S05-5

Application of Himawari-8 AHI to the GOES-R Rainfall Rate Algorithm

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The Japan Meteorological Agency (JMA) successfully launched its Himawari-8 satellite on 7 October 2014 and it started operations on 7 July 2015. The Advanced Himawari Imager (AHI) instrument on Himawari-8 is very similar to the upcoming Advanced Baseline Imager (ABI) instrument on the next generation Geostationary Operational Environmental Satellite (GOES-R).

The GOES-R Rainfall Rate algorithm is an effort to combine the rapid refresh and high spatial resolution of infrared (IR) data and the accuracy of microwave (MW) estimates of precipitation. Rain rates are derived from the ABI IR bands and calibrated against rain rates from MW. The algorithm estimates instantaneous rain rate every 15 minutes on the ABI full disk at the IR pixel resolution (~2 km) with a latency of < 5 minutes from image time.

Since the AHI is the best proxy data available for the upcoming ABI on GOES-R, the AHI data is being applied to the GOES-R Rainfall Rate Algorithm to evaluate the algorithm in real time prior to GOES-R launch in 2016, and the findings will motivate improvements to the algorithm.

This presentation will introduce the basic GOES-R Rainfall Rate algorithm and recent improvements to the algorithm, describe the application of the AHI data to the algorithm, and show the results and findings from the application of the AHI data.