

# IGS Data Center Working Group 2011

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## 1 Introduction

The IGS Data Center Working Group (DCWG) was established in 2002. The DCWG tackles many of the problems facing the IGS data centers as well as develops new ideas to aid users both internal and external to the IGS. The direction of the IGS has changed since its start in 1992 and many new working groups, projects, data sets, and products have been created and incorporated into the service since that time. The DCWG was formed to revisit the requirements of data centers within the IGS and to address issues relevant to effective operation of all IGS data centers, operational, regional, and global.

## 2 Recent Activities

A Data Center Working Group meeting was held during IGS 2010 Workshop. The viability of the group was confirmed. Recommendations were made resulting from presentations during workshop and meeting discussion (see Future Planning below).

The WG supported the IGS Infrastructure Committee and began implementation of daily data status summary files at all GDCs. The file summarizes the daily data holdings and extracts key metadata and data quality information from all files. Further discussions have been made to improve and generalize software. The WG also coordinated product archival with other data centers, including working with the IGS ACC in the final archiving of IGS repro1 products with the IGS Global Data Centers. The WG began coordination on data center infrastructure support for upcoming IGS M-GEX activity.

## 3 Future Plans

In 2012-2013, the DCWG will continue to work on addressing recommendations from the IGS 2008 and 2010 Workshops. Topics the WG hopes to address follow.

- Support of the IGS Infrastructure Committee: A major focus of the DCWG for the next two years will be to support the IC in its various activities to coordinate the resolution of issues related to the IGS components. These activities will address recommendations from recent IGS Workshops including assessment and monitoring of station performance and data quality, generating metrics on these data.
- Data center harmonization: The working group will consider methodologies for ensuring key data sets are available at all GDCs. Following recommendations from the IGS 2010 Workshop, the WG will coordinate with GDCs to ensure all GDCs archive data from all IGS stations as identified on the IGS network website; ODCs push data, and any subsequent resubmissions, from their stations to ALL GDCs and ODCs issues advisory for ALL resubmissions.
- Compression: As per a recommendation from the IGS 2010 Workshop, the DCWG will develop a plan for the introduction of a new compression scheme into the IGS infrastructure by evaluating tests of available tools, surveying the IGS infrastructure, making a recommendation on a new IGS compression scheme, and coordinating recommendations with the IC to develop implementation schedule.
- Real-time data streams/high-rate GNSS data handling: Another recommendation from the 2008 IGS Workshop concerned transfer of high-rate data to data centers via traditional file transfer or

through accumulation of real-time data streams. IGS data centers must ensure that files generated from these streams are sufficiently reliable. The DCs must also coordinate to ensure consistent copies of high-rate files are archived. This recommendation was updated in the 2010 IGS Workshop to include definition and development of 1) tool for comparison of RINEX files from various construction approaches, 2) minimum requirements for acceptance of an accumulated data stream of observations as a RINEX file in IGS data archives, 3) mandatory/optional observation types to be included, 4) procedures to fill the gaps in the case data streams have been interrupted. This activity should be coordinated with the RTPP, ACs, DCs, and IC.

- M-GEX: As the IGS Multi-GNSS Experiment begins, the DCWG will advise and coordinate archival of the experiment's data from other GNSS and products derived from these data sets.

The DCWG will meet during the 2012 IGS Workshop in Olsztyn, Poland.

## **4 Publications**

The DCWG gave several presentations in the last two years, including:

C. Noll, M. Schmidt, H. Habrich, B. Garayt, The Evolution of the IGS Flow of Data (and Products and Information) and Steps Ahead, IGS Analysis Workshop, Newcastle, UK, June 2010.

C. Noll, M. Schmidt, B. Michael, Y. Lu (2010), Updates to the IGS Data Center Infrastructure, Abstract G11B-0642 presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec.

Electronic versions of this poster and other publications can be accessed through the CDDIS on-line documentation page on the web at URL <http://cddis.gsfc.nasa.gov/reports.html>.

## **5 Membership**

- Carey Noll (NASA GSFC/USA), Chair
- Yehuda Bock (SIO/USA)
- Ludwig Combrinck (HRAO/South Africa)
- Bruno Garayt (IGN/France)
- Paul Jamason (SIO/USA)
- Heinz Habrich (BKG/Germany)
- Michael Moore (GA/Australia) (tbc)
- Ruth Neilan (JPL/USA), ex-officio
- Markus Ramatschi (GFZ/Germany)
- Jim Ray (NOAA/USA), ex-officio
- Nacho.Romero (ESA/Germany)
- Mike Schmidt (NRCan/Canada)
- Giovanni Sella (NOAA/USA)
- Grigory Steblov (RDAAC/Russia)
- Dave Stowers (JPL/USA)