



**National Oceanography
Centre, Southampton**

UNIVERSITY OF SOUTHAMPTON AND
NATURAL ENVIRONMENT RESEARCH COUNCIL



Validation



Validation issues

- Need to demonstrate improvement
 - quantity, **quality** and getting closer to the coast
- Need to define a set of protocols for the validation of altimetric products in the coastal ocean (COASTALT WP5)
 - the product validation activities have to be traceable to standards.
 - This view is in line with the GEOSS architecture, specifically the Task titled “Develop a GEO data quality assurance strategy, beginning with space-based observations and evaluating expansion to in-situ observations, taking account of existing work in this arena” (GEO 2007)



- We want to assess the performance of the coastal altimetry product to reproduce **a) the variability** (needs *precision*) and **b) the trends** (needs *accuracy*) observed in the ground-based measurements in the proposed region.
- need sufficient in-situ information
 - coastal tide gauges
 - wave gauges
 - numerical models
- to enable an adequate comparison of existing and improved altimetric data sets near to the coast and thereby an **evaluation of the improvement in performance**



Validation Strategy

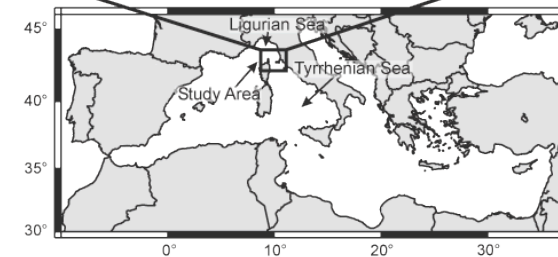
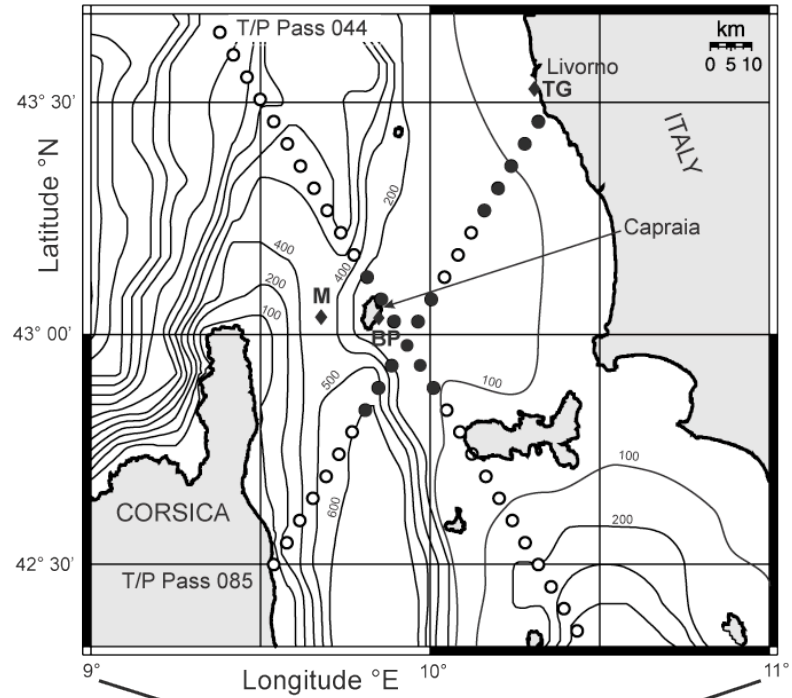
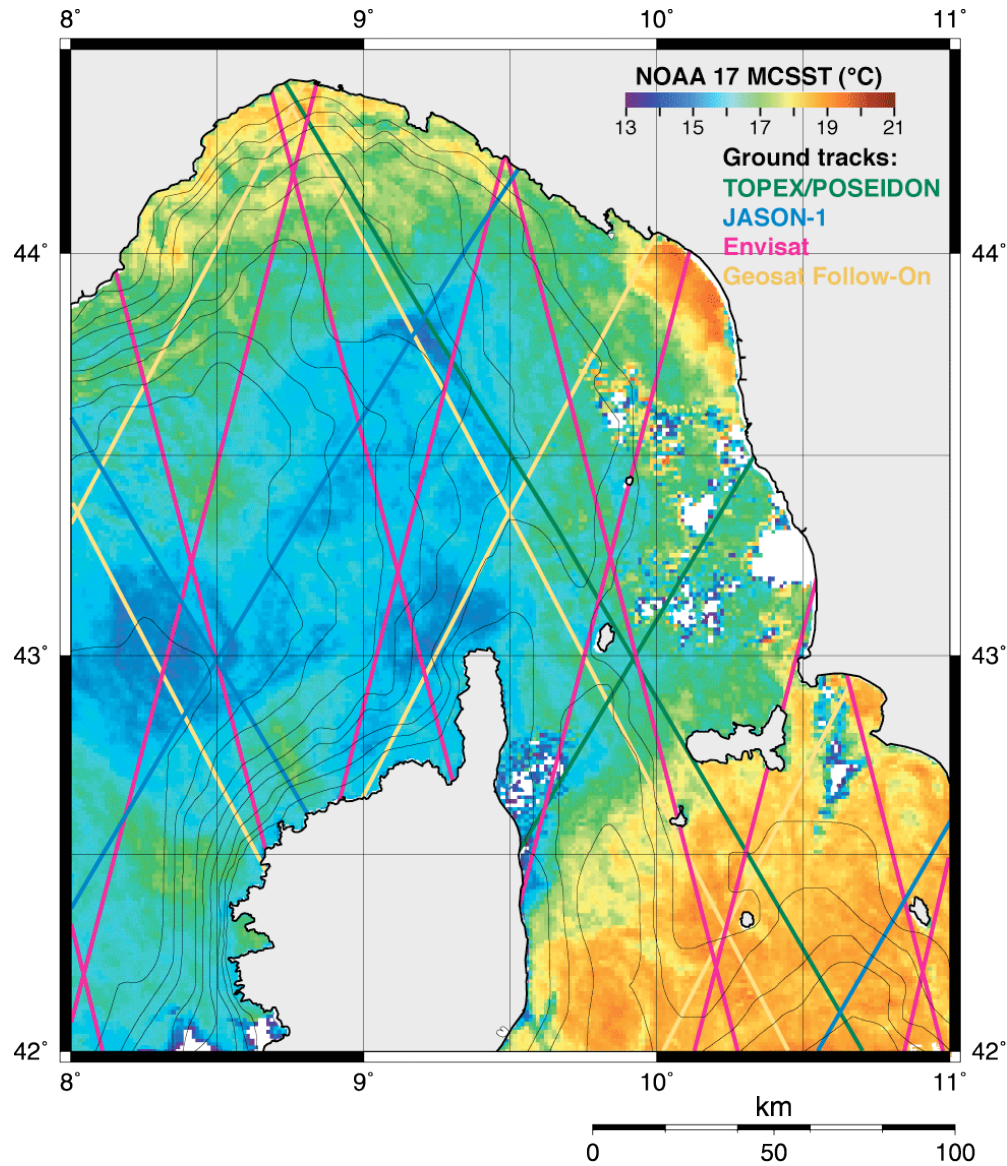
1. Identify state-of-the-art practices for validation
2. Judge strength and weakness of these practices
3. Establish standard procedures for satellite altimetry validation in the coastal ocean
 - in situ data quality control and treatment
 - editing, re-sampling, scaling, averages, filtering, etc.
 - error budget
4. (In COASTALT) plan validation exercises in the three proposed regions
 - NW Mediterranean - Corsica - Capraia Island
 - West Coast of Britain
 - Portugal Coast



www.coastalt.eu

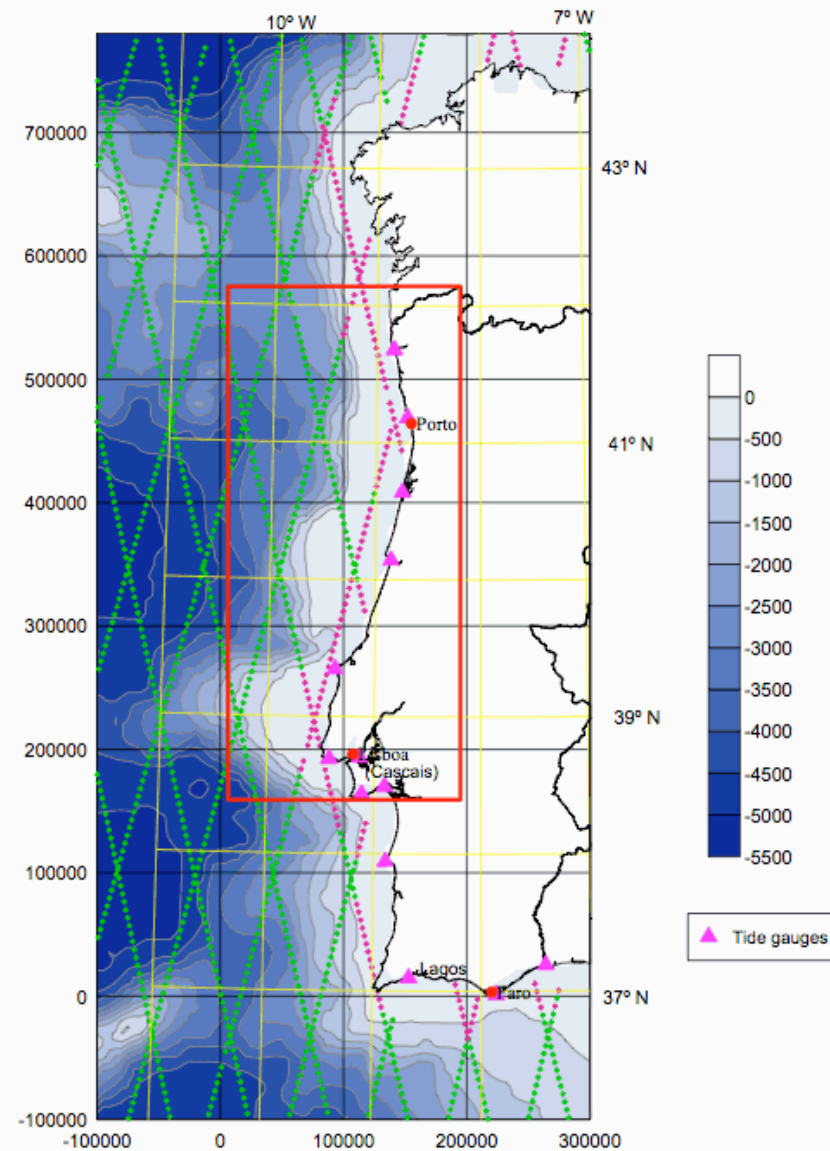


Region 1 - NW Med





Region 3 - Portugal coast





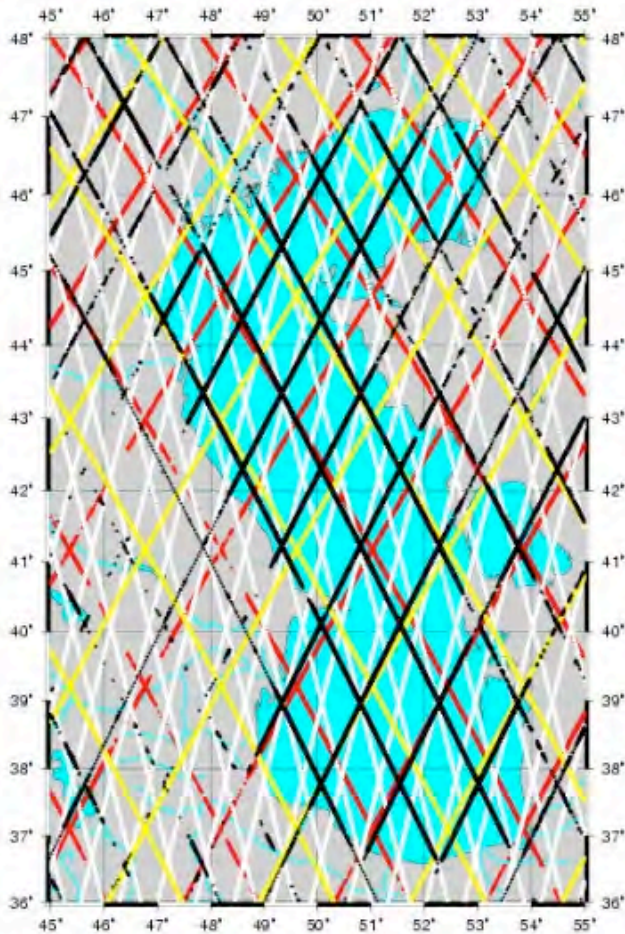
More Regions

- Caspian Sea
- South African Coast?



Caspian Sea

Coverage of each of the satellite altimeters.
Jason (Red), Topex / Poseidon (Yellow),
GFO (Black), and Envisat, ERS (White)

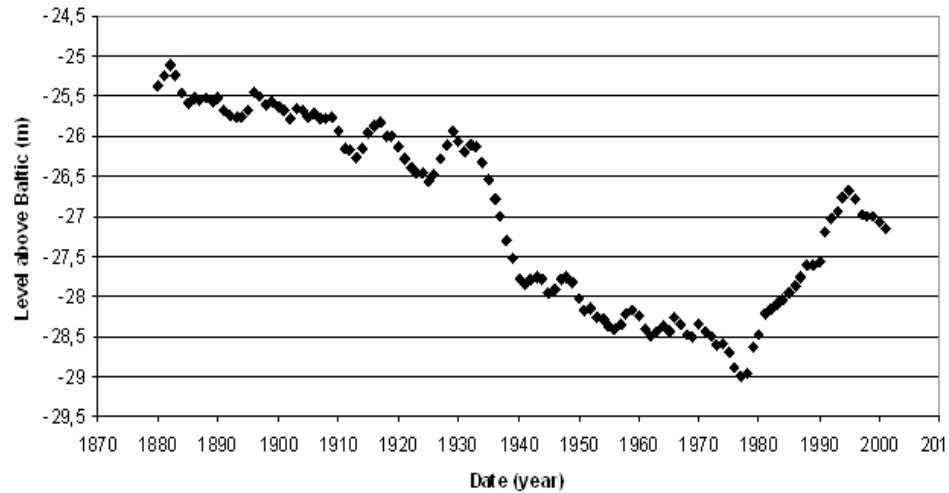


Sumgayit measurements station photo

Photo of Sumgayit sea level station

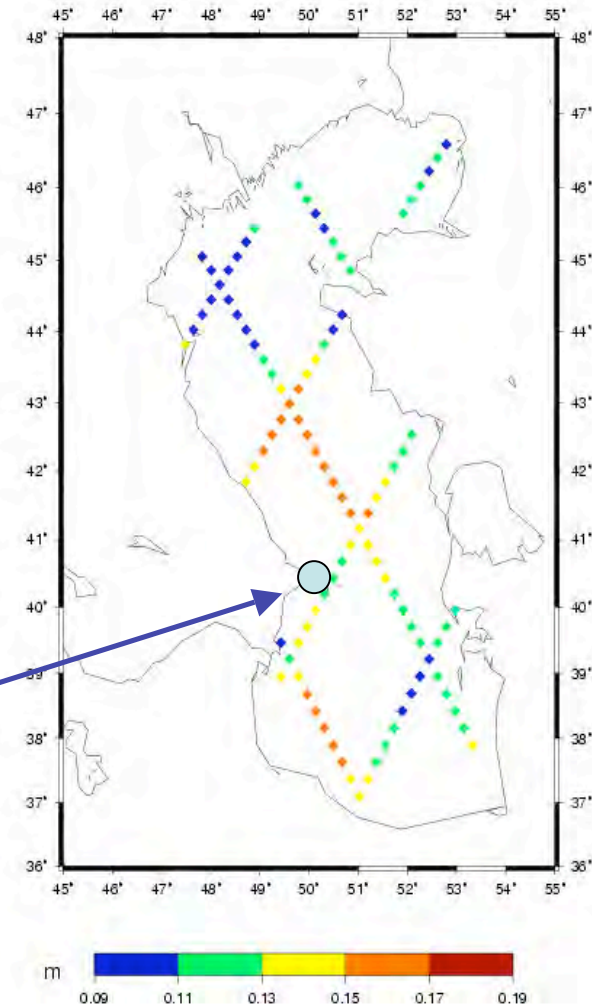


Caspian Sea level from in-situ data



A GLOSS- compliant tide gauge is being installed in Baku (funded by UNESCO)

Caspian Sea
Amplitude of annual signal



T/P and Jason Tracks