



GRACE Hydrology: Applications of current and future GRACE missions' data products

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The Gravity Recovery And Climate Experiment (GRACE) mission has delivered over a decade of continuous data on global mass variations, providing unprecedented observations of global change. In addition to solid Earth, cryosphere, and oceanography applications of the data, the relevance of GRACE for hydrology studies is abundant and expanding. GRACE is being used for large scale aquifer monitoring, and subsequently, for drought monitoring and indicators such as severity forecasting and groundwater depletion. GRACE data are being used operationally, for example, in the State of California 2013 water plan, by the NOAA Drought Mitigation Center, and by the International Center for Biosaline Agriculture in Dubai, UAE.

The planned GRACE-FO and GRACE II missions will be key elements of the continued observations of these global variables, including observations of natural hazards. The extended time series from GRACE into the GRACE-II future would support global water management plans and strategies, enhance understanding of climate variations such as drought, and allow for continued monitoring of large-scale basins into the coming decade.

A significant objective of future GRACE applications efforts is to develop useful tools for water resources management, and to provide timely data input for large-scale operational hydrological applications such as drought monitoring and flood risk assessments.

A GRACE Applications web page is in development and will serve as a resource for applications information and links to relevant data products.