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Because Jason-2 is designated as the sea level reference mission of the CEOS Virtual Altimetry Constellation, it requires particularly careful evaluation of its stability to ensure the integrity of the sea level climate data record from altimetry. We present an update of how well the 1-mm/year stability goal has been met with the official data products. In particular, we will present cross-calibrations of Jason-2 with Jason-1, SARAL/AltiKa, and CryoSat-2, and comparisons with the independent network of tide gauges.

With over three years of overlap between CryoSat-2 with Jason-2 observations, we have an opportunity to compare altimeters in two different, non-sun-synchronous orbits. The residuals in global mean sea level between the missions have an rms of 3.6 mm with the largest variations (~2 mm) at the S2 aliasing period for Jason-2 (59 days) and the period of a half revolution of CryoSat's nodal plane with respect to the earth-sun line (244 days).

We use tide gauge comparisons to show the impact of orbits with GDR-D standards (ITRF2008) for Jason-1 and Envisat, and these show that geographically-correlated errors are the largest remaining intermission differences.

We will review some issues in the tide gauge comparison, including the impact of the applying the 18.6-year lunar nodal tide to the 20+ year record of sea level identified by B. Beckley.
OSTS session
Regional and Global CAL/VAL for Assembling a Climate Data Record
Meeting name
Ocean Surface Topography Science Team (OSTST) Meeting
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