

## NASA's Earth Science Program and Cooperation With Japan

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This presentation will highlight NASA's current and planned Earth observing capabilities, the resulting science and applications, and NASA's long-standing partnership with Japan. NASA and the Japan Aerospace Exploration Agency (JAXA) have a long history of collaboration on satellite missions. The two agencies worked together on the highly successful 17-year Tropical Rainfall Measuring Mission (TRMM). TRMM's success contributed in part to further cooperation between NASA and JAXA on the Global Precipitation Measurement (GPM) Core spacecraft, launched in 2014. Meanwhile, Japan has also been an active partner in two of NASA's Earth Observing System "flagship" missions: Terra and Aqua. Both the Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) onboard Terra and Advanced Microwave Scanning Radiometer for EOS (AMSR-E) onboard Aqua were built by and are operated by JAXA. NASA and JAXA have partnered for the last several years on calibration and validation activities associated with JAXA's Greenhouse Gases Observing Satellite (GOSAT) and NASA's Orbiting Carbon Observatory (OCO-2) missions. And in 2012, JAXA's Global Change Observation Mission ? Water (GCOM-W1) satellite joined Aqua and other NASA missions as part of the international Afternoon Constellation (A-Train). The results from these (and other) Earth observing missions are expanding our knowledge of the current state of the Earth system and our ability to predict how it may change in the future. These data also enable a wide range of practical applications that benefit society.

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