



## **The OCTAS07- North Atlantic/Arctic ocean mean sea surface model based on a wavelet adjustment of multiple satellite altimetry data**

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Ocean Circulation and Transport between north Atlantic and the Arctic Sea (OCTAS) is a multidisciplinary project running from 2003 to 2007. The main objective of this project is to improve the determination of the sea surface topography and to study the impact of this improvement on ocean modelling.

Multiple high-latitude observing satellite radar altimetry data, including ENVISAT, ERS-2, ERS-1 ERM, ERS-1 GM and GFO data, are used to determine the OCTAS MSS. These data have been cross-validated and using the multiple altimetry data base (the so-called stack files) generated at the Ohio State University. A wavelet-based adjustment using second-generation wavelets and their associated 2-D lifting scheme is used to combine different satellite altimetry data. It yields the OCTAS07 MSS model. TOPEX/POSEIDON mean tracks were used as a reference in OCTAS07 MSS model. In this model, the annual, semi-annual as well as sea surface trends were removed. The resolution of OCTAS07 models is 3 minutes in latitude and 6 minutes in longitudes. The OCTAS MSS models were also further validated using available global and regional models (KMS01, KMS03, KMS04, CLS01, CLS04, GSFC00, OSU95, and OCTA06). The results show that this technique based on the wavelets is an alternative method that can be used for merging multiple satellite altimetry data.