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### **SEA STATE BIAS IN SATELLITE RADAR ALTIMETRY - REVISITED**

Sea state bias (SSB) is an effect in radar altimetry that arises both from the fact that wave troughs are better reflectors than wave crests, and from instrumental properties ('tracker bias') with similar waveheight dependence, which results in a lower instantaneous sea surface height (SSH) measurement than what is actually there. Typically, SSB is estimated from altimetrically measured SSH, waveheight (SWH), and wind speed (U), differenced over short times at the same geographic location. We investigate whether this commonly used approach may introduce a spurious value in the estimates of SSB. We use H not from any radar altimeter but from a simulation by the ECCO-2 high-resolution ocean general circulation (numerical) model. Therefore, our SSH should have zero SSB, except for random noise. We check this by using a simple parametric dependence on SWH and U, as measured by Jason-1 data during 2003, and consecutive cycle differences. Our preliminary estimates indicate that the factor multiplying the cross term on SWH and U is remarkably stable for any pair of cycles, and overall there is a spurious effect of the order of a fraction of a percent of SWH.

Poster presentation

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