

D4.2 Product Validation Report

(one PVR per sub-theme or one single document, to be agreed between the Agency & team)

1. Introduction

This section describes the validation activities which were performed in order to ensure the quality of the COMAPI regional tidal atlas.

2. Overview

The COMAPI regional tidal atlas was developed in 2010 in the frame of a CNES project. It is based on a hydrodynamic solution and benefits from the assimilation of altimetry and tide gauge observations. It was validated at that time against the concurrent global models, through comparisons with tide gauge and altimetry data.

3. Validation Activities

The validation of the COMAPI regional tidal atlas was performed both in the frequency and the time domains.

In the frequency domain, the vector differences were computed between the regional atlas and tide gauge tidal harmonic constituent datasets, for each tidal wave. The same computation was performed for the FES2004 and GOT4.7 global models, in order to quantify the performances of the COMAPI model.

In the time domain, the improvements of the regional tide model were estimated through the evaluation of the altimeter sea level anomaly variance reduction when the COMAPI model is used as tidal correction instead of the FES2004 or the GOT4.7 global models.

All the results of these validation activities are described in the validation report which was delivered by NOVELTIS to CNES in 2010. In addition, the most salient results were presented at the Coastal Altimetry Workshop and the OSTST meeting in 2010 [Cancet et al, 2010].

4. References

Cancet, M., Lux, M., Pénard, C., et al. (2010). COMAPI: New regional tide atlases and high frequency dynamical atmospheric correction, presented at the Ocean Surface Topography Science Team meeting, Lisbon, Portugal