



## **Coincident geodetic measurements from ICESat and GRACE**

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ICESat has been yielding high-resolution laser altimetry surface topography measurements of ice, land, and ocean surfaces in distinct operational periods since its launch in 2003. For nearly four years, GRACE has been providing near-continuous global gravity measurements which have been shown to detect mass changes at annual and shorter time scales and at resolutions better than 500 km. Fully-calibrated ICESat data from three measurement campaigns separated by one year (L2a, fall 2003; L3a, fall 2004; L3d, fall 2005) are now available. In this presentation, we compare ICESat detection of annual topographic changes in the Antarctic ice sheet to mass changes observed by GRACE. Computation of the GRACE gravity fields are specially tailored to match the specific time spans of the ICESat data collection campaigns. Attention is given to the present data limitations and errors at various spatial and temporal scales and the potential for improvement in both missions' data sets.