GOES-16 ABI L2+ Sea Surface Temperature (SST) Release, Beta Data Quality
May 24, 2017
Read-Me for Data Users

The GOES-R Peer/Stakeholder Product Validation Review (PS-PVR) for ABI L2+ SST Beta Maturity was held on May 24, 2017. As a result of this review, the PS-PVR panel recommended that the ABI SST product be declared Beta.

The ABI L2+ SST product represents 1-hour composite over a Full Disk (FD) of the Earth. Full description and format of the SST product is in the Product Definition and User's Guide (PUG) document (http://www.goes-r.gov/products/docs/PUG-L2+-vol5.pdf). The algorithm used to derive SST from GOES-16 ABI observations is described in the "GOES-R Advanced Baseline Imager (ABI) Algorithm Theoretical Basis Document for Sea Surface Temperature" (http://www.goes-r.gov/products/ATBDs/baseline/baseline-SST-v2.0.pdf).

Beta maturity, by definition, means that:
- Initial calibration, navigation, and bands collocation on the available L1b data is applied;
- Initial Cloud Mask provided by the GOES-R Algorithm Working Group (AWG) Cloud Mask Team and implemented in baseline processing is applied "as is", without any changes or adjustments;
- Rapid changes in product input tables / algorithms are expected;
- Product quick looks and initial comparisons with ground truth data may not be fully adequate to determine product quality;
- Anomalies may be found in the product and the resolution strategy may not exist;
- Product is made available to users to gain familiarity with data formats and parameters;
- Product may have been minimally validated and may still contain significant errors; and
- Product is not optimized for operational use.

Beta users bear all responsibility for inspecting the data prior to use and for the manner in which the data are utilized. Persons desiring to use the GOES-16 ABI Beta maturity SST product for any reason, including but not limited to scientific and technical investigations, are strongly encouraged to consult the NOAA AWG SST scientists for feasibility of the planned applications. The following disclaimer "NOAA's GOES-16 satellite has not been declared operational and its SST data are preliminary and undergoing testing" should be used.

Known issues being resolved include:
1. The SST product is sensitive to upstream calibration, navigation and cloud mask;
2. Some hourly FD files may be missing or incomplete, due to scheduled post-launch-activities;
3. The data following the data gaps maybe of degraded and suboptimal quality;
4. Missing and/or degraded SST values occur frequently and randomly over some boxed areas;
5. SSTs are biased ~1K low, due to suboptimal regression coefficients;
6. Diurnal cycle in observed SST may be distorted and unusable for physical analyses;
7. Daytime SST values show significantly more degraded quality compared to nighttime;
8. The data product is not reported in the Group for High Resolution SST (GHRSST) Data Specification version 2 (GDS2) NetCDF format adopted in the international GHRSST community.