IDS website v3

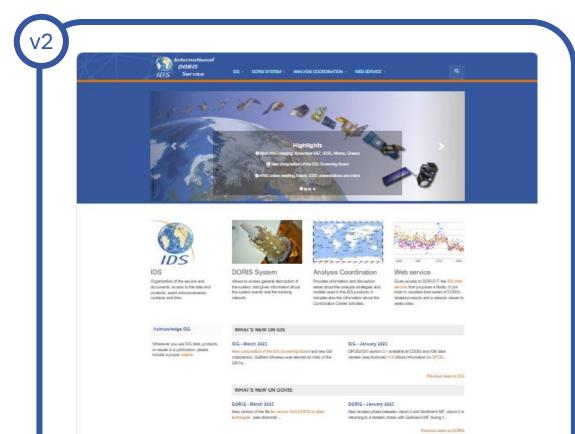
May 2025

Not a revolution but an evolution to make the website clearer for users

Main updates:

- New template
- Structure: 6 sections instead of 4
- No more than 2 levels (section > level 1 > level 2)
- One structure but several ways to find the information

+ some additions and more to come



SITE UPDATES

IN CHES

About DORIS

paral numbers

Enters of Advanced products

Lot of castors (cited up)

Mapt of December 4

Subservices Daught Lively

Desired OD-68 (NUSC article)

Thirty of californ (172 shores)

Documentation

hand down

Sec.

Stangents.

Asially reparts

Gerrarde its fire dis

Property in a 121 meet

All related presentations

She updates - March 2025

AVG meeting, Much 31: generations are over Updated service of the document aveiline reacconcides inglemented

Monitoring

Mandre protest

ACR MARKET

PE sales

Site Map 1 Control | Children | Maille 1 FAD | Granary Corpust in 1999 2020 Cold. Cold. 49 Name Reserves

Address of Appleor Internet

Site updates - January 2025

the Sheligs pages and in ...

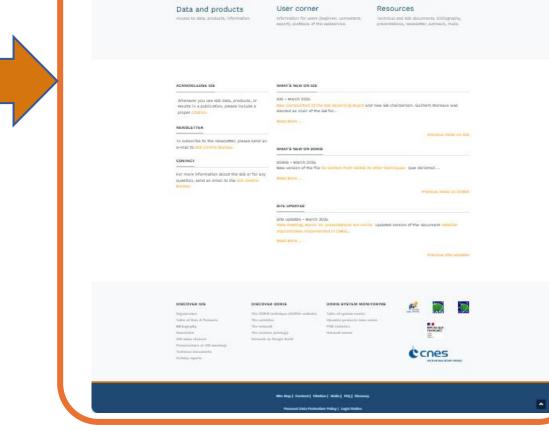
Added 1 new xileing (ULAC) Added pictures of the DORIS equilatient at Ultractizator and Gredon in

Previous site upstates.

🥂 👿 🔛

Cones

-



US - HETHORE & STATIONE - MERICHE & SYSTEM - DATA & HIGDUCTE - USER COMMER - RESOURCES

Network & Stations

require viewer, etgelan events.

urbund network, etations, sitnings, maps,

Missions & System

The unless normalizes and the esterilited

1 A B B

International DORIS IDS Service

IDS

. Organization of the service, meeting convolute,

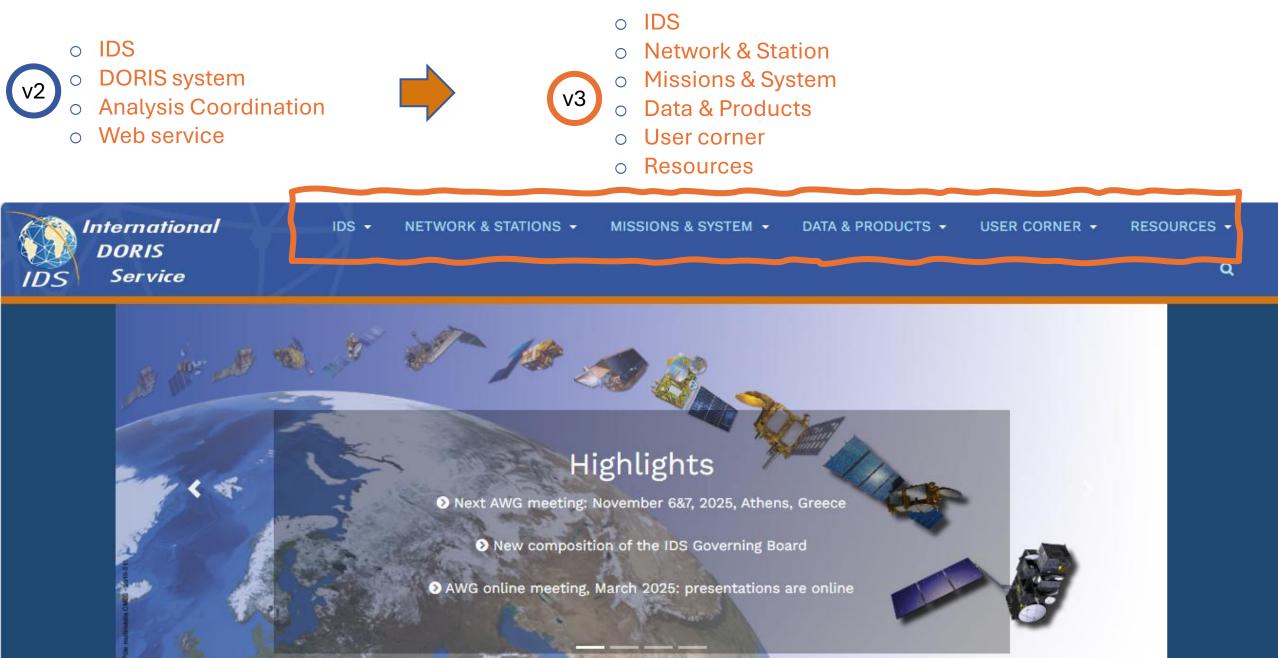
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v3

9

Structure: from 4 to 6 sections



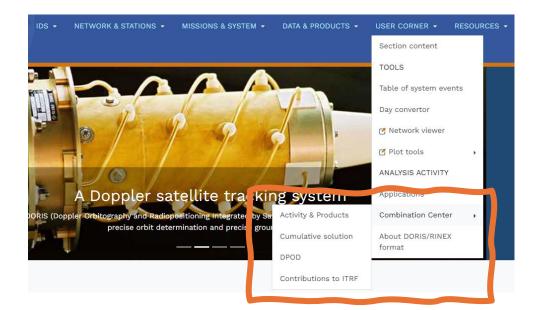
Header / Banner / The 6 sections / What's new, acknowledgment, contact ... / Alternative menu / Footer



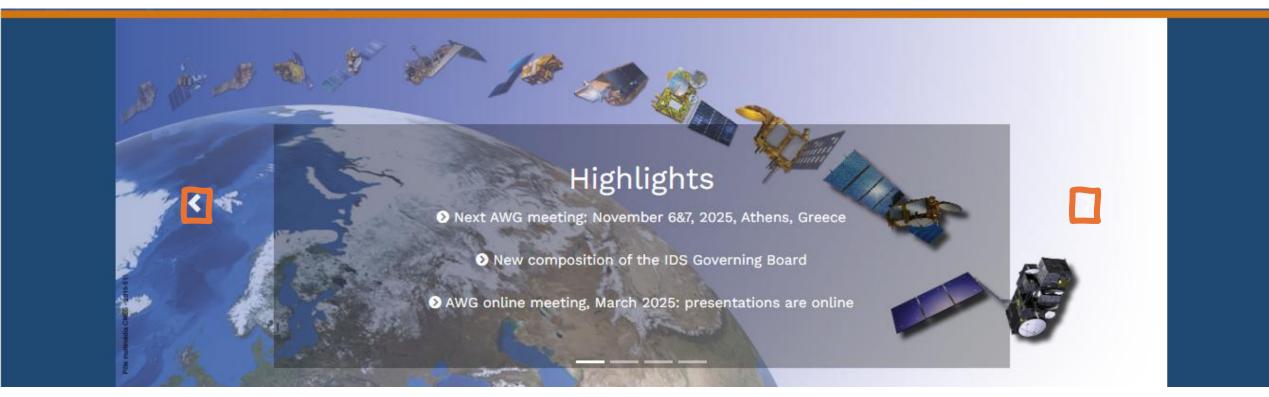




Access to the content of each section
Icon indicating link to external site
Maximum 2 levels in each section



Header / Banner / The 6 sections / What's new, acknowledgment, contact ... / Alternative menu / Footer









Header / Banner / The 6 sections / What's new, acknowledgment, contact ... / Alternative menu / Footer

- Access to the content of each section by clicking on the image or on the section title
- Brief description of the content



Organization of the service, meeting calendars, contact and links, photo gallery.



Network & Stations

Ground network, stations, sitelogs, maps, network viewer, station position times series.



Missions & System

The DORIS technique, the satellites, orbit residuals time series.



Data and products

Access to data, products, information.



User corner

Information for users (beginner, competent, expert), plottools of the webservice.



Resources

Technical and IDS documents, bibliography, presentations, newsletter, outreach, mails.

Header / Banner / The 6 sections / What's new, acknowledgment, contact ... / Alternative menu / Footer

ACKNOWLEDGE IDS	WHAT'S NEW ON IDS
Whenever you use IDS data, products, or results in a publication, please include a proper citation.	IDS - March 2025 New composition of the IDS Governing Board and new GB chairperson. Guilhem Moreaux was elected as chair of the GB for
	Read More
NEWSLETTER	Previous news on IDS
To subscribe to the newsletter, please send an e-mail to IDS Central Bureau.	WHAT'S NEW ON DORIS
CONTACT	DORIS - March 2025
For more information about the IDS or for any	New version of the file tie vectors from DORIS to other techniques (see dorismail
question, send an email to the IDS Central Bureau.	Read More
	Previous news on DORIS

AWG meeting, March 24: presentations are online Updated version of the document satellite macromodels implemented in CNES...

Read More ...

Header / Banner / The 6 sections / What's new, acknowledgment, contact ... / Alternative menu / Footer

DISCOVER IDS

DISCOVER DORIS

DORIS SYSTEM MONITORING





Organization Table of Data & Products Bibliography Newsletter IDS video channel Presentations at IDS meetings Technical documents Activity reports The DORIS technique (AVISO+ website) The satellites The network The stations (sitelogs) Network on Google Earth Table of system events Visualize products time series POE statistics Network viewer



- 1

AG



V2: Documentation / About DORIS / Monitoring

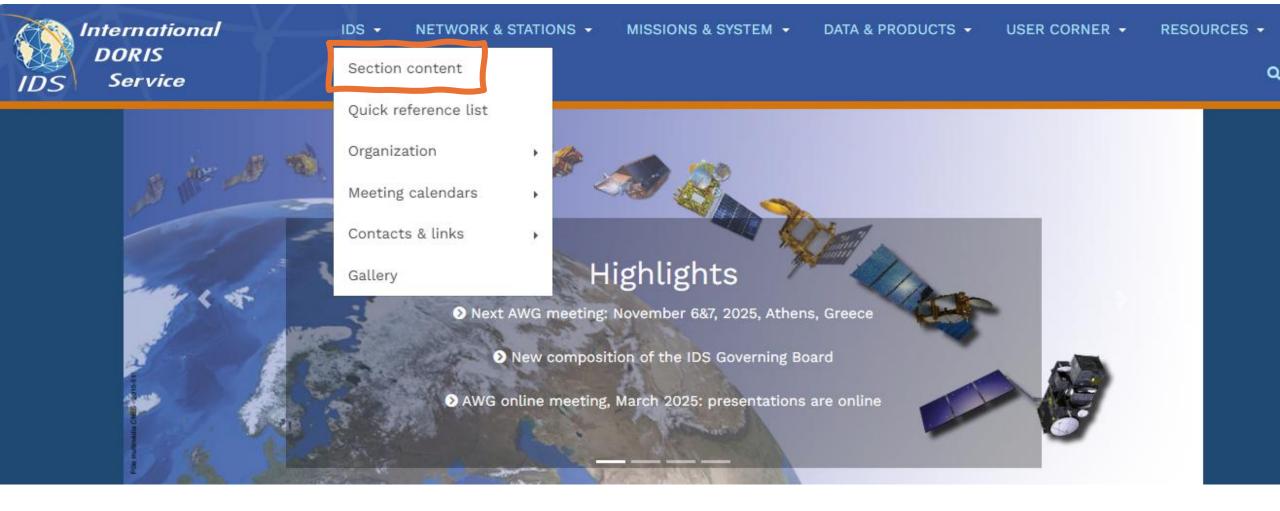
Header / Banner / The 6 sections / What's new, acknowledgment, contact ... / Alternative menu / Footer

Site Map | Contact | Citation | Mails | FAQ | Glossary

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Section menus



• Each menu has a section content



IDS -

NETWORK & STATIONS -

MISSIONS & SYSTEM -

DATA & PRODUCTS -

USER CORNER -RESOURCES -

Q

Section content

Network browser (sitelogs)

Maps

А

Network on Google Earth

Ietwork viewer

Station position times series

Doppler satellite tracking system

DORIS (Doppler Orbitography and Radiopositioning Integrated by Satellite) is a system developped for precise orbit determination and precise ground location.

Link to external websites noted by the icon





IDS -

NETWORK & STATIONS -

MISSIONS & SYSTEM -

DATA & PRODUCTS -

USER CORNER -**RESOURCES** -

Q

Section content

The DORIS technique

Missions

Satellites in orbit

🕑 Orbit residuals time

series

The DORIS constellation

DORIS is onboard the Cryosat-2, SARAL, Jason-3, Sentinel-3A, Sentinel-3B, HY-2C, HY-2D, Sentinel-6A and SWOT altimetric satellites. It also flew with SPOT-2, SPOT-3, SPOT-4, SPOT-5, TOPEX/POSEIDON, ENVISAT, Jason-1, Jason-2 and HY-2A.



IDS -

NETWORK & STATIONS -

MISSIONS & SYSTEM -

DATA & PRODUCTS -

USER CORNER -**RESOURCES** -

Q

Section content

Tables of Data & Products

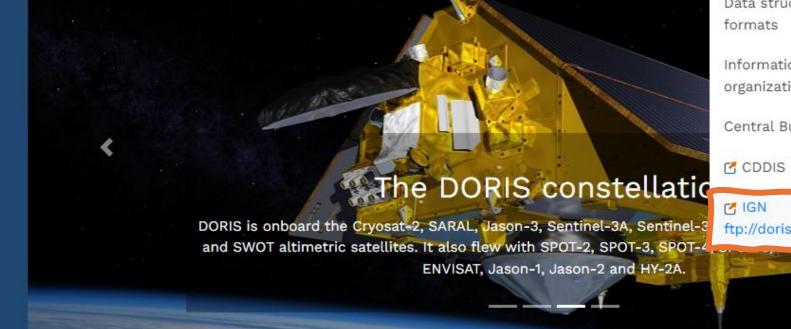
Data structure and formats

Information & DC organization

Central Bureau https

CDDIS https

ftp://doris.ign.fr/pub/doris/



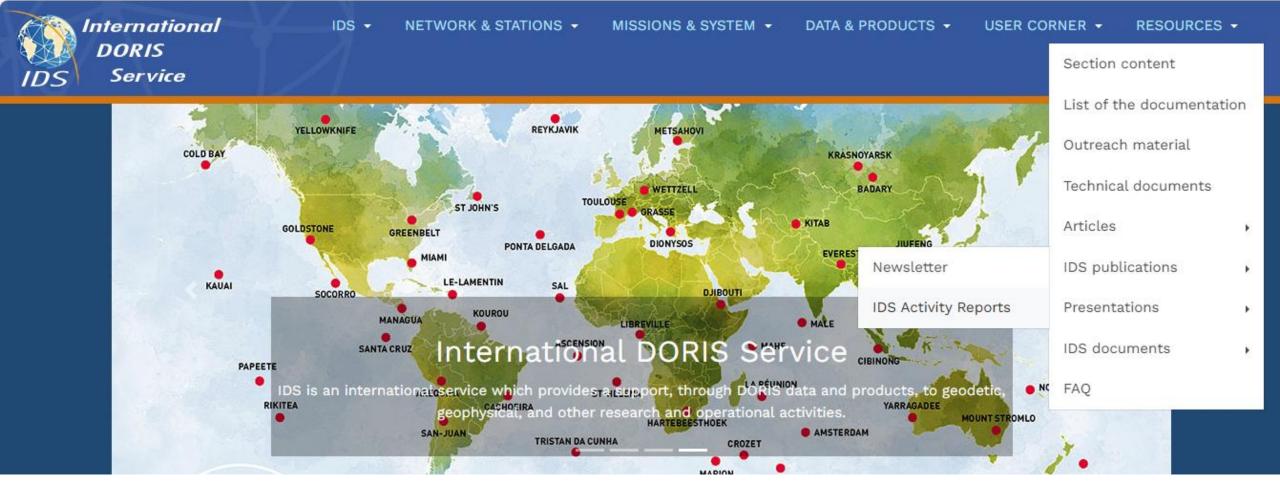
No hyperlink to the ftp site but link given to be copied in ftp client 0 This title is not clickable; it turns blue on mouse over Ο



In this section:

• Tools: Table of system events, Day convertor (new), Network viewer and Plot tools

• Analysis activity: Applications (new), Combination Center, About DORIS/RINEX format



 Menus open on the left if display is not possible on the right (depending on the size of the window when the site is opened)

Section contents



• IDS

- Network & Station
- Missions & System
- Data & Products
- User corner
- Resources

Section content

Quick reference list

- Organization 🕨
- > About IDS
- > Terms of Reference
- > Structure
- > Governing Board

> Central Bureau

- > Analysis coordination
- > Analysis Centers
- > Combination Center
- > Data Centers
- > Working Groups
- > Associate Members
- Meeting calendars +
- Contacts & links 🕨
- Gallery

• Bold titles for levels 1

- (ex. Organization; Gallery)
- Short description for levels 1 and levels 2

Section content

This section provides information about the International Service: organization of the service, meeting calendars, contact and links, photo gallery.

Quick reference list: selection of information and links relating to JDS and DORIS

Organization

- About IDS: why the service was created and the milestones in its history since 1993
- Terms of Reference: the purpose and functions of the IDS, its mission and its organization
- Structure: the components of the IDS
- · Governing Board: composition of the IDS Governing Board since 2003, representatives and delegates
- Central Bureau: composition of the Central Bureau
- Analysis coordination: composition of the Analysis Coordination
- Analysis Centers: list of the Analysis Centers, Associate Analysis Centers, and other associated groups
- Combination Center: composition of the Combination Center
- Data Centers: data centers archiving the DORIS data, derived products, and ancillary information
- Working Groups: objectives and members of the working groups
- Associate Members: list of the IDS Associates, persons representing organizations that participate in any of the IDS components.

Meeting calendars

- IDS Meetings: meetings organized by the IDS (Workshops, Analysis Working Group, ...)
- Meetings relevant for IDS: meetings and conferences related to the work of the IDS
- Other Calendars: calendars of sister services and other resources

Contacts & links

- · Contacts: main points of contact of the IDS
- Links: a selection of links to other relevant web pages
- Directory: contact information (mailing address, phone, fax, email, and web site address) of persons involved in IDS/DORIS activities

Gallery

Selection of photos taken in IDS meetings (Analysis Working Group meetings, IDS Workshop, Governing Board meetings) but also photos of the stations (local teams, DORIS equipment, obstruction views)



IDS 👻 NETWORK & STATIONS 👻 MISSIONS & SYSTEM 👻 DATA & PRODUCTS 👻 USER CORNER 👻 RESOURCES 👻

IDS

Home / Network & Stations / Section content

- Network & Station
- Missions & System
- Data & Products
- User corner
- Resources

Section content Network browser (sitelogs) Maps

Network on Google Earth

🚰 Network viewer

Station position times series

Section content

This section provides information about the ground network and the stations.

🛃 external link (to another website)

internal link (to another section of this site)

Tracking Network

- Network browser (sitelogs): map and table of the past and current DORIS sites, and access for each site to the site logs (description forms), pictures, news (DORISmails, local events) from the <u>DORIS</u> installation and maintenance department (<u>IGN/CNES</u>) and link to the position tiem series of the IDS webservice
- Maps: a selection of maps of the DORIS network (sites, colocations, satellite tracks and visibility circles)
- Network on Google Earth: download a kml and make a virtual tour of the DORIS network
- C Network viewer (redirection to the <u>IDS</u> web service: https://apps.ids-doris.org/apps/): link to the viewer of the IDS webservice

Stations

• Station position time series (redirection to the IDS web service: https://apps.ids-doris.org/apps/): link to the plot tool of the IDS webservice

Other linked pages on this website

- Table of events (in User corner): main events that occurred on the <u>DORIS</u> space segment and ground segment
- 🕑 Gallery (in IDS): photos of the stations (local teams, DORIS equipment, obstruction views)
- 🖪 Technical documents related to the ground segment (in Resources)

Icons (external link) and
 (internal link) defined
 Additional pages from other sections can be linked to the section and noted as internal links



IDS ▼ NETWORK & STATIONS ▼ MISSIONS & SYSTEM ▼ DATA & PRODUCTS ▼ USER CORNER ▼ RESOURCES ▼

Q

• IDS

Home / Missions & System / Section content

Missions & System

Network & Station

- Data & Products
- User corner
- Resources

- Section content The DORIS technique Missions Satellites in orbit
- Orbit residuals time series

Section content

This section provides information about the **DORIS** technique, and the satellites.

🕑 external link (to another website)

internal link (to another section of this site)

Technique

 The DORIS technique (redirection to <u>Aviso</u>+ website https://www.aviso.altimetry.fr/): principle, system (instruments onboard, ground beacons, control and processing center, a system constantly evolving, <u>DIODE</u>), applications, missions

Satellites

- Missions: timeline and table of the past and current DORIS-equipped satellites contributing to IDS, and acces for each mission to the attributes, satellite events, references and a video
- Satellites in orbit: videos of the DORIS-equipped satellites in orbit available on the IDS video channel
- Orbit residuals time series (redirection to the IDS web service: https://apps.ids-doris.org/apps/): link to the plot tool of the IDS webservice

Other linked pages on this website

- 🛃 Table of events (in User corner): main events that occurred on the DORIS space segment and ground segment
- 🕑 Technical documents related to the space segment (in Resources)

🛗 Last Updated: 16 April 2025



International IDS - NETWORK & STATIONS - MISSIONS & SYSTEM - DATA & PRODUCTS - USER CORNER - RESOURCES -

• IDS

Home / Data & Products / Section content

Missions & System

Network & Station

- Data & Products
- User corner
- Resources

Section content

This section describes and give acces to the data, products, information.

external link (to another website)

internal link (to another section of this site)

CDDIS https

Central Bureau https

Tables of Data & Products

Data structure and formats

Information & DC organization

Section content

🕑 IGN ftp://doris.ign.fr/pub/doris/

What and Where

- Tables of Data & Products : data table, product table, data availability and format per mission, data availability and number of satellites, <u>CNES</u> (ssa) orbit product available in sp3 format, list of non-existent data files
- Data structure and formats
- Information & data center organization

Access

- Central bureau:
 - HTTPS https://ids-doris.org/documents/BC/
 - 🕑 FTP ftp://ftp.ids-<u>doris</u>.org/pub/<u>ids</u>/ (alternative link)
- CDDIS Data Center: HTTPS archive (authenticated access), web site
- 🛃 IGN Data Center: FTP ftp://doris.ign.fr/pub/doris/

Other linked page on this website

• 🖪 Technical documents (in Resources)

It's very likely that the FTP protocol is not supported by your web browser. The alternative is to use a FTP client such as WinSCP, FileZilla, MobaXterm.

- IDS
- Network & Station
- Missions & System
- Data & Products
- User corner
- Resources

User corner

• A classification by user type is proposed in the second part of the page ...

Section content

Section content

Day convertor

Plot tools

Applications Combination Center •

Network viewer

Table of system events

About DORIS/RINEX format

This section provides information for users: tools and analysis activities.

Shortcut to classification by user type: beginner, competent, expert.

🕑 external link (to another website)

😢 internal link (to another section of this site)

Tools

Table of system events: chronology of the main events that occurred on the <u>DORIS</u> space segment and ground segment.

- System: onboard (satellites, <u>DORIS</u> instruments, <u>DIODE</u> navigator software), on the ground (Satellite Control Center, DORIS control and data processing center, acquisition station)
- · Station: beacon network (new site, new installation, change of beacon equipement, data gap, invalid data)
- Data: events impacting data (not delivered data, data redelivery, change in <u>POE</u> data processing, change in acquisition mode)
- · Earthquake: Earthquakes with magnitude larger than 6 in the vicinity of DORIS sites (less than 500 km)

Day convertor: converting calendar days to Julian days and vice versa

Network viewer (redirection to the UDS web service: https://apps.ids-doris.org/apps/) to select sites and display:

- · DORIS sites since network deployment start
- IGS, ILRS and IVS sites colocated with DORIS
- Plate boundaries from Bird, 2003
- Horizontal and vertical velocity vectors from DPOD2014 solution
- Earthquakes with a magnitude >=6 around DORIS stations (USGS source).

Plot tools (redirection to the IDS web service: https://apps.ids-doris.org/apps/) to browse time series of DORIS-related products:

- Station position differences at observation epochs relative to a reference position (North, East and Up trended time series).
- Orbit residuals and amount of station measurements from CNES Precise Orbit Ephemeris processing (RMS of post-fit orbit residuals, total and validated number of DORIS measurements per arc).
- Combination parameters i.e. outputs of the IDS Combination Center analysis (WRMS of station position residuals, scale and translation parameters, number of stations used in the analysis).
- Earth Orientation Parameters from the IDS Combination Center analysis (Xp, Yp, LOD).
- Position residuals of the cumulative solution from the IDS Combination Center analysis (North, East, Up).

Analysis activity

Applications: what DORIS can observe to characterize the geodetic properties of Earth

Products of the Combination Center

- Activity & Products of the Combination Center
- Cumulative solution
- DPOD
- Contributions to ITRF (ITRF2008, ITRF2014, ITRF2020)

About DORIS/RINEX format

Other linked page on this website

Technical documents for data analysis (in Resources)

Home / User corner / Section content

- IDS
- Network & Station
- Missions & System
- Data & Products
- User corner
- Resources

User corner

... three type of users are defined:
beginner (ex: student)
competent (ex: geophysicist)
expert (ex: DORIS data analyst)

Beginners: discover DORIS and IDS products

Network viewer (Web service) to select sites and display:

- DORIS sites since network deployment start
- IGS, ILRS and IVS sites colocated with DORIS
- Plate boundaries from Bird, 2003
- Horizontal and vertical velocity vectors from DPOD2014 solution
- Earthquakes with a magnitude >=6 around DORIS stations (USGS source).

Plot tools (Web service) to browse time series of DORIS-related products:

- Station position differences at observation epochs relative to a reference position (North, East and Up trended time series).
- Orbit residuals and amount of station measurements from <u>CNES</u> Precise Orbit Ephemeris processing (RMS of post-fit orbit residuals, total and validated number of DORIS measurements per arc).
- Combination parameters i.e. outputs of the IDS Combination Center analysis (WRMS of station position residuals, scale and translation parameters, number of stations used in the analysis).
- Earth Orientation Parameters from the IDS Combination Center analysis (Xp, Yp, LOD).
- · Position residuals of the cumulative solution from the IDS Combination Center analysis (North, East, Up).

Competent users: know more about and use IDS products

Applications: what DORIS can observe to characterize the geodetic properties of Earth

Products of the Combination Center

- Activity & Products of the Combination Center
- Cumulative solution
- DPOD
- Contributions to ITRF (ITRF2008, ITRF2014, ITRF2020)

Experts: information for data analysis

About DORIS/RINEX format

Day convertor: converting calendar days to Julian days and vice versa

Table of system events: chronology of the main events that occurred on the DORIS space segment and ground segment.

- System: onboard (satellites, DORIS instruments, DIODE navigator software), on the ground (Satellite Control Center, DORIS control and data processing center, acquisition station)
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- Data: events impacting data (not delivered data, data redelivery, change in <u>POE</u> data processing, change in acquisition mode)
- Earthquake: Earthquakes with magnitude larger than 6 in the vicinity of DORIS sites (less than 500 km)

Technical documents for data analysis (in Resources)



International

Section content

Outreach material

IDS publications >

Presentations +

IDS documents >

Articles >

FAQ

Technical documents

List of the documentation

- IDS
- Network & Station ۲
- Missions & System ٠
- Data & Products ۲
- User corner
- Resources

Section content

This section gathers the outreach and technical documentation Technical and IDS documents, bibliography, presentations, newsletter, mailing lists.

List of the documentation: all links to the pages where the documentation provided by the IDS is stored.

For beginners:

Outreach material: Leaflets, videos, ...

For experts:

Technical documents: documents and input material useful for data and product users

Articles:

- DORIS bibliography: list of DORIS publications in international peer-reviewed journals
- Citation: article suggested for citation in papers and presentations that rely on DORIS data and results.

IDS publications:

- Newsletter: IDS newsletters
- IDS activity reports: annual activity reports of the IDS components; reports for IAG, IERS, WDS

Presentations:

- Presentations at IDS meetings: presentations at IDS Workshops and Analysis Working Group meetings
- IDS-related presentations: meeting abstracts, proceedings and presentations about IDS given in international assemblies
- OSTST POD sessions: presentations of the Precise Orbit Determination session at OSTST meetings
- Other publications: list of downloadable documents related to all aspects of DORIS (on-line publications, abstracts, presentations, ...)

IDS documents:

- Minutes IDS GB meetings: minutes of the meetings of the Governing Board
- Other documents. On this page, you will find the find the following documents:
 - Governing Board: presentations, recommendations, other documents
 - · Analysis Coordination: minutes of AWG meetings, other documents
 - IDS logos
- · Mails: IDS mailing lists (lists of distributed mails, archives)

FAQ: Frequently Asked Questions

Some features

Section content

Quick reference list

Organization 🕨

Meeting calendars >

> IDS Meetings

> Meetings relevant for IDS

> Other Calendars

Contacts & links 🕨

Gallery

• New presentation of the IDS meetings

• View by year ...

IDS meetings

Page 1 of 26

Presentations given at <u>JDS</u> meetings can be found on the page "Meeting presentations"

Upcoming meetings

DORIS Analysis Working Group Meeting, Athens, November 6-7, 2025

- Dates: November 6 (full day) & 7 (morning), 2025
- Local host: Maria Tsakiri (NTUA)
- Meeting location: Athens
- Hybrid meeting
- Other related event (invitation-only): **Governing Board hybrid meeting**, Friday November 7 (TBD)

More information in the coming weeks

Past meetings ...

Next

🛗 Last Updated: 10 April 2025

	Article Index
	IDS meetings
	2025
ſ	2024
	2023
	2022
	2021
	2020
	2019
	2018
	2017
	2016
	2015
	2014
	2013
	2012
	2011
	2010
	2009
	2008

Past meetings ...

2025

DORIS Analysis Working Group Meeting, online, March 24, 2025

- Dates: Monday 24 March 2025 (14:00 CEST, 13:00 UTC)
- Organization: Petr Štěpánek (GOP)
- Online meeting
- List of presentations
- List of attendees:

Adrian Banos-Garcia Alexandre Couhert Anna Kelley Anton Reinhold Arnaud Pollet Bruce Haines Cécile Manfredi Eléonore Saquet Ernst Schrama Frank Lemoine Georgia Katsigianni Guilhem Moreaux Heike Peter Hugues Capdeville Jean-Michel Lemoine Jean-Paul Boy

Jean-Pierre Chauveau Jérôme Saunier John Moyard Julian Zeitlhöfler Karine Le Bail Laurent Soudarin Maria Tsakiri Ningbo Wang Patrick Schreiner Petr Stepanek Samuel Nahmani Sergei Rudenko Théo Gravelon Vikash Kumar Xanthos Papanikolaou Zuheir Altamimi



2024

IDS Workshop, Montpellier, France, 4-5 September 2024

The IDS workshop 2024 was held at Le Corum in Montpellier, France, on **Wednesday 4 (afternoon) and Thursday 5 (all day) September 2024**, as part of the "30 Years of Progress in Radar Altimetry" Symposium (https://www.altimetry2024.org)

A Governing Board meeting took place on Thursday 5th at the end of the day.

o ... or all pages

Section content

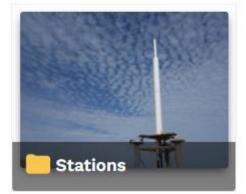
Quick reference list

Organization +

Meeting calendars +

Contacts & links • Gallery

O Updated version of the Gallery
O Four main categories







Analysis Working

Group meetings

Powered by Phoca Gallery

Section content Quick reference list Organization > Meeting calendars > Contacts & links > Gallery

GALLERY - DORIS EQUIPMENT

G Stations

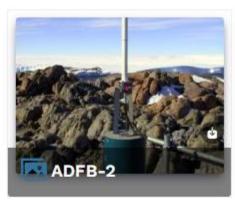


















• Larger thumbnails

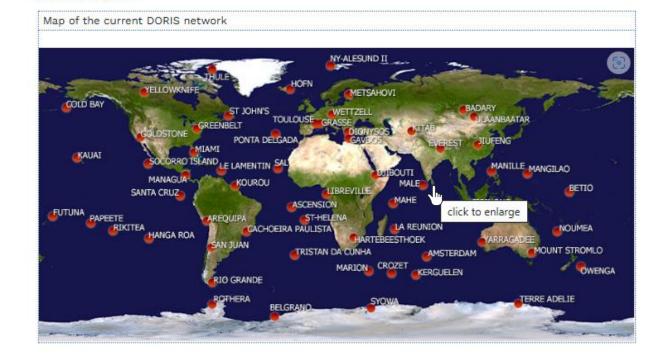
Section content Network browser (sitelogs) Maps Network on Google Earth Metwork viewer Station position times series

Maps

Here is a selection of maps of the <u>DORIS</u> network.

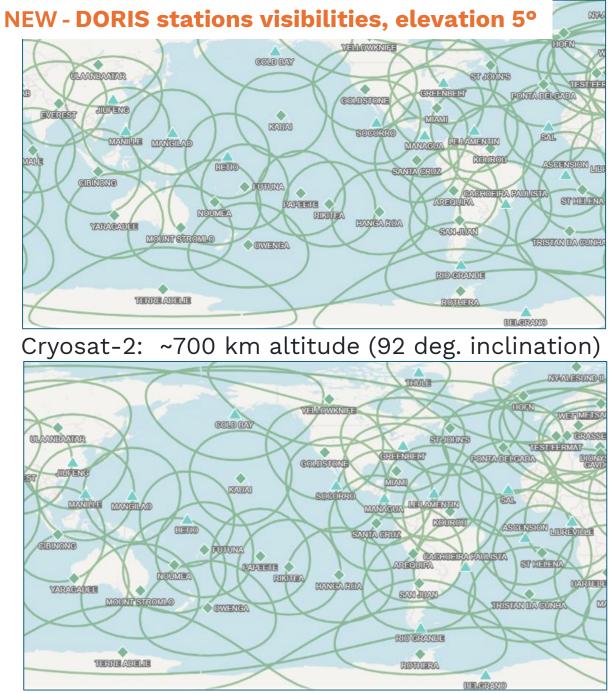
sites | colocations | satellite tracks | stations visibilities

DORIS sites

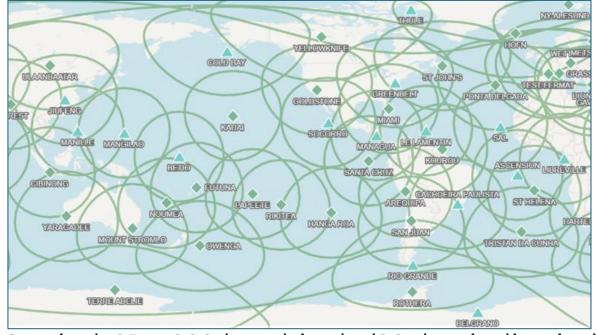




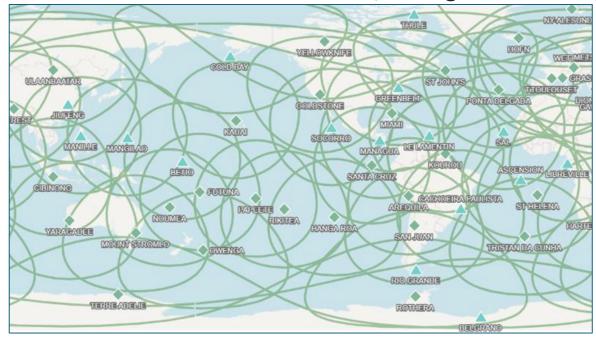
- o Updated map page
- o Larger maps
- New maps: satellite tracks, stations visibilities



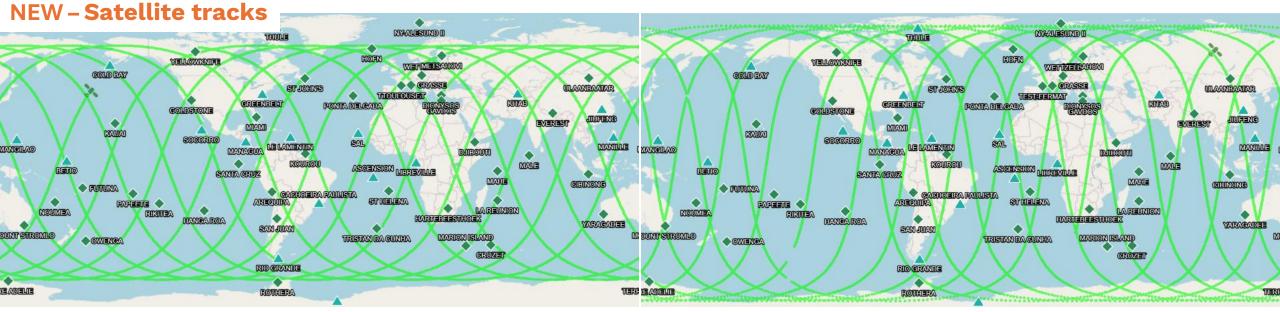
Swot: ~890 km altitude (77 deg. inclination)



Sentinel-3B: ~800 km altitude (98 deg. inclination)

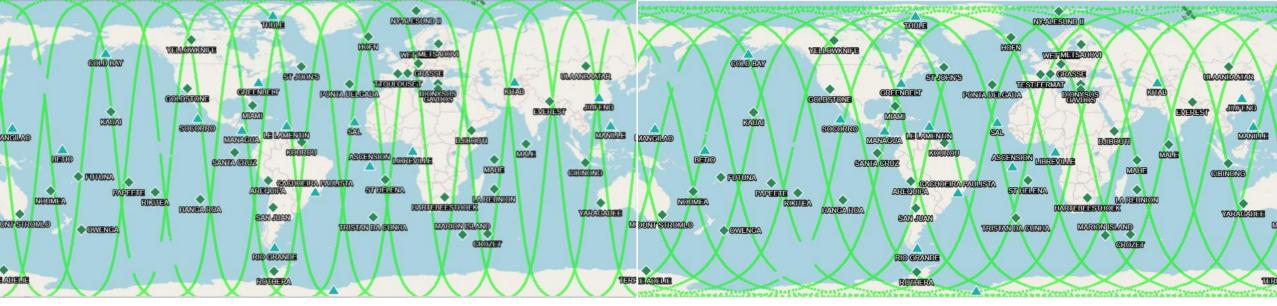


Sentinel-6A: 1336 km altitude (66 deg. inclination)



Sentinel-6A: 66 deg. inclination (1336 km altitude)

Swot: 77 deg. inclination (~890 km altitude)



Cryosat-2: 92 deg. inclination (~700 km altitude)

Sentinel-3B: 98 deg. inclination (~800 km altitude)

NEW – Day convertor

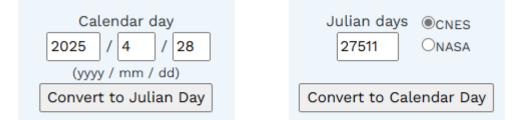
Home / User corner / Day convertor

Section content Table of system events **Day convertor** Network viewer Plot tools Applications Combination Center About DORIS/RINEX format

o Tool from Aviso website

Calendar days or julian days

<u>CNES</u> julian days are number of days since January 1st, 1950. <u>NASA</u> julian days are number of days since January 1st, 1958.



🛗 Last Updated: 27 January 2025

NEW

Section content

Table of system events

Day convertor

Metwork viewer

Plot tools •

Applications

Combination Center +

About DORIS/RINEX format

List of variables observed by DORIS

What <u>DORIS</u> can observe to characterize the geodetic properties of Earth

DORIS has proven greatly valuable for geodesy and geophysics applications. It contributes to the observation and determination of variables that characterize the properties of Earth, whether geodetic, geophysical or atmospheric.

Here is a list of the variables that the system can observe and that have been published since the 2000s.

- Tectonic plate parameters [Kraszewska et al., 2018]
- Horizontal and vertical velocities of the stations [Moreaux et al., 2016]
- Glacial Isostatic Adjustment [King et al., 2010]
- · Long-time series of station positions, records of events affecting the DORIS stations such as:
 - Earthquakes (eg Gorkha Earthquake recorded at Everest's station) [Moreaux et al., 2019],
 - present day ice melt of nearby glaciers (eg uplift acceleration in Thule, Greenland) [Moreaux et al., 2019],
 - volcanic activity (eg deflation of the Mt. Evermannn volcano observed at Socorro) [Briole et al., 2009],
 - subsidences (eg slow subsidence of the Tahiti island) [Fadil et al. 2011], ...
- Contribution to the realization of the ITRF [Moreaux et al., 2016]
- Geocenter motion [Couhert et al., 2018] and Scale of the Terrestrial Reference Frame [Štěpánek and Filler, 2018]
- Earth Pole coordinates and estimation of LOD [Štěpánek et al., 2018]
- Precise orbits for altimeter missions contributing to determination of the Mean Sea Level [Rudenko et al., 2019]
- Contour of the South Atlantic Anomaly [Capdeville et al., 2016]
- Vertical Total Electron Content of the Earth's ionosphere [Dettmering et al., 2014]
- Detection of scintillations (eg CITRIS project) [Siefring et al., 2011]
- Thermosphere perturbations during severe geomagnetic conditions [Willis et al., 2005]
- Long time-series of tropospheric delays and precipitable water [Bock et al., 2014]

Landing pages

- Section content
- Table of system events
- Day convertor
- Network viewer
- Plot tools •
- Applications
- Combination Center >
- > Activity & Products
- > Cumulative solution
- > DPOD
- > Contributions to ITRF
- About DORIS/RINEX format

 Landing pages (linked to a DOI) are level-3 pages, not accessible directly in the menu, but from level-2 pages

Contributions to ITRF

IDS's first contribution to the realization of the ITRF (International Terrestrial Reference Frame) was the provision of individual solutions for ITRF2005 by two analysis centers (<u>IGN</u>, LEGOS-<u>CLS</u>). Previously, <u>DORIS</u> solutions produced by four groups had been included in the <u>ITRF</u> computations: ITRF94, ITRF96, ITRF97: contributions of <u>CSR</u>, <u>GRGS</u> and IGN ITRF2000: contributions of <u>AUSLIG</u>, GRGS and IGN

Find below elements about the IDS contribution to the following ITRS realizations:

ITRF2020 | ITRF2014 | ITRF2008 | ITRF2005

Contribution to ITRF2020

(ITRF web page)

The <u>IDS</u> 16 series is the <u>DORIS</u> contribution to the ITRF2020. This product is referenced with a DOI: 10.24400/312072/i01-2021.001 (follow the link to read more).

See the page: "IDS 16 - Contribution to ITRF2020"

Section content

Table of system events

Day convertor

Metwork viewer

Plot tools •

Applications

Combination Center +

- > Activity & Products
- > Cumulative solution

> DPOD

> Contributions to ITRF

About DORIS/RINEX format

Ex: Landing page of the product « IDS contribution to ITRF2020 »

 Same page organization to be used for each product landing page (to be confirmed)

IDS 16 - Contribution to ITRF2020

The <u>IDS</u> 16 series is the <u>DORIS</u> contribution to the 2020 realization of the International Terrestrial Reference Frame.

It provides weekly positions of the DORIS stations and daily Earth Orientation Parameters

This series of 1456 weekly <u>SINEX</u> files contains positions of 201 DORIS stations located at 87 DORIS sites from 1993.0 to 2021.0. The series is the combination of <u>ESA</u> 13 (ESA/<u>ESOC</u>), GOP 67 (Geodetic Observatory Pecny), GRG 43 (<u>CNES/CLS</u>) and GSC 51 (<u>NASA/GSEC</u>) DORIS multi-satellite solutions processed for the realization of the ITRF2020 according to the IDS standards.

DOI and Metadata

This product is referenced with a DOI: 10.24400/312072/i01-2021.001

More metadata

Product access

The product (zipped SINEX files ids*yyddd*wd16.snx.Z*) can be freely downloaded at the CDDIS HTTPS server or via the non authenticated IGN FTP site (the FTP protocol may not be supported by your browser, the alternative is to use a FTP client such as WinSCP, FileZilla, MobaXterm).

*naming convention

Citation

If you use the data, please cite: "The IDS 16 series was produced by the IDS Combination Center (DOI: 10.24400/312072/i01-2021.001)"

Section content List of the documentation Outreach material Technical documents Articles > IDS publications > > Newsletter > IDS Activity Reports Presentations > IDS documents > FAQ

Activity Reports

Categories: IDS AR | for IAG | for IERS | for WDS

Activity reports of the IDS components

(click on the images to access the report)

IGN IDS cnes cnes IGN cnes IGN ACTIVITY REPORT 2021 2023 ACTIVITY REPORT 2022 INTERNATIONAL DORIS SERVICE Contraction (181) IGN cnes cnes cnes IDS ACTIVITY REPORT 2018 ACTIVITY REPORT 2019-2020 ACTIVITY REPOR 2017 national Doris

 Landing pages (linked to a DOI) are level-3 pages, not accessible directly in the menu, but from level-2 pages Section content List of the documentation Outreach material Technical documents Articles > IDS publications > Presentations > Internal documents > FAQ

IDS Activity report 2023



 Ex: Landing page of the document « IDS Activity report 2023 »

 Same page organization to be used for each document landing page (to be confirmed) Main contributors: Boniface C., Capdeville H., Dettmering D., Kuzin S., Lemoine F., Moreaux G., Nahmani S., Pollet A., Saunier J., Schreiner P., Soudarin L., Štěpánek P., Yates T., Zeitlhöfler J.

Editors: L. Soudarin and C. Boniface

DOI: 10.24400/312072/i02-2024.002

More metadata

Publication year: 2024

Citation: IDS Activity report 2023. L. Soudarin and C. Boniface (Eds), Toulouse, International DORIS Service and CNES, 2024.

Footer menu

🕷 Home / Site map

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- Contacts
- Citation
- Mails
- FAQ
- Glossary

Personal Data Protection

- Policy
- Legal Notice

- User corner
 - Section content
 - Table of system events
 - Day convertor
 - Applications
 - Combination Center
 - Activity & Products
 - Cumulative solution
 - DPOD
 - Contributions to ITRF
 ITRF2020
 - About DORIS/RINEX format

• Landing pages can be found in the Site Map (footer menu)

Resources

- Section content
- · List of the documentation
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 IDS Activity report 2023
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 - IDS Activity report 2015
 - IDS Activity report 2014
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 - IDS Activity report 2012
 - IDS Activity report 2011
 - IDS Activity report 2010
 - IDS Activity report 2009
 - IDS Activity report 2006-2008
 - IDS Activity report 2003-2005
- Presentations
 - Presentations at IDS meetings
 - IDS-related presentations
 - OSTST POD sessions
 - Other publications
- IDS documents
 - Minutes IDS GB meetings
 - Other IDS documents
 - Mails

Alternative organizations

Resources > List of the documentation

Section content

- List of the documentation
- Outreach material
- Technical documents
- Articles 🕨
- IDS publications +
- Presentations +
- IDS documents +
- FAQ
- This page offers a classification of the documentation according to five categories, beside the classification offered by the section menu

List of the documentation

This page presents a classification of the documents and information on this site according to five categories

Categories: Outreach | DORIS system components | IDS information system | Publications, presentations | Documents

Outreach

Discover DORIS What is <u>DORIS</u>? How does it work? Network on Google Earth Leaflets on the DORIS system; the <u>IDS</u> webservice DOR-O-T Videos (on the IDS channel) the DORIS missions; some outreach videos on the DORIS system

Newsletters DORIS (1990-1993) and IDS (since April 2016)

DORIS system components

About the DORIS system (on website AVISO+)

- Principle
- DORIS System
- DORIS applications
- DORIS missions

About the station management Sitelogs (logs of the DORIS sites)

IDS Information system

IDS data structure and formats

- What kind of information on what center?
- File naming conventions
- Data Centers structure
- Formats

Data and products

- Mails (information about the mailing lists)
- DORISmails List of the mails Archive
- DORISreports List of the mails Archive
- DORISstations List of the mails Archive
 Analysis Forum List of the mails Archive

Publications, presentations

IDS Newsletters

List of DORIS publications in international peer-reviewed journals

Presentations at IDS meetings (presentations at IDS Workshops and Analysis Working Group meetings only)

IDS-related presentations (presentations about the Service given in international assemblies) DORIS-related presentations (other presentations and on-line publications related to all aspects of DORIS)

Documents

Documents for the data analysis

- General
- DORIS system
- Space segment (instrument modelling, satellite macromodels, attitude, quaternions, maneuvers, mass and gravity center history, SAA corrective model)
- Ground segment (ground beacon and antenna modelling, radio-frequency characteristics, antenna phase laws, documents)
- Stations (ties, frequency shift, <u>SINEX</u> master file)
- Observations (formats, preprocessing descriptions, <u>POE</u> standards)
- Analysis models
- Analysis Center
- Products (formats)

About the DORIS/RINEX format

Documents of the Analysis Coordination (minutes of AWG meetings, recommendations, position papers)

Documents of the Governing Board

- Minutes of GB meeting
- Activity Reports (IDS annual reports , reports for IAG, reports for IERS)
- Recommendations
- Presentations (IERS DB, GGOS Bureau Networks and Communications, others)
- Other documents

User Corner > Section content

Section content

This section provides information for users: tools and analysis activities.

Shortcut to classification by user type: beginner, competent, expert.

(reminder)

User corner

• A classification by user type is proposed in the second part of the page ...

Beginners: discover DORIS and IDS products

Network viewer (Web service) to select sites and display:

- · DORIS sites since network deployment start
- IGS, ILRS and IVS sites colocated with DORIS
- · Plate boundaries from Bird, 2003
- · Horizontal and vertical velocity vectors from DPOD2014 solution
- Earthquakes with a magnitude >=6 around DORIS stations (USGS source).

Plot tools (Web service) to browse time series of DORIS-related products:

- Station position differences at observation epochs relative to a reference position (North, East and Up trended time series).
- Orbit residuals and amount of station measurements from CNES Precise Orbit Ephemeris processing
 (RMS of post-fit orbit residuals, total and validated number of DORIS measurements per arc).
- Combination parameters i.e. outputs of the IDS Combination Center analysis (WRMS of station position residuals, scale and translation parameters, number of stations used in the analysis).
- · Earth Orientation Parameters from the IDS Combination Center analysis (Xp, Yp, LOD).
- · Position residuals of the cumulative solution from the IDS Combination Center analysis (North, East, Up).

Competent users: know more about and use IDS products

Applications: what DORIS can observe to characterize the geodetic properties of Earth

Products of the Combination Center

- Activity & Products of the Combination Center
- Cumulative solution
- DPOD
- Contributions to ITRF (ITRF2008, ITRF2014, ITRF2020)

Experts: information for data analysis

About DORIS/RINEX format

Day convertor: converting calendar days to Julian days and vice versa

Table of system events: chronology of the main events that occurred on the DORIS space segment and ground segment.

- System: onboard (satellites, DORIS instruments, DIODE navigator software), on the ground (Satellite Control Center, DORIS control and data processing center, acquisition station)
- · Station: beacon network (new site, new installation, change of beacon equipement, data gap, invalid data)
- Data: events impacting data (not delivered data, data redelivery, change in <u>POE</u> data processing, change in acquisition mode)
- · Earthquake: Earthquakes with magnitude larger than 6 in the vicinity of DORIS sites (less than 500 km)

Home page

DISCOVER IDS

DISCOVER DORIS

DORIS SYSTEM MONITORING





RÉPUBLIQUE FRANÇAISE Edited Egulité Francosid



Organization Table of Data & Products Bibliography Newsletter IDS video channel Presentations at IDS meetings Technical documents Activity reports The DORIS technique (AVISO+ website)

The satellites The network

The stations (sitelogs) Network on Google Earth Table of system events Visualize products time series POE statistics Network viewer

(reminder)

o Alternative menu on the home page

Focus on the page « Technical documents »

Section content List of the documentation Outreach material **Technical documents** Articles IDS publications Presentations IDS documents FAQ

Documents for the data analysis

It's very likely that the FTP protocol is not supported by	y your web browser.
The alternative is to use a FTP client such as WinSCP, F	FileZilla, MobaXterm.

Note that most of the files available at ftp://ftp.ids-doris.org/pub/ids/ can be seen at https://idsdoris.org/documents/BC/ too.

Here are gathered documents and input material useful for data and product users

Categories: General | DORIS system | Space segment | Ground segment | Observations | Products | Analysis: models

- The « technical documents » are the documents for the data analysis
- The page has been slightly reorganized (reduced number of categories)

General

- · See IDS data structure and formats for File naming conventions, Data Centers structure, Formats
- · See Outreach material for description of the DORIS system, leaflets, videos, newsletters
- See Overview of the documentation for all links to the pages where the documentation provided by the IDS is stored.

The DORIS system

- DORIS system definition 📆
- DORIS system events: satellites, instruments, satellite control center, <u>SSALTO</u> (control and data processing center), ...

Space segment The DORIS constellation: COSPAR numbers, Launch and Orbital information Spacecraft ID correspondence table for orbit exchange file (SP3c code, NORAD number...) Technical documents Modelling of the DORIS instruments (description of measurement types; ground, propagation and onboarc instrument models): • 1G (Spot-2, -3, -4, Topex) and 2G (Envisat) 📆 2GM (Spot-5, Jason-1) 📆 Macromodels: DORIS satellites models implemented in POE processing DORIS USO sensitivity to radiations 📆 Cryosat-2 precise orbit context 📆 Cryosat-2 characteristics for DORIS calibration and POD processing T HY-2A input data for Precise Orbit Determination T HY-2C input data for Precise Orbit Determination T Jason-1 postlaunch satellite characteristics for POD activities

- o clickable links are only https links
- o ftp links are written and not clickable
- Jason-2 satellite geometry 📆 Jason-3 characteristics for POD activities 📆
- Saral characteristics for DORIS calibration plan and POD processing T
- Sentinel-6A POD context 📆
- Swot characteristics for POD processing 📆
- Attitude laws of Swot and Sentinel-6 📆

Data files

Attitude

 Envisat (alt.: ftp://ftp.ids-doris.org/pub/ids/satellites/en1att.txt) Jason-1 (alt.: ftp://ftp.ids-doris.org/pub/ids/satellites/ja1att.txt) Jason-2 (alt.: ftp://ftp.ids-doris.org/pub/ids/satellites/ja2att.txt) Jason-3 (alt.: ftp://ftp.ids-doris.org/pub/ids/satellites/ja3att.txt) Sentinel-6A (alt.: ftp://ftp.ids-doris.org/pub/ids/satellites/s6aatt.txt) Swot (alt.: ftp://ftp.ids-doris.org/pub/ids/satellites/swoatt.txt) Topex (alt.: ftp://ftp.ids-doris.org/pub/ids/satellites/topatt.txt) Quaternions: Cryosat-2 TU Delft : ftp://dutlru2.lr.tudelft.nl/pub/ejo/cryosat2/quaternion/; description 1 ESA: see here how to get access or contact IDS Central Bureau; documentation: algorithm description 📆, product format specifications 📆 • Jason-1 (CDDIS, IGN: ftp://doris.ign.fr/pub/doris/ancillary/quaternions/ja1) Jason-2 (CDDIS, IGN: ftp://doris.ign.fr/pub/doris/ancillary/quaternions/ja2)

Ground segment

- Modelling of the ground beacons and ground antennas
- Geometry and types of ground antenna 📆

• Examples of the two types of antennas: Galapagos (Alcatel), Santa Cruz (Starec)

- DORIS site standard configurations
- System requirements for management of the DORIS station network 📆
- Station managment
- Interface specification between the DORIS network beacons and the onboard instrument (extract) 📆
- About DORIS stations equipment and impact on the frequency 📆
- Radio-frequency characteristics of the DORIS beacon
- Frequency shift mode of the 3rd and 4th generation beacons
- Recommendations on the phase laws implementation for types B and C
- Antenna phase laws in antex format
 - see readme
 - for Alcatel ground antenna
 - for Starec ground antenna, types B and C

Characteristics of the DORIS sites

- Site logs
- · SINEX master file : stations IDs (codes, DOMES), antenna type, eccentricity
- · File of the station frequency shifts
- · List of stations with external time and frequency references

Ties

- · DORIS internal ties: vectors between different antennas on the same site
- DORIS ties with other IERS techniques: vectors from DORIS to co-located GNSS, SLR or VLBI since 1988.

Station events

- See the Table of the system events for:
 - Chronology of the main events that occurred on the DORIS station network (new sites, new antennas, removed sites, failures...) with information on data gaps, invalidated data...
 - List of the Earthquakes with magnitude larger than 6 in the vicinity of DORIS sites (less than 500 km) based on USGS Earthquake notifications

More information

 information on stations has been reorganized

Observations

Technical documents

- About DORIS/RINEX format
- Description of CNES/SOD POE processing
- Description of the CNES/SOD preprocessing 🕎 for the DORIS data export formats (June 2002).
- Detailed standards of the successive <u>CNES/SOD POD</u> configurations defined for the Geophysical Data Records (GDRs) altimetry products and applied for the DORIS satellites :
 - GDR-B (2005)
 GDR-C (2008)
 GDR-D (2012)
 GDR-E (2015) (also named POE-E)
 POE-F (2018)
- DORIS data export formats

• POE-G (2025) 📆

- DORIS 1b (preprocessed data)
 - DORIS 1.0 (before January 2002),
 - DORIS 2.1
 - DORIS 2.2 (since June 2008)
- RINEX/DORIS (raw data)

List of DORIS1b files available for satellite (correspondence table "cycle or arc" and "start date - end date"

- Cryosat-2 (mission in operation)
- Envisat
- HY-2A
- Jason-1
- Jason-2
- Saral (mission in operation)
- Spot2
- Spot3
- Spot4
- Spot5
- Topex

 doris1b file lists generated by CDDIS have been added. They provide the start and end dates of each arc/cycle

New URLs but v2 links ensured via redirections

The list (.htaccess) can be updated at any time if needed.

(extract) From v2 pages ... to v3 pages

Redirect permanent /ids/data-products/data-structure-and-formats.html https://ids-doris.org/data-products/data-structure-and-formats.html Redirect permanent /ids/data-products/information-data-center-organization.html https://ids-doris.org/data-products/information-data-center-organization.html Redirect permanent /ids/data-products/tables-of-data-products.html https://ids-doris.org/data-products/tables-of-data-products.html [...] Redirect permanent /analysis-coordination/combination/dpod.html https://ids-doris.org/user-corner/combination/dpod.html Redirect permanent /doris-system/system-monitoring/table-of-all-events.html https://ids-doris.org/user-corner/table-of-all-events.html Redirect permanent /ids/reports-mails/governing-board/ids-activity-report-2023.html https://ids-doris.org/resources/ids-publications/activity-reports/ids-activity-report-2023.html Redirect permanent /ids/reports-mails/governing-board/ids-activity-report-2022.html https://ids-doris.org/resources/ids-publications/activity-reports/ids-activity-report-2022.html Redirect permanent /ids/reports-mails/governing-board/ids-activity-report-2021.html https://ids-doris.org/resources/ids-publications/activity-reports/ids-activity-report-2021.html Redirect permanent /analysis-coordination/combination/contributions-to-itrf/itrf2020.html https://ids-doris.org/user-corner/combination/contributions-to-itrf/contribution-toitrf2020.html [...] Redirect permanent /analysis-coordination/documents-related-to-data-analysis.html https://ids-doris.org/resources/technical-documents.html [...] Redirect permanent /ids/reports-mails/meeting-presentations/ids-workshop-2022.html https://ids-doris.org/ids/meetings/ids-meetings.html Redirect permanent /ids/reports-mails/meeting-presentations/ids-awg-10-2013.html https://ids-doris.org/ids/meetings/ids-meetings.html [...] Redirect permanent /doris-system/satellites.html https://ids-doris.org/missions-system/missions.html [...] Redirect permanent /doris-system/tracking-network/maps.html https://ids-doris.org/network-stations/maps.html [...] Redirect permanent /doris-system/tracking-network/site-logs.html https://ids-doris.org/network-stations/sites.html [...] Redirect permanent /ids/reports-mails/doris-bibliography/citation.html https://ids-doris.org/resources/articles/citation.html [...] Redirect permanent /ids/reports-mails/doris-bibliography/peer-reviewed-journals.html https://ids-doris.org/resources/articles/doris-bibliography.html [...]

Next steps

Next additions:

- « the DORIS technique »: moving the page from Aviso and rewriting
- organization of the landing pages (*): Activity Reports, IDS16, ...

→ catalog of products? library of documents?

- associate the EGVs to products and applications
- improve access to sitelogs

To do:

- Complete Personal Data Protection Policy
- Complete Legal Notice
- Update URLs for assigned DOI

* DOI assignation to pursue

