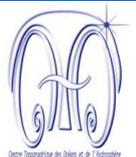




TOWARD COASTAL ALTIMETRY APPLICATIONS

M. Cancet^{1,2}, F. Birol^{1,2}, J. Bouffard^{1,2}, L. Roblou^{1,2}, F. Lyard¹, R. Morrow^{1,2}

¹LEGOS, 14 Ave. E. Belin, 31400 Toulouse, France - ²CTOH, 14 Ave. E. Belin, 31400 Toulouse, France - Corresponding author : Mathilde.Cancet@legos.obs-mip.fr

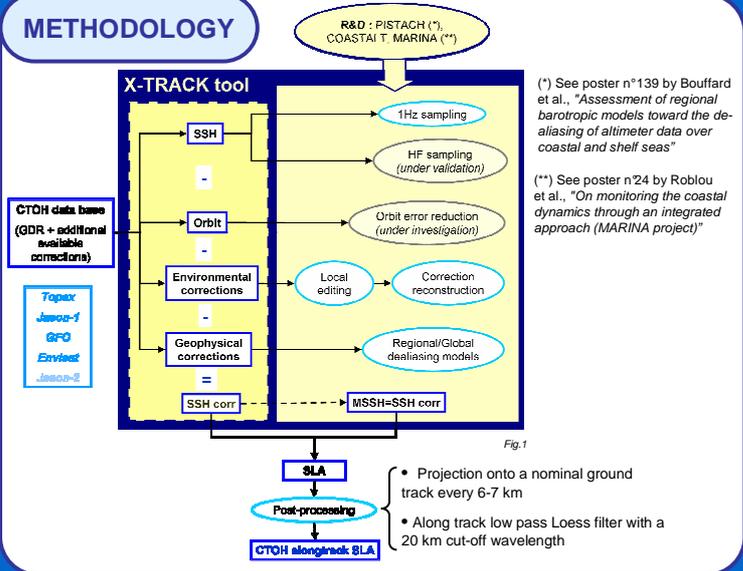


SUMMARY

Although the treatment and corrections for the altimetric data are well known in the deep sea ocean, the precision and number of data dramatically decrease in coastal zones. This loss of data in highly strategic areas is partly due to degraded altimetric measurements, to land contamination in the atmospheric corrections and to the geophysical corrections (tides and sea level response to high frequency atmospheric forcing) computed from global models which are unadapted near the coast.

For some years, a dedicated data processing system has been therefore developed by the MAP (Margins Altimetry Project) group to recover information from altimetry over marginal seas: the X-Track software. A validation stage has been undertaken, where the data reprocessed with X-Track have been compared to available in situ observations and classical altimetric. The X-track processing tool enables a substantial increase in the number of available data in the coastal domain. The agreement between the X-track coastal altimetric sea level variations and tide gauge measurements is also improved. Different scientific applications also reveal that altimetric data offer the opportunity to document a large range of shelf and coastal ocean dynamics. Ever-increasing amounts of data from the different missions (T/P, Jason-1, Envisat, GFO and soon Jason-2) are reprocessed on a regional basis. Once they are validated, these data are made freely available through the CTOH website.

METHODOLOGY



DATA ARE NOW AVAILABLE ON: <http://www.legos.obs-mip.fr/en/observations/ctoh/COTIER/>

PRODUCTS: Centre de Topographie des Océans et de l'Hydrosphère

Along track Sea Level Anomalies

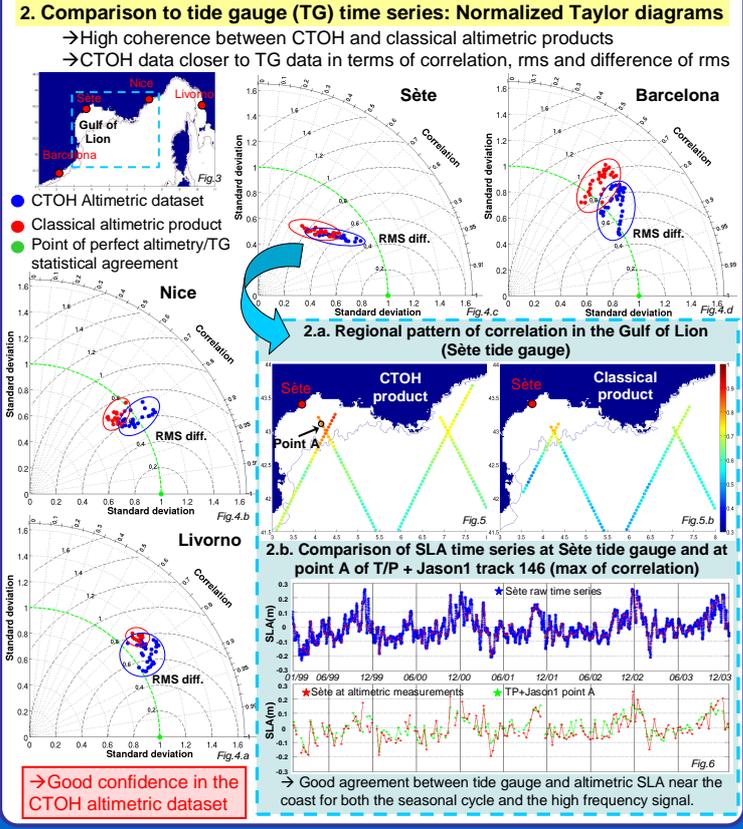
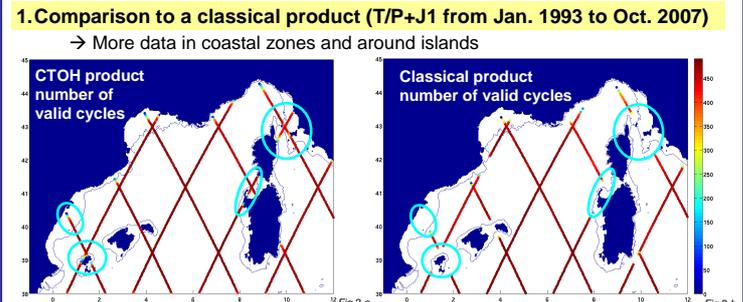
Available areas:

- Northwestern Mediterranean Sea (38N - 45N ; 2W - 12E)
- Solomon Sea (30S - 10N ; 120E - 180E)
- Indian Coasts (0N - 27N ; 60E - 100E)

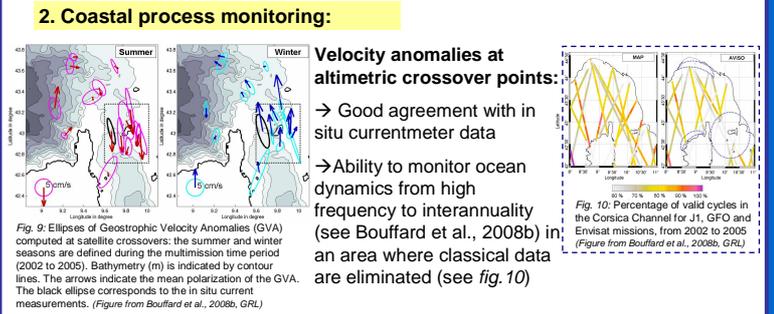
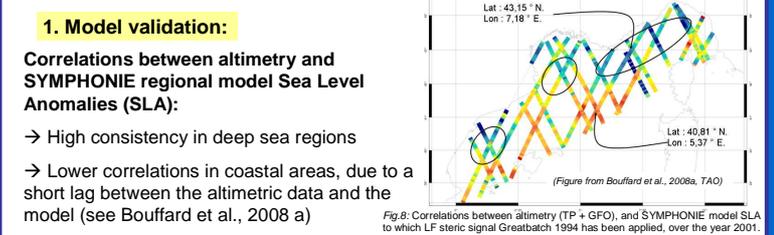
Under validation:

- Humboldt System
- South East Atlantic Ocean
- Australian East Coast

VALIDATION Example in the Northwestern Mediterranean Sea:



APPLICATIONS Examples in the Northwestern Mediterranean Sea



- 3. Other on-going applications or perspectives:**
- Spatio-temporal structure of the East Indian coastal current (F. Durand)
 - Circulation study and model validation in the Solomon Sea (A. Melet, L. Gourdeau, J. Verron)
 - Study of the upwelling of Papua - New Guinea (M.H. Radenac, E. Zakharova)
 - And many others perspectives such as extreme events signatures, internal waves, etc...

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