GOES-16 & GOES-17 ABI L2+ Enterprise Cloud Mask (ECM) Release
Provisional Data Quality
November 29, 2021
Read-Me for Data Users

The GOES-R Cloud Mask product transitioned from a baseline algorithm to an enterprise algorithm on November 29, 2021 at 1900 UTC. The binary cloud mask (BCM) output remains in the product, but additional parameters have been added.

- 4-Level Mask - Enterprise Cloud Mask (ECM) combines spectral and spatial tests to produce a four-level classification of cloudiness at each pixel location. The 4 levels are:
  - 0 = Clear
  - 1 = Probably Clear
  - 2 = Probably Cloudy
  - 3 = Cloudy
- Cloud Probability - Likelihood of a cloud at a given pixel location (range: 0.0 - 1.0)

There is also a change to the data quality flags (DQFs):

DQF Flag value	Baseline Algorithm Meaning (prior to 11/29/2021 1900 UTC)	Enterprise Algorithm Meaning (from 11/29/2021 1900 UTC onwards)
0	Valid, good quality cloud mask	Valid, good quality cloud mask
1	Invalid pixel due to space view	Bad quality
2	Invalid or reduced quality pixel due to being outside of sensor zenith range 70 degrees	Invalid pixel due to space view
3	Invalid earth pixel due to bad data (bad or missing 11 µm BT or bad/missing clear sky 11 µm BT)	Not Used
4	Reduced quality Cloud mask (bad 3.9µm pixel)	Not Used
5	Reduced quality 0.64 µm tests	Not Used
6	Reduced quality due to other bad channels (excluding 0.64, 3.9 or 11 µm)	Degraded due to out of range focal plane temperature (FPT) or missing channel

There is no change to product short names, filenames, cadences, or resolution.
Short Names:
- ABI-L2-ACMF

- ABI-L2-ACMC
- ABI-L2-ACMM

Cadence: 10 min Full Disk, 5 minute CONUS, 1 minute mesoscale
Resolution: 2 km

A full description and format of the ECM 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 ECM from GOES-R ABI observations is described in detail in the "GOES-R Advanced Baseline Imager (ABI) Algorithm Theoretical Basis Document for A Naïve Bayesian Cloud Mask Delivered to NOAA Enterprise". ATBDs are available at https://www.star.nesdis.noaa.gov/goesr/documentation_ATBDs.php.

GOES-16 and GOES-17 ECM products continue at Provisional data maturity as of this algorithm change notice.

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