



Status of the Japanese Global Precipitation Measurement (GPM) Research Project

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The Global Precipitation Measurement (GPM) mission is a mission led by the Japan Aerospace Exploration Agency (JAXA) and the National Aeronautics and Space Administration (NASA) under collaboration with many international partners, who will provide constellation of satellites carrying microwave radiometer instruments. The GPM Core Observatory, which carries the Dual-frequency Precipitation Radar (DPR) developed by JAXA and the National Institute of Information and Communications Technology (NICT), and the GPM Microwave Imager (GMI) developed by NASA. JAXA also provides the Global Change Observation Mission (GCOM) 1st - Water (GCOM-W1) named "SHIZUKU," as one of constellation satellites. The SHIZUKU satellite was launched on May 18, 2012, and all products, including the precipitation product, have been available to general users since May 2013.

The Japanese GPM research project conducts scientific activities on algorithm development, ground validation, application research including production of research products. In addition to those activities, we promote collaboration studies in Japan and Asian countries, and seek potential users of satellite precipitation products. JAXA develops the DPR Level 1 algorithm, and the NASA-JAXA Joint Algorithm Team develops the DPR Level 2 and DPR-GMI combined Level2 algorithms. JAXA also develops the Global Rainfall Map algorithm, which is a new version of the Global Satellite Mapping of Precipitation (GSMaP) as national product to distribute hourly and 0.1-degree horizontal resolution rainfall map. In the GPM era, the GSMaP algorithm will be improved by refining rainfall retrievals over land, considering the orographic rainfall effects, adding the rain gauge corrected rainfall product. In the future, information from the Dual-frequency Precipitation Radar (DPR) will be compiled as a database to improve the retrieval accuracy of weak rainfall in mid-to-high latitudes.

The GPM Core Observatory is scheduled to be launched from the JAXA Tanegashima Space Center by the H-IIA F23 rocket around 3:07 a.m. thru 5:07 a.m. (JST) on February 28 (Fri.,) 2014. After the initial checkout (about 2-month,) calibration and validation of the DPR, GMI and other products will be implemented toward the public release of all products to general users. Data release date is currently scheduled to be 6-month after the launch.