

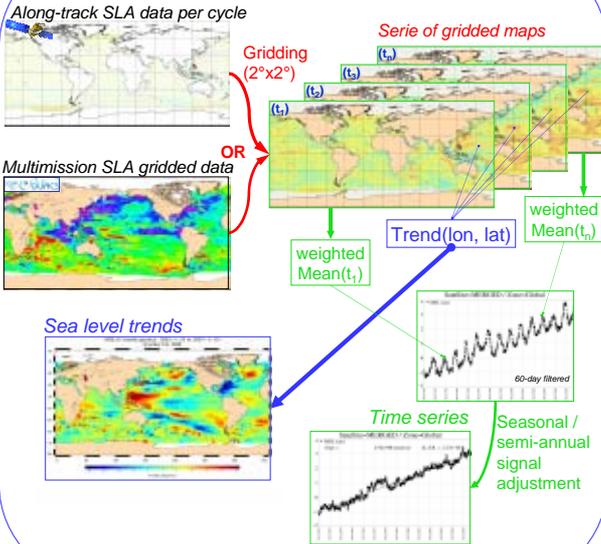
# Aviso new online Mean Sea Level database

<http://www.avisooceanobs.com/msl/>

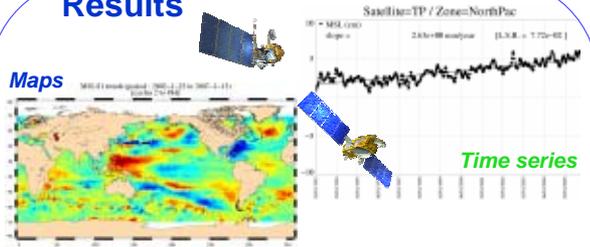
J. Dorandeu (CLS), A. Cazenave, A. Lombard, K. Do Minh (Legos); M. Ablain, S. Guinehut, V. Rosmorduc (CLS)

The new online altimeter database aims to provide users with the most recent altimeter series, frequently updated, with state of the art calibrations and corrections applied. It allows selections on all altimeter mission Mean Sea Level (MSL) data series for different criteria. Time series can be downloaded for past and present altimeter missions (Topex/Poseidon, Jason-1, ERS-2, Envisat and GFO), together with geographical estimates of regional MSL rise. Other products related to MSL and climate change will also be presented: ocean mass variations from gravity missions (Grace), steric and thermosteric variations using in-situ T/S data, and comparisons between each contribution.

## Data & method



## Results



- **Maps and time series** (as figures and as data)
  - since November 1992 (depending on the mission)
  - **With / without** Inverse Barometer correction (Jason-1, T/P)
  - By satellite (T/P, Jason-1) and merging all satellites
  - Time series over basins (N. & S. Atlantic and Pacific, Indian, Mediterranean,
  - Time series figures corrected or uncorrected from seasonal variations
  - **Updated for every cycle processed and validated**
- Through frequent updates and scientific analysis, the goal of this web site will be to gather a large number of results and to become a forum for Mean Sea Level change studies.

## On the web

### MSL "home page"

The screenshots show the web interface for data selection and processing. The main sections are:

- Data and Image selection**: Web interface to choose between the options, to view a figure, and/or download data (NetCDF)
- Processing & corrections used**: How the data are computed, Corrections and models applied
- Problematics: questions in discussion**: The questions about Mean Sea Level that are currently being discussed
- Other techniques**: MSL results from other techniques (*in situ*, model, Grace, tide gauges), and indications on how they were processed

## Future developments

### Grace

Data from the Grace satellite, computed by GOHS/Legos will be added, in parallel with *in situ*, models, etc.



### Glacial Isostatic Adjustment (Post-Glacial Rebound)

Studies will be lead by GOHS/Legos to compute a gridded dataset representing the GIA effect on Mean Sea Level.

### Validation by comparison with other altimetry satellites

Mean sea level computed from the other altimetry satellites (ERS-2, GFO, Envisat) will be shown for validation issues. Those will be computed operationally as Jason-1, T/P and merged MSL.

### Mean sea level accuracy

The MSL accuracy can be impacted by different error sources, including inhomogeneities between T/P and Jason-1. For example, wet tropospheric correction has to be estimated from radiometer or ECMWF model depending on the satellite; orbits are not homogeneous. Other corrections could impact the MSL as e.g. the ECMWF pressure fields in the T/P data. GOHS/Legos and CLS are jointly conducting studies to estimate a more realistic MSL error budget.

