Testing the GOES-R Algorithms with Advanced Himawari Imager

Using the AER Algorithm Workbench, the operational GOES-R algorithms have been executed, without any code changes, on newly-released Himawari AHI data. By maintaining the same code base across multiple missions, algorithm improvements can be rapidly shared with users across the globe. To prepare the algorithms for run, a mapping was created from the AHI (Himawari) channels to ABI (GOES-R) channels, and provided as an input to the Algorithm Workbench. In addition, semi-static and ancillary inputs (NWP, Reynolds global SST, snow masks, etc.) were prepared for the associated observation times and sub-satellite position.

AHI Results

The GOES-R integrated cloud algorithm suite was applied to early AHI images from January 25, 2015 at 0230Z to produce a cloud mask, cloud phase, and cloud top temperature.
AHI Results

The Algorithm Workbench Concept

Features & Benefits

Standard Design Protocols—structured methods for algorithm design and implementation

- Speeds up development and migration
- Allows for algorithm "buy-back"

Data Model Interface—standard APIs for sensor and meta-data access

- Insulates algorithm from underlying data formats and physical environment
- Allows for seamless sharing of test data across development and operational environments

Algorithm Descriptor Database—programmatically-accessible database of algorithm and data characteristics

- Allows automated generation of algorithm trees
- Provides interfaces for algorithmic analysis of processing systems, and machine generation of program-specific documentation

Cloud Phase

Cloud Top Temperature

About Atmospheric and Environmental Research

AER provides science-based solutions to global environmental challenges. AER’s internationally renowned scientists and software engineers collaborate to transform state-of-the-art predictive science and analytical tools into practical systems that provide geophysical understanding, computer simulation, and forecasting. AER customers include government agencies and national laboratories, aerospace and defense contractors, and academia. AER is a division of Verisk Climate, a Verisk Analytics (Nasdaq:VRSK) business. AER is an ISO 9001 certified GSA contractor. To learn more about how the Algorithm Workbench and AER’s remote sensing software capabilities please contact David Hogan, Senior Vice President, Business Development at 781-761-2288, dhogan@aer.com or visit us on the web at www.aer.com.