RECENT ENHANCEMENTS TO THE CDDIS

IGS Network Systems Workshop
November 2-5, 1998
Annapolis, MD

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OVERVIEW

- CDDIS has served as a global data center for the International GPS Service for Geodynamics (IGS) since its start in June 1992, providing on-line access to data from over 160 sites daily
- Operational and regional data centers (JPL, NOAA, NRCan, ESA, NIMA, etc.) deposit data
- Approximately 1 Mbyte/site/day of GPS data in compressed format are archived each day from a network of over 160 sites
- CDDIS makes RINEX observation data available with Hatanaka compression (yyd.Z files) and without (yyo.Z files)

OVERVIEW
(Continued)

- UNAVCO's teqc s/w run on all incoming data
- Metadata is extracted from GPS data and an on-line data base inventory is maintained to keep track of all data received
- Daily status files are generated with information extracted from RINEX header (e.g., receiver and antenna type, antenna height) as well as hour delay in delivery
- On average, 45% of all data are available to the IGS analysis centers and GPS user community within one hour of the end of the observation day; 65% are available within three hours and 75% are available within six hours

RECENT DEVELOPMENTS

- DEC AlphaServer 4000 was purchased in 1997 and became operational July 1, 1998
- Started migration of GPS data archive from magneto-optical disks to CD-ROM
- Two-thirds of 1997 have been written to CD-ROM and are now accessible
- One year of GPS data available on-line
- All IGS products (since June 1992) are on-line
- VAX computer (cddis.gsfc.nasa.gov) utilized for tape migration, email, etc.

CDDIS HARDWARE CONFIGURATION

- **Components**
  - AlphaServer 4000
  - 512 Mbytes memory
  - ~210 Gbytes on-line magnetic disk space
    - ~100 Gbytes for GPS data and products
    - GLONASS, SLR, VLBI, DORIS data also on-line
  - Digital UNIX
  - 600 slot CD-ROM JVC jukebox
- **Host name cddisa.gsfc.nasa.gov (128.183.204.168)**

NEW DATA SETS

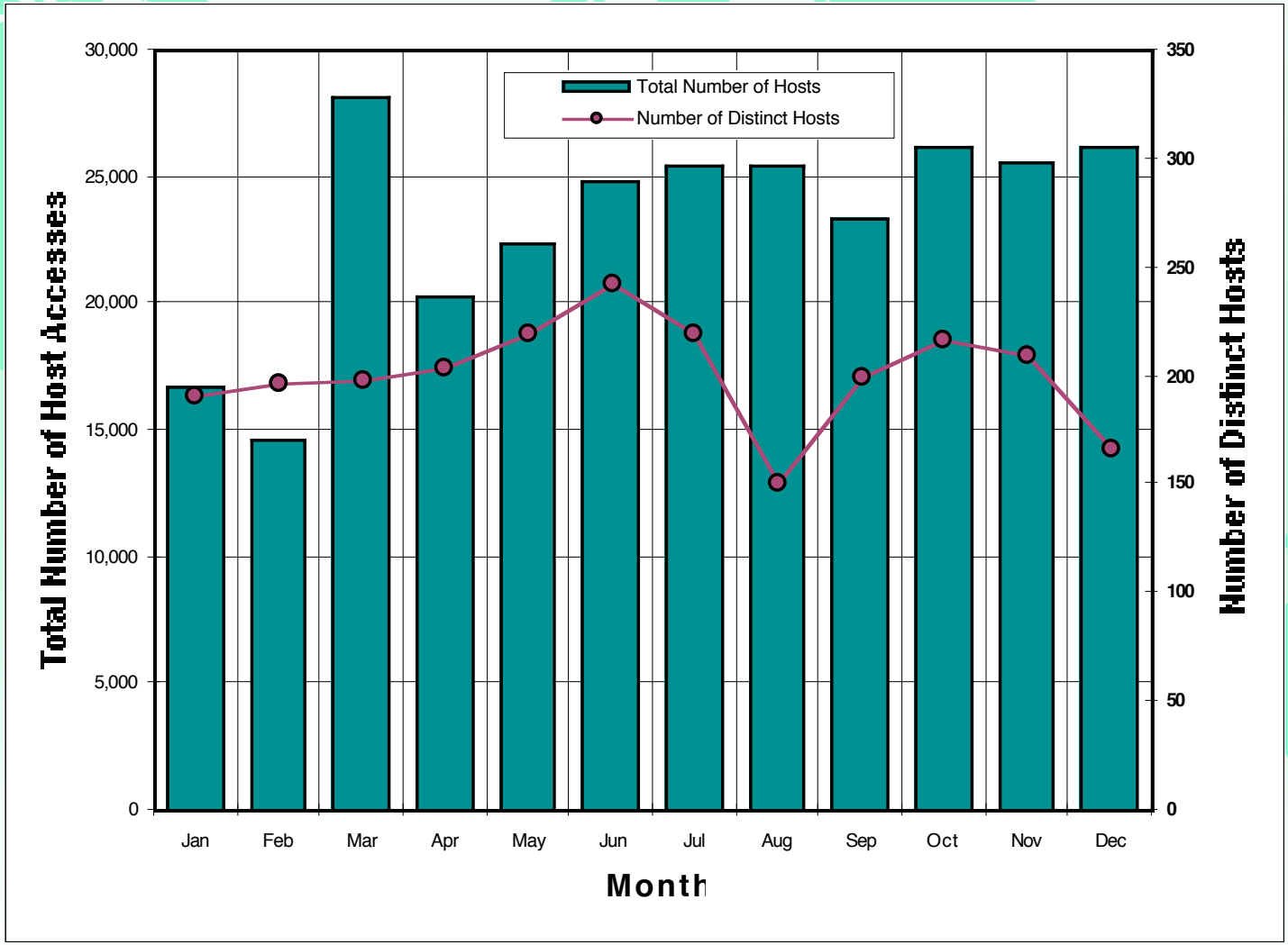
- Hatanaka compression (yyd.Z files)
- CDDIS continues to provide access to compressed RINEX observation files (yyo.Z)
- Daily GPS data subdirectories:
  - Daily status file
  - O (RINEX observation data)
  - D (RINEX observation data, Hatanaka compression)
  - M (RINEX meteorological data)
  - N (RINEX broadcast ephemeris data)
  - S (output from teqc)
- Near real-time GPS data
  - Hourly files, 15 minute delay
  - 31 stations
  - Retained for three days
  - Since mid 1998

NEW DATA PRODUCTS

- **Ionosphere products**
  - Global ionosphere maps of total electron content (TEC)
  - IONEX format
  - Daily files
  - Five ACs
  - Since June 1998
- **Troposphere products**
  - Combined zenith path delay (ZPD)
  - Weekly files
  - GFZ
  - Since January 1997

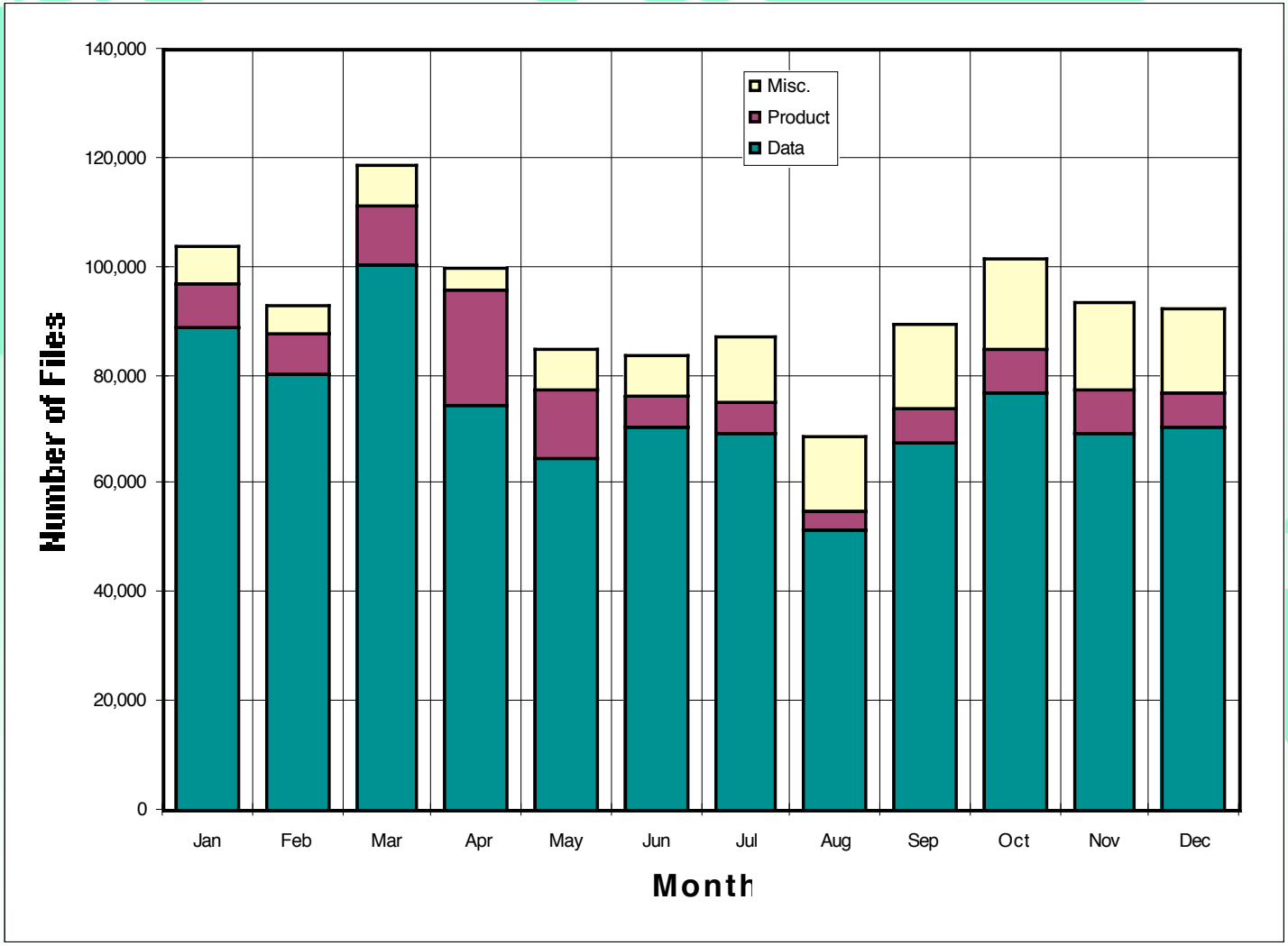
NUMBER OF HOSTS ACCESSES

(1997)



NUMBER OF GPS-RELATED FILES TRANSFERRED

(1997)



DISTRIBUTION OF IGS USERS

(1997)

IGEX'98 CAMPAIGN

- Sponsored by IAG Commission VIII (CSTG), IGS, ION, and IERS
- Main objectives:
  - Set up a GLONASS observation network
  - Test GLONASS data processing s/w
  - Determine GLONASS orbits of at least meter-quality
  - Connect GPS and GLONASS time systems
  - Compare receiver equipment performance
  - Others
- Campaign runs from Oct. 19, 1998 through January 22, 1999
- Nearly 100 receivers proposed; currently nearly 40 are operational

IGEX'98 CAMPAIGN
(continued)

- IGEX infrastructure modeled after IGS
- Both CDDIS and IGS are Global Data Centers for IGEX
- GLONASS data:
  - Daily files at 30-second sampling
  - Observation, GPS and GLONASS navigation files
  - RINEX format
- IGEX products:
  - Precise orbits, clock info, ERP
  - Station coordinates
- For more information see IGEX'98 web site:

  http://lareg.ensg.ign.fr/IGEX

FUTURE PLANS

- Continue migration of older GPS to CD-ROM
- Purchase additional disk space
- Implement data validation routines and check historical data
- Investigate common directory structure among IGS data centers