



A combined mean dynamic topography model – DTU17cMDT

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Within the ESA supported Optimal Geoid for Modelling Ocean Circulation (OGMOC) project a new geoid model have been derived. It is based on the GOCO05C setup though the newer DTU15GRA altimetric surface gravity has been used in the combination. Subsequently the model has been augmented using the EIGEN-6C4 coefficients to d/o 2160. Compared to the DTU13MSS, the DTU15MSS has been derived by including re-tracked CRYOSAT-2 altimetry also, hence, increasing its resolution. Also, some issues in the Polar regions have been solved. The new DTU17MDT has been derived using this new geoid model and the DTU15MSS mean sea surface. Compared to other geoid models the new OGMOC geoid model has been optimized to avoid striations and orange skin like features. The filtering was re-evaluated by adjusting the quasi-gaussian filter width to optimize the fit to drifter velocities. The results show that the new MDT improves the resolution of the details of the ocean circulation. Subsequently, the drifter velocities were integrated to enhance the resolution of the MDT. As a contribution to the ESA supported GOCE++ project DYCOT a special concern was devoted to the coastal areas to optimize the extrapolation towards the coast and to integrate mean sea levels at tide gauges into that process. The presentation will focus on the coastal zone when assessing the methodology, the data and the final model DTU17cMDT.