



CNES/PISTACH project: an innovative approach to get better measurements over inland water bodies from satellite altimetry. Early results.

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Although initially developed for open ocean purposes, the capabilities of satellite radar altimetry for the monitoring of inland water bodies have been largely demonstrated for many years. However, no specific altimetry products have been developed for continental hydrology.

As part of Jason-2 project, CNES is currently funding a dedicated study to improve conventional satellite radar altimetry products over coastal areas and continental waters.

The PISTACH (Prototype Innovant de Système de Traitement pour les Applications Côtières et l'Hydrologie) project is organized around 3 phases:

Phase 1: user needs and structure of coastal/hydrological products

Phase 2: Development of new dedicated algorithms: retracking of the waveforms, wet and dry tropospheric corrections, local models or high resolution global models for topography, geoid, land cover classification, land water mask, data editing

Phase 3: prototype implementation, validation and operations during Jason-2 CalVal phases

The implementation of the prototype was completed in October 2008 while the exploitation of the prototype is ongoing up to September 2009 at least. The products are freely distributed via FTP since November 2008 (<ftp://ftpsedr.cls.fr/pub/oceano/pistach/>).

The input of the prototype is constituted by Jason-2 Level 2 S-IGDR altimeter products, ECMWF meteo fields, as well as several state of the art static auxiliary datasets. The first version of PISTACH products adopts the same format and structure as Jason-2 standard IGDR to facilitate their appropriation and assessment by expert users. However, more simple and easy to-use products are envisaged for a wider dissemination.

The project, the prototype and the products will be presented at the meeting. Early results will be used to illustrate and assess the content of the products over several test areas.

The PISTACH products could be used for data assimilation, water resources management, water cycle and climate studies at regional to global scales.