

Data Center and Operations Issues Session Summary

Oral:

IGS Data Center Update

C. Noll (NASA GSFC, USA)

Abstract: This paper will review the current status of the IGS data center infrastructure as well as recent developments and proposals for handling equalization and validation of the Global Data Center data and product holdings. New developments such as support of the real-time initiative and the future re-processing campaigns will be discussed. Strategies for reducing data file latency at IGS Data Centers will also be discussed.

Data center support for the IGS-RTPP

W. Soehne, G. Weber, H. Habrich (BKG, Germany)

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Among other topics, the Call for Proposals (CfP) of the Real-time IGS Pilot Project (IGS-RTPP) has planned the functionality of a "Real-time Data file Center". Within this functionality real-time streams will be used at the data center to generate high-rate and 30-second (hourly and/or daily) files. While the focus of the IGS-RTPP is on the real-time aspects at large, the support by the IGS data centers is indispensable. The various IGS data centers have a long experience concerning the long-term storing of data and products as well as the problems of simultaneous up- and downloads. A list of the potential file types under discussion will be given. In the first place these are observational (station-wise) data but also products (e.g. high-rate satellite clocks), ephemeris etc. may be included. The increase of the volume of data to be stored at the IGS data centers will be discussed giving some numbers about the expected volume. Additionally, the aspect of significant increase of up- and downloading is reconsidered. It will be highlighted if the current interval of 15 minutes used for high-rate RINEX files in the IGS data centers is small enough or if the community needs another (smaller) resolution. The question who is allowed to upload high-rate RINEX from streaming data to the IGS data centers is a central one. The way from the station to the data center may significantly differ from the "traditional" way. Advantages and disadvantages of concentrating data stream capture and data file creation in one hand will be discussed. Potential or known limitations of observational files resulting from the conversion of streaming data to RINEX will be specified. This covers for example the completeness of files, the resolution of code and phase, the different GNSS, the types of observables etc. Finally some recommendations concerning high-rate files from real-time streams will be given as a starting point for discussion.

Earth Science Community IT Resources through a Unified Data Analysis and Modeling Portal

P. Jamason (SIO, USA), Y. Bock (SIO, USA), F. Webb (JPL, USA), S. Kedar (JPL,

USA), M. Pierce (IU, USA), R.-J. Chang (SIO, USA), D. Dong (JPL, USA), P. Fang (SIO, USA), R. Granat (JPL, USA), I. MacLeod (SIO, USA), J. Parker (JPL, USA), L. Prawirodirdjo (SIO, USA), M. Squibb (SIO, USA), G. Wadsworth (SIO, USA)

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The GPS Explorer data portal, developed with support from NASA, uses new web technologies for the discovery of GPS data and data products. Focusing on the western North America region, it also provides the scientific community with on-the-fly modeling tools for GPS analysis. Users can easily navigate the portal using its dashboard and portlet-based design, and may save GPS site groups and model results for subsequent logins. Map navigation via the Scripps Online Mapping Interface (SOMI) retains the resulting map state (layers, highlighted sites, etc.) throughout the portal. GPS sites of interest may be selected via spatial mapping filters and GPS equipment restrictions, saved to a user's group, and used for future data retrieval and modeling jobs. Modeling tools currently include RDHAMM and a QOCA time series filtering utility. The portal uses the Gridsphere framework for user-specific layouts, web 2.0 technologies including AJAX for inter-portlet communication, and SOAP-based web services for obtaining data. These technologies enable a powerful, sophisticated graphical user interface for data exploration. Applications in progress include strain map plotting, display of velocity vectors for user-defined reference frames and time periods, and visualization and modeling of real-time data position time series for earthquake early warning systems.

Posters:

GeoDAF – ASI (Italian Space Agency) Local Data Center

G. Colucci (e-GEOS/Centro di Geodesia Spaziale), F. Vespe (Agenzia Spaziale Italiana/Centro di Geodesia Spaziale, Italy)

Availability and Completeness of IGS Tracking Data

S. Schaer, S. Lutz, M. Meindl, H. Bock, R. Dach (AIUB, Switzerland)

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Timely availability of GNSS tracking data is a basic condition for generation of best possible analysis products. Problems are highlighted concerning availability, latency, completeness.

GNSS Data Center for Europe – New Developments

H. Habrich, J. Kuscherka, E. Wiesensarter (BKG, Germany)

IGN Global Data Center

B. Garayt (IGN, France)

The IGS Global Data Center at the CDDIS

C. Noll (NASA GSFC, USA), M. Dube (SSAI, USA)

Abstract: The Crustal Dynamics Data Information System (CDDIS) has served as a global data center for the International GNSS Service (IGS) since its start in June 1992, providing on-line access to data from nearly 325 sites on a daily basis. This poster paper will present information about the GNSS data and products archive at the CDDIS. General information about the system, the computer architecture, archive contents, and future plans, and its support of other international space geodesy services (the ILRS, IVS, and IDS) will be discussed.

GO Forum Demonstration

G. Walia, R. Neilan (JPL, USA)