Imagery from the Advanced Baseline Imager (ABI) on GOES-R series

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Abstract

The next generation geostationary satellite series will offer a continuation of current products and services and enable improved and new capabilities. The Advanced Baseline Imager (ABI) on the Geostationary Operational Environmental Satellites (GOES)-R series will monitor a wide range of phenomena. As with the current GOES Imager, the ABI will be used for weather, oceanographic, climate, and environmental applications. The ABI will improve upon the current GOES Imager with more spectral bands, faster imaging, higher spatial resolution, better navigation, and more accurate calibration. The ABI expands from five spectral bands on the current GOES imagers to a total of 16 spectral bands in the visible (2), near-infrared (4) and infrared (10) spectral regions. There will be an increase of the coverage rate leading to full disk scans at least every 15 minutes and continental US (CONUS) scans every 5 minutes. High-time resolution loops over mesoscale regions will also be possible. ABI spatial resolution (at the satellite sub-point) will be nominally 2 km for the infrared bands and 0.5 km for the 0.64 um visible band. High-quality simulated data, as well as other satellite observations, are being used in a number of ways to prepare for the ABI validations. Imagery is the key product and hence needs a sufficient validation tool set.

Details of the GOES-R Cloud and Moisture Imagery algorithm and recent validation results will be presented and discussed. Both routine and 'deep-dive' validation tools will be presented.

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