

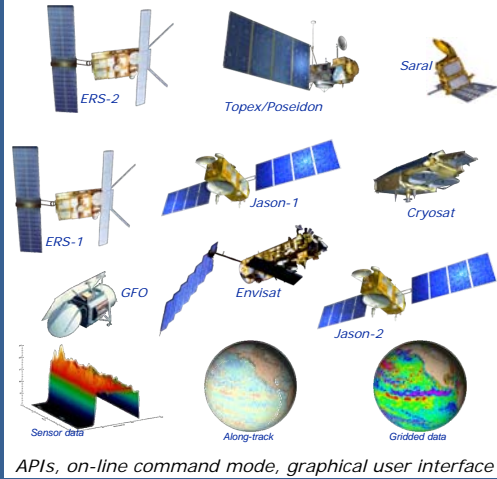
# Basic Radar Altimetry Toolbox: Tools for altimetry training

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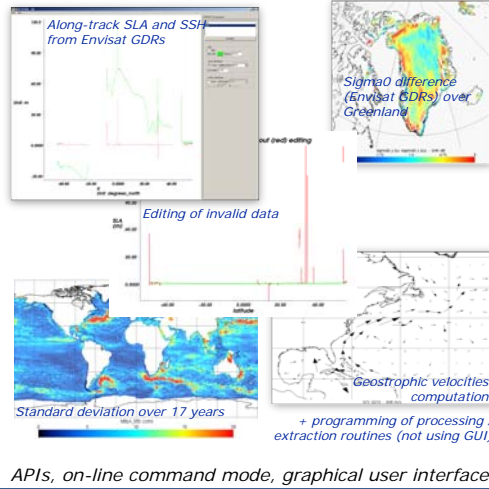
## A joint ESA-CNES project, to make easier the use of altimetry

The Basic Radar Altimetry Toolbox is an "all-altimeter" collection of tools, tutorials and documents designed to facilitate the use of radar altimetry data, from most missions since 1991, for all applications.

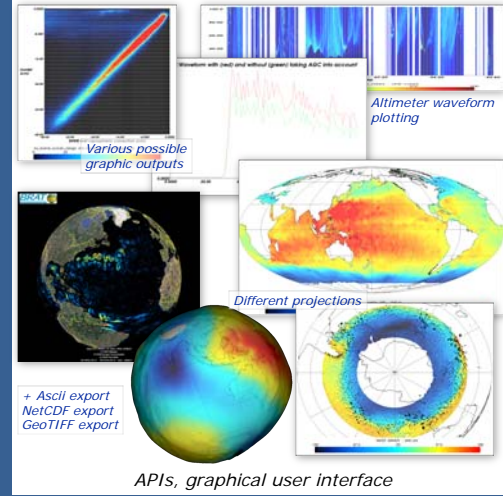
### read most distributed altimetry data



### process & select data



### visualize & export the results



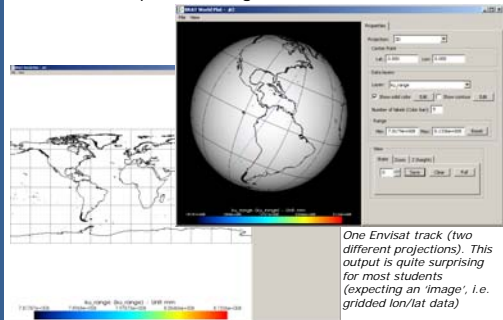
The Radar Altimetry Tutorial gives general information about altimetry, the techniques involved and their applications, as well as an overview of the missions. It also presents a series of data use cases, covering all uses of altimetry over ocean, cryosphere and land, showing the basic methods for some of the most frequent manners of using altimetry data.

BRAT is developed under contract with ESA and CNES. <http://www.altimetry.info> and <http://earth.esa.int/brat/>

## Training in altimetry using BRAT

About 1/3 of the people downloading BRAT indicates 'Education' as one of their use of the tool (either as student or as teacher). Quite a number of persons repeatedly downloaded the Toolbox for remote sensing curriculum. The Tutorial is also there as basic material for teaching altimetry. BRAT is also used in ESA "Ocean Remote Sensing" training courses, and by Eumetsat for a wind/wave curriculum.

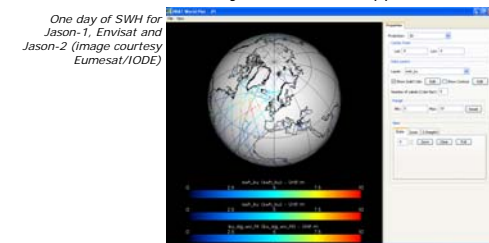
- The first point is often to make students aware of the "1D" quality of altimetry data – most of them think of satellite outputs as images...



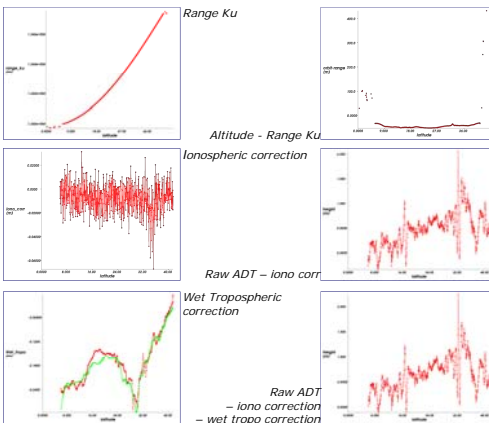
- The second point is to show how sea surface heights and sea level anomalies are computed from the different data provided. Most students won't use that directly (especially not oceanographers), but it explains how it is done, and the possible improvements.



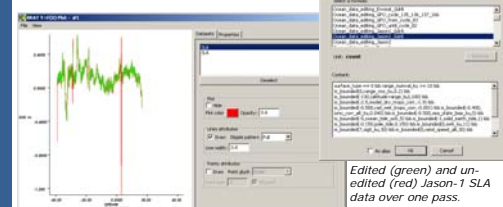
- Another point may be to show how much data are taken during e.g. 1 day, to explain the advantages and limitation of altimetry for real-time applications.



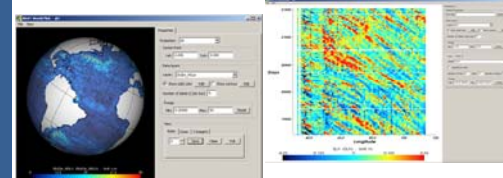
- One can also "play" with the corrections, adding them one by one to show the effects.



- Data editing, and selections, also can be applied, with explanations about invalid data and physics of the measurements



- Then it depends on the public: the different applications and/or level of expertise leads to different teaching modules :  
 - Work on gridded data, including statistics



- Visualization of waveform data



<http://www.altimetry.info>

