

## **Abstract Preview**

### **Coastal Altimetry moves forward: a summary of the COASTALT project**

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In the last couple of years ESA has actively supported research and development of altimetry in the coastal zone - a key region for the impact of changing oceans on society - via the COASTALT Project. The Project has delivered a number of key contributions to the advancement of the topic and has gained visibility within the lively international community of researchers involved in the development of coastal altimetry.

In this talk we will first review what COASTALT has achieved so far, namely:

the project has surveyed the potential user base and identified the requirements for coastal altimetry product composition, posting rate and format;

the project has reviewed the whole spectrum of corrections which need to be applied to the altimetric datum, highlighted the specific problems of some of those corrections in the Coastal Zone, and identified possible solutions and issued the relevant

recommendations on which corrections should be applied or investigated further. A particular and completely original contribution by COASTALT has been the research on and development of the GNSS-derived tropospheric path delay correction, which answers the pressing need for a more accurate wet tropospheric correction in the coastal zone, where the microwave radiometer-derived correction becomes inaccurate;

the project has designed and fully implemented a prototype software processor for the Envisat RA-2 SGDRs in the coastal zone, which generates an experimental Coastal GDR (CGDR) product conducive to further research and development in the topic, and

also constitutes a first step towards the applications of coastal altimetry. The processor includes a baseline processor that can be

run on every pass, plus a User-defined Coastal Geophysical Correction (UCGC) module that allows users to add their own corrections for research and application purposes. In a related task, innovative retracking techniques have been investigated; these will pave the way to the next generation of retrackers;

in parallel to the development of the processor the project has carried out a full product definition and produced the relevant documentation including a user handbook;

the project has also investigated the use of the new CGDRs in

training and outreach activities via the BRAT toolbox, issuing a series of guideline recommendations.

Finally, we will discuss how to continue the COASTALT work in view of the lessons learned so far, in order to further improve coastal altimetry and promote the full uptake of reprocessed coastal altimetry products by the user community