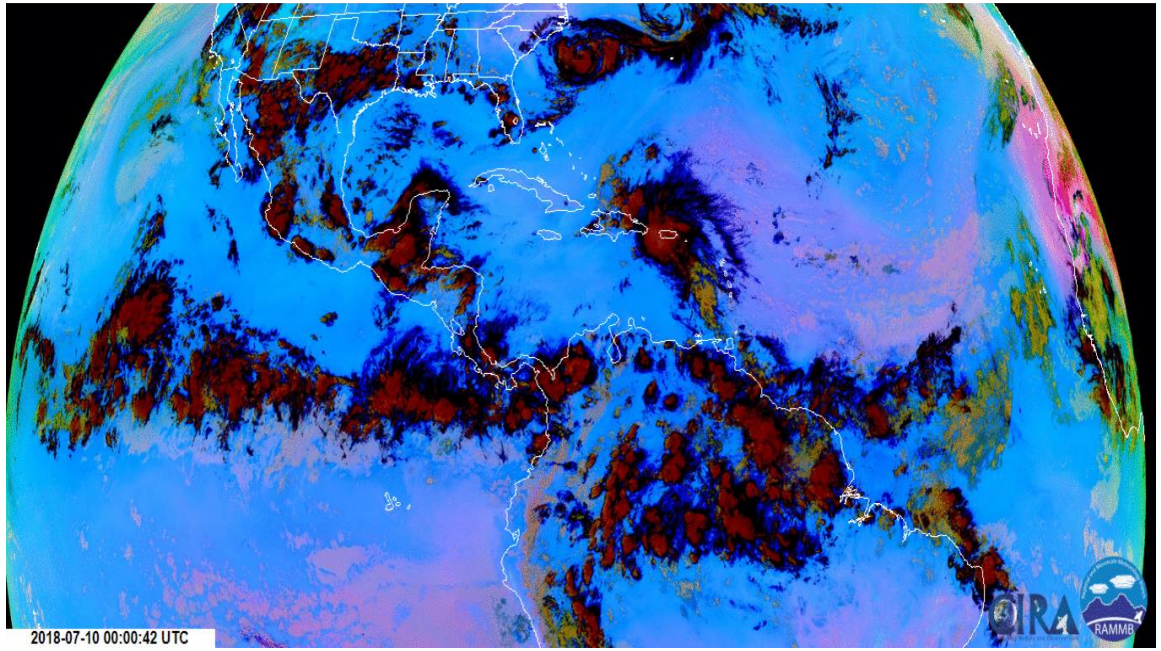
Caribbean Institute for Meteorology and Hydrology
Husbands, St. James, Barbados BB23006

Monitoring the Saharan Air Layer with GOES-16 Satellite Imagery

WMO Regional Focus Group
May 20, 2020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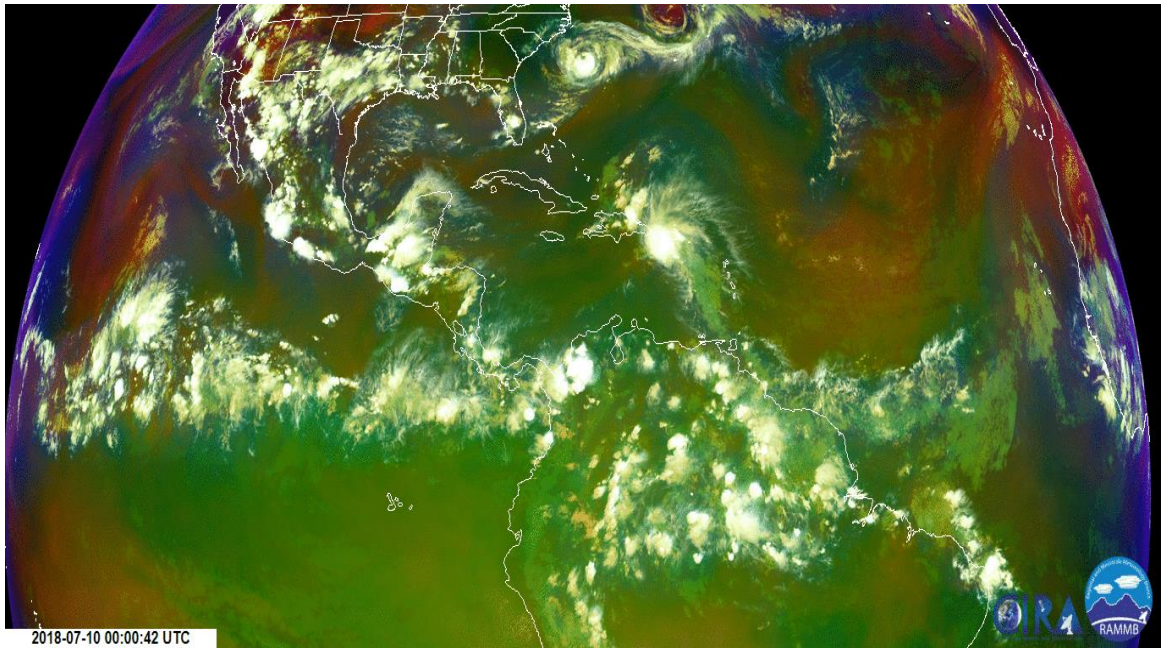
CIRA
RAMMB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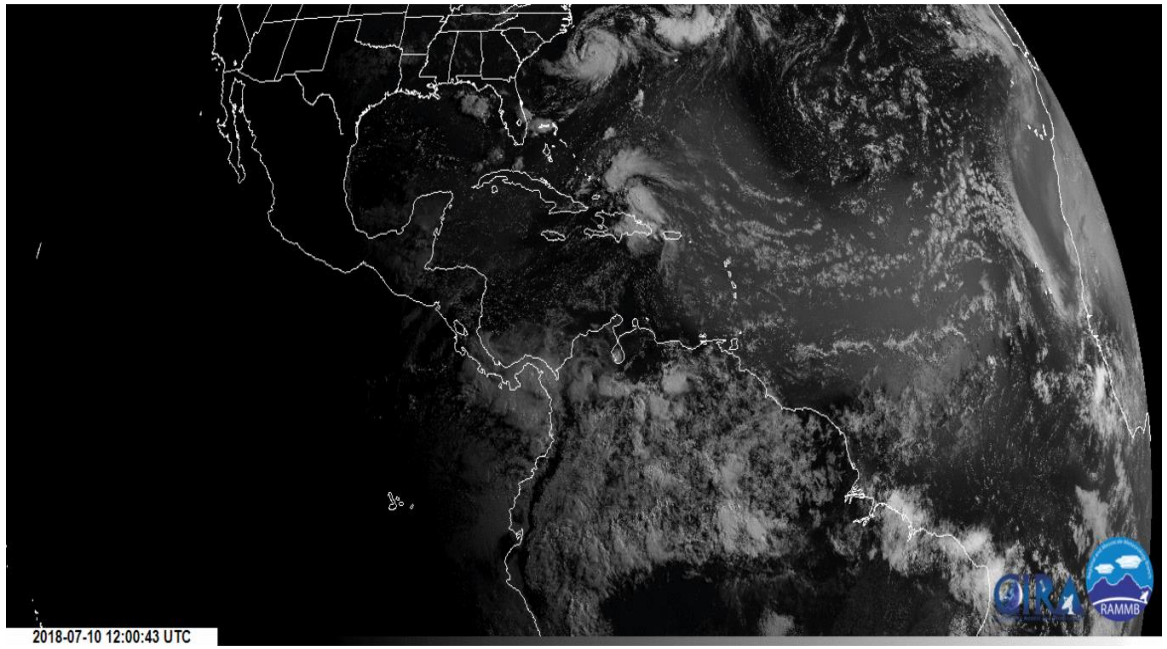
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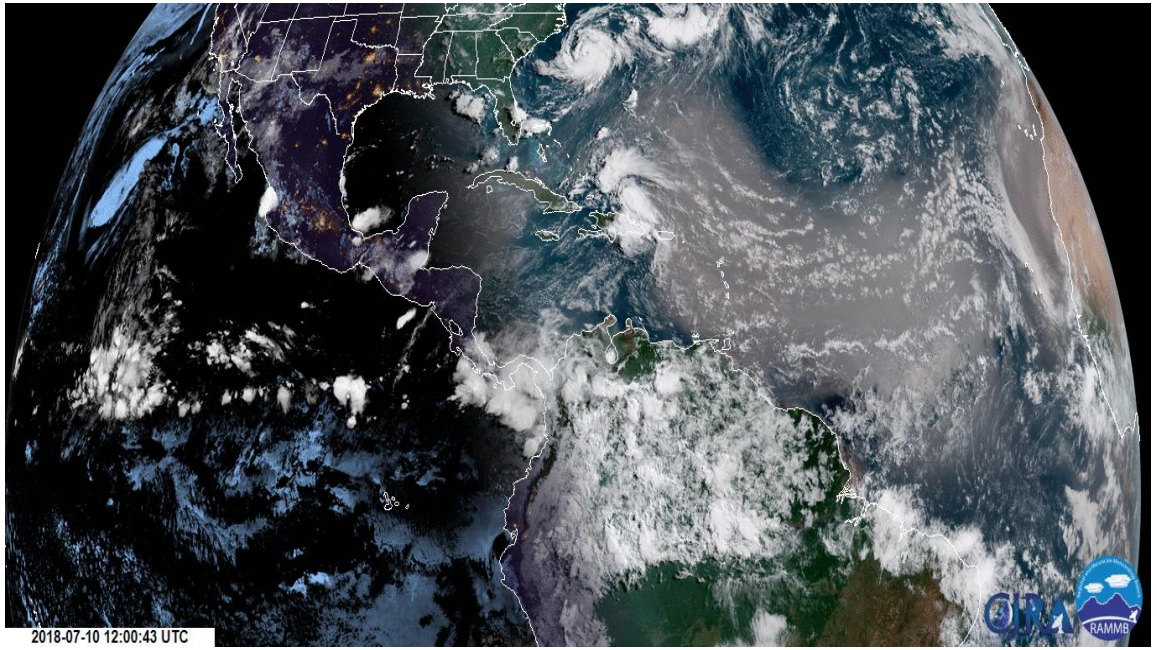
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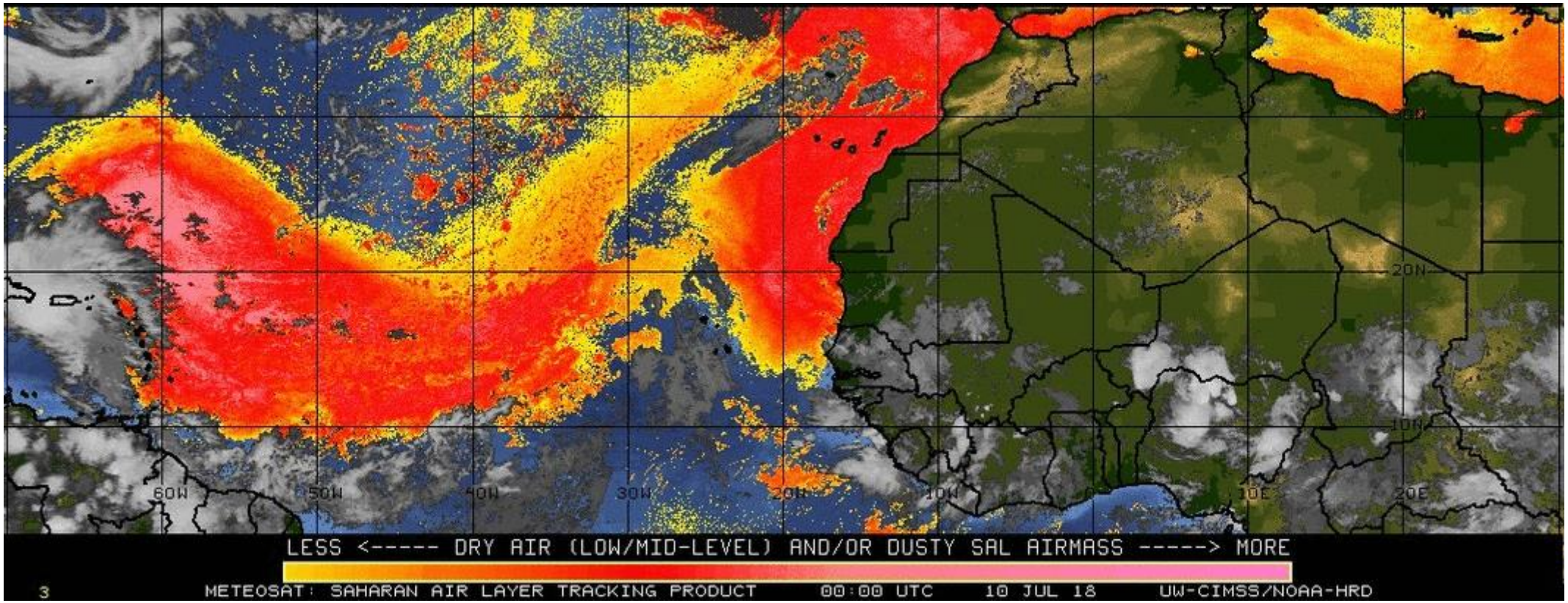
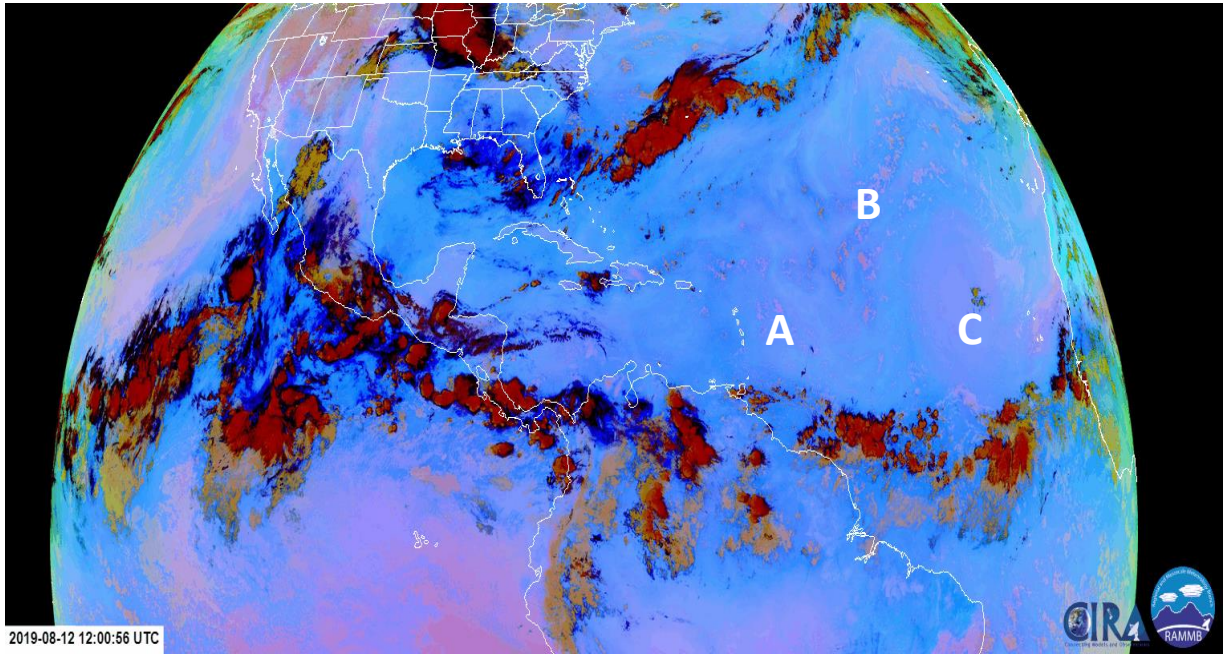
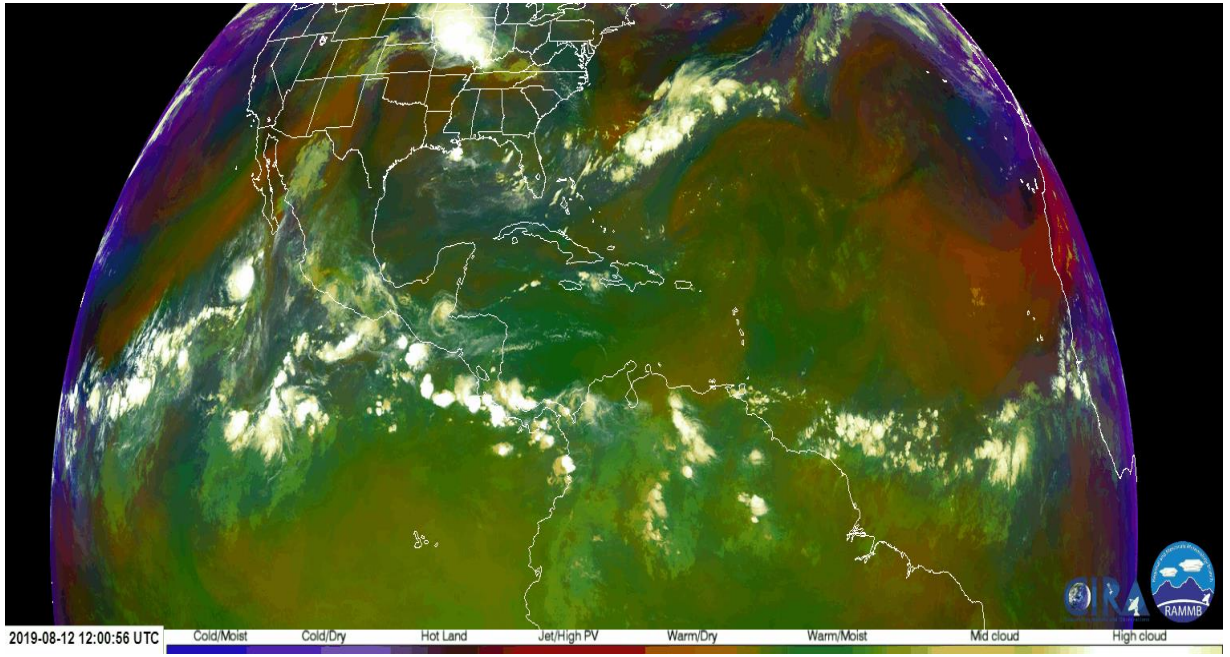
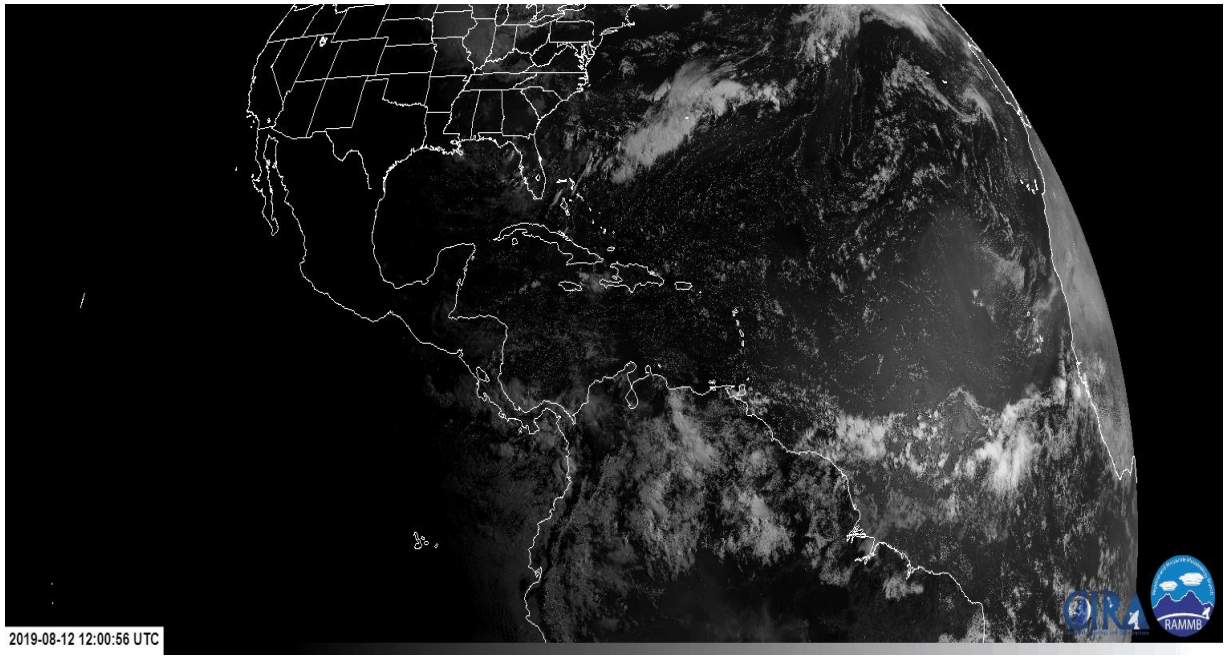

30N
20N
10N
60W
50W
40W
30W
20W
10W
0
10E
20E
LESS <----- DRY AIR (LOW/MID-LEVEL) AND/OR DUSTY SAL AIRMASS -----> MORE
3
METEOSAT: SAHARAN AIR LAYER TRACKING PRODUCT
00:00 UTC
10 JUL 18
UW-CIMSS/NOAA-HRD

Dust Detection Exercise

1. **Identify whether there is dust at A, B or C. Is there more than one dust plume?**
2. **Identify the high clouds interfering with the signal of the dust.**
   a) **What is that name of that tropical system?**
3. **Which product best represents the dust?**
4. **Using the Visible imagery identify the trough associated with the dust.**


B
A
C
2019-08-12 12:00:56 UTC


2019-08-12 12:00:56 UTC
Cold/Moist
Cold/Dry
Hot Land
Jet/High PV
Warm/Dry
Warm/Moist
Mid cloud
High cloud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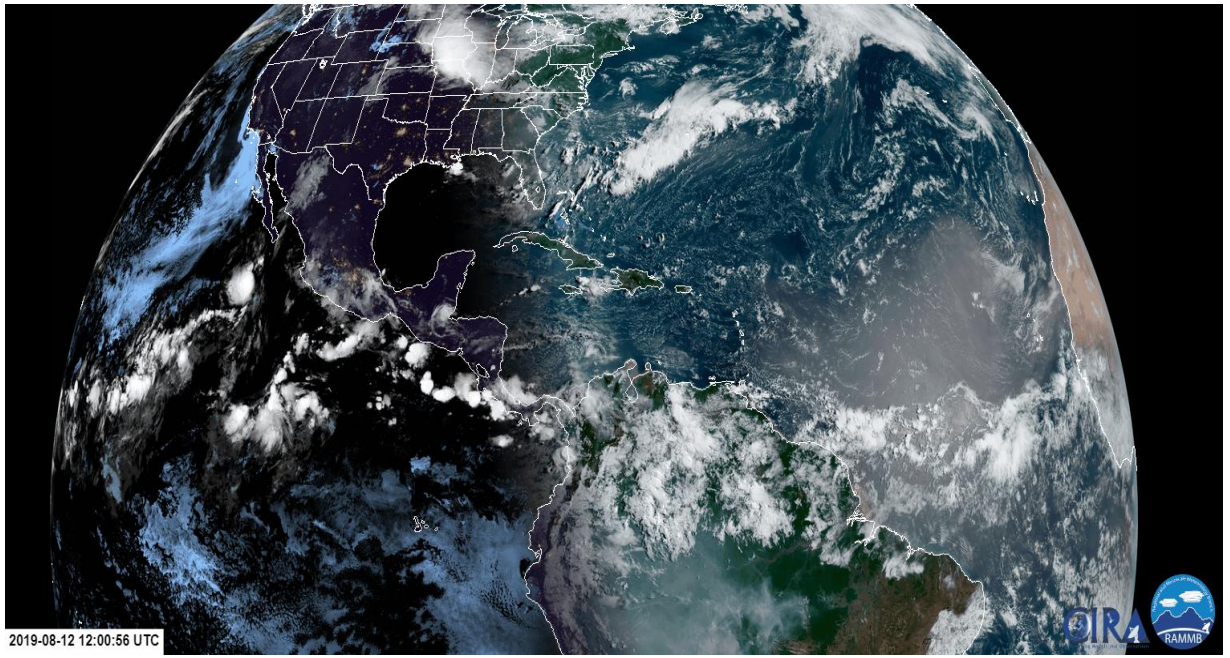
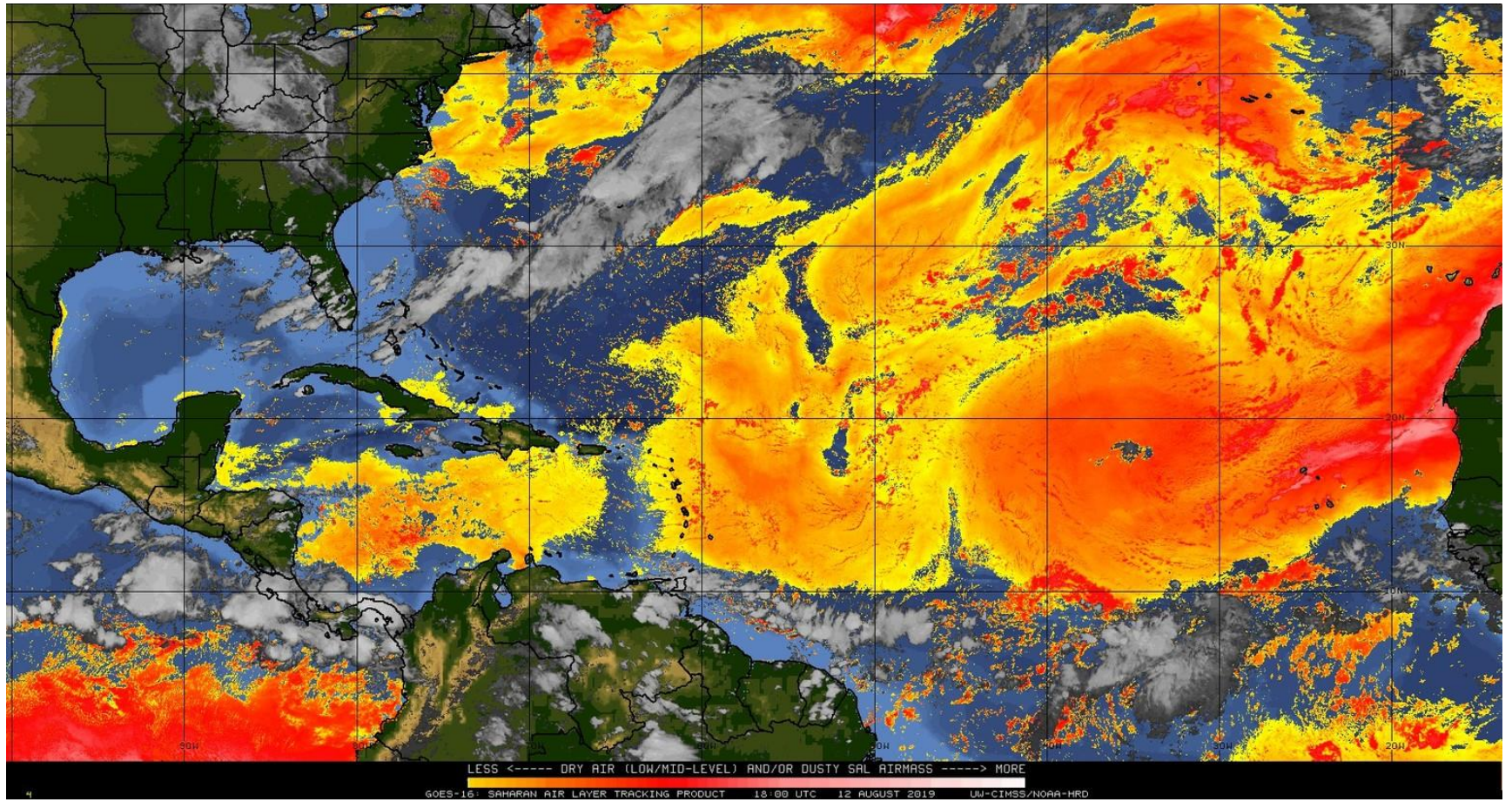
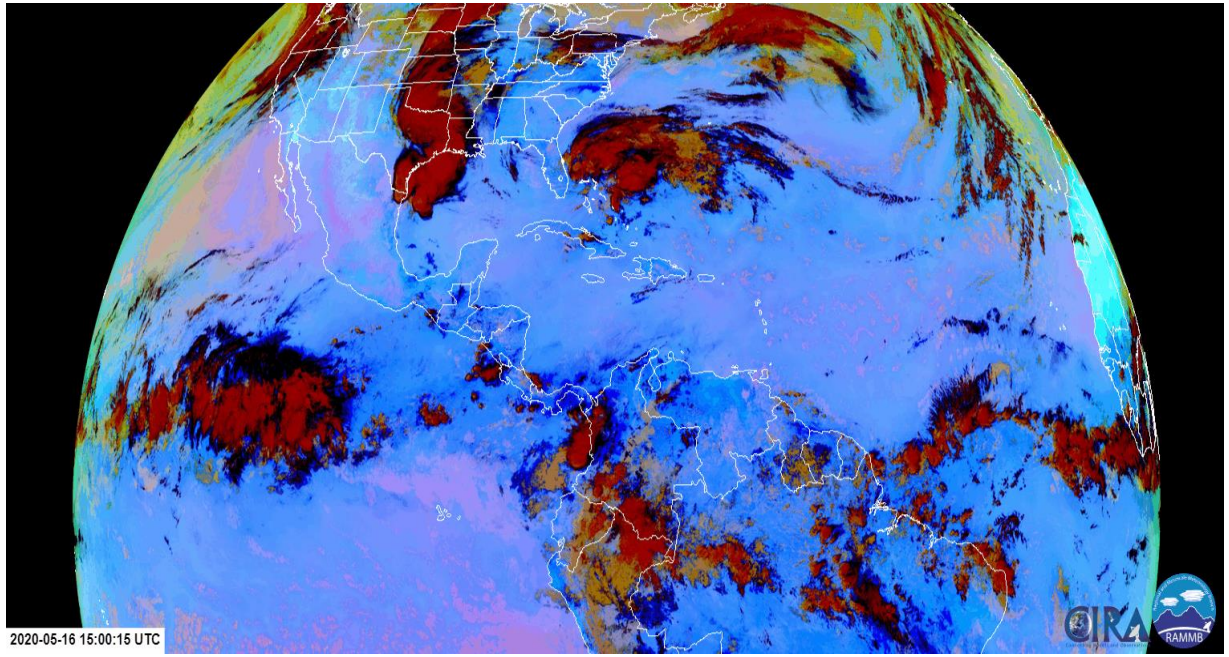

2019-08-12 12:00:56 UTC

Answer!


LESS <----- DRY AIR (LOW/MID-LEVEL) AND/OR DUSTY SAL AIRMASS -----> MORE
GOES-16: SAHARAN AIR LAYER TRACKING PRODUCT 18:00 UTC 12 AUGUST 2019 UW-CIMSS/NOAA-HRD

May 16th, 2020

- Varying concentrations of Saharan dust affected the Lesser Antilles in the past 2 weeks.
- Take a closer look at the horizon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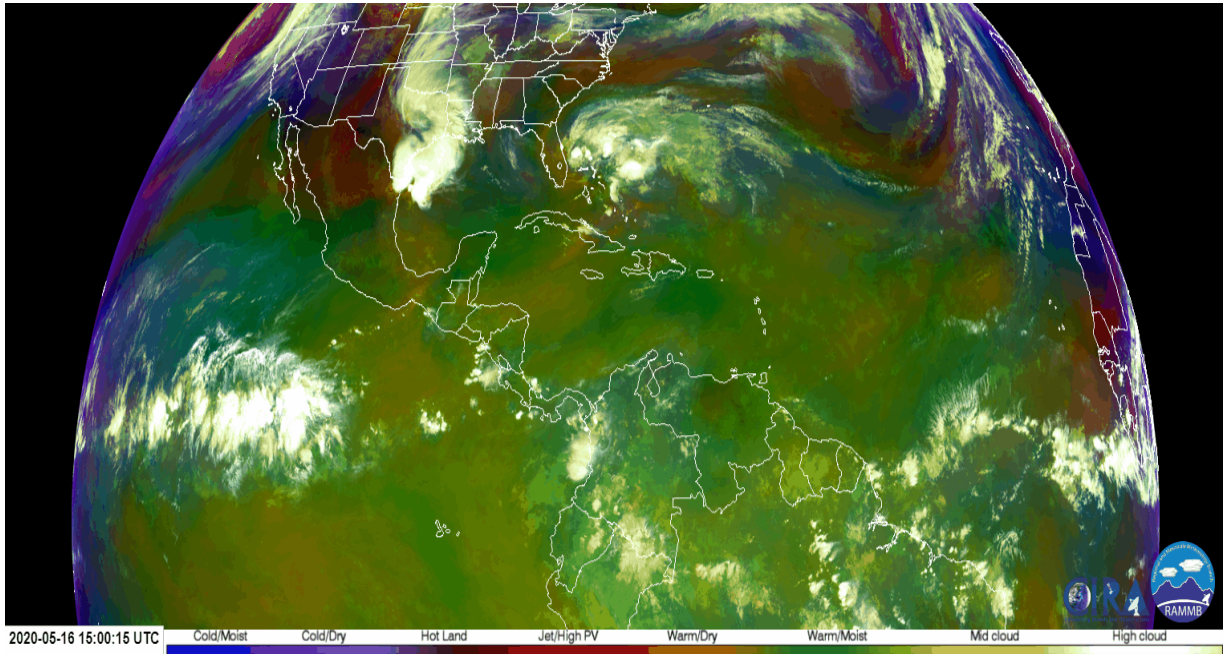
CIRA
RAMMB


2020-05-16 15:00:15 UTC
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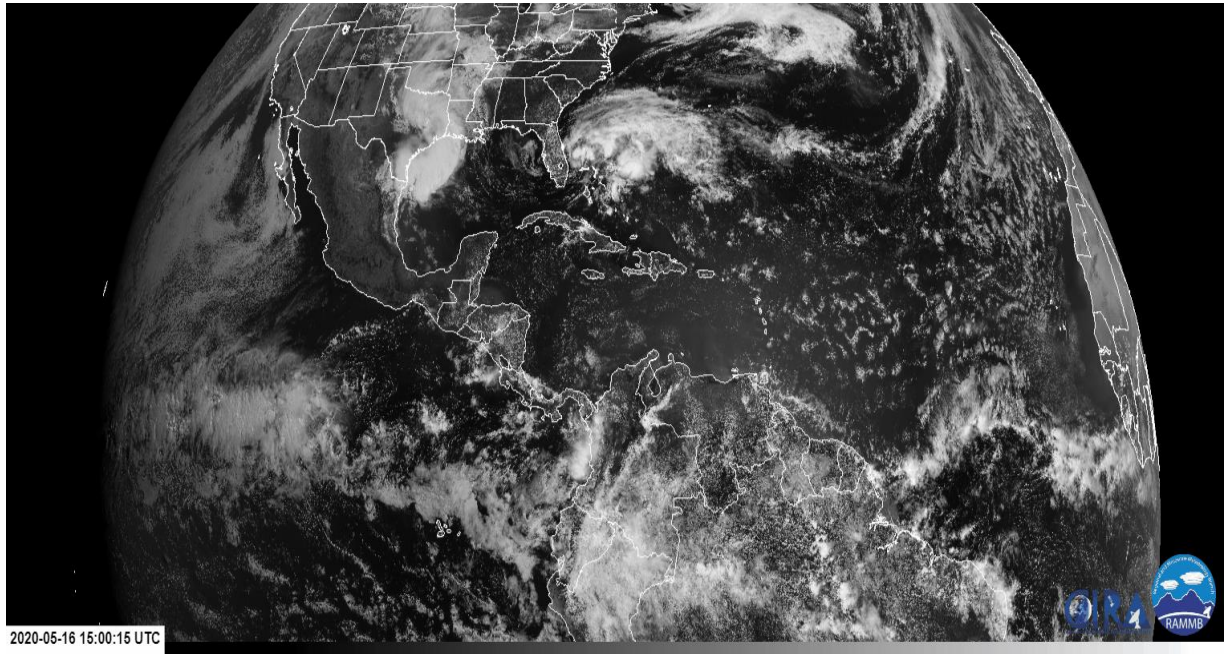
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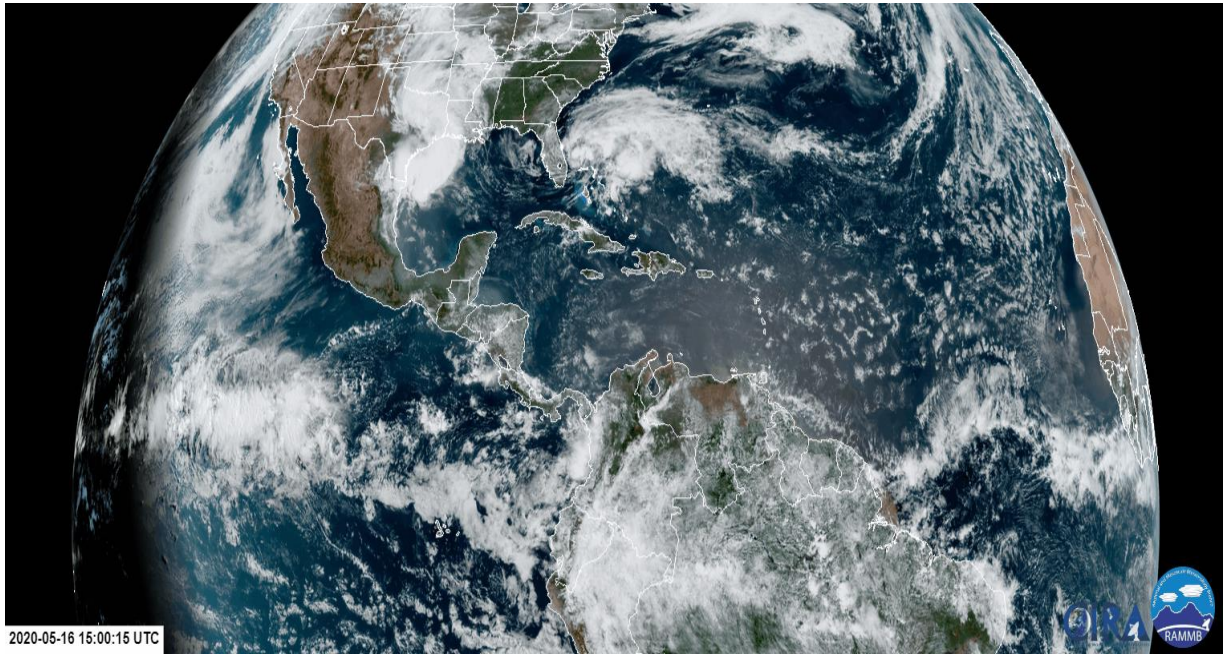
CIRA
RAMMB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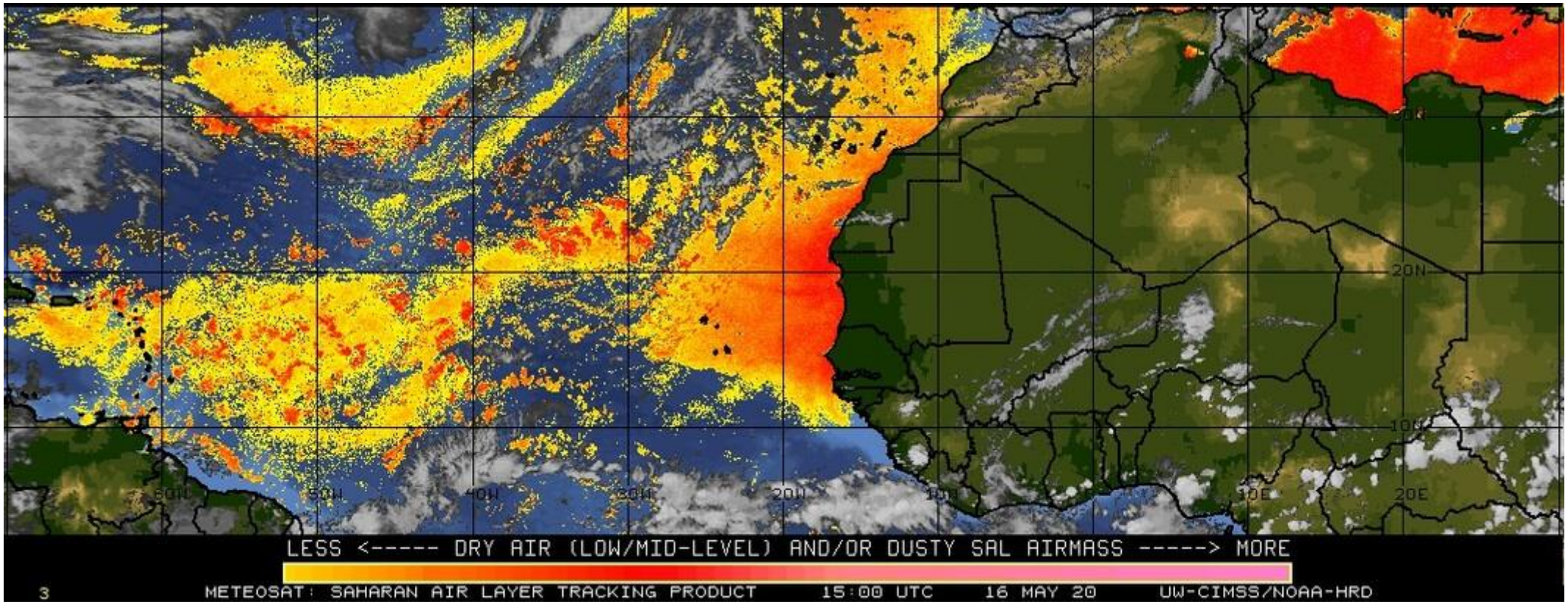
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15:00 UTC
16 MAY 20
UW-CIMSS/NOAA-HRD

Other Useful Products

- Pseudo-Natural Color
- DEBRA Dust Product
- CIRA Layered Precipitable Water MIMIC TPW
- Day/Night Band

- 0.47μm, 7.3μm
- NUCAPS Soundings
- Derived Motion Vectors (DMV)
- Aerosol Optical Depth
- Aerosol Detection

http://eumetrain.org/rgb_quick_guides/quick_guides/

http://rammb.cira.colostate.edu/training/visit/quick_guides/

Thank you!