

## Current Status and Future Plan of the Global Change Observation Mission - Water (GCOM-W) and Advanced Microwave Scanning Radiometer 2 (AMSR2)

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The Global Change Observation Mission (GCOM) –Water (GCOM-W) is one of two medium sized satellites to provide comprehensive information of the Essential Climate Variables (ECV) of atmosphere, ocean, land, cryosphere, and ecosystem. The GCOM-W (Water) or “SHIZUKU” satellite that carries the Advanced Microwave Scanning Radiometer 2 (AMSR2), which was launched on May 2012; and GCOM-C (Climate) or “SHIKISAI” satellite that carries the Second-generation Global Imager (SGLI) and launched in December 2017. Both satellites are currently operating, and their data are distributed through the JAXA G-Portal (<https://gportal.jaxa.jp/gpr/>).

AMSR2 is multi-frequency, total-power microwave radiometer system with dual polarization channels for all frequency bands, and a successor of JAXA’ s Advanced Microwave Scanning Radiometer for EOS (AMSR-E) on the NASA’s Aqua satellite. Sensor specification of AMSR2 is almost identical to that of AMSR-E, except larger (2.0 m) antenna, additional 7.3 GHz channels to mitigate Radio Frequency Interference (RFI) and improved internal calibration. Due to its higher spatial resolution, all-weather capability, near-real-time availability and observation stability, AMSR2 data is routinely used in many operational and science applications. To provide consistent dataset between AMSR2 and AMSR-E for long-term water cycle monitoring and climate studies, we applied the latest AMSR2 algorithms and formats to AMSR-E data and have provided products through the G-Portal system. Level 1B and 1R (resampled L1B) products have been released since April 2018, and Level 2 products will be released early summer in 2019. We have also released new AMSR2 research products, Thin Ice Detection (sea ice thinner than 30 cm) and Total Precipitable Water over Land, since January 2019 through the GCOM-W Research Product Data Providing Service ([https://suzaku.eorc.jaxa.jp/GCOM\\_W/research/resdist.html](https://suzaku.eorc.jaxa.jp/GCOM_W/research/resdist.html)).

The GCOM-W satellite has been in extended mission phase since 2017, and we expect to operate satellite and instrument as long as possible to reduce observation gaps between AMSR2 follow-on mission, which has been in Pre-project Phase (Phase A) since September 2018.

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