Agua, a part of the Earth Observing System (EOS) by the National Aeronautics and Space Administration (NASA: http://www.nasa.gov), is the Earth observing satellite scheduled for launch in April 2002, under the cooperation with Japan and Brazil. Aqua carries six observing instruments; four instruments, including the Atmospheric Infrared Sounder (AIRS), the Advanced Microwave Sounding Unit (AMSU-A), the Clouds and the Earth's Radiant Energy System (CERES), the Moderate-Resolution Imaging Spectroradiometer (MODIS), provided by NASA, the Humidity Sounder for Brazil (HSB) provided by the National Institute for Space Research (INPE: http://www.inpe.br) of Brazil, and the Advanced Microwave Scanning Radiometer for EOS (AMSR-E) provided by the National Space Development Agency of Japan (NASDA: http://www.nasda. go.ip). By these instruments, EOS Aqua covers the entire Earth within a day from a Sun-synchronous, sub-recurrent orbit with an altitude of approximately 705 km and an orbiting period of approximately 100 minutes. The observed data will be utilized in improving weather forecasting accuracy, investigating global water and energy circulation, and monitoring global environment changes and disasters.

AMSR-E

The Advanced Microwave Scanning Radiometer for EOS (AMSR-E) is a modified version of AMSR on board the Advanced Earth Observing Satellite-II (ADEOS-II) scheduled for launch in autumn of 2002. By measuring microwave emission from the Earth, the instrument observes sea surface temperature, sea surface wind speed, sea ice concentration, water vapor, precipitation, cloud liquid water, snow cover, and soil moisture. Major advantage of microwave measurement is an ability to observe the Earth day and night, regardless of cloud condition. The data acquired by the instrument are down-linked to the NASA's ground receiving stations at Alaska or Norway, and then transmitted via online to the NASDA's Earth Observation Center (EOC: http://www.eoc.nasda.go.jp) for data processing into brightness temperatures and geophysical products. After evaluating its validity, the generated products are distributed to data users and related research institutions. Combining the AMSR in morning orbit with the AMSR-E in afternoon orbit will provide information on diurnal variability of geophysical parameters related to the global water and energy circulation, and frequent sampling of rapidly-changing phenomena like severe tropical storms.

