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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](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

**IGS Launches Real-time Service**

The International GNSS Service (IGS) has announced the launch of its Real-time Service (RTS). The RTS is a global scale GNSS orbit and clock correction service that enables real-time precise point positioning (PPP) and related applications requiring access to IGS low latency products. The RTS is offered in its GPS-only beta form for the development and testing of applications. The RTS is incorporating the Russian GLONASS initially as an experimental product, and will be integrating it within the service before the end of 2013 – as the RTS reaches its full operating capability. Other GNSS constellations will be added as they become available.

The International GNSS Service (IGS) has ensured open access, high-quality GNSS data products since 1994. These products enable access to the definitive global reference frame for scientific, educational, and commercial applications – a tremendous benefit to the public. Through the Real-time Service (RTS), the IGS extends its capability to support applications requiring real-time access to IGS products. The RTS product streams are available through designated product distribution centers around the world.

The RTS is operated as a public service, and users may register for free access through the IGS Real-time Service website: [http://rts.igs.org](http://rts.igs.org).

**ALLISON B. CRADDOCK**
IGS CB

**IDS 10th Anniversary**

_The International DORIS Service is 10 years old in July 2013. The IDS is celebrating a successful cooperation in the geodetic applications based on the DORIS system._

The DORIS system (Doppler Orbitography and Radio positioning Integrated by Satellite) was deployed in 1990 for precise (centimeter-level) orbit determination of satellites flying DORIS receivers. DORIS is based on Doppler shift measurements of radio-frequency signals transmitted by a network of terrestrial stations (57 beacons) used as reference points on the Earth’s surface. The DORIS system is able to locate ground positions with the same precision. This duality of DORIS is crucial to altimetric oceanography and ice missions, enabling the study of the Earth’s shape and movements, and to a large number of localization services.


Over the years, the system efficiency never ceased to grow: the DORIS instrument is in constant evolution and the global DORIS network is continually renovated and improved.

Thanks to the achieved precision, attributed to the density and homogeneous coverage of the network of beacons, DORIS is one of the precise localization techniques that is participating in the realization of the International Terrestrial Reference System (ITRF).

For that purpose, the IDS service (International DORIS Service, [http://www.ids-doris.org](http://www.ids-doris.org)) was created by the International Association of Geodesy (IAG) ten years ago, in July 2003, during the IUGG in Sapporo, for the dissemination of DORIS data and products to the international scientific community (geodesy, geophysics).

The IDS operates in close cooperation with the International Earth rotation and Reference systems Service (IERS) to support geodetic and geophysical research activities, through DORIS data and products. DORIS has achieved a mature level in 2009, as seven IDS Analysis Centers contributed to a high-quality DORIS combination for the ITRF2008. In 2010, the IDS extended the DORIS product combination process to an operational service and established a Combination Center, which is now fully operational. The IDS is now a well-recognized technique-oriented service for the IERS, and is preparing actively the next ITRF2013 submission.

The IDS service has been expanding rapidly over the last few years thanks to the excellent performance of the DORIS system available on an increased number of contributing satellites. The IDS is also a participant in the Global Geodetic Observing System (GGOS).

**IDS data & products**
The IDS collects, archives and distributes DORIS observation data sets as well as the following derived products: coordinates and velocities of the IDS tracking stations, geocenter and scale of the Terrestrial Reference Frame, ionospheric information, high accuracy ephemerides of DORIS satellites, and Earth rotation parameters.

**Milestones**

DORIS has been part of the IERS (as an observer) since 1994. Other significant DORIS-related events include:

- July 1999, creation of the DORIS Pilot Project by the International Association of Geodesy (IAG) to foster international cooperation
- July 2003, formalization of the International DORIS Service as a service of the IAG during the IUGG in Sapporo
- 2005 3 analysis centers respond to the call of participation to ITRF2005,
- 2009-2010: maturity: IDS official contributor to ITRF2008 (solutions with an accuracy of 1cm 3D), seven IDS Analysis Center participated. Initialization of the routine combination by the Combination Center.
- 2013 active preparation for contribution to ITRF2013, expected significant improvements.

**Robust and reliable DORIS network**

The DORIS network of 57 stations is distributed uniformly across the globe. Most of the stations were installed between 1986 and 1990 in order to make the system operational with the first DORIS equipped satellite SPOT2, and are operated through partnerships with local national agencies. Co-location with GNSS, SLR, VLBI stations, and tide gauges is one of the key points in DORIS site selection.

Continuous DORIS integrity monitoring ensures the immediate detection of a faulty beacon or the first signs of aging, well before system performance is affected. Homogeneity, maintenance and ongoing monitoring make the network of DORIS stations a major asset of the system and guarantee stable performance. Maintenance and renovation of the stations is a joint CNES-IGN effort.

**Recent IDS analysis**

In line with the successful DORIS contribution to ITRF2008, the IDS decided to extend the combination process to an operational service. Thus, in early 2010, the IDS Combination Center (IDS CC) was opened and is now fully operational. The IDS CC aims to i) evaluate all the ACs’ weekly solutions, ii) perform the IDS multi-AC
weekly combined solution, iii) support the ACs in the continued improvements of the DORIS products, and iv) compute and deliver the DORIS contribution to the next version of the ITRF, ITRF2013.

Current IDS organization (similar to other IAG Services)

- 1 Governing Board (Pascal Willis, IGN/ France + 4 other elected members + 6 appointed members)
- 1 Central Bureau (Laurent Soudarin, CNES/CLS + 4 other members)
- 2 Data Centers (Carey Noll, CDDIS/USA, Bruno Garayt, IGN/ France)
- 1 Combination Center (Guilhem Moreaux, CNES/CLS + 2 other members), Analysis Coordinator (Frank Lemoine, NASA)
- 6 Analysis Centers: ESA (Germany), GSC (USA), IGN (France), INASAN (Russia), GOP (Czech Rep.), LCA (France)

IAG monthly news for GIM – IAG page in the GIM International June 2013

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 article titled “IAG Commission 3, ‘Earth Rotation and Geodynamics’ ” for the June 2013 issue of GIM is available from the webpage http://www.gim-international.com/issues/articles/id2001-IAG_Commission_3-Earth_Rotation_and_Geodynamics.html.

CHRIS RIZOS
President of IAG

Meeting Announcements

IAG Scientific Assembly 2013

Online registration is now possible via the link on the webpage http://www.iag2013.org/IAG_2013/Registr.html. The online registration will be closed on 28 August 2013, 23:59 h. After that, only on-site registration in Potsdam and the (more expensive) on-site payment will be possible. Themes as well as detailed description of themes of the IAG Scientific Assembly 2013 are available from the webpage http://www.iag2013.org/IAG_2013/Themes.html. For further conference information, please visit our homepage http://www.iag2013.org.

The IAG Committees would like to thank cordially all authors for their scientific contributions. Nearly 500 abstracts were received. Notifications of acceptance will be sent to all authors per e-mail at the end of May. All
abstracts accepted and presented at the Assembly (oral or poster) may be submitted as papers for publication in the peer-reviewed IAG Symposia Series at Springer Publisher within one month after the Assembly.

IAG 2013 will offer you an interesting and comprehensive scientific program together with a variety of unique cultural events.

IAG 2013 LOC

G016 Session at the 2013 AGU Fall Meeting

Pushing the frontiers of geodesy: Detection of new phenomena through advances in geodetic time series analysis and corrections

Appropriate numerical methods and understanding of environmental effects allow researchers to study signals of smaller magnitudes than ever before. Use of geodetic data is complicated by the fact that many processes are convolved with other signals due to seasonal hydrologic loads, anthropogenic effects or atmospheric and ionospheric structure. We welcome contributions on studies of phenomena that have recently become observable through the development of the appropriate time series analysis tools and correction protocols, such as hydrological effects on GPS and gravity data or atmospheric influences on GNSS or InSAR time series.

Michel Van Camp

G012 Session at the 2013 AGU Fall Meeting

Dear Colleagues

I would like to call your attention to the following e-mail session at the Fall AGU that will focus on GIA and related geodetic and geophysical observations.

Abstract submission is now open at:


Best regards

Erik Ivins, Volker Klemann, Pippa Whitehouse and Holger Steffen

Session G012: Inference of glacial dynamics and earth rheology from geodetic and geophysical observations (GIA)

Description:

Glacial isostatic adjustment (GIA) is one of the geodynamic processes that has been embraced geodesy during the last decades due to the great advances in satellite observation systems like GRACE and GPS. The quantification of GIA signals is demanded for corrections of geodetic signals and requires an accurate understanding of the process in terms of ice and earth rheology as with respect to their interaction with climate parameters from ocean and atmosphere. This session invites contributions that address GIA related geodetic observations, and physical aspects from solid-earth, ocean, climatological and cryosphere sciences in order to illuminate more accurate understanding and predictions of GIA.

Conveners: Erik Ivins(1), Volker Klemann(2), Pippa Whitehouse(3), Holger Steffen(4)

(1) Jet Propulsion Lab California Institute of Technology, Pasadena, US
(2) GFZ German Research Centre, Potsdam, Germany
(3) Durham University, Durham, UK
(4) Landmaetiriet, Gaevle, Sweden

Erik R. Ivins
Meetings Calendar

**Workshop on Mathematics of climate change, related hazards and risks**
July 29 – August 2, 2013, Guanajuato, Mexico

**26th International Cartographic Conference**
August 25-30, 2013, Dresden, Germany

**ISDE 2013**
August 26-29, 2013, Kuching, Sarawak, Malaysia
8th International Symposium on Digital Earth 2013

**12th IAGA Scientific Assembly**
August 26-31, 2013, Mérida, Mexico
URL: [www.iaga2013.org.mx](http://www.iaga2013.org.mx)

**IC-MSQUARE 2013**
August 26-29, 2013, Prague, Czech Republic
2nd International Conference on Mathematical Modeling in Physical Sciences
URL: [http://www.icmsquare.net](http://www.icmsquare.net)

**IAG Scientific Assembly**
September 1-6, 2013, Potsdam, Germany
URL: [http://www.iag2013.org](http://www.iag2013.org)

**2nd Joint International Symposium on Deformation Monitoring (JISDM)**
September 9-11, 2013, Nottingham, UK

**ESA Living Planet Symposium 2013**
September 9-13, 2013, Edinburgh, UK

**TGSMM 2013**
September 11-20, 2013, St Petersburg, Russian Federation
IAG Third Symposium "Terrestrial Gravimetry: Static and Mobile Measurements - TGSMM-2013

**Scientific developments from highly accurate space-time reference systems**
September 16-18, 2013, Observatoire de Paris, Paris, France

**ION GNSS 2013**
September 16-20, 2013, Nashville, TN, USA
URL: [http://www.ion.org/meetings/?conf=gns](http://www.ion.org/meetings/?conf=gns)

**ITU/BIPM Workshop on the Future of the International Time Scale**
September 19-20, 2013, Geneva, Switzerland

**Statusseminar der DFG-Forscherguppe Referenzsysteme (FOR1503)**
September 19-20, 2013, Berlin, Germany
URL: http://www.referenzsysteme.de/

**7th Coastal Altimetry Workshop**
October 7-8, 2013, Boulder, USA
URL: http://www.coastalaltimetry.org/

**11th International School of Geoid Service: Heights and Height Datum**
October 7-11, 2013, Loja, Ecuador
URL: http://www.11iges.utpl.edu.ec/

**Geodätische Woche and INTERGEO**
October 8-10, 2013, Essen, Germany
URL: http://www.intergeo.de/

**Ocean Surface Topography Science Team (OSTST) Meeting**
October 8-11, 2013, Boulder, USA
URL: http://sealevel.jpl.nasa.gov/science/ostscienceteam/scienceteammeetings/

**2013 Asia-Pacific Space Geodynamics Symposium**
Ohio State University, Oct 17-19, 2013
URL: http://apsg2013.geodeticscience.osu.edu (available soon)

**School on Reference Systems, Crustal Deformation and Ionosphere Monitoring**
October 21-23, 2013, Panama City, Panama
URL: http://www.sirgas.org/index.php?id=233&L=0

**SIRGAS Meeting 2013**
October 24-26, 2013, Panama City, Panama
URL: http://www.sirgas.org/index.php?id=193&L=2

**ICAG 2013**
November 5-13, 2013, Walferdange Underground Laboratory, Luxembourg
International Comparison of Absolute Gravimeters

**GRMSE2013**
November 8-10, 2013, Wuhan, China
International Conference on Geo-Informatics in Resource Management & Sustainable Ecosystem
URL: http://www.ggers.org/

**18th International Workshop on Laser Ranging**
November 11-15, 2013, Fujiyoshida, Japan
URL: http://geo.science.hit-u.ac.jp/lw18

**6th European Workshop on GNSS Signals and Signal Processing**
December 5-6, 2013, Munich, Germany
URL: http://ifen.bauv.unibw.de/gnss-signals-workshop/

**Gi4DM 2013**
December 9-11, 2013, Hanoi, Vietnam
9th International Conference on GeoInformation for Disaster Management; Theme: Earth Observation for Disaster Management.
URL: http://www.gi4dm2013.com

**AGU 2013 Fall Meeting**
December 9-13, 2013, San Francisco, CA, USA
URL: http://sites.agu.org/meetings/
17. Internationaler Ingenieurvermessungskurs
January 14-17, 2014, Zurich, Switzerland
URL: http://www.igp.ethz.ch/iv2014/

ION International Technical Meeting (ITM) 2014
January 27-29, 2014, San Diego, CA, USA
URL: http://www.ion.org/meetings/?conf=itm

SPACOMM 2014
February 23-27, 2014, Nice, France
URL: http://www.iaria.org/conferences2014/SPACOMM14.html

IVS General Meeting
March 2-7, 2014, Shanghai, China
URL: http://ivs2014.csp.escience.cn/

Munich Satellite Navigation Summit 2014
March 25-27, 2014, Munich, Germany
URL: http://www.munich-satellite-navigation-summit.org/

Third International School on “The KTH Approach to Modeling the Geoid”
March 31-April 4, 2014, Johor Bahru, Malaysia
URL: http://www.infra.kth.se/geo/events/geoidschool.html

European Geosciences Union General Assembly 2014
April 27 – May 2, 2014, Vienna, Austria
URL: http://www.egu2014.eu/

40th COSPAR Scientific Assembly
August 2-10, 2014, Moscow, Russia
URL: http://www.cospar-assembly.org/

AGU 2014 Fall Meeting
December 15-19, 2014, San Francisco, CA, USA
URL: http://sites.agu.org/meetings/

XXVI IUGG General Assembly
June 22 – July 2, 2015, Prague, Czech Republic
URL: http://www.iugg.org/assemblies/