

GOES-17 ABI L2+ Clear Sky Mask (CSM) Release
Beta Data Quality
December 19, 2018
Read-Me for Data Users

The GOES-17 Advanced Baseline Imager (ABI) L2+ Clear Sky Mask (CSM) was declared Beta maturity on August 27, 2018. No formal review was conducted because the algorithms are identical to the ones running with GOES-16, so the Beta declaration of the ABI L1b and CMI flows down to the ABI L2+ products.

The ABI Cloud Mask products provide a binary cloud presence decision over the Full Disk (FD) of the Earth, the Continental United States (CONUS) region, the Mesoscale (MESO) regions. They also include a 4-level mask and cloud mask test decisions included in the intermediate product files. A full description and format of the CSM products can be found 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 the CSM from GOES-17 ABI observations is described in detail in the "GOES-R Advanced Baseline Imager (ABI) Algorithm Theoretical Basis Document for ABI Cloud Mask" (https://www.goes-r.gov/products/ATBDs/baseline/Cloud_CldMask_v2.0_no_color.pdf).

Beta maturity, by definition, means that:

- Rapid changes in product input tables / algorithms can be expected;
- Product quick looks and initial comparisons with ground truth data were 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 (via GRB);
- 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-16 ABI Beta-maturity Cloud Mask products for any reason, including but not limited to scientific and technical investigations, are encouraged to consult the NOAA ABI calibration scientists for feasibility of the planned applications.

Status of the current CSM product and any remaining known issues that are being resolved:

1. During the peak saturation hours (~local midnight) period of the sensor operations, users can expect significantly degraded results. This due to the known thermal cooling issue with ABI affecting the thermal IR channels, such as the 12 μ m, during that time period.

2. Mitigation efforts are currently being investigated to reduce the effect during this time period due to the saturation of the 12 μ m channel as well as the increase in noise in the 11 μ m channel during these periods
3. Some blocks on land around unmarked inland water due to the RFMFT
4. False Cloud (PFMFT/ETROP tests along coast lines)
5. Missed Cloud (warm low stratus at night)
6. Terminator Performance

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

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