

Current Status of IGS Data Centers

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Abstract: The International GPS Service (IGS) has been operational for nearly ten years. This presentation will outline background information, current status, and recent developments at the IGS data centers. The overview will also include a review of data and product holdings at the various IGS data centers as well as statistics on data delivery. An introduction to the new IGS working group on data centers will be given.

Background

The International GPS Service (IGS) has been an operational service within the IAG since 1994. The IGS has established a hierarchy of data centers to distribute data from the network of tracking stations: operational, regional, and global data centers. This scheme provides an efficient access and storage of GPS data, thus reducing traffic on the Internet, as well as a level of redundancy allowing for security of the data holdings.

Recent Data Center Developments

The data and product types currently archived at the IGS Global Data centers are summarized in Table 1 below.

Table 1. IGS Global Data Center Holdings

Data Type	CDDIS	IGN	SIO
Data			
GPS daily (D format)*	X	X	X
GPS daily (O format)	X		X
GPS hourly (30-second)*	X	X	X
GPS hourly (high-rate)	X		
GLONASS daily (D) [†] format) [†]	X	X	
GLONASS daily (O) [†] format)	X		
Products			
Orbits, etc.*	X	X	X
SINEX*	X	X	X
Troposphere [†]	X	X	X
IONEX [†]	X	X	

Notes: * Official IGS data set/product
† Pilot project/working group data set/product

In 2001, approximately sixty percent of the daily GPS data files were available from the IGS global data centers within three hours; the same percentage of hourly, thirty-second files were available within fifteen minutes.

Real-Time Issues. Data center involvement in the archive and dissemination of real-time data will be dependent upon requirements developed by the IGS Real-Time Working Group and recommendations generated by this workshop. Early discussions imply that existing data centers would serve as a distribution or relay center, receiving real-time data from a network of stations and transmitting these data to interested analysis centers. Data center configuration information, such as storage capacity, network bandwidth, and redundant network connectivity needs to be determined for participating data centers. Redundancy of data flow paths is an obvious concern for the real-time activity.

IGS Data Center Working Group. At its last meeting in December, the IGS Governing Board recommend the formation of a working group to focus on data center issues. This working group will tackle many of the problems facing the IGS data centers as well as develop 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. Therefore, it is now an appropriate time to revisit the requirements of data centers within the IGS. The membership of this group will consist of contacts from the current IGS data centers as well as IGS colleagues with expertise in data archiving and data flow. Thus far, a draft charter has been developed and prospective members have been contacted; the charter will be presented at the IGS Governing Board meeting after this workshop for approval.