



Ocean Mass and Heat Changes Recovery from GRACE and Altimetry Data

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The GRACE monthly solutions of the time-variable gravity field allow direct estimates of changes in the ocean water mass budget. In combination with satellite altimetry observations, this can be used to estimate changes in the ocean heat content as well. Since the amplitudes of these signals are relatively small (compared to the signal over land), it is important that both the GRACE and altimetry data are corrected and combined in a consistent manner.

By definition, GRACE is insensitive to variations in the degree 1 terms of the potential. *Chambers et al.* (2004) noted that the inclusion of these geocenter variations in the GRACE monthly solutions leads to an improved estimations of global ocean mass variations when compared with altimetry corrected for steric effects. The influence of this effect on both the altimetry and GRACE observations is further explored in this presentation. Additionally, we discuss the other corrections that should be applied to correctly reconcile the two data sets.