

IGS Data Center Working Group 2012

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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 2012 Workshop in Olsztyn, Poland. Recommendations were made resulting from presentations during the workshop and from splinter meeting discussions. Major topics discussed were the proposed changes to the RINEX file naming convention, handling multiple releases of files at the data centers, and archiving RINEX V2 and V3 at the data centers. The IGS DCs recognize that a change in the file naming convention will enable improved organization of RINEX files, when the unique identification of the station name, file creation approach, and file content becomes visible within the filename. Filename changes directly affect DC operations and therefore an update will be a significant workload for the data centers. A new filename structure will remove some difficulties for DCs in handling RINEX files, but also induce new problems, especially in resubmitted files. To help in the transition to a new filename structure, it was recommended that data centers continue to archive RINEX V2 and RINEX V3 data in separate structures. DCs should also separate high-rate data files created from streams from those created from receivers. IGS users reported to DCs that decompression tools for “.Z” compressed file may no longer run on the newest generation of computers. Therefore, it is recommended once again that the DCs change the standard compression format used within the IGS infrastructure as early as possible.

The DCWG also coordinated product archival, which involved working with the IGS ACC in the final archiving of IGS repro1 products at the IGS Global Data Centers. The WG began coordination on data center infrastructure support for the IGS M-GEX activity. This activity included establishing a directory structure for both data (in RINEX V3 and V2) and products.

3 Future Plans

In 2013-2014, the DCWG will continue to work on addressing recommendations from the IGS 2010 and 2012 workshops. Topics the WG hopes to address follow.

- Support of the IGS Infrastructure Committee: A major focus of the DCWG 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.
- RINEX file naming convention: The DCWG will work with the IC and the RINEX WG on the new IGS RINEX file naming convention.

- 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 and 2012 workshops, 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: 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 from 2010 IGS Workshop includes 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. A related recommendation resulted from the 2012 IGS Analysis Workshop stating that until the RINEX V3 file naming convention is finalized, separate directories for distinguishing between files created from streams and by receivers will be established by all DCs.
- 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.

4 Membership

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