

Near-Real-Time Proxy ABI Products for GOES-R User Readiness

Tom Greenwald, Brad Pierce*, Todd Schaack, Jason Otkin, Kaba Bah, Jim Davies, Justin Sieglaff, Allen Lenzen, Jim Nelson, Marek Rogal, and Hung-Lung (Allen) Huang
 Cooperative Institute for Meteorological Satellite Studies (CIMSS), University of Wisconsin-Madison
 * NOAA/NESDIS ORA ASPB

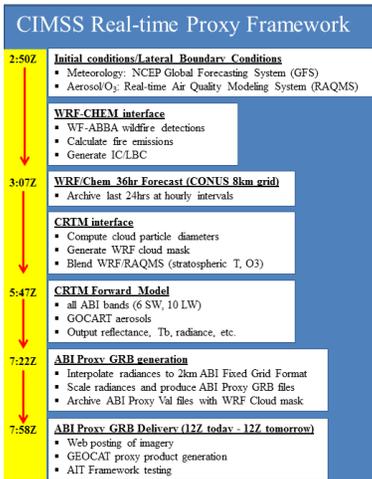


Objectives

Introduce users to Advanced Baseline Imager (ABI) imagery and products in near-real-time but at reduced time and space resolution using simulated data derived from a regional forecast model with chemistry coupled to global chemical/aerosol analyses

Make selected simulated ABI data products available within AWIPS to support Proving Ground activities

Production of Simulated ABI Data

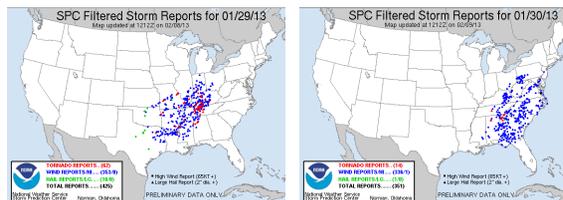


- Weather Research & Forecasting with Chemistry (WRF-CHEM) model is run for CONUS (as defined in GOES-R Product Users' Guide (PUG)) on 8 km grid with hourly output
- CRIM v2.1 used to compute radiances from WRF-CHEM model output for all ABI bands
- Radiances remapped to 2 km Fixed Grid Format according to PUG conventions, rescaled, then output to CF compliant NetCDF-4 data files
- Data files are run through GEOCAT (GEOstationary Cloud Algorithm Testbed) to generate baseline products (HDF5 output)
- MciDAS-X is used to convert these HDF files to the type of NetCDF files needed by AWIPS II

Baseline products currently available in GEOCAT:

- Cloud mask
- Cloud top height
- Cloud top phase
- Cloud top pressure/temperature
- Daytime cloud optical depth/effective radius
- Legacy temperature/moisture profiles
- Total precipitable water
- Derived stability indices: CAPE, lifted index, K-Index, Total Totals index, Showalter Index
- Derived motion winds
- Fire/hot spot characterization
- Volcanic ash: detection and height
- Cloud and moisture imagery
- Radiances

Tornado Outbreak of January 29-30, 2013



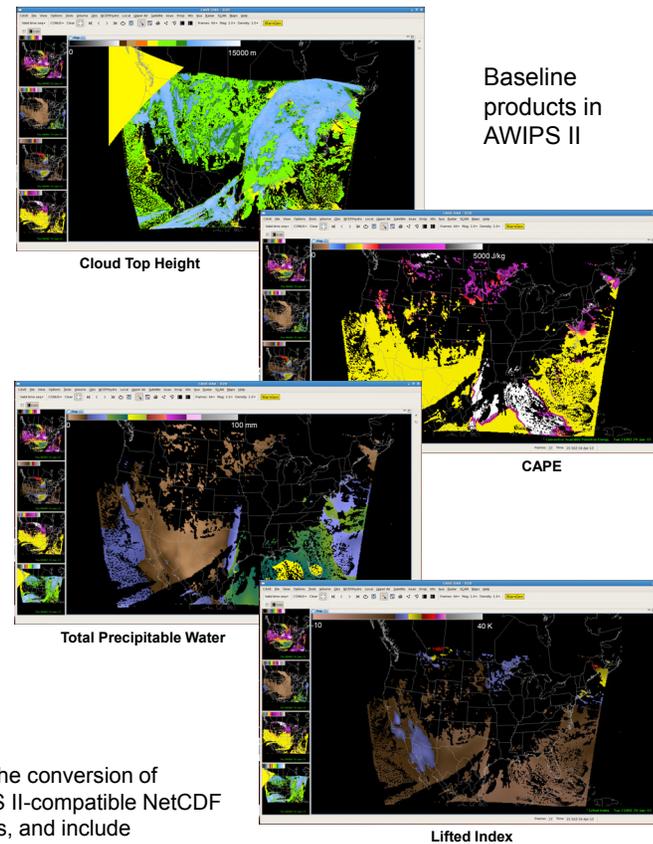
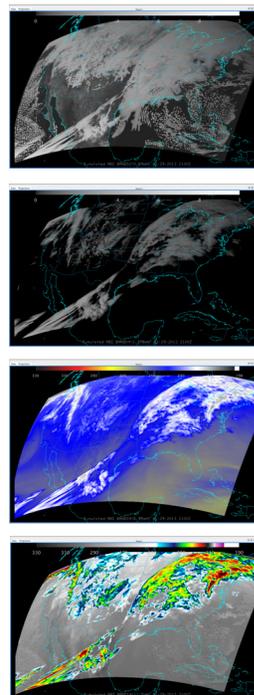
One of the largest outbreaks ever recorded in January

Total of 83 reported tornados; 57 confirmed

Produced one EF3 tornado with one fatality

Sample Proxy ABI Products

Imagery in McIDAS-V

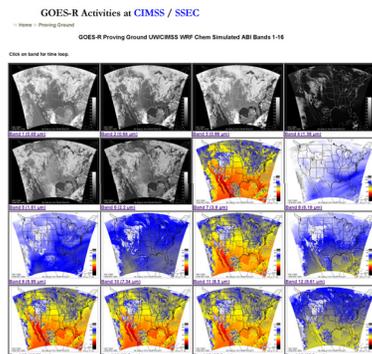


Baseline products in AWIPS II

Remaining work: streamline the conversion of GEOCAT HDF files into AWIPS II-compatible NetCDF files, address color table issues, and include additional ABI baseline products.

Support provided by the GOES-R Program, NOAA Cooperative Agreement #NA10NES4400013.

Near-Real-Time Website:



http://cimss.ssec.wisc.edu/goes_r/proving-ground/wrf_chem_abi/wrf_chem_abi.html