

Sea surface temperature from SGLI aboard the GCOM-C satellite of JAXA

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The Global Change Observation Mission-Climate (GCOM-C) satellite, which is one of two satellites for the GCOM mission of the Japan Aerospace and Exploration Agency (JAXA), was launched on 23 December 2017. The Second Generation Global Imager (SGLI) is the optical sensor aboard GCOM-C which consists of two components: the Visible and Near-infrared Radiometer (VNR) and the Infrared Scanner (IRS). SGLI has switchable spatial resolution from 250 m x 250 m to 1 km x 1 km. The resolution of 250 m x 250 m is expected to reveal complicated structure of geophysical parameters. Sea surface temperature (SST), which is one of the important parameters in the geophysical field, is also determinable by using split window data of SGLI. SGLI SST is retrieved by utilization of newly developed cloud masking method and a modified SST method originally developed for Himawari-8. Considering combined utilization of satellite SSTs, the methods developed for SGLI SST will be applied back to Himawari-8 data as well as the data from the Visible Infrared Imaging Radiometer Suite (VIIRS) aboard the Suomi National Polar-orbiting Partnership (Suomi NPP) satellite. SGLI SST is validated by comparison with buoy data. The comparison result shows RMSD of ~0.4 K, good agreement between SGLI SSTs and buoy data. Triple comparison with Himawari-8 and VIIRS SSTs is being started. Operational retrieval of SGLI SST started at the end of 2018. The products are available at the G-Portal site of JAXA and the JAXA Satellite Monitoring and Environmental Studies (JASMES) site of the Earth Observation Center (EORC) of JAXA.