

The early validation results of the GCOM-C/SGLI cryosphere standard product

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Japan Aerospace Exploration Agency (JAXA) polar-orbit satellite, Global Change Observation Mission for Climate (GCOM-C) has been launched on 23 December 2017. The Second-generation Global Imager (SGLI) which is carried on GCOM-C observes various geophysical variables in the Atmosphere, Ocean, Land and Cryosphere for long-term monitoring of earth environment using multi wavelength, high resolution and multi angles. When focusing on the cryosphere: snow, sea-ice, glacier and ice sheet, their high albedo affect the cooling mechanism of the radiative balance. The GCOM-C/SGLI regularly creates cryosphere standard products including C1: snow, ice and cloud classification product and C2: snow grain size and snow surface temperature product. We validated these products by comparison with other satellite products and in-situ observation data. C1 product was validated by comparing other similar satellite product (e.g. Terra/MODIS) focusing on the snow and ice extent. C2 product was validated by match-up comparison with in-situ data and satellite retrieval results. Snow grain size of shallow layer was measured at the in-situ observation carried out at the East GRIP site on the North-eastern Greenland Ice Sheet in July 2018. Snow and ice surface temperature was derived from automatic weather station (AWS). From these validation results, all standard product was achieved the release threshold and JAXA decided to release the GCOM-C/SGLI product. In the presentation, some examples and case study of the GCOM-C/SGLI observation results will be shown.

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