

# NGFS Microphysics RGB

## Quick Guide



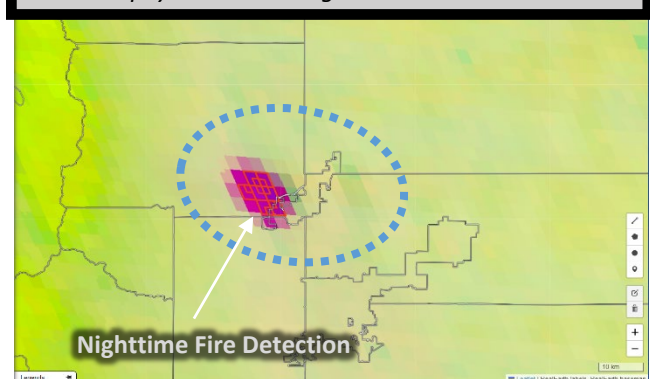
### Why is the NGFS Microphysics RGB Imagery Important?

The Next Generation Fire System (NGFS) Microphysics RGB imagery highlights regions of fire as detected from satellite. It operates day and night. Because it uses shortwave and longwave infrared bands, its character changes from day to night, as shown in the imagery to the right. Its character can also change as the intensity of the fire changes. Further, the development of pyrocumulus clouds will be apparent in the RGB imagery (especially during the day).

Microphysics RGB at the start of the 2024 Corral Fire.



Microphysics RGB during the 2021 Marshall Fire.



RGB Color	Band(s) used	Range (Min → Max)
Red	GOES: Band 13 – Band 15	5.0 to -1.0
	VIIRS: M15 – M16	-4.0 to -2.0
Green	GOES: Band 7 – Band 13	30.0 to -5.0
	VIIRS: M13 – M15	
Blue	GOES: Band 13 ; VIIRS M15	243 – 293 K

### Impact on Operations

#### Primary Applications

Shows a signal when a fire is present under clear/partly-cloudy conditions. ([image source](#))



This RGB is also used in the detection of volcanic eruptions.

Combine this and other satellite-based products with surface observations to get the best estimate of fire behavior.

### Limitations

**Sunlight-to-no sunlight transition:** When reflected 3.9  $\mu\text{m}$  solar radiation is rapidly changing, the character of this RGB will also rapidly change.

**Thick Clouds:** Thick clouds will limit the utility of this product for fire detection.

**Persistent anomalies:** Persistent thermal anomalies will be evident in this product. The locations of most persistent anomalies are known and flagged; however, new ones will appear occasionally.

