

IDS DATA CENTER UPDATE

Carey Noll
IDS Data Flow Coordinator
NASA GSFC
Greenbelt, MD USA

Pascal Willis
IGN/JPL
Pasadena, CA USA

IDS Workshop
Biarritz, France
June 13-14, 2002





IDS DATA CENTER UPDATE

- ◆ Data Center Overview
- ◆ Archive Structure
- ◆ Data and Product Availability
- ◆ Users of DORIS Data
- ◆ Data Availability Issues



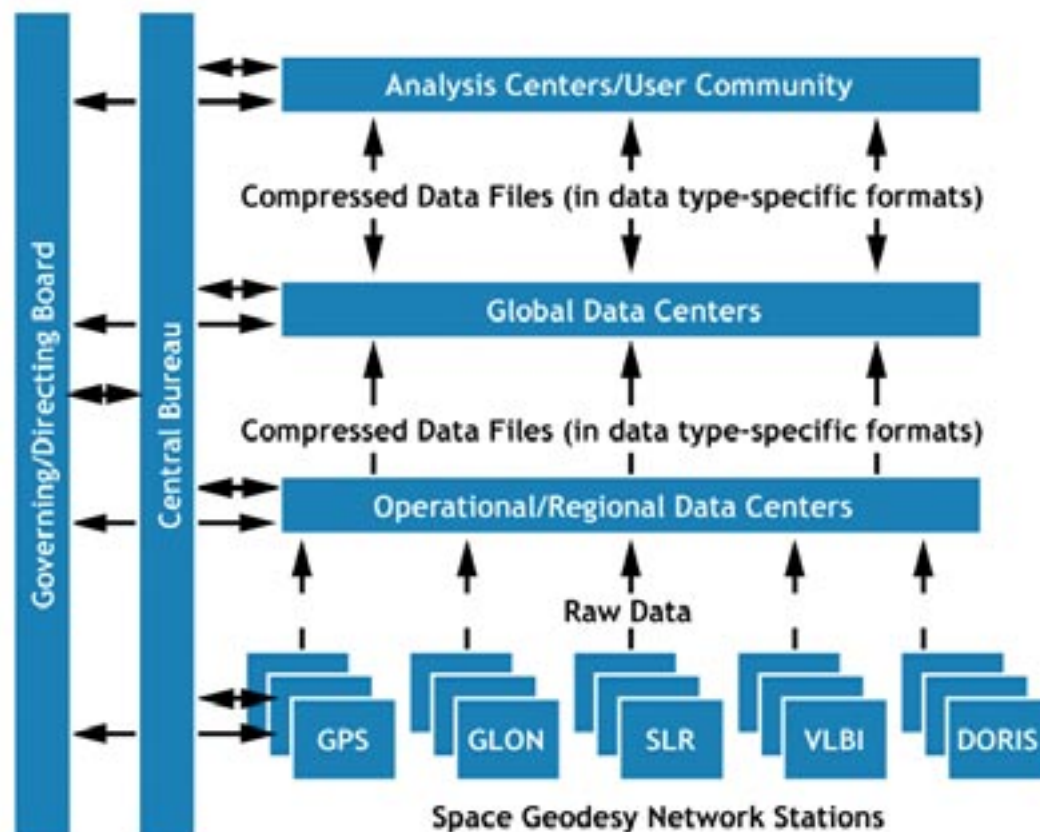
IDS DATA CENTERS



- ◆ Two proposal received and accepted for IDS data centers:
 - Crustal Dynamics Data Information System (CDDIS), NASA GSFC, Greenbelt, MD USA
 - Institut Géographique National (IGN), Paris France
- ◆ CDDIS is a dedicated data center supporting the international space geodesy community since 1982
- ◆ The CDDIS serves as one of the primary data centers for the following IAG services:
 - International GPS Service (IGS)
 - International Laser Ranging Service (ILRS)
 - International VLBI Service for Geodesy and Astrometry (IVS)
 - International DORIS Service (IDS)
 - International Earth Rotation Service (IERS)
- ◆ CDDIS has archived DORIS data since launch of TOPEX/Poseidon in 1992
- ◆ The IGN data center currently undergoing a “revitalization”; DORIS data archiving activities to resume in summer 2002



DATA FLOW FOR IAG SERVICES



Network Stations

Continuously operational
Timely flow of data

Data Centers

Interface to network stations
Perform QC and data conversion activities
Archive data for access to analysis centers and users

Analysis Centers

Provide products to users
(e.g., station coordinates, precise satellite orbits, Earth orientation parameters, atmospheric products, etc.)

Central Bureau

Management of service
Facilitate communications
Coordinate activities

Governing Body

General oversight of service
Future direction



DORIS DATA FLOW

(CDDIS)



- ◆ CNES deposits data in incoming disk area on CDDIS host computer
- ◆ IDS analysis centers also deposit solutions in incoming disk area on CDDIS computer
- ◆ Automated routines peruse incoming data and product area for new files
- ◆ New files copied to public disk area
- ◆ Summaries generated from DORIS data files and loaded into Oracle data base
- ◆ Data base information includes satellite, site, time span, and number of observations per pass
- ◆ Data base used to generate reports on DORIS data holdings
- ◆ During first five months of 2002, over eighty groups in 20 countries have accessed DORIS data and information from the CDDIS



DORIS ARCHIVE CONTENT

Data



- ◆ CDDIS currently archives DORIS data from three satellites: TOPEX, SPOT-2, and SPOT-4
- ◆ Data from JASON, ENVISAT, and SPOT-5 expected "soon"
- ◆ Historic archive of SPOT-3 data also available
- ◆ Currently, data are stored in multi-day (typically 10-day) cycle files
- ◆ Data available ~ 10 days after the last observation day (TOPEX); longer for SPOT
- ◆ Files approximately two Mbytes in size (UNIX compressed)



DORIS ARCHIVE CONTENT

CDDIS



Satellite	Time Span
TOPEX/Poseidon	09/25/1992 through present
SPOT-2	03/31-07/04/1990 11/04/1992 through present
SPOT-3	02/01/1994 through 11/09/1996
SPOT-4	05/01/1998 through present
JASON	Launch 12/07/2001; data not yet released to data centers (available since 01/15/2002)
ENVISAT	Launch 03/14/2002; data not yet released to data centers (available since 04/23/2002)
SPOT-5	Launch 05/04/2002; data not yet released to data centers



DORIS ARCHIVE CONTENT

Products



- ◆ **Archived by Analysis Center (AC) and data type**
 - Station coordinates (SINEX)
 - ◆ Global
 - ◆ Time series (daily, weekly, monthly)
 - Geocenter variations
 - EOP (X, Y, UT1-UTC rate)
 - Orbits
 - Ionospheric data or models
 - Etc.
- ◆ **SINEX solutions received from two ACs thus far**
 - IGN (weekly and monthly, 1992-2001)
 - SSALTO (monthly, 01/2001-04/2002)
- ◆ **EOP and geocenter solutions received from IGN**



ARCHIVE CONTENT

Directory Structure



Directory	File Name	Description
Data Directories		
/doris/ <i>satname</i>	<i>satcode</i> data###.dat.Z	DORIS data for satellite <i>satcode</i> and cycle number ###
	<i>satname</i> .files	File containing multi-day cycle filenames versus time span
/doris/ <i>satname</i> /sum	<i>satcode</i> data###.sum.Z	Summary of contents of DORIS data file for satellite <i>satcode</i> and cycle number ###
Product Directories		
/doris/ <i>ccc</i>	<i>cccydv</i> .snx.Z	Global DORIS (d) SINEX solutions of station coordinates for analysis center <i>ccc</i> , year <i>yy</i> , solution version number <i>vv</i>
	<i>cccydddtv</i> .snx.Z	Periodic SINEX solutions for analysis center <i>ccc</i> , starting on year <i>yy</i> and day of year <i>ddd</i> , type <i>t</i> (m=monthly, w=weekly, d=daily) solution version number <i>vv</i>
	<i>cccytvva</i> .snx.Z	Station coordinate time series SINEX solutions for analysis center <i>ccc</i> , starting on year <i>yy</i> and day of year <i>ddd</i> , type <i>t</i> (m=monthly, w=weekly, d=daily) solution version number <i>vv</i> , for station <i>aaaa</i>
Other Directories		
/doris/dorismail	dorismail.####	DORISMail message number ####
/doris/general		General DORIS information such as satellite maneuver files



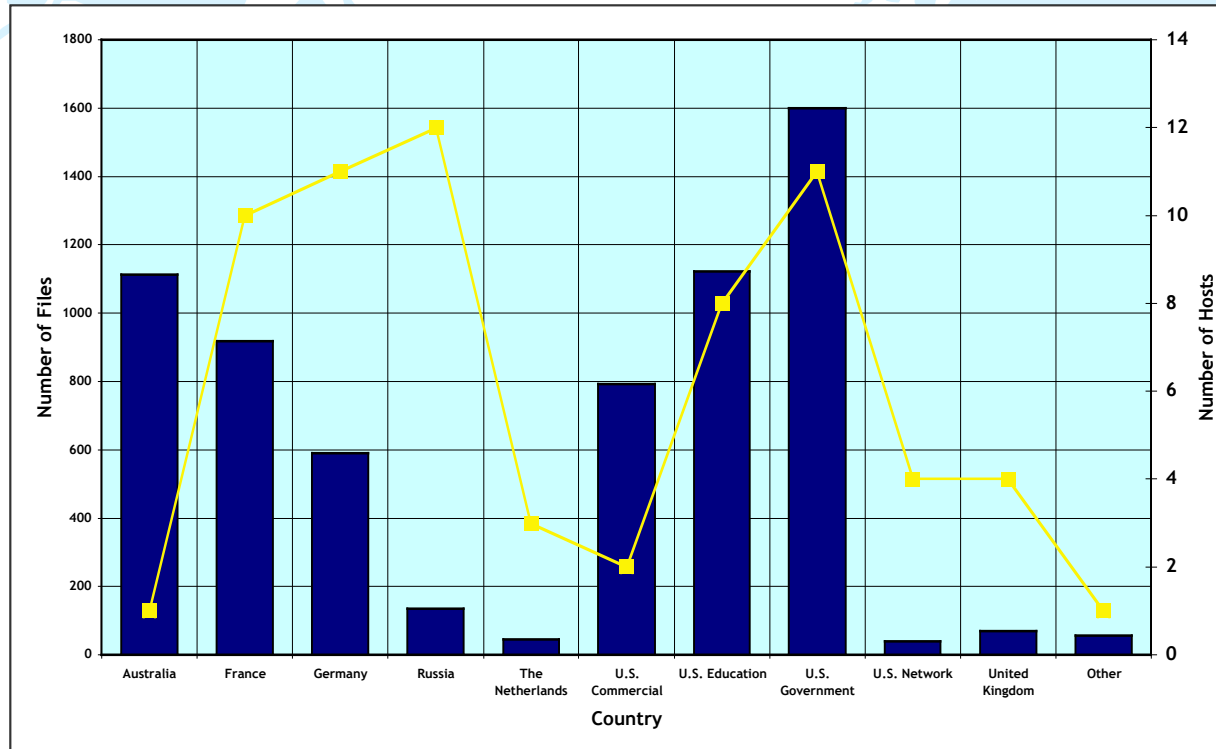
USAGE OF DORIS DATA AT CDDIS

(01-05/2002)



Top Users in 2002

Institution	No. of Files
NASA JPL, USA	1,536
AUSLIG, Australia	1,113
Ohio State, USA	1,018
TRW, USA	793
IGN, France	629
DGFI, Germany	519
CLS, France	227
RAS, Russia	113
U. Newcastle, UK	70
NASA GSFC, USA	64
LRZ, Germany	60
CNES, France	51
TU Delft, The Netherlands	46
Johns Hopkins APL, USA	45
U. Texas, USA	39



ISSUES

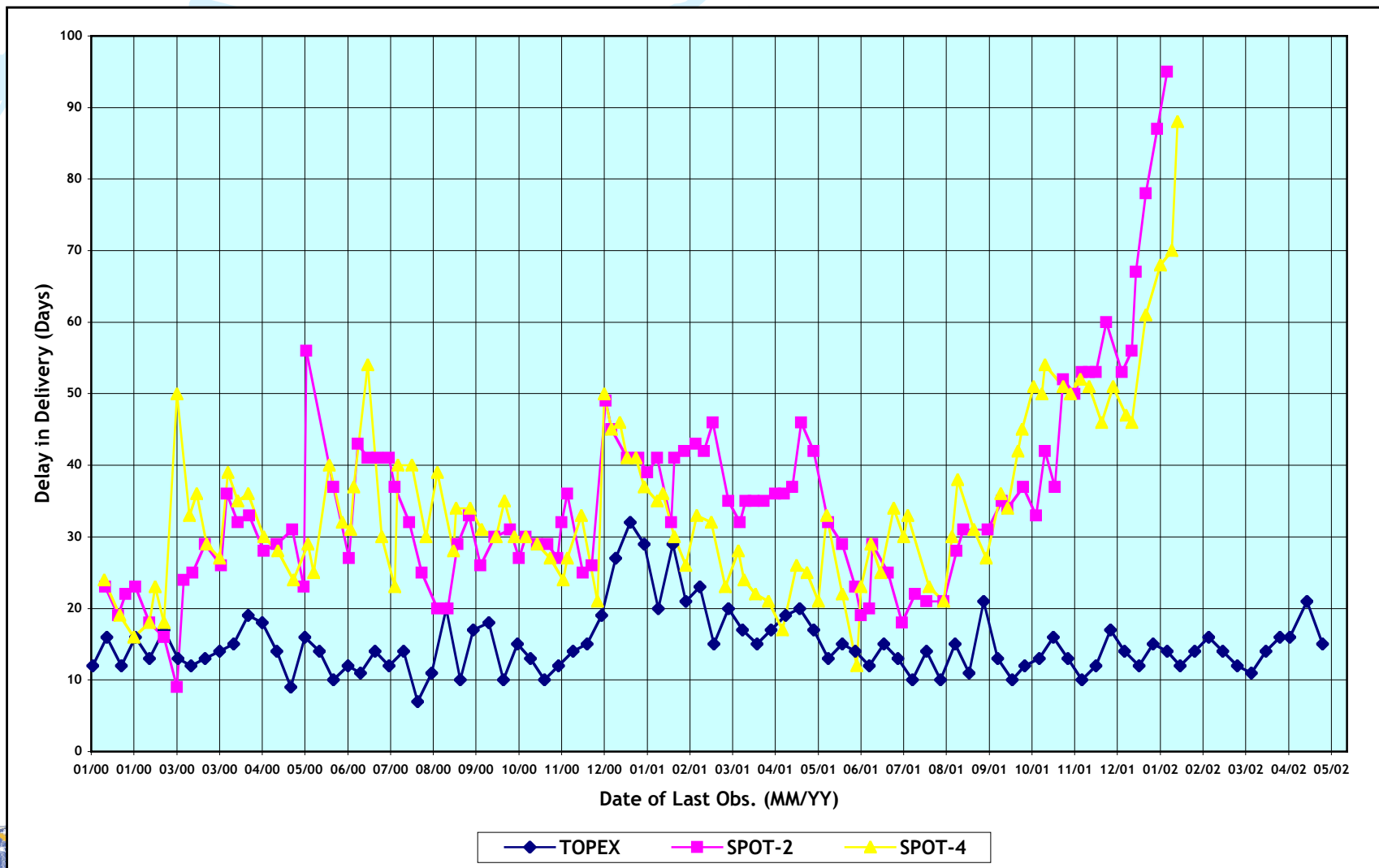


- ◆ **Start of delivery of data from recent missions (JASON, ENVISAT, SPOT-5)**
- ◆ **New DORIS format to accommodate recent satellites**
- ◆ **Delay in delivery of SPOT-2 and -4 data to data centers**
- ◆ **Need routine delivery of satellite maneuver information to data centers and IDS Central Bureau**
- ◆ **Need other ancillary information (e.g., satellite macro-model) prior to release of initial data sets**
- ◆ **Need feedback from CNES when replacement data files are issued**



DELAY IN DELIVERY OF DORIS DATA

(All Satellites, 01/2000-05/2002)



FUTURE PLANS



- ◆ **Efforts to enhance the DORIS data center at IGN in France will start in late summer 2002**
 - **Contacts Loic Daniel and Edouard Gaulue**
- ◆ **Procedures will be established at both data centers to regularly compare data holdings**
- ◆ **IDS Steering Committee has recommended data continue to be archived in files by cycle as released by CNES**
- ◆ **Expand the data archive to include data from recently-launched satellites**
- ◆ **Continue to enhance the on-line product archive**



QUESTIONS?



◆ Contact:

Carey Noll
CDDIS Manager
NASA GSFC
Code 920.1
Greenbelt, MD 20771 USA

301-614-6542 (voice)
301-614-5970 (fax)

noll@cddisa.gsfc.nasa.gov
<http://cddisa.gsfc.nasa.gov>
<ftp://cddisa.gsfc.nasa.gov/pub/doris>

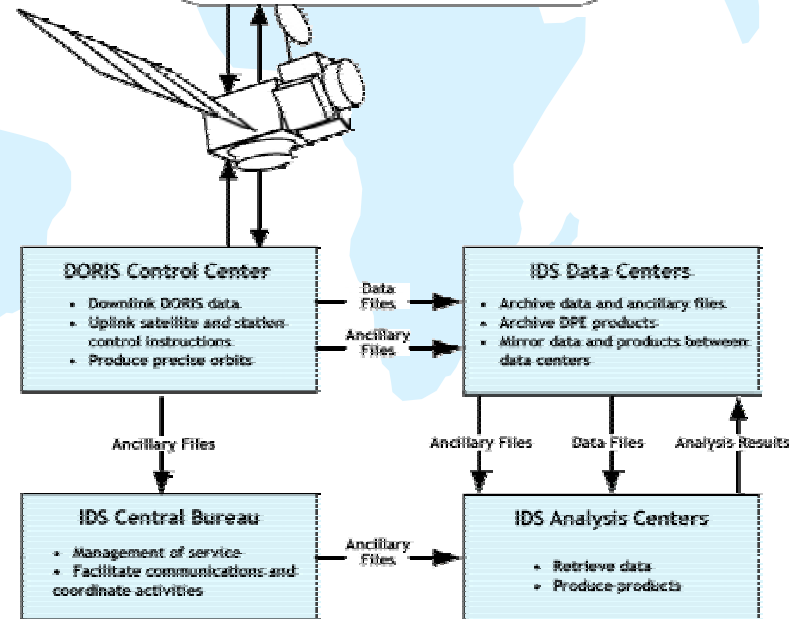
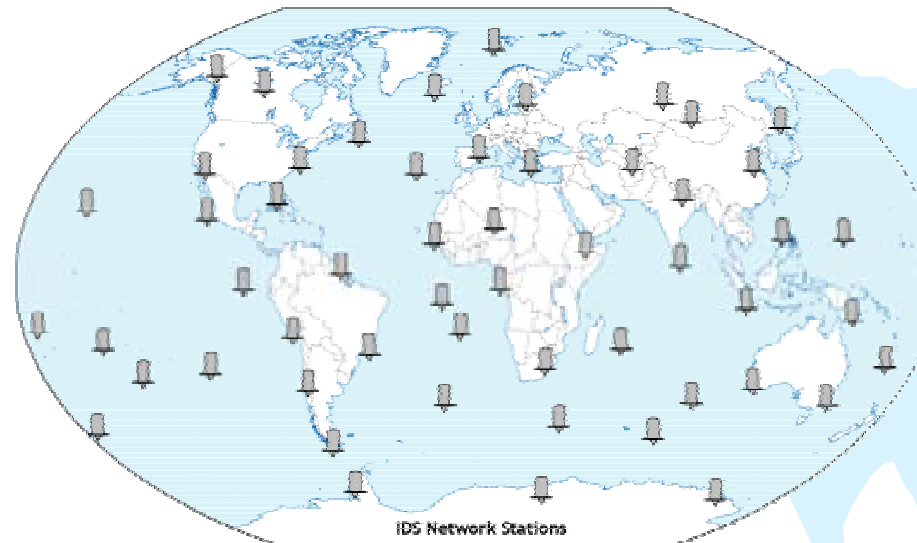




BACKUP SLIDES



DORIS DATA FLOW



CDR-96/2002



USAGE OF DORIS ARCHIVE AT CDDIS

