Regional/Operational Centers

BKG Regional IGS Data Center Report

Heinz Habrich

Federal Agency for Cartography and Geodesy
D-60598 Frankfurt at Main, Germany

1 Introduction

The Federal Agency for Cartography and Geodesy (BKG) operates the Regional IGS Data Center for Europe since the beginning of the IGS Test Campaign in June 21, 1992. GPS tracking data from permanent GPS sites in Europe are obtained from Operational Data Centers (ODC's), Local Data Centers (LDC's) or directly from the stations. Also tracking data from stations outside of Europe are transferred to BKG, if these stations are operated by an European institution. The received data are uploaded to the Global Data Center (GDC) at the Institut Géographique National (IGN) in Paris and the Center for Orbit Determination in Europe (CODE) in Berne, and are also made available to other users and archived.

The IGS products as computed by the IGS Analysis Centers are downloaded from the GDC to BKG in order to provide these information to European users. The IGS tracking data and products together with the series of ITRF-solutions, which is also available at BKG, allow the users to get comprehensive information for various GPS applications using the Internet capability.

2 Computer Architecture

The Regional IGS Data Center at BKG operates on an HP-9000/J210 workstation running the HP-UX operating system. This workstation is connected to the Internet with a maximum transfer rate of 128 kbit/s and two harddiscs (each of 4 Gbyte capacity) store the on-line data. Data are archived on CD-ROM discs. If users connect to the computer using the anonymous ftp account, the directory structure given in Table 1 is available.

3 GPS Tracking Data

All institutions sending GPS data to BKG store these files in the "indata" directory. Only this directory has a "write permission" for the anonymous ftp user. The GPS tracking data received in the "indata" directory are uploaded to IGN and CODE, and available in the "outdata", "gpsdata" and "IGS" directory.

The outdata" directory stores the observation, summary and meteorological files of all stations for a period of *one month.* Daily GPS navigation files are concatenated to a file with the station abbreviation "IFAG" (e.g. IFAG1750.97N.Z). Because the number of files in this directory may grow up to about 8,000 it is recommended to use this directory *not for manual access* to the data but for automated procedures.

Table1. Directory Structure on *igs.ifag.de*

/indata			
/outdata	/ssssddd0.yyD.Z		
	/ssssddd0.yyO.Z		
	/ssssddd0.yyS.Z		
	/ssssddd0.yyM.Z		
	/IFAGddd0.yyN.Z		
/gpsdata	/ssss	/ssssddd0.yyD.Z	
		/ssssddd0.yyS.Z	
		/ssssddd0.yyM.Z	
	/NAV	/IFAGddd0.yyN.Z	
/IGS	/yyyy	/ddd	/ssssddd0.yyD.Z
			/ssssddd0.yyS.Z
			/ssssddd0.yyM.Z
			/IFAGddd0.yyN.Z
	/station	/ssssyymm.log	
/ORBITS	/wwww	/CODwwwwi.EPH	
		/CODwwww7.ERP	
		/IGRwwwwi.SP3	
		/IGRwwwwi.ERP	
		/IGSwwwwi.SP3	
		/IGSwwww7.ERP	
/COOR	/ITRFyy	/xxx	
/IGSMAIL	/IGSMESS.nnnn		
	/IGSMESS.INDEX		
	ssss = Station Abr.	ddd = Day of year	yyyy = year in 4 digit
	yy = year in 2 digit	wwww = GPS week	mm = month
	i = day of week	xxx = ITRF-solution	nnnn = Message no.

The "gpsdata" directory shows *station separated* subdirectories and can be used for manual data access. The GPS tracking data are available in these subdirectories for a period of *2 months*. For the same period the navigation files are on-line in the "NAV" subdirectory.

The "IGS" directory includes the GPS data in daily subdirectories which are created with a delay of 5 days after the end of observation and the data are on-line for a period of *6 months*.

The GPS tracking data are archived on CD-ROM and old data will be made on-line available on special request. In this case a complete CD-ROM is mounted on the anonymous ftp account point or a subset of files is copied to the daily subdirectories for a limited time period.

Table 2. Contact Information

Contact Address	
Heinz Habrich	Tel: +49-69-6333267
Bundesamt fuer Kartographie und Geodaesie	Fax: +49-69-6333425
Richard-Strauss-Allee 11	E-Mail: habrich@ifag.de
D-60598 Frankfurt am Main	
Germany	
Data Center Access	
hostname: igs.ifag.de (141.74.240.26)	
account: anonymous ftp	
URL: http://www.ifag.de	

4 IGS Products

IGS precise orbits and earth rotation parameters are on-line available at BKG starting with GPS week 729 corresponding to the official start of the IGS at the beginning of 1994. Now the IGS rapid orbits, the IGS final orbits and the CODE orbits are stored in subdirectories for every GPS week. IGS final orbits are also archived on CD-ROM and CD-ROM copies can be delivered on special request.

5 User Activity

In 1997 the tracking data of 59 permanent GPS sites were collected and archived on daily basis at the BKG Data Center. Approximately 50 distinct users (institutions) contact the Data Center on regular basis with about 400 connections every day.

6 Future Activity

In order to start with tests for an hourly upload of RINEX files a new subdirectory "*/IGS/nrt*" was already created. It is planned to store the hourly files for a period of 3 days. BKG acts also as a data center for the IGEX-98 GLONASS experiment. For this purpose the directory "*/IGEX"* was created. GLONASS tracking data will be stored in this directory. BKG will participate in the IGEX campaign as an Analysis Center and make the products available in the "*/IGEX*" directory.

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