



## **Dynamical Coastal Topography and tide gauge unification using altimetry and GOCE.**

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This presentation outlines the major results from the ESA – GOCE ++ project on the potential of ocean levelling as a novel approach to the study of height system unification taking the recent development in geoid accuracy through GOCE data into account. The suggested investigation involves the use of measurements and modelling to estimate Mean Dynamic Topography (MDT) of the ocean along a coastline which contributes/requires reconciling altimetry, tide gauge and vertical land motion. The fundamental use of the MDT computed using altimetry, ocean models or through the use of tide gauges has values of between -2 and +1 meters at different points in the ocean. However, close to the coast the determination of the MDT is problematic due to i.e. the altimeter footprint, land motion or parameterization/modelling of coastal currents.

The presentation also outlines a new addendum to the project on the use of GPS reflectometry as Coastal tide gauge and the correspondence with SAR altimetry from Cryosat-2 and Sentinel-3