



IDS news

IDS AWG, Munich, April 4, 2019







- IDS life: latest news
- Data/products/documents
- Website/Webservice
- Outreach

Elections 2018



2 positions renewed within the Governing Board for 2019-2022:

- Analysis coordinator
 - → new tandem: Hugues Capdeville & Petr Stepanek
- Member-at-large
 - → Claudio Abbondanza succeeds to Marek Ziebart

IAG representative to be designed by IAG EC

IDS retreat & Strategic plan



- June 13 & 14, 2018: IDS retreat
- September 2018: GB Meeting in Paris

debriefing of the Retreat, finalization of the minutes and discussions about the strategic plan.

Next steps:

April – Sep. : 1 or 2 GB telecons to elaborate a preliminary IDS strategic plan

Sep. or Oct. 2019: consultation with the DORIS system stakeholders (meeting of CNES & IGN DORIS steering committee)

Then: strategic plan with medium and long term actions



IDS activity report 2018



-Introduction (Central Bureau)
-History (Central Bureau)
-Organization (Central Bureau)
-Network (J. Saunier)
-Satellites (P. Ferrage)
-Central Bureau (Central Bureau)
-Data Flow Coordination (C. Noll/P. Michael)
-CDDIS Data Center (C. Noll/P. Michael)
-IGN Data Center (B. Garayt)
-Analysis Coordination (H. Capdeville and J.M. Lemoine)
-Combination Center (G. Moreaux)

Analysis Centers: CNES/CLS (H. Capdeville) ESA/ESOC (M. Otten) Geodetic Observatory of Pecny (P. Stepanek) IGN/IPGP (P. Willis) INASAN (S. Kuzin) → OK NASA/GSFC (F. Lemoine)

Associated Analysis Centers: GFZ (R. Koenig) \rightarrow OK SOD (A. Couhert) \rightarrow not this year TU Delft (E. Schrama)

Working Group: NRT DORIS data (D. Dettmering) → OK

Next IDS events



- AWG meetings: +1 in 2019, 1 or 2 in 2020 \rightarrow TBD
- IDS Workshop 2020 in conjunction with OSTST meeting, October 12-16, Darmstadt, Germany organized by EUMETSAT in the frame of Jason-CS launch preparation

DORIS will turn 30 years in February 2020 !!!



Products: New POE-F orbit standards



Documentation

CNES's presentation in POD session at OSTST 2018 https://meetings.aviso.altimetry.fr/fileadmin/user_upload/POD_01_Moyard.pdf Detailed standards: https://ftp.ids-doris.org/pub/ids/data/POD_configuration_POEF.pdf

(or via IDS web: Analysis coordination > Documents for the data analysis)

- Switchs to POE-F standards
- Jason-3 (Sep.6 2018), Sentinel-3A & Sentinel-3B (Nov. 10, 2018) → whole series available
- Saral (Dec. 9, 2018) (reprocessing of the whole series in progress)
- Jason-2 and Cryosat-2: planned this year with complete reprocessing
- HY-2A later but without reprocessing.
- Topex/Poseidon reprocessing in progress
- Jason-1 and Envisat: reprocessing not planned so far
- Spot satellite orbits will not be reprocessed.
- File names

POE orbit files in sp3c format from CNES (SSALTO \rightarrow « ssa »)

The corresponding version for POE-F is numbered 20

<u>Stored at IDS DCs as</u>: **/pub/doris/products/ssa/<sss>/ssa<sss>20.bXXDDD.eYYEEE.DG_.sp3.LLL.Z** where <sss> = ja3, s3a, s3b, ...

Data/products/ information

Data: Jason-1 and Spot-5 SAA-corrected



New archive folders at IDS DCs for DORIS 2.2 SAA-corrected data of Jason-1 and SPOT-5. Previously in pub/doris/campdata/saacorrection/

Now in pub/doris/data/ja1/saacorrection/ pub/doris/data/sp5/saacorrection/

→ Recommended for ITRF2020 reprocessing

The data are provided by the CNES/CLS Analysis Center.

The correction included in the data are based on frequency corrective models (Capdeville and Lemoine).

pub/doris/data/ja1/ (CNES/SSALTO data files; without SAA correction) saacorrection/ (CNES/CLS AC data files; WITH SAA correction) pub/doris/data/sp5/ (CNES/SSALTO data files; without SAA correction) saacorrection/ (CNES/CLS AC data files; WITH SAA correction)

Note that the main folders pub/doris/data/ja1 and pub/doris/data/sp5 contain the data provided by CNES SSALTO (offical provider of DORIS data)

Novelties



Version #3 of DPOD2014

https://ids-doris.org/analysis-coordination/combination/dpod.html

New DORIS SINEX Master file, including codes, DOMES and geographic positions of all the DORIS stations, type and eccentricity of the antennas

ftp://ftp.ids-doris.org/pub/ids/stations/ids.snx (recommended by CC to ACs for headers of SINEX solutions)

- New version of the file tie vectors from DORIS to other techniques
 <u>ftp://ftp.ids-doris.org/pub/ids/stations/DORIS_ext_ties.txt</u>
- New document "Jason-3 characteristics for POD processing"

ftp://ftp.ids-doris.org/pub/ids/satellites/Jason-3_CharacteristicsForPODprocessing.pdf

- Updated version of the document satellite macromodels implemented in CNES POE processing :
- update on Sentinel-3A and Saral DORIS Center of Phase locations
- update on Jason2 and Jason3 attitude laws and a new Appendix 0 with DORIS phase center updates adopted at CNES

ftp://ftp.ids-doris.org/pub/ids/satellites/DORISSatelliteModels.pdf



- new sitelogs (MLAC, RISC, ROXC, SJUC, SVAC, WEUC) <u>https://ids-doris.org/network/sitelogs.html</u>
- new maps <u>https://ids-doris.org/network/maps.html</u>
- new pictures <u>https://ids-doris.org/ids/gallery.html</u>
- new references in the list of articles related to DORIS in international peer-reviewed journals

https://ids-doris.org/report/publications/peer-reviewed-journals.html

new page "IDS > Documentation > Outreach material" (videos, leaflets, newsletters)

https://ids-doris.org/ids/reports-mails/outreach-material.html



document satellite...



Webservice: new features 2018

https://ids-doris.org/webservice

- Network viewer
 - Plate boundaries (Bird, 2003)
 - Horizontal velocity vectors (DPOD2014)
 - Earthquake around DORIS stations
 - List of local events
 - Vertical velocity vectors (DPOD2014)
 - Velocity values displayed on mouse-over

Plottools

- Statistics update for displayed points for all the plottools
- Additional data: Pos./Vel. discontinuities, number of satellites
- New plottool for position residuals





Webservice : what do you need?

Network viewer

- Co-locations with SLR, VLBI, tide-gauges ?
- Visibility circles (for one or two cut-off angles and one or two altitudes) ?
- Satellite tracks (only repetitive orbits) ?
- SAA contour line ?
- > Other ?
- Plottools
 - > Orbit residuals \rightarrow add dates of switch to new standards?
 - New data? (eg. solar activity: flux, Kp)
 - > Other?

API queries



table of URL commands to query the web data base

Ex: <u>https://apps.ids-doris.org/api/v1/dpod</u> to get the DPOD values

Any suggestion?





IDS Newsletter



IDS Newsletter # 6 issued in February 2019

- **Content:**
 - The synergy of SLR and DORIS as geodetic techniques
 - The Azores: a key location occupied by DORIS for three decades
 - Ponta Delgada: the host agency in short
 - Tribute to Richard Biancale
 - IDS life
- Distributed by email and available on IDS web site IDS > Reports & Mails > Newsletter https://ids-doris.org/images/documents/newsletters/IDS-Newsletter6.pdf
- Subscription: email ids.central.bureau@ids-doris.org



The synergy of SLR and DORIS as geodetic techniques

ne (NASA GSFC), Alexandre Belli (NASA Postdoctoral Program, NASA GSFC), Carey Noli (NASA GS



ly was not available. For example ne T2L2 data showed that some SLI tations had timing biases up to sev ral µsecs w.r.t UTC. Time bias correc ns provided by Jason-2/T2L2 and he Jason-2 DORIS Ultra-stable Oscilla (2008-2017) will be used by the In mational Laser Ranging Service RS) during the preparation of the ext realization of the ITRE ITR2020 ing the workshop, F. Lemoine, A

Frank Lemoine, Albe installed by 2022). A further co-l Belli and also former IDS Governine andre Belli and co-authors precation is also planned by the CNES mber Carey Noll met ented two papers to the 21" Interna-NASA, and other partners at Papenoo personnel from Yarraeadee and Mt nal Workshop in Laser Ranging, 5-9 Tahiti, as a core site that would also in tromlo who operate the SLR stations November 2018 in Canberra, Aus- clude VLBI and GNSS. and host the DORIS hearons DORIS tralia: "The Synergy of Satellite Laser DORIS data in combination with SLR Associate R. Govind (Space Geodesy Ranging (SLR) and DORIS as Space Ge-Analysis Centre Pty Ltd) also attende data, have been used to provide preodesy Techniques", and "Monitoring the Time Bias in Laser Ranging stations cise orbits to altimeter satellites (e.g. Jason-1, -2, and -3, Sentinel-3A and lpants enjoyed a thanks to the T2L2 experiments", SLR es make excellent, reliable, longterm hosts for DORIS stations, DORIS the global rate of change and the acis currently hosted at ten SLR sites celeration in global mean sea level on the worldwide, Future SLR/DORIS co-locations include Changchun, China (which the Jason-2/T2L2 experiment, enabled is awaiting approval), and Ny-Ålesund, Svalbard (where a joint NASA/Norweby DORIS, have provided a new global

the ILRS workshop. Conference partie







DORIS/IDS presentations at EGU



Mon, 08 Apr, 10:45–11:00 Room -2.91 | Oral (session G2.4)

 « Improved determination of the three first-degree Earth gravity coefficients using SLR, DORIS and GPS observations » Alexandre Couhert, Flavien Mercier, Christian Bizouard, and Richard Biancale

Mon, 08 Apr, 16:15–18:00 Hall X3 | Poster (session G2.4)

 « Precise Orbit Determination of DORIS satellites by CNES/CLS IDS Analysis Center in the frame of the next ITRF » Hugues Capdeville and Jean-Michel Lemoine

Tue, 09 Apr, 08:30–10:15 Hall X3 | Poster (session G2.1)

« Contribution of the DORIS system to the observation and determination of essential variables for geodesy »
 L. Soudarin, J.- M. Lemoine, F. Lemoine, A. Couhert, C. Jayles, J. Saunier, G. Moreaux, H. Capdeville, P. Štěpánek, P. Ferrage

Tue, 09 Apr, 08:30–10:15 Hall X3 | Posters (session G2.2)

- « Innovations in the DORIS data processing at IDS analysis centre GOP »
 Petr Stepanek and Vratislav Filler
- « Analysis of the ITRF2014 tie vector discrepancies at the DORIS sites »
 Guilhem Moreaux, Frank G Lemoine, Hugues Capdeville, Petr Štěpánek, and Pascale Ferrage
- Correlation study between the annual signal in GPS and DORIS station positions and the atmospheric and hydrological loading effects »

Sofiane Khelifa





All the presentations of the AWG meeting will be available on IDS web: IDS > Documentation > Meeting presentations > IDS AWG 04-2019

Web: ids-doris.org Contact: ids.central.bureau@ids-doris.org

