GOES-18 ABI L2+ Land Surface Temperature
Beta Data Quality
May 11, 2022
Read-Me for Data Users

The GOES-18 Advanced Baseline Imager (ABI) L2+ Land Surface Temperature (LST) was declared Beta Maturity on May 11, 2022. The Beta certification of the ABI L1b and Cloud and Moisture Imagery (CMI) flows down to the ABI L2+ products because the same algorithm is running with GOES-16 and GOES-17.

The ABI Level 2+ LST product provides coverage over the Full Disk (FD) (both 10 km and 2 km) of the Earth, the contiguous United States (CONUS) region at 2 km, and two Mesoscale (MESO) regions at 2 km. Product files includes LST data scaled to unsigned integer, corresponding data quality flags (DQF), product metadata, and the product quality indicator (PQI) from the intermediate product (IP) files.

Beta maturity, by definition, means that:
- Initial calibration applied (L1b);
- Rapid changes in product input tables, and possibly product algorithms, can be expected;
- Product quick looks and initial comparisons with ground truth data (if any) are not 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 has 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-18 ABI Beta-maturity LST for any reason, including but not limited to scientific and technical investigations, are encouraged to consult the NOAA AWG for feasibility of the planned applications. The product is sensitive to upstream processing, such as the quality of the L1b product calibration, sensor navigation/registration, cloud mask, total precipitable water, and emissivity at the two split-window bands.

Status of the LST product and any remaining known issues that are being resolved:
1. Emissivity used in operational retrieval is from historical Seebor emissivity product, which may not adequately reflect the real-time land surface change.
2. The product quality depends on the quality of its upstreaming input product, *e.g.*, the clear sky mask, the total precipitable water, etc.
3. Missing values were observed randomly over boxed areas since the satellite launch.
4. Data before May 5th, 2022 were impacted by the striping in band 15.

Contact for further information: OSPO User Services at SPSD.UserServices@noaa.gov

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