



Updated OCTAS geoid – OCTAS07

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The Ocean Circulation and Transport between north Atlantic and the arctic Sea (OCTAS) project is a multidisciplinary project which aims to determine the mean dynamic sea surface topography (MDT) in the Fram Strait and adjacent seas. This will serve as input to ocean circulation and transport studies in the polar region. Improved determination of MDT will allow assessment of its impact on circulation studies and associated climate modeling.

To achieve this objective a high accuracy gravimetric geoid model is required.

The new gravimetric geoid (OCTAS07) is generated based on land gravity data, new and old airborne gravity data, and adjusted marine gravity data. All marine gravity data has been error screened and quality assured by removing dubious data and adjusting the data when necessary. Voids in the gravity data distribution were patched with satellite altimetry gravity data.

The OCTAS07 geoid is estimated using Stokes' formula with gravity data as input. A Wong-Gore modified Stokes' function has been used to remove the long-wavelength part of the signal due to the local gravity data. The long-wavelength part is then represented by a global geopotential model.