



The updated geodetic mean dynamic topography model – DTU15MDT.

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An update to the global mean dynamic topography model DTU13MDT is presented. For DTU15MDT the newer gravity model EIGEN-6C4 has been combined with the DTU15MSS mean sea surface model to construct this global mean dynamic topography model. The EIGEN-6C4 is derived using the full series of GOCE data and provides a better resolution. The better resolution fixes a few problems related to geoid signals in the former model DTU13MDT. Slicing in the GOCO05S gravity model up to harmonic degree 150 has solved some issues related to striations. 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. Finally, the filtering was re-evaluated by adjusting the quasi-gaussian filter width to optimize the fit to drifter velocities. Subsequently, geostrophic surface currents were derived from the DTU15MDT. The results show that geostrophic surface currents associated with the mean circulation have been further improved and that currents having speeds down to below 4 cm/s have been recovered.