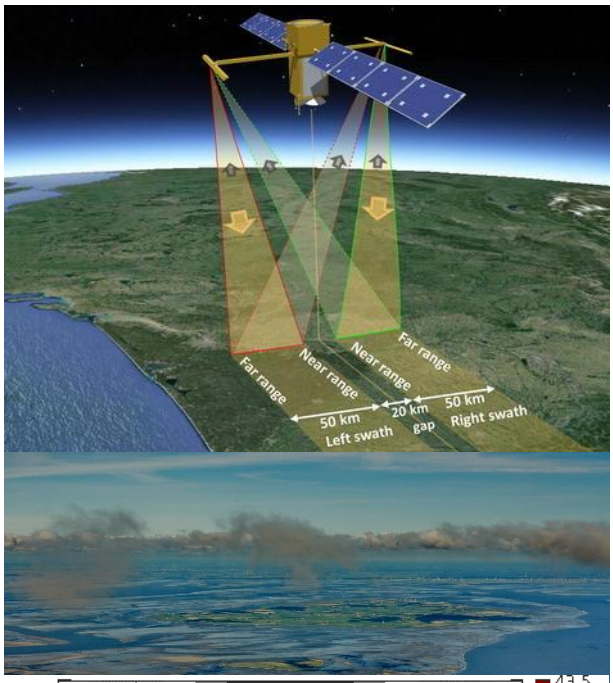
Theme: Remote Sensing

What can SWOT us learn about water level variability in the Wadden Sea?

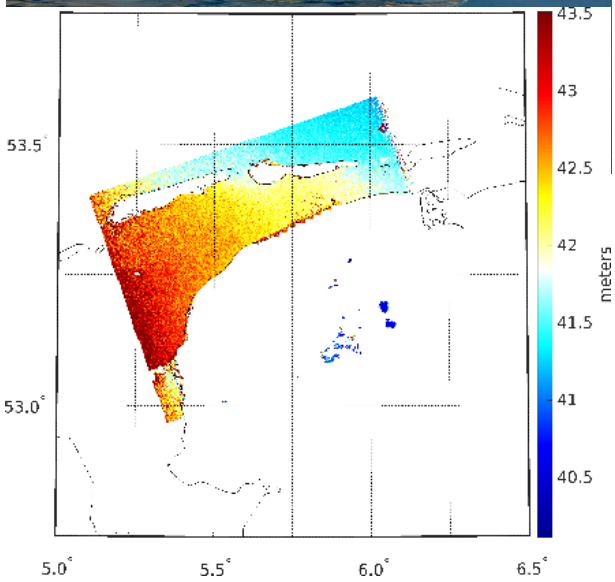
Background

With the launch of the first wide-swath altimeter SWOT, a new era has begun for monitoring coastal water levels. The first results look phenomenal and show enormous potential to boost our understanding of coastal water level variability. For example, a number of researchers have used the data to create a tidal model for the Bristol Channel. Based on nadir altimetry this was not possible! If this works for the Bristol Channel, it may also work for the Wadden Sea... In this area, which has been on the UNESCO World Heritage List since 2009, there is little you can do with conventional nadir altimetry. Even based on more advanced processing techniques, including fully-focused SAR, you do not necessarily get a lot of data. SWOT could change that.



Purpose of the research

The main goal of this study is to analyze SWOT data over the Wadden Sea. What does the signal look like and what information can we get from it when it comes to the tides? We want to compare the information with data from tide gauge records. We also want to compare the data with water levels obtained from hydrodynamic models. Depending on your interest, we can also try to develop the level-2 processing ourselves…!



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