



Temporal variability of oceanic mass balance in the Atlantic Ocean

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For a better understanding of global sea level change, it is crucial that its steric and eustatic components can be distinguished. In this way, the fraction of sea level change caused by freshwater influx or glacier melting can be separated from mere temperature and salinity-related effects.

Monthly mass variations from GRACE have been compared with a data set of altimetry measurements (JASON-1) corrected for the steric component using in-situ temperature and salinity profiles (ARGO drifters) from the CORIOLIS project in the Atlantic Ocean. The two data sets show good agreement for basin scales in the subtropical and subpolar regions.

We show and discuss the results of the comparison when using various spatial filters (Hanning, Hamming, Gauss). Also, the effect of geocenter motion corrections (provided by JPL) on the GRACE data is examined in detail.

In addition, it is possible to validate the time-variable GRACE data by comparing them with monthly mean differences of altimetry and temperature/salinity profiles.

For the years 2003 to 2005 first results will be presented.