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CENTRE NATIONAL
D'ÉTUDES SPATIALES

http://ids-doris.org/webservice

DOR-O-T

The IDS Web service

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The IDS Web service

Introduction

DOR-O-T for DORis Online Tools (pronounced in French like the given name Dorothée) is the IDS web service developed to promote the use of DORIS products.

The current version of the service provides tools to browse time series in an interactive and intuitive way.

Besides products provided by the CNES Orbitography Team and the IDS components (Analysis Centers and Combination Center), this service allows comparing time evolutions of coordinates for DORIS and GNSS stations in co-location, thanks to a collaboration with the IGS Terrestrial Frame Combination Center.

The Tools

The tools proposed by this web service are:

→ a NETWORK VIEWER to select sites

→ a family of PLOT TOOLS to visualize the following time series:

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.

The plot tools allow users to:

→ select charts to plot

→ display time series

→ edit data

→ change plot appearance

→ specify scaling

→ download data, plots and graph statistics in several formats.

They are equipped with statistic tools for the calculation of mean, slope and weighted rms with respect to the slope (Weighted Relative Standard Deviation).

Several series can be viewed and compared on the same graph.

Additional data can also be displayed, such as station or satellite events.

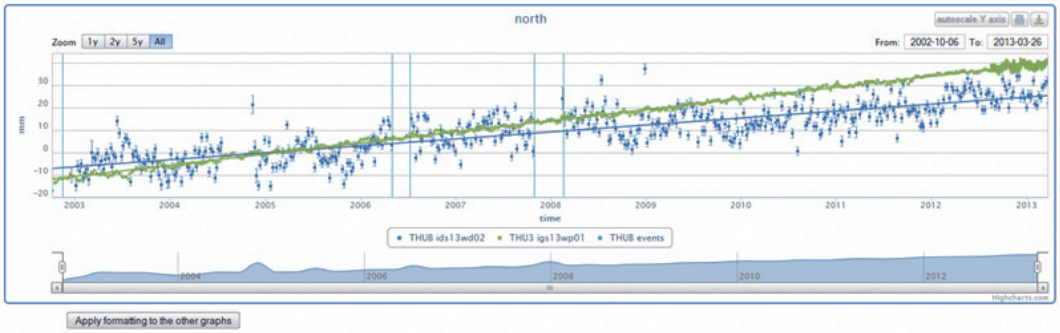
An online help is available too.

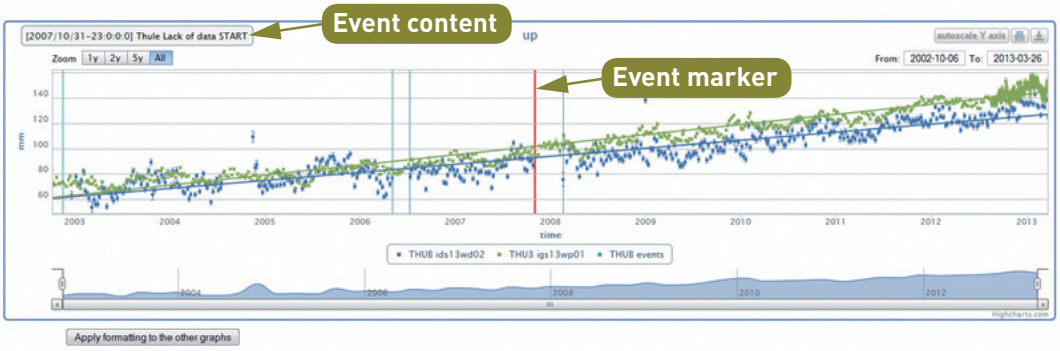
Time series of station positions

The available time series are:

→ **for DORIS sites,** series from the IDS Analysis Centers and combined series from the IDS Combination Center.

→ **for GNSS sites co-located with DORIS,** combined series from the IGS Terrestrial Frame Combination Center.

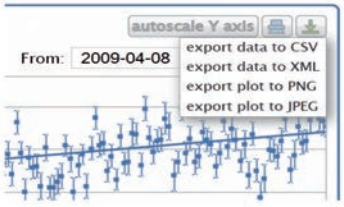




Time series of the DORIS and GNSS stations in Thule (Greenland)

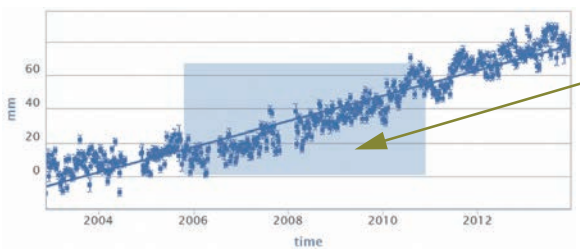
Print chart

Export menu

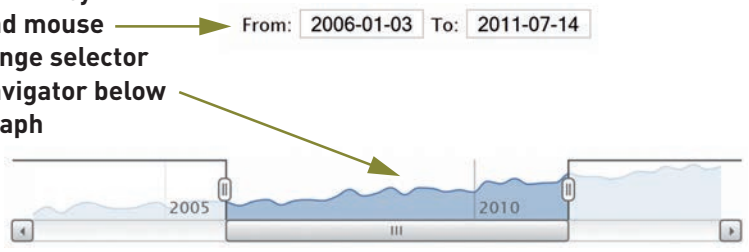


Displayed series (including modifications i.e. edited points, slope and/or biais added/removed) can be downloaded in CSV or XML formats. Each plot can be exported in PNG or JPEG format.

Zooming



"Ctrl" key and mouse range selector navigator below graph



To hide a series, just click on its caption

The IDS Web service

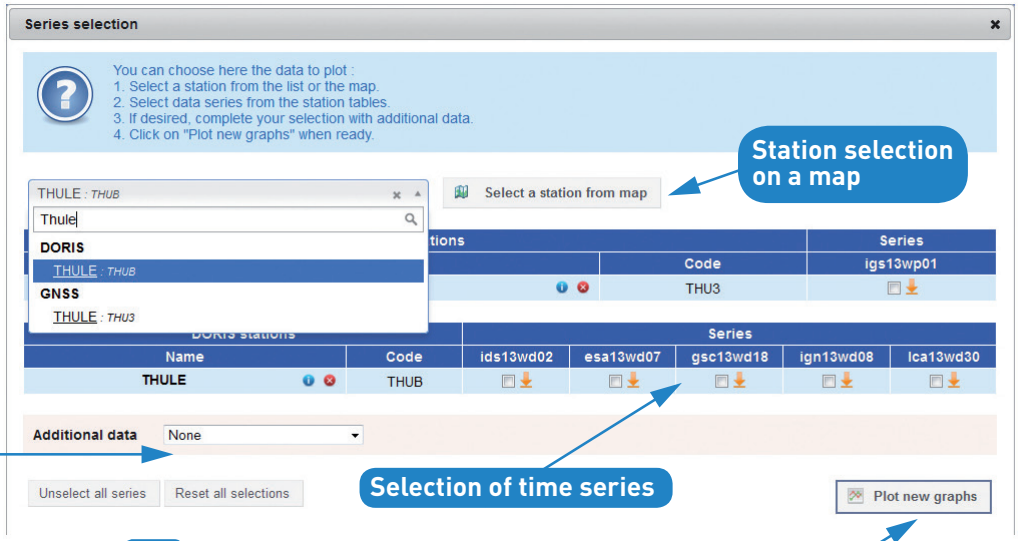
Site selection, data loading

Additional data

Complete the selection with station and satellite events

→ new sites, new antennas, removed sites, beacon failures, major recent earthquakes in vicinity (from USGS survey service).

→ events concerning DORIS onboard receivers, POE performances.



Access to site information

Download data in IDS STCD format

More with the menu bar

Besides the site selection, the menu bar proposes functions to:

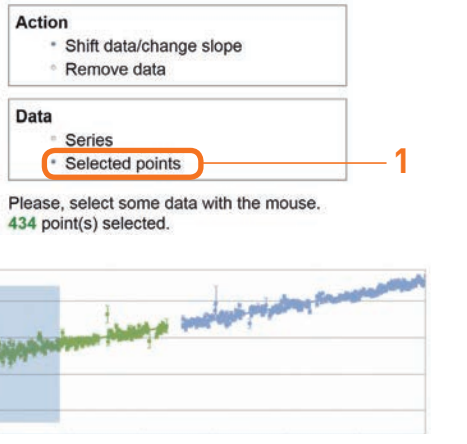
→ **tune the graph appearance**
Change color, line size and style, remove trend lines and error bars, choose the time scale.

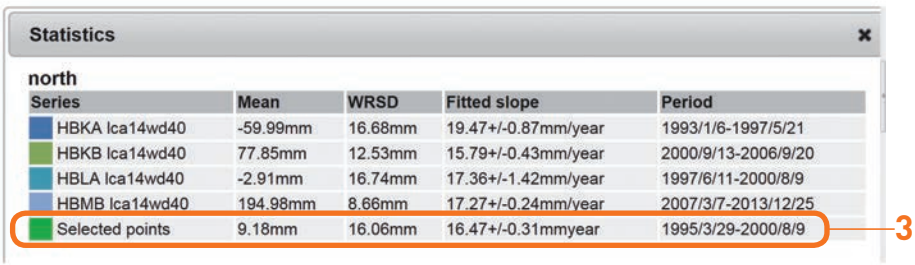
→ **get statistics for the plotted points**
They are refreshed each time the plots are modified (zoom, data removed, selection,...).

→ **modify data**
Shift, change slope, remove a series or a selection of points.

→ **get a report in PDF format**
It includes the North, East and Up plots, and the statistic table.

Use the selection mode to paste series and obtain statistics of the merged series



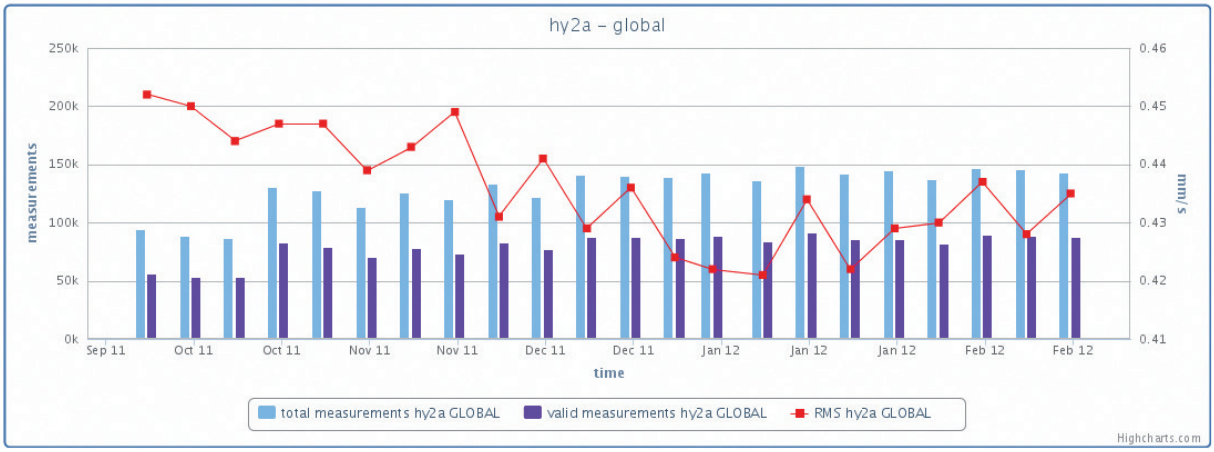


Orbit residuals

Complete the selection with station and satellite events

→ RMS residuals for DORIS in mm/s per arc (red dots).

→ number of DORIS measurements per arc: total (light blue columns) and validated (superimposed dark blue columns).



Statistics for the HY-2A mission from CNES POE

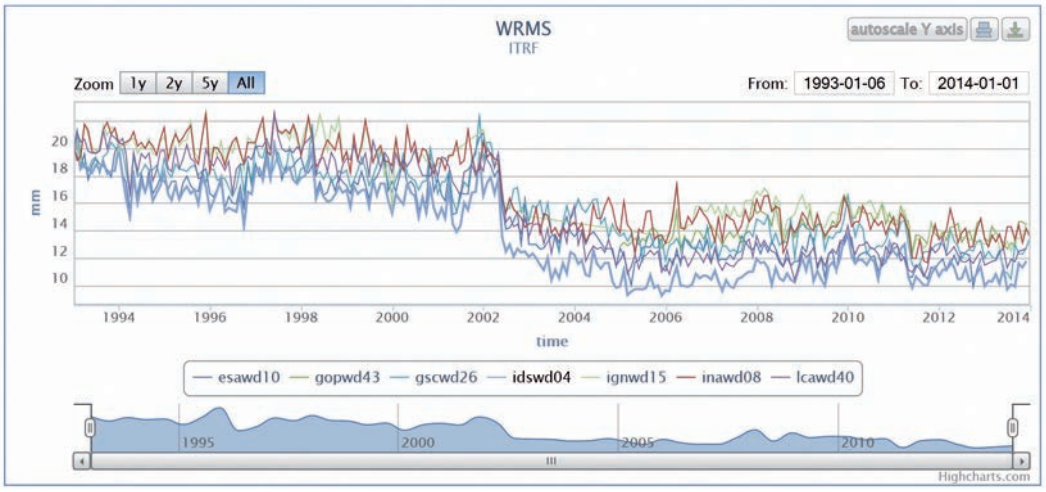
Combination parameters

The IDS Combination Center (CC) analyzes and combines sets of weekly solutions of station positions and EOP from the IDS Analysis Centers (ACs) to generate DORIS combined geodetic products. The IDS web service gives access to some outputs of the combination processing:

→ WRMS of station position residuals.

→ scale and translation parameters.

→ number of stations used in the analysis.



WRMS of weekly series provided by the IDS ACs

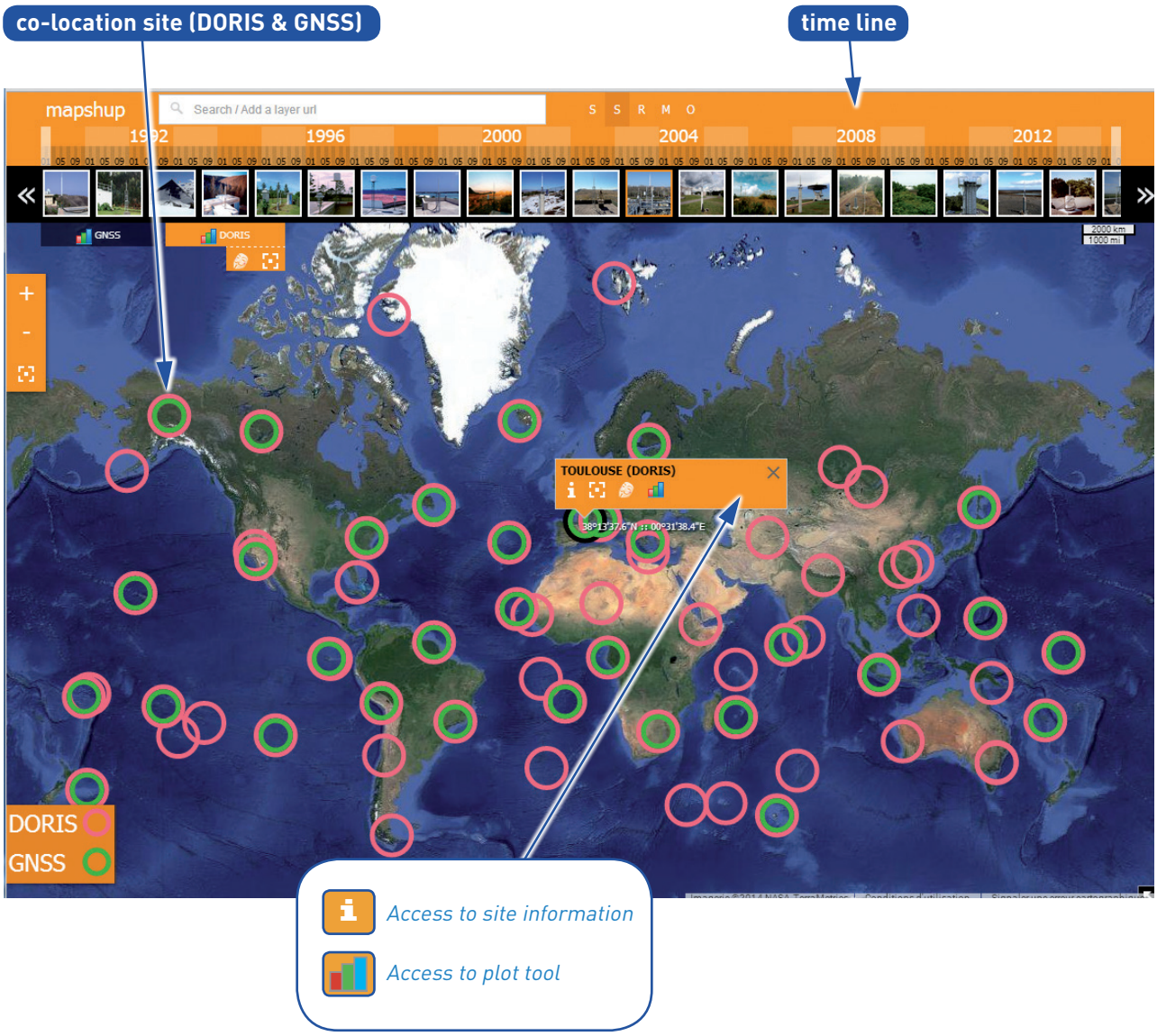
The network viewer

The interactive global map visualizes the DORIS sites and co-locations with other space geodetic techniques (only IGS GNSS sites for the moment).

From the map, the users can select sites and plot the available combined coordinates time series from IDS and/or IGS combination center.

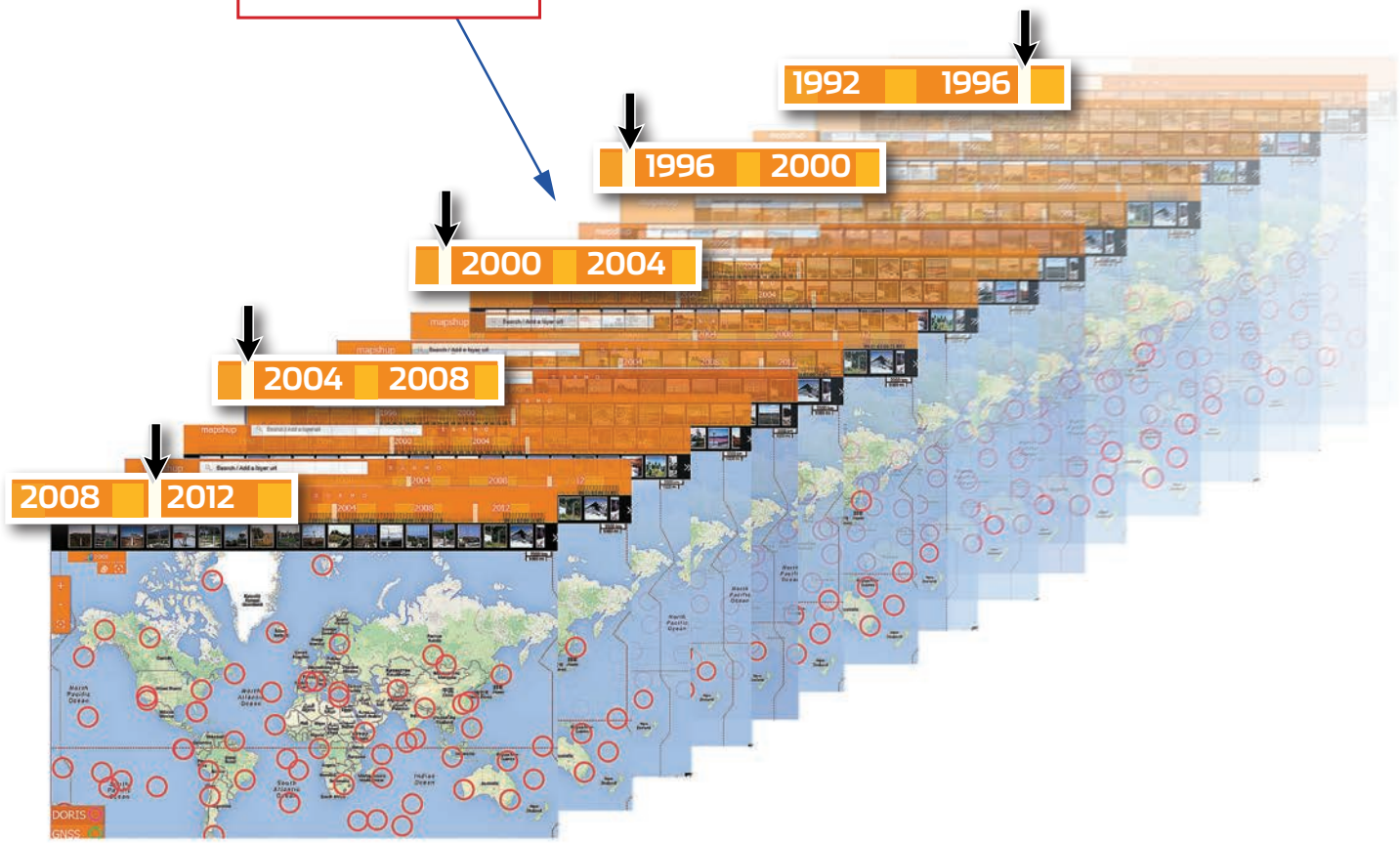
They can also get access to site information.

The time line at the top of the map can be used to display the network over time.



Using the time line

Visualize the time evolution of the DORIS network



Technical details

→The network viewer is an interactive global map application called **Mapshup**.

→ Supported browsers: Firefox, Google Chrome, Safari, Internet Explorer 8+.

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