

JWG2.6: Ice melting and ocean circulation from gravimetry

(Joint with Commission 3)

- HJ. Zwally (USA)

Chair: Jens Schröter (Germany)

Terms of Reference

The working group will primarily address the contribution of ice melting to the global and regional sea level. Specifically observation of the Earth's ocean- water and ice sheet variations at all spatial and temporal scales will be considered from GRACE data and other sensors, e.g., Altimetry, ICESat, InSAR and GPS. Furthermore the fate of the melt-water in the ocean, its distribution and impact on ocean circulation will be studied.

Goals

- to estimate individual mass and volume change of major ice sheets and ice caps using a synthesis of different techniques
- separate geometric change on long time scales (e.g. GIA) as well as elastic response/loading/self attraction of sea water from the estimates of volume change in land ice and ocean
- use estimates of land storage of water from JWG 2.7 to close the global water cycle and to improve removal of leakage of land signals into ocean estimates
- close the ocean's regional volume budget by observing sea level from altimetry, steric expansion of sea water from ocean measurements and ocean modeling and mass change from a combination of GRACE and other observations (e.g. GPS, tide gauges, ocean bottom pressure recorders...)
- consider the impact of increased inflow of melt-water into the ocean on ocean circulation, sea level and mass/heat transports
- and finally describe and understand trends and contributions to global and regional sea level rise

Members

- Chair: J. Schröter (Germany)
- J. Bamber (UK)
- D. Chambers (USA)
- JL. Chen (USA)
- M. Horwath (Germany)
- J. Kusche (Germany)
- SB. Luthcke (USA)
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