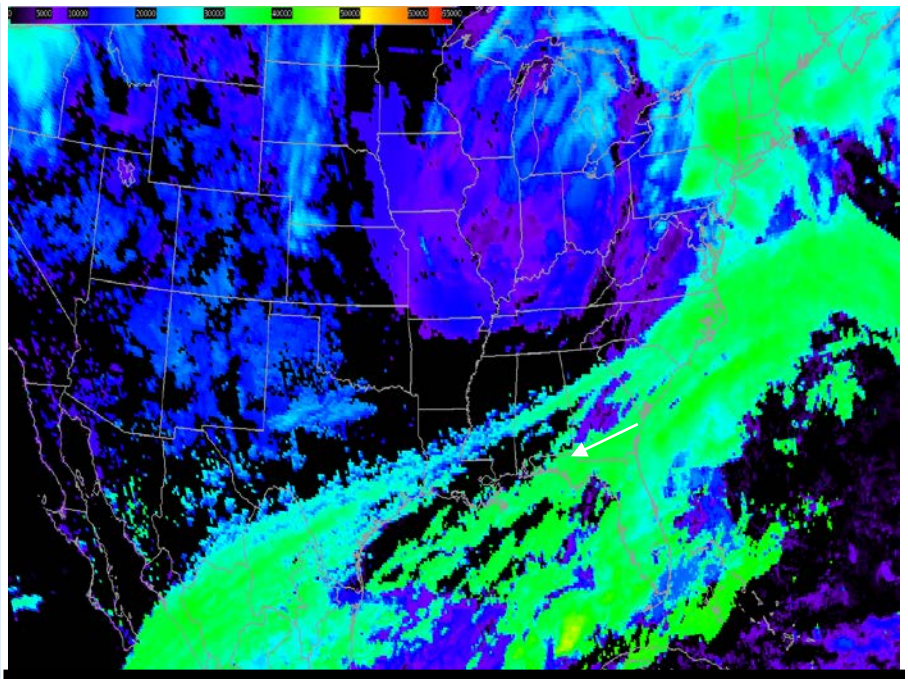
Cloud Top Height Quick Guide

Why is the Cloud Top Height Important?

The Baseline Cloud Top Height product estimates the top of the cloud in feet. This is an important parameter for aviation forecasting. Cloud Top Height is computed from both satellite data and from numerical model estimates of surface and tropopause features, and model vertical profiles of temperature, height and pressure.



GOES-16 Cloud Top Height Baseline Product, 1202 UTC on 23 January 2018

Cloud Top Height Temporal Cadence and Band Requirements

Domain	Temporal Refresh	Local Zenith Angle Range	ABI Bands Used
Full Disk	60 minutes	Quantitative from 0° to 62°	11.2 µm, 12.2 µm, 13.3 µm
CONUS	5 minutes		
Mesoscale	5 minutes		

Impact on Operations

Primary Application: Cloud Top Height is computed only for cloudy pixels. A principle application is for aviation forecasting.

Application: Cloud Top Height is derived simultaneously with Cloud Top Pressure and Temperature with the ABI Cloud Height Algorithm -- ACHA.

Limitations

Limitation: Misclassification can occur near coastlines, for warm low clouds, for regions far from nadir, and over snow cover.

Limitation: The accuracy requirement is 500 m.

Contributor: Scott Lindstrom

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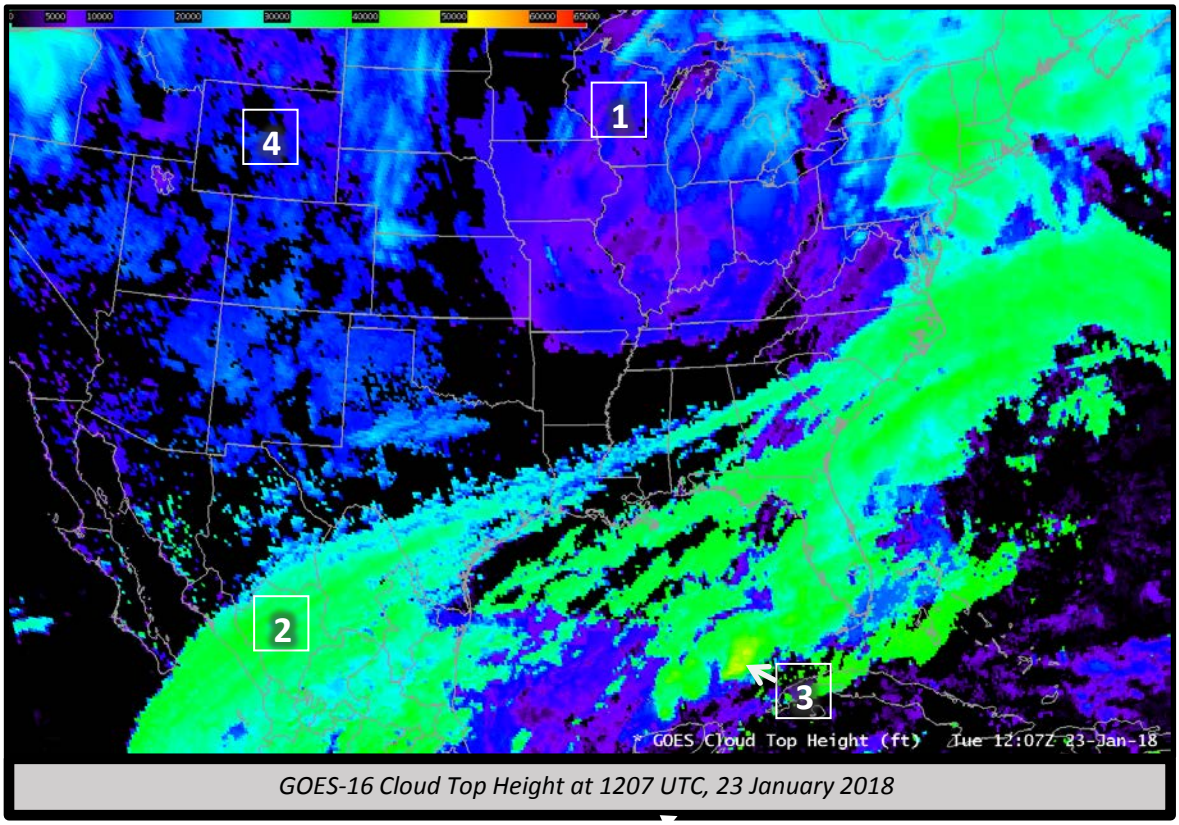
Image Interpretation

1. Low clouds are typically purple and dark blue.
2. Jet stream cirrus – in this case subtropical jet – are cyan and green
3. Strong convection is yellow, orange and red. Red clouds are the highest clouds.
4. New snow cover can show up as low clouds that do not move; this means the Clear Sky Mask has misidentified a feature as a cloud.



GOES-16 Cloud Top Height at 1207 UTC, 23 January 2018

Resources

ATBD on Cloud Top Height

Hyperlinks do not work in AWIPS but they do in VLab