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The quality of the orbit ephemerides is crucial for the computation of the Sea Surface Height (SSH). Conversely, analyzing the impact of precise orbit ephemerides on SSH performances enables to describe their impact at different temporal scales and to detect remaining weakness in the orbit solution with a very fine precision.
In this study, we focus on the effect of different orbit solutions on long term trends and inter-annual signatures observed on the Sea Surface Height. This is conducted through several analysis using orbit solutions provided by the CNES (Centre National d'Etudes Spatiales) and GFZ (German Research Centre for Geosciences).
First, an analysis is performed on the SAA effect on the Jason-1 DORIS receiver. This particular processing impacts the geographical Mean Sea Level Trends through the merging of Jason-1 and 2 missions. This effect is quantified and discussed.
Then, another point with a known impact on the Mean Sea Level Trends concerns the gravity field. Strong efforts were recently made in the modeling of the static and variable gravity fields.
For Topex and Envisat mission, sensitivity studies between GFZ solutions based on different gravity fields are presented.
Finally the new CNES solution of orbit, based on recent gravity field including inter-annual variability in addition to the static, annual and linear terms are presented. Their impact on SSH is quantified for Jason-2 mission. This solution will be discussed as a possible future standard for altimetric products.

OSTS session
Precision Orbit Determination