



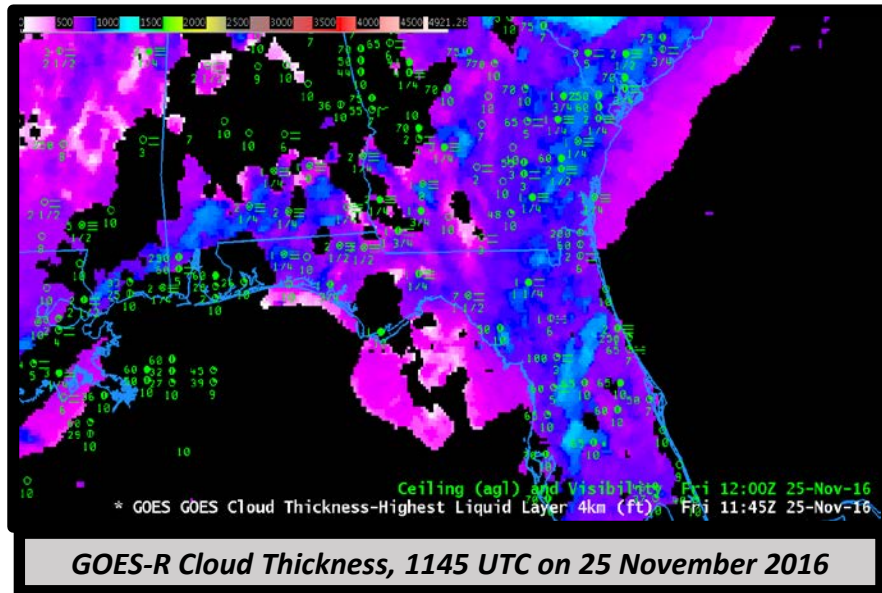
# GOES-R Cloud Thickness

## Quick Guide

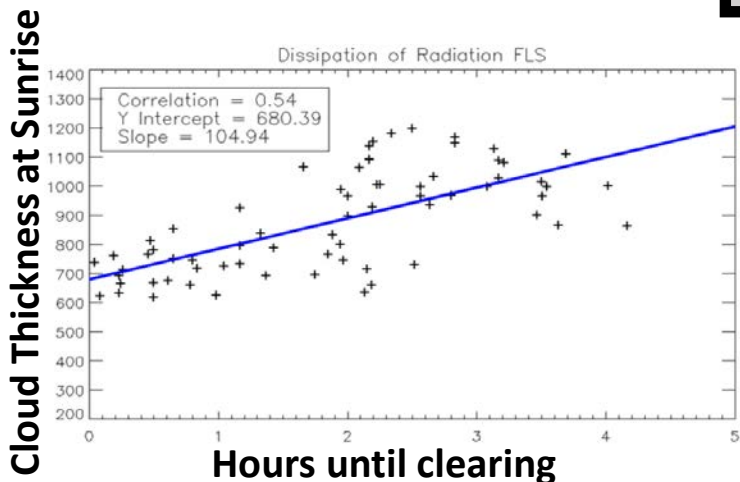


### Why is the GOES-R Cloud Thickness Important?

GOES-R Cloud Thickness Fields estimate the depth of the lowest deck of clouds made up of water droplets. This field can be used to estimate when radiation fog might dissipate: the last field that is produced before sunrise is correlated with dissipation time as shown in the scatterplot below.



GOES-R Cloud Thickness, 1145 UTC on 25 November 2016



### Impact on Operations

**Application:** GOES-R Cloud Thickness can be used to predict how quickly radiation fog will dissipate. The GOES-R Cloud Thickness Value computed just before sunrise is correlated with time to burn-off.

**Application:** The accuracy of this product varies seasonally and by location. Routine use will allow you to relate values to burn-off times in your particular location.

### Resources

#### Fused Fog Blog Examples

(<https://fusedfog.ssec.wisc.edu/?cat=14>)

#### Algorithm Theoretical Basis Document

([https://cimss.ssec.wisc.edu/training/PowerPoints/Enterprise\\_ATBD\\_Aviation\\_Fog\\_v4.0\\_18July2018.pdf](https://cimss.ssec.wisc.edu/training/PowerPoints/Enterprise_ATBD_Aviation_Fog_v4.0_18July2018.pdf))

Hyperlinks will not work when viewing material in AIR Tool

### Limitations

**Limitation:** GOES-R Cloud Thickness is derived from 3.9 μm emissivities at night using a linear relationship based on past emissivity observations benchmarked to sodar observations of cloud thickness on the West Coast of the United States.

**Limitation:** This product is not computed during the 90-120 minutes that surround sunrise and sunset.

**Limitation:** This product is not produced for glaciated or mixed-phase clouds.

