

Space mission tells of Antarctic melt

September 13 2011



Credit: NASA

(PhysOrg.com) -- A team of researchers from The Australian National University has been selected from a competitive field to participate in NASA's Gravity Recovery and Climate Experiment (GRACE) Science Team.

The GRACE twin satellites, launched in March 2002, are making detailed measurements of the Earth's gravity field which will lead to discoveries about its natural systems that could have far-reaching benefits to society and the world's population.

Through their project Ground validation and background models for GRACE data analysis, the ANU team will develop new analysis techniques to turn raw space observations into information about changes in water resources and melting rates of Antarctica and



Greenland.

Dr. Paul Tregoning, a geodesist from the Research School of Earth Sciences at ANU, said membership on space mission science teams was one of the ways that Australians could contribute to international efforts towards monitoring the state of the Earth through observing missions.

"It's an exciting time to be a geodesist," Dr. Tregoning said. "The only way that society and governments can know what is happening to the Earth is through global observations from satellite Earth-observing missions.

"The GRACE mission is one of the main ways that melting of polarregions is measured, and now Australia is formally part of the mission Science Team.

"We're making good progress in developing software to measure, for example, the Queensland floods in January 2011 and soon we won't have to rely on international scientists to know what is happening in our own backyard."

The mission was originally launched as a 5-year mission, but it is still running today, although some critical components like battery cells are starting to fail. In 2010 <u>NASA</u> called for proposals to join the Science Team to develop new methods, algorithms, and models for GRACE and future space-based gravity-field missions.

The Australian Space Research Program awarded \$4.673 million last year for The GRACE Follow On Mission, a 3-year project to develop laser ranging technology for the mission, and analysis capability for Australia to measure polar melting rates and to monitor its continental water resources.



Provided by Australian National University

Citation: Space mission tells of Antarctic melt (2011, September 13) retrieved 3 May 2024 from <u>https://phys.org/news/2011-09-space-mission-antarctic.html</u>

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