

EGU23-11409, updated on 01 Dec 2023

<https://doi.org/10.5194/egusphere-egu23-11409>

EGU General Assembly 2023

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Mapping Elevation and Elevation Changes in the German Coastal Zone

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The Federal Agency for Cartography and Geodesy (BKG) is the central service provider of topographic data, cartography, and geodetic reference systems for the German government. As the marine sector is constantly gaining importance, e.g. for the transport of goods or energy security, precise geodetic information become more and more important. In this context, BKG uses satellite altimetry to map and monitor the sea surface heights of the North and the Baltic Sea. In order to calibrate and validate the satellite observations, we performed measurements on the offshore research platform FINO2 as well as on two shipborne field campaigns during 2021 and 2022. In order to improve the spatial and temporal resolution of the altimetry data, we combine the altimetry observations with the output of a regional ocean model from Leibniz Institute for Baltic Sea Research (IOW). Here we present the first results of these activities and our strategy of combining satellite altimetry with different other observation techniques of sea level changes and land uplift to map and monitor elevation and elevation changes in the German coastal zone.