference on Cartography and GIS

June 18-22, 2012, Albena Summer Resort, Bulgaria

URL: <http://www.cartography-gis.com/4thConference/Index.html>

7th Portuguese-Spanish Assembly of Geodesy and Geophysics

June 25-29, 2012, San Sebastian, Spain

URL: www.7ahpgg.com

2nd IAHR Europe Congress

June 27-29, 2012, Munich, Germany

URL: <http://www.iahr2012.tum.de/>

13th Marcel Grossmann Meeting

July 1-7, 2012, Stockholm, Sweden

URL: <http://www.icra.it/mg/mg13/>

XXXII SCAR Open Science Conference

July 13-25, 2012, Portland, Oregon, USA

URL: <http://scar2012.geol.pdx.edu/>

39th COSPAR Scientific Assembly

July 14-22, 2012, Mysore, India

URL: <http://www.cospar-assembly.org/>

ESA International Summer School on GNSS

July 16-26, 2012, Toulouse, France

URL: <http://www.munich-satellite-navigation-summer-school.org>

2012 IGS Workshop

July 23-27, 2012, Olsztyn, Poland

URL: http://www.uwm.edu.pl/kaig/igs_workshop_2012/

AOGS-AGU (WPGM) Joint Assembly

August 13-17, 2012, Singapore, Singapore

URL: <http://www.asiaoceania.org/aogs2012/>

International Symposium on Space Geodesy and Earth System (SGES2012)

August 19-20, 2012, Shanghai, China

URL: <http://www.shao.ac.cn/meetings>

ESC 2012

August 19-24, 2012, Moscow, Russia
European Seismological Commission 33rd General Assembly
URL: www.esc2012-moscow.org

International Astronomical Union General Assembly

August 20-31, 2012, Beijing, China
URL: <http://www.astronomy2012.org/>

International Summer School on Space Geodesy and Earth System

August 21-25, 2012, Shanghai, China
URL: <http://www.shao.ac.cn/schools>

IAU Joint Discussion (JD7): Space-time reference systems for future research

August 27-29, 2012, Beijing, China
URL: http://www.iau.org/science/meetings/future/joint_discussions/1058/

4th Digital Earth Summit 2012

September 2-4, 2012, Wellington, New Zealand
URL: <http://www.digitalearth12.org.nz/>

EUMETSAT Satellite Meteorology Conference

September 3-7, 2012, Sopot, Poland
URL: http://www.eumetsat.int/Home/Main/News/Conferences_and_Events/810062?l

Scientific Colloquium of the Leibniz Society

September 14, 2012, Berlin, Germany
Leibniz Society of Sciences at Berlin (www.leibniz-sozietat.de) organizes a Scientific Colloquium on the topics of scientific geodesy and history of geodesy. Contact person: Heinz Kautzleben (kautzleben@t-online.de)

GRACE Science Team Meeting 2012

September 17-20, 2012, Potsdam, Germany
URL: <http://www.gfz-potsdam.de>

6th Coastal Altimetry Workshop

September 20-21, 2012, Riva del Garda, Italy
URL: <http://www.coastalaltimetry.org/>

20 Years of Progress in Radar Altimetry

September 24-29, 2012, Venice, Italy
URL: <http://www.altimetry2012.org/>

IDS Workshop

September 25-26, 2012, Venice, Italy
URL: <http://ids-doris.org/report/meeting-presentations/ids-workshop-2012.html>

14th IAIN Congress

October 1-3, 2012, Cairo, Egypt
14th International Congress for the International Association of Institutes of Navigation
URL: <http://www.ainegypt.org/site/pages.php?ids=4>

Geodätische Woche 2012

October 9-11, 2012, Hannover, Germany
URL: <http://www.iapg.bv.tum.de/gw>

European VLBI Network (EVN) Symposium

October 9-12, 2012, Bordeaux, France

URL: <http://iag.dgfi.badw.de/index.php?id=291>

International Symposium on Gravity, Geoid and Height Systems GGHS 2012

October 9-12, 2012, Venice, Italy

URL: <http://www.gravityfield.org/>

Workshop on Reflectometry using GNSS and Other Signals

October 10-11, 2012, Prudue University, West Lafayette, IN, USA

URL: <http://www.gnssr2012.org/>

25th CODATA General Assembly

October 26-27, 2012, Beijing, China

URL: <http://www.codata.org>

Pan Ocean Remote Sensing Conference (PORSEC-2012)

November 5-9, 2012, Kochi, Kerala, India

URL: <http://www.porsec2012.incois.gov.in/>

SOMAP 2012

November 22-23, 2012, Vienna, Austria

URL: <http://somap.cartography.at/>

AGU 2012 Fall Meeting

December 3-7, 2012, San Francisco, USA

URL: <http://www.agu.org/meetings/>

European Geosciences Union General Assembly 2013

April 7-12, 2013, Vienna, Austria

URL: <http://www.egu.eu/meetings/meeting-overview.html>

The European Navigation Conference ENC 2013

April 23-25, 2013, Vienna, Austria

URL: www.enc2013.org

International Symposium on Mobile Mapping Technology 2013

April 30 - May 2, 2013, Tainan, Taiwan

URL: <http://conf.ncku.edu.tw/mmt2013/wm02.htm>

TransNav 2013

June 19-21, 2013, Gdynia, Poland

URL: <http://transnav2013.am.gdynia.pl>

Joint IAMAS-IACS Assembly

July 8-12, 2013, Davos, Switzerland

Davos Atmosphere and Cryosphere Assembly 2013, Ice & Air – Process Interactions

URL: www.daca-13.org

Joint IAHS-IAPSO-IASPEI Scientific Assembly

July 22-26, 2013, Gothenburg, Sweden

URL: <http://www.iaspei.org/meetings/forthcoming.html#iaspei2013>

26th International Cartographic Conference

August 25-30, 2013, Dresden, Germany

URL: <http://www.icc2013.org/>

12th IAGA Scientific Assembly

August 26-31, 2013, Mérida, Mexico

URL: www.iaga2013.org.mx

IAG Scientific Assembly

September 1-6, 2013, Potsdam, Germany

URL: <http://www.iag2013.org>

TGSMM 2013

September 17-20, 2013, St Petersburg, Russian Federation

IAG Third Symposium "Terrestrial Gravimetry: Static and Mobile Measurements - TGSMM-2013

AGU 2013 Fall Meeting

December 9-13, 2013, San Francisco, USA

URL: <http://www.agu.org/cgi-bin/gycal?details=1&file=2013120900320182043&li>