RADS: steppingstone to an International Altimeter Service

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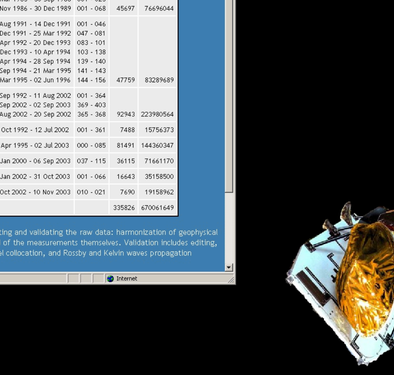
Abstract

In order to serve interdisciplinary research programs, applications and operational tasks on an international scale, operational observing systems like satellite altimetry call for International Services. DEOS' anticipated the need for global altimeter services and launched the Radar Altimeter Database System (RADS) project in 2001. Since then RADS has been embedded in the Netherlands Earth Observation NETwork (NEONET) and as such has been supported by the Dutch government. In this project we setup and explored a facility to easily manage and access calibrated and validated altimeter data that are in many respects consistent throughout the entire data base (e.g. reference frame). For this purpose we collected the altimeter and ancillary data from all available altimeter missions and combined them with the latest (correction) models, arriving at an (inter)nationally appreciated altimeter data set, comprising almost 20 years' worth of valuable sea level, wave height and wind data. To date, whenever new data (including latest GFO, Jason-1 and Envisat), models or knowledge arrive, the data base is updated. However, validated data and consistency is not RADS' only asset. Much effort has been put in the build of a data organization incorporating common data and meta file formats and ultra-flexible file (data) augmentation, in the development of a web-interface (www.deos.tudelft.nl/altim/rads), not only providing access to (almost) raw, processed and value-added data, but also access to other altimeter related information, and in the development of (RADS) data utilities like data extractors and converters, a collinear track analyzer and a multi-satellite crossover generator.



This poster presents an overview of RADS as it is today: from core system (data management), through enhancements, screening, formatting and harmonization. Validation is used to assess the data quality and to enhance algorithms for deriving the geophysical parameters. Two examples of RADS based value added products are the DEOS Gulf Stream and El Niño web pages: here Hovmuller diagrams and eddy kinetic energy plots are refreshed in weekly intervals.
The successful usage of RADS by (inter)national research partners indicates the need for such services and we think the time has come to link similar national and international operational ocean data service initiatives into an International Altimeter Service.

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