

GOES-18 ABI L2+ Enterprise Cloud Mask
Full Data Quality
December 20, 2024
Read-Me for Data Users

GOES-R Advanced Baseline Imager (ABI) L2+ products will achieve Full Validation maturity by default after two years of Provisional and Operational use with no major anomalies reported (minor product improvements may still be occurring). As a result, GOES-18 Enterprise Cloud Mask (ECM), also known as Clear Sky Mask (CSM), is considered Full Validation maturity as of January 4, 2025.

The GOES-18 ABI ECM generates the cloud mask used by many of the ABI L2 Products. The ECM consists of the binary cloud mask, a 4-level cloud mask and the results of individual tests. The binary cloud mask, 4-level cloud mask, and cloud probabilities are made available to external users in the end product files. In Mode 6 operations, the ECM is generated every 10 minutes for ABI Full Disk (FD) of the Earth, every 5 minutes over the Contiguous United States (CONUS) region, and every 1 minute over the Mesoscale (MESO) regions.

A full description and format of the ECM products can be found in the Product Definition and User's Guide (PUG) Volume 5: Level 2+ Products, located on OSPO's GOES-R documents webpage: <https://www.ospo.noaa.gov/Organization/Documents/goes-r.html>. The algorithm used to derive the ECM from GOES-18 ABI observations is described in detail in the "Enterprise Algorithm Theoretical Basis Document for Cloud Mask", located on STAR's GOES-R ATBD webpage: https://www.star.nesdis.noaa.gov/goesr/documentation_ATBDs.php.

Full maturity, by definition, means that:

- Validation, quality assurance, and anomaly resolution activities are ongoing.
- Incremental product improvements may still be occurring.
- Users are engaged and user feedback is assessed.
- Product performance for all products is defined and documented over a wide range of representative conditions via ongoing ground-truth and validation efforts.
- Products are operationally optimized, as necessary, considering mission parameters of cost, schedule, and technical competence as compared to user expectations.
- All known product anomalies are documented and shared with the user community.
- Product is operational.

Persons desiring to use the GOES-18 ABI Full maturity ECM products for any reason, including but not limited to scientific and technical investigations, are encouraged to consult the NOAA/NESDIS/STAR Algorithm Working Group (AWG) scientists for feasibility of the planned applications. The ECM product is sensitive to upstream processing that includes the quality of the calibration, navigation, terminator regions and dynamic ancillary data, such as the snow mask.

No known outstanding issues of the ECM products.

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

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