DORIS DAYS 2021

November 16,17 and 18

Data flow description

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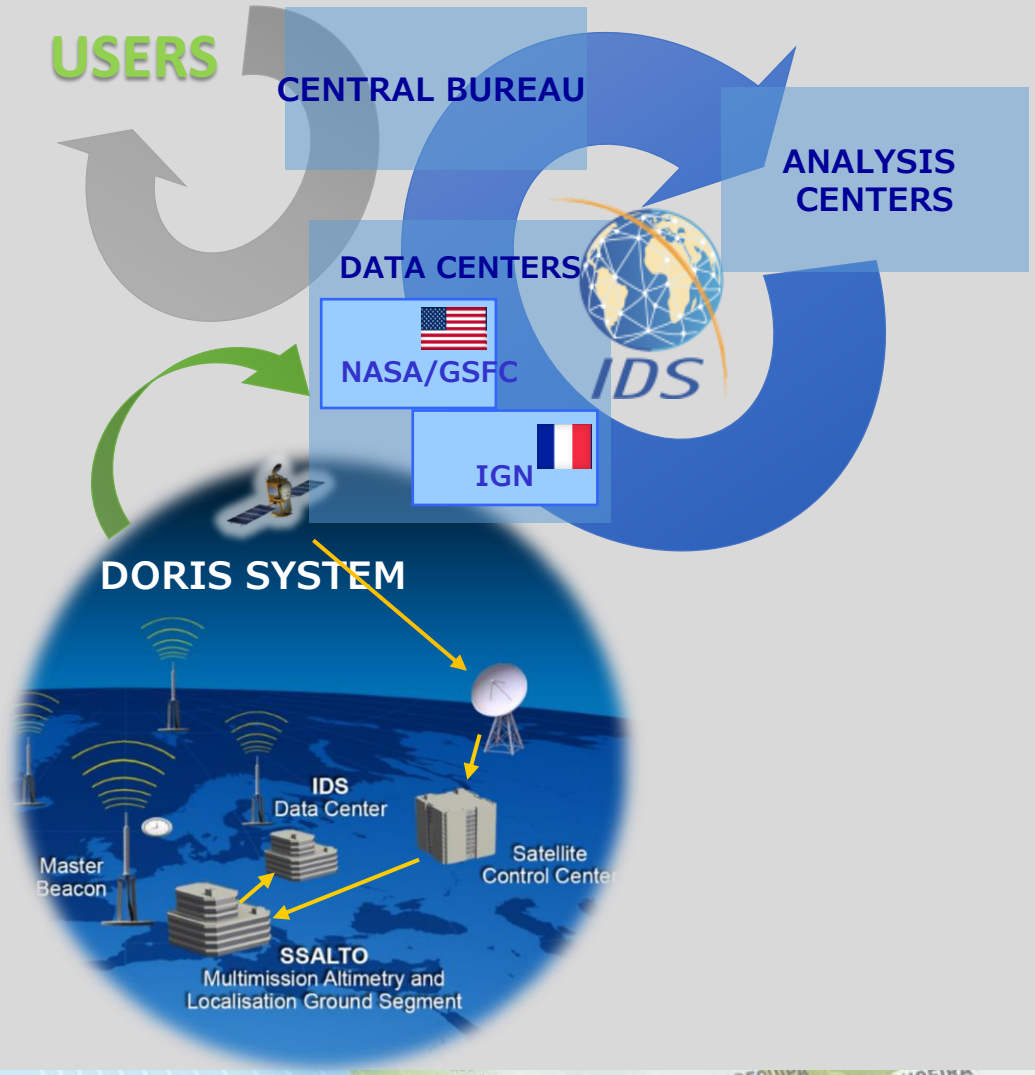
November 16

Session 1 – Presentation 7

Satellite data flow



- DORIS is an unplift centralized system. The **data are acquired and stored on satellites**.
- They are **periodically transmitted to SSALTO**, the multi-mission orbitography and altimetry centre located in Toulouse, France, at CNES.
- **SSALTO provides the data to IDS** where they are stored and made avalaible for the users and the analysis centers.
- Data and products are mainly stored at IDS **Data Centers**

IDS Data and Information Centers

IDS data/information centers are:

-the Central Bureau (CB) web and ftp sites at CLS

-the Data Centers (DC): CDDIS and IGN

The baseline storage rules are as follows:

- CB produces/stores/maintains basic information on the DORIS system, including various standard models (satellites, receivers, signal, reference frames, etc).
- DC store observational data, products, and ancillary information required for the use of these data and products + formats and analysis descriptions.

Table of data

data	latency	file length	archive locations	format	missions
DORIS measurements					
From CNES SSALTO					
preprocessed DORIS data ("DORIS1b") (missions before Jason-3)	3-4 weeks	7 or 10-day files	CDDIS ; IGN	DORIS 1.0 (< 01/2002) DORIS 2.1 (01/2002-05/2008) DORIS 2.2 (> 05/2008)	en1,ja1,sp2, sp3, sp4, sp5, top cs2, h2a, ja2, srl (RINEX also available)
raw DORIS data ("RINEX")	2 days	1-day files	CDDIS ; IGN	RINEX/DORIS	past: h2a, ja2 current: cs2,srl, ja3,h2c,s3a,s3b,s6a soon: h2d
NRT DORIS data (validation phase)	~3 hours	2-hour files	IGN	RINEX/DORIS	ja3
From CNES/CLS Analysis Center					
SAA-corrected DORIS data	quaterly	7 or 10-day files	CDDIS ; IGN	DORIS 2.2	ja1, sp5
Satellite ancillary data					
satellite mass history	1 day - 1 month (*)	one single file	IDS CB	mass	all missions
satellite maneuvers	1 day - 1 month (*)	one single file	IDS CB	man	all missions
satellite attitude	1 day	one single file	IDS CB	att	current: ja3 past: en1, ja1, ja2, top
satellite body quaternions and solar panel angle	1 day	1-day files	CDDIS ; IGN	cnes	current: ja3 past: ja1, ja2
Other sources					
satellite quaternions	~1 month	1-day files	TU Delft	tudelft	cs2
	on request	1-day files	ESA	esa	S3a, s3b soon: s6a

About the data

- A daily data file (RINEX/DORIS or Doris1b) contains all the station data collected during one day by a satellite. There are no data file per station (unlike GNSS) but data file per satellite.

- There may be days without measurement (on-board failure, reception problem, ...). The list of non-existent day files is available on the site.

  See IDS > Data & Products > Tables of Data & Products

- Information on the delivery of a set of data (cycle) is sent by e-mail to the DORISreport list (ask the Central Bureau to be registered)

- File naming conventions, data centers structure, and formats are described in the document «IDS data structure and format"

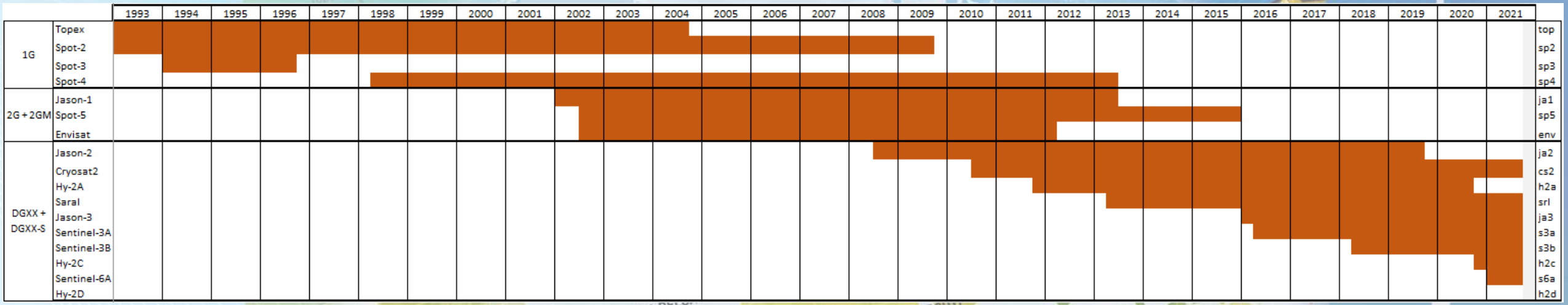
  See IDS > Data & Products > Data structure and formats

- Several documents concerning DORIS data are available on the site

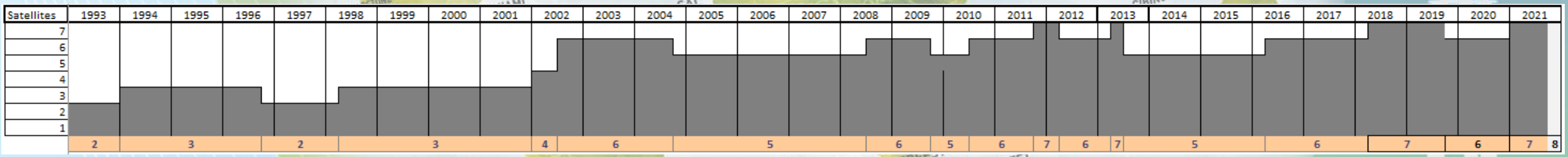
  See Analysis coordination > Documents for the data analysis

Available data

- Almost 138 years of DORIS measurements since Jan. 1993
- From 2 satellites (1993) to 7 (today) and 8 very soon



Data available at IDS Data Centers (1993.01.01 - 2021.09.30)



Number of satellites of the DORIS constellation (1993.01.01 - 2021.09.30)

How to access the data and products?

They are available here:

- IGN ftp servers

ftp://doris.ign.fr/pub/doris/ (main)

ftp://doris.ensg.eu/pub/doris/

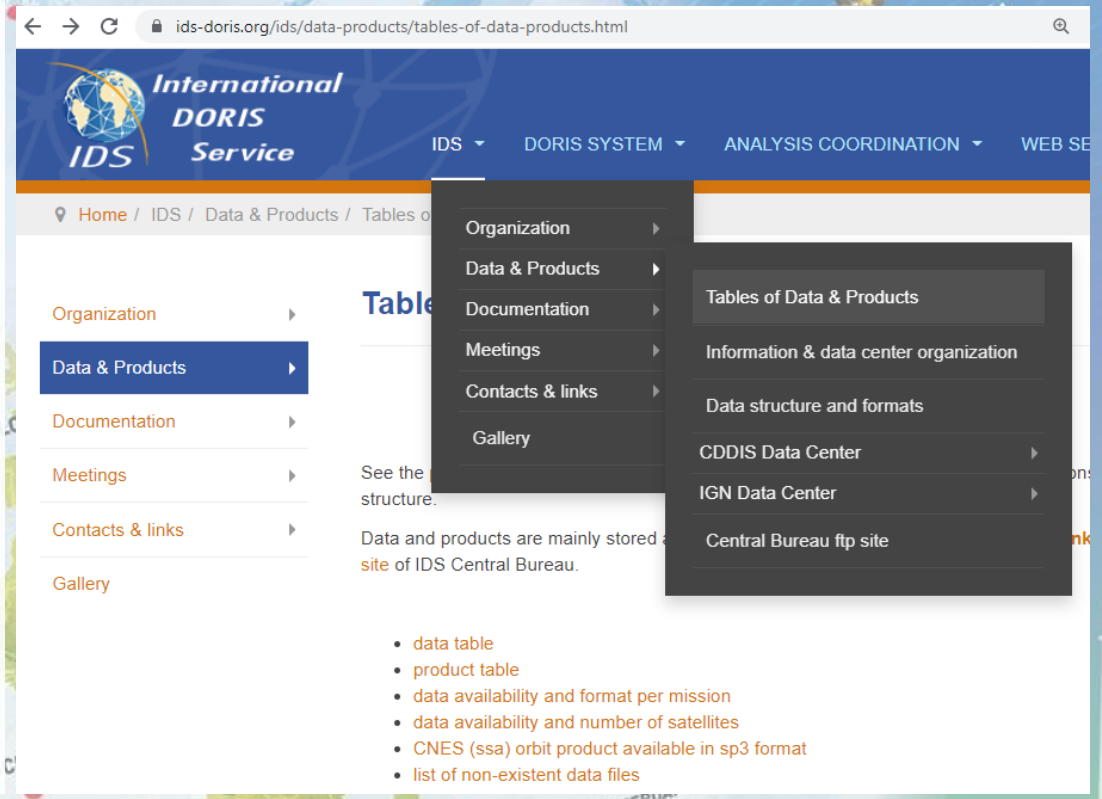
- CDDIS https server

https://cddis.nasa.gov/archive/doris/ (authentification required)

- Central Bureau ftp site

ftp://ftp.ids-doris.org/pub/ids/

On the IDS web site,
follow IDS > Data & Products



The FTP protocol may not be supported by your web browser anymore.
The alternative is to use a FTP client such as WinSCP, FileZilla, MobaXterm.

Key points

- SSALTO currently provides data of 7 missions (soon 8) to IDS: RINEX/DORIS, maneuver list, mass history.
- List of attitude maneuvers, body quaternions and solar panel angle are also provided for some missions
- For Jason-3, data are also distributed in Near Real Time (NRT). This delivery could be extended to other missions after the current validation phase
- Data files are available at CDDIS (authenticated https) and IGN (anonymous ftp) Data Centers. Ancillary data can be found on the IDS anonymous ftp site.
- Documents available on the IDS web site.