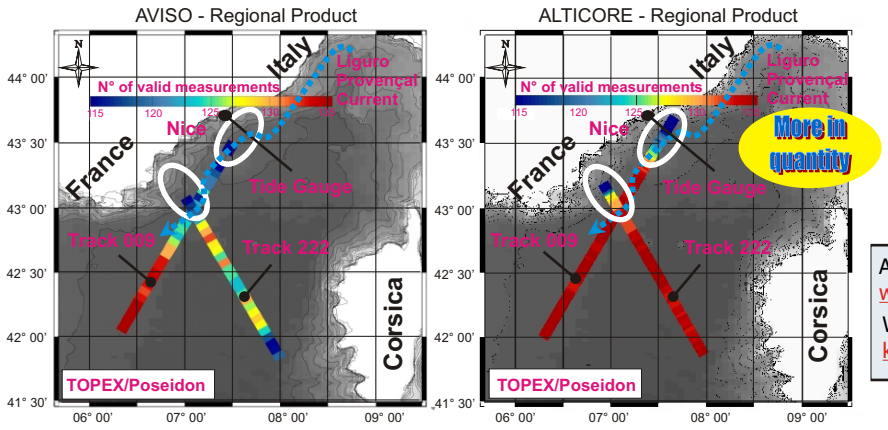
ALTICORE

A COLLABORATIVE EXPERIENCE IN EXPLORING COASTAL ALTIMETRY IN MEDITERRANEAN, CASPIAN, WHITE AND BARENTS SEAS

MEDITERRANEAN SEA - MORE DATA



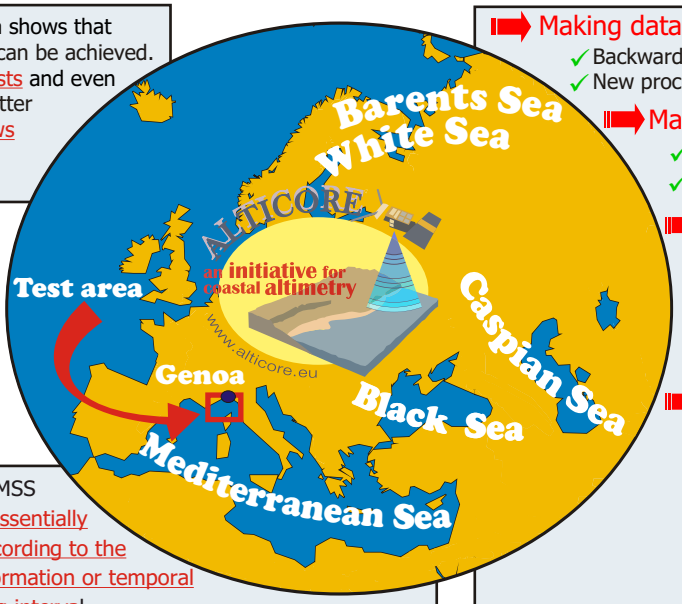
The coastal altimetry work carried out in the test area shows that a reasonable increase in quantity and quality of data can be achieved. The improved processing provides data nearer to coasts and even more data in the open sea region. This promises a better monitoring of the Liguro-Provencal Current which flows very close to the coast and exhibits a small spatial extension.

THE CONCEPT

As coastal altimetry we define altimetry over that domain close to land where standard processing is problematic.

We want to recover that information and exploit it to improve our knowledge of coastal ocean processes.

THE PROJECT IN A NUTSHELL



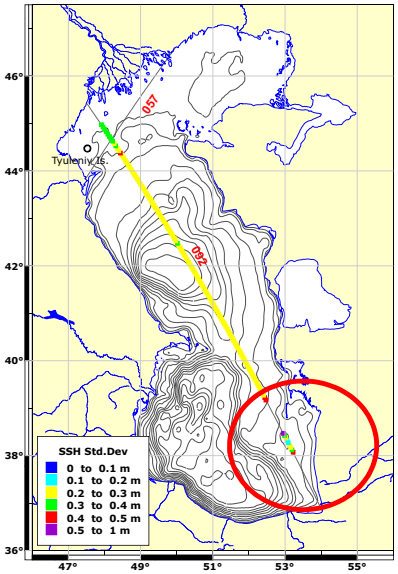
Making data of better quality
- ✓ Backward reanalysis of official products
- ✓ New processing strategy

Making data more accessible
- ✓ Avoid duplication of efforts
- ✓ Data available at a mouse click

Exploiting data in the coastal context
- ✓ Comparison with in situ data (sea truth)
- ✓ Use for circulation, coastal dynamics, coastal modelling

Building capacity in coastal altimetry
- ✓ Transferring know-how
- ✓ Improving cooperation between Europe and Eastern Countries

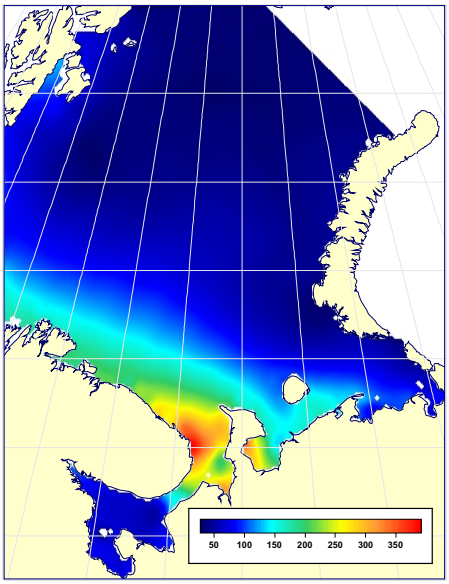
CASPIAN SEA - THE VERTICAL REFERENCE FRAME



Existing MSS models essentially differ according to the used information or temporal averaging interval.

Calculations of SLA relative to any MSS model for analysis of CSL synoptic or seasonal variability contain errors. On the average they can range from 27 to 38 cm and that this is congruent with CSL seasonal amplitude fluctuactions. A Mean Sea Surface Model GCRAS06 was created, which is not influenced by interannual changes of the Caspian Sea level

WHITE SEA - REPLACING GLOBAL TIDAL MODEL



Many factors influence the hydrodynamic regime of the White Sea, including the tidal regime (up to 8 m amplitude in places).

These tides can be corrected with FES99 or GOT00 . But both models have 0.5° grid too little to properly resolve the White Sea.

We used the HRCRF (Hydrometeorological Research Centre of the Russian Federation) tidal model.

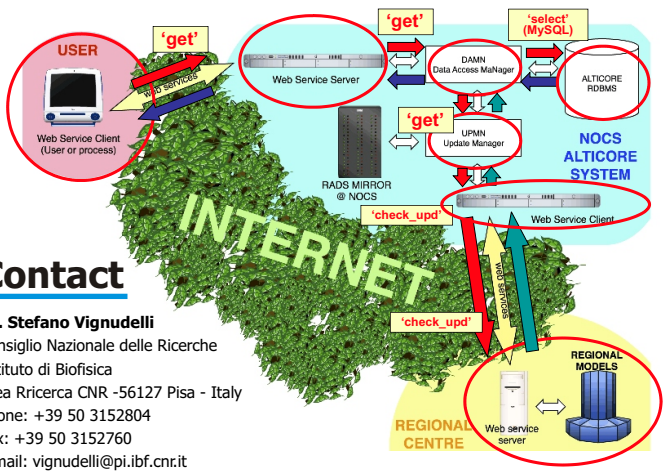
This differs from GOT up to 400 cm in places (for instance at the entrance of the White Sea).

EASIER ACCESS TO DATA

The issue is how to timely process, update, archive and distribute the data. In the early phase of the project, we have explored two different architectures for the ALTICORE system:

1) keep data in a relational database (DB)
2) keep data files in native (or otherwise standard, for instance NETCDF) format

With reference to the DB-based case, the Figure shows an example of user/system interaction where a data request triggers real-time check and download of updates from regional centres.



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