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 not adapted near the coast. 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 level variations and tide gauge measurements is also improved. Different scientific applications also reveal that the altimetric data offer the opportunity to document a large range of shelf and coastal ocean dynamics. Even 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.

**APPLICATIONS**

**Examples in the Northwestern Mediterranean Sea**

1. **Model validation:**
   - Correlations between altimetry and SYMPHONIE regional model Sea Level Anomalies (SLA):
     - High consistency in deep sea regions
     - Lower correlations in coastal areas, due to a short lag between the altimetric data and the model (see Bouffard et al., 2008a)

2. **Coastal process monitoring:**
   - Velocity anomalies at altimetric crossover points:
     - Good agreement with in situ currentmeter data
     - Ability to monitor ocean dynamics from high frequency to interannual scale
   - 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. Goureau, J. Verron)
   - Study of the upwelling of Papua – New Guinea (M.H. Radenac, E. Zakhara)
   - And many others perspectives such as extreme events signatures, internal waves, etc...

**REFERENCES**


