

Development status of the GCOM-W AMSR2 research products

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The Japan Aerospace Exploration Agency (JAXA) operates the Global Change Observation Mission –Water (GCOM-W) launched in May 2012. The GCOM-W satellite carries the Advanced Microwave Scanning Radiometer-2 (AMSR2). In this mission, eight geophysical values (water vapor, cloud liquid water, precipitation, sea surface temperature, sea surface wind, sea ice concentration, snow depth, and soil moisture) were defined as the standard products, and has been provided to general users since May 2013. Also, research products were defined as a candidate of future standard product in March 2015. Among the standard products, we will update algorithms of sea surface temperature, sea surface wind speed, sea ice concentration, soil moisture content to version 3 in March 2017. As a result of verifying new version products with ground observation and/or other satellite data, accuracy has improved. For example, regarding the sea surface temperature product, we updated the algorithm to change the method of sea surface wind speed correction and conduct more strict quality check to remove inappropriate buoy data, etc. Then, we calculated the root-mean-square-error (RMSE) between the sea surface temperature by AMSR2 and by buoy data provided by National Oceanic and Atmospheric Administration (NOAA). The verification period is from July 2012 to June 2016. Result shows that the RMSE is 0.52 °C in new version and improved while that of previous version is 0.56 °C. In addition, we update the algorithms of research products that are already open to public, 10 GHz sea surface temperature and all-weather sea surface wind speed, and those accuracies are also improved. At the meeting, we will present the detailed verification results of new version of standard products and research products for AMSR2.

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