

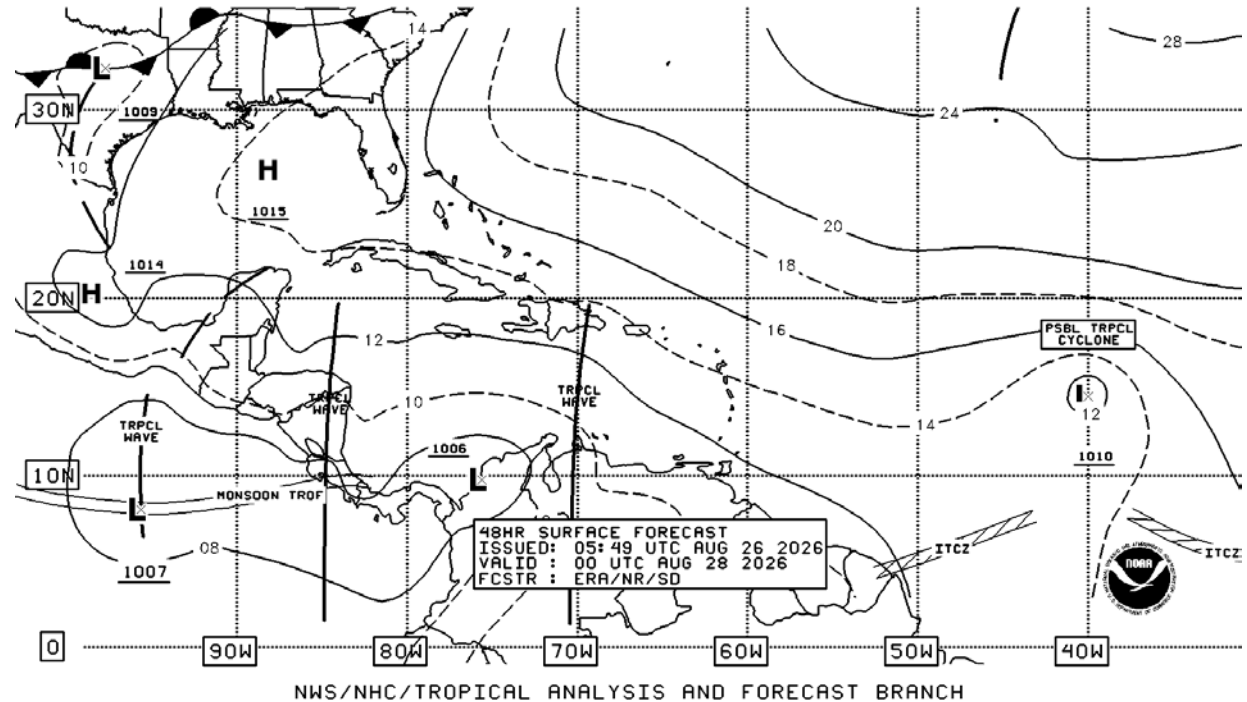
# SABRE Forecast Discussion 08/26/2026

## Surface Chart for Thursday Aug 27

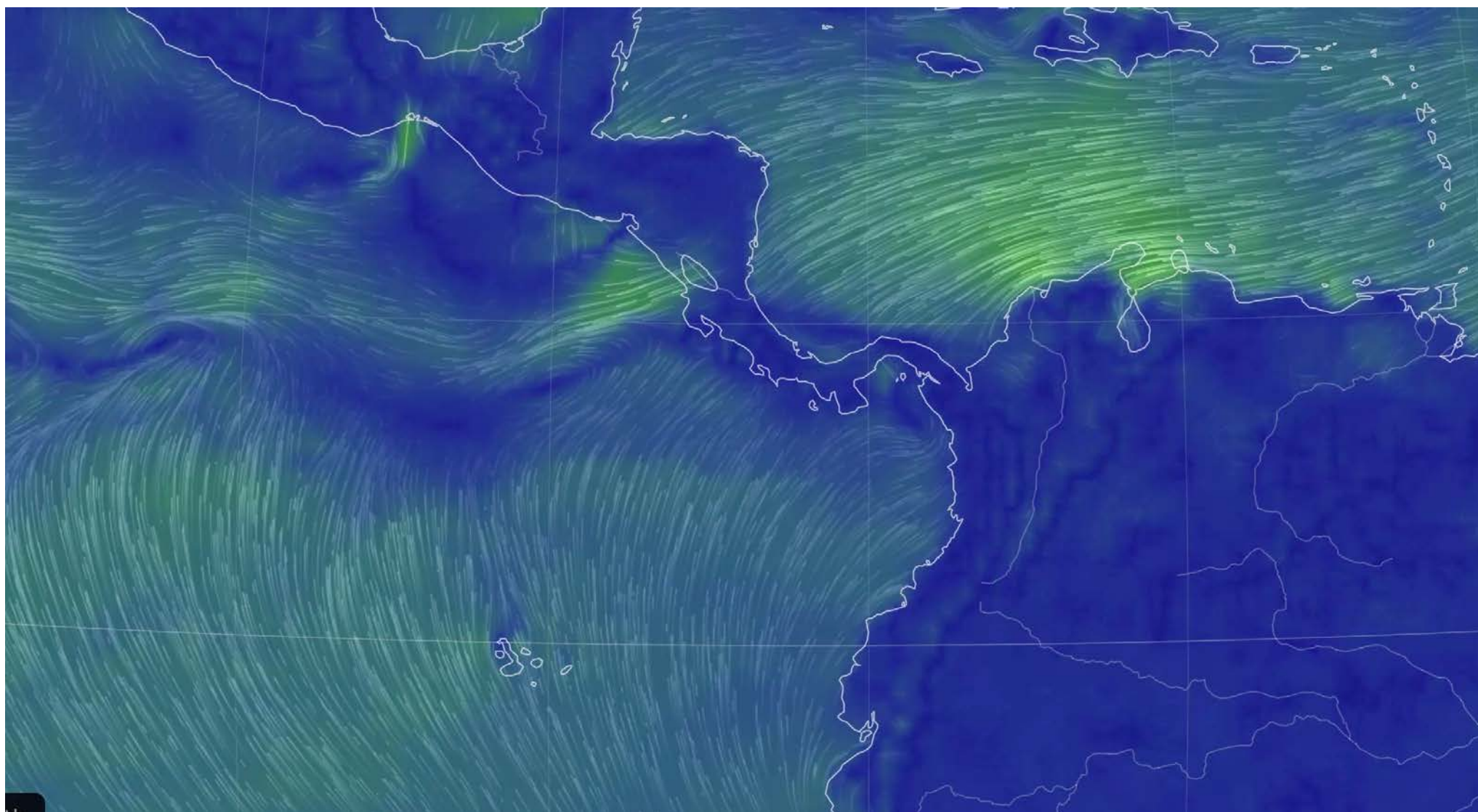
Tropical waves moving east to west.

The **monsoon trough** is a convergence zone between the wind patterns of the southern and northern hemispheres. It is a portion of the ITCZ in the Western Pacific.

Westerly monsoon winds lie in its equatorward portion while easterly trade winds exist poleward of the trough. Right along its axis, heavy rains can be found which usher in the peak of a location's respective rainy season.

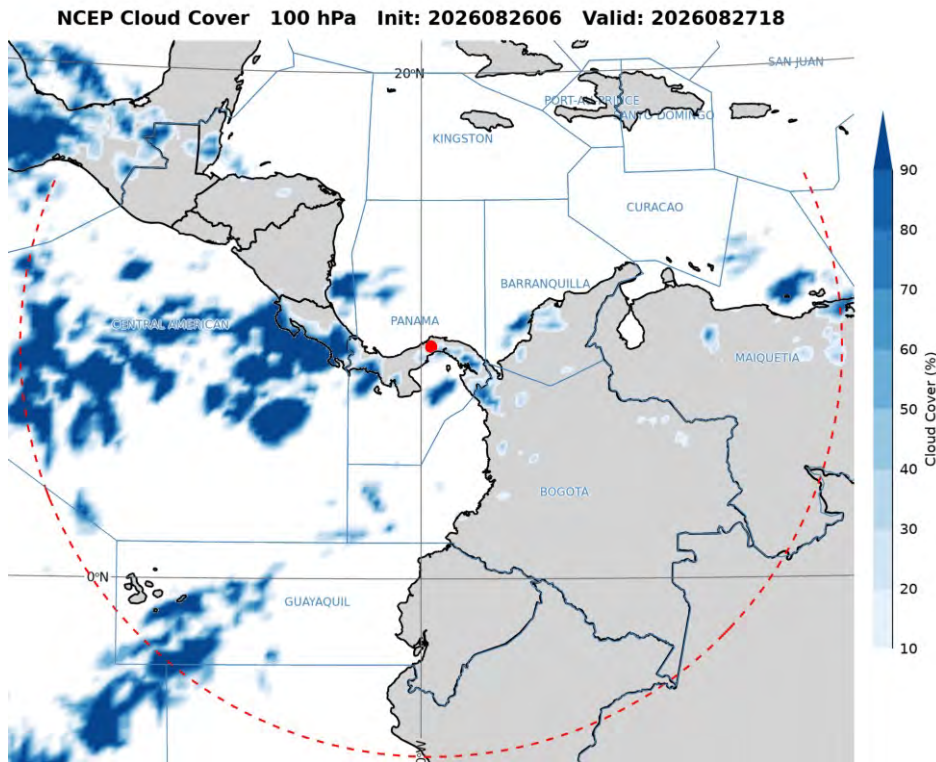


**Tropical wave passing across Panama from the east on Thursday; region of potential tropical cyclone forming to the far east**

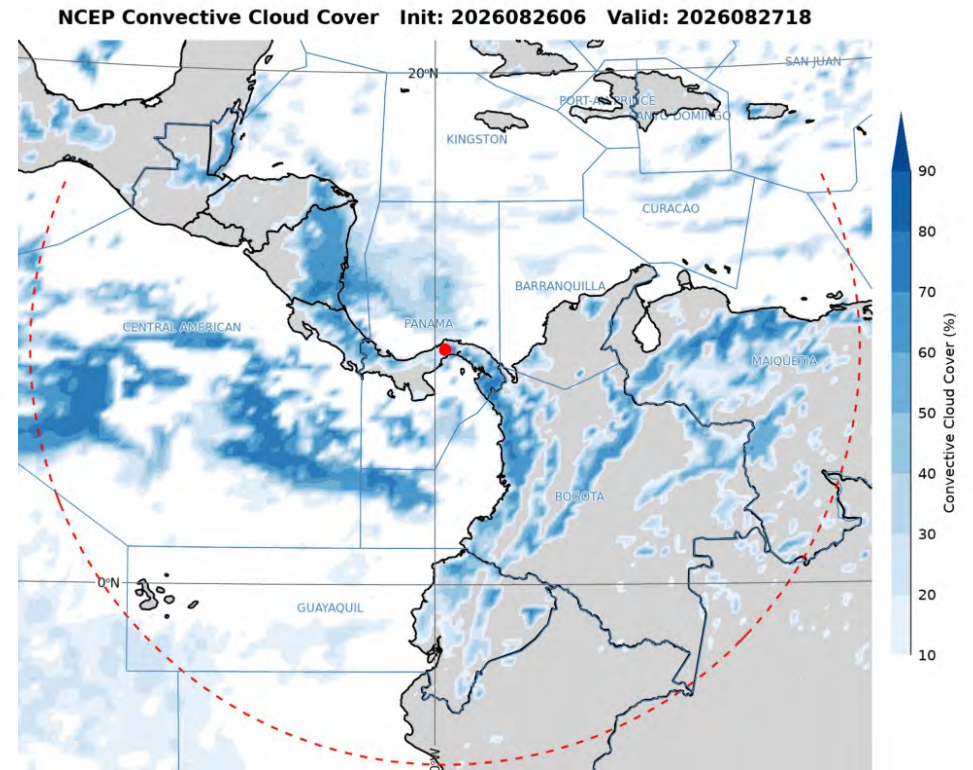


# Cloud Cover 18Z (1p local)

## Clouds at 100 hPa

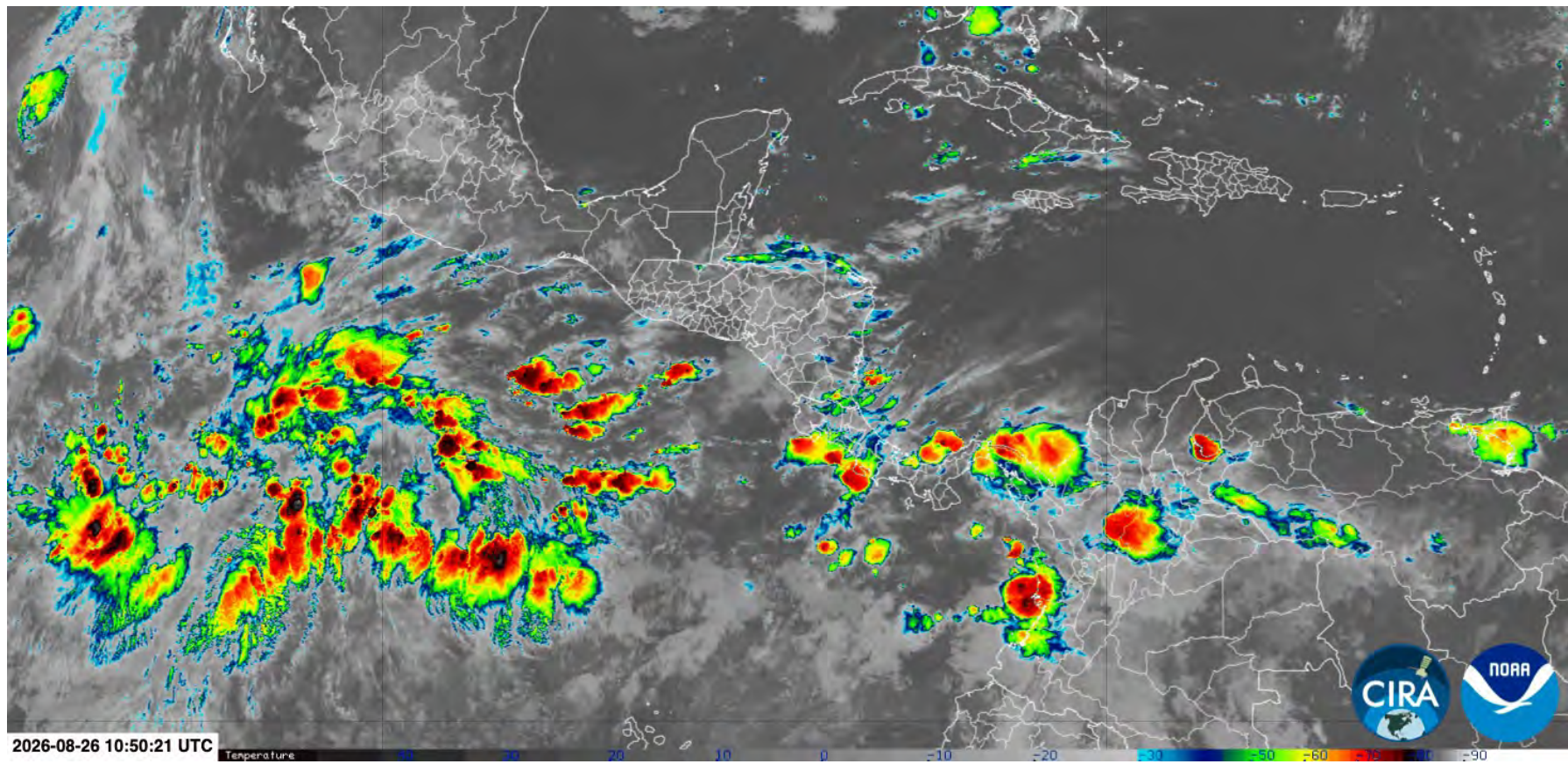


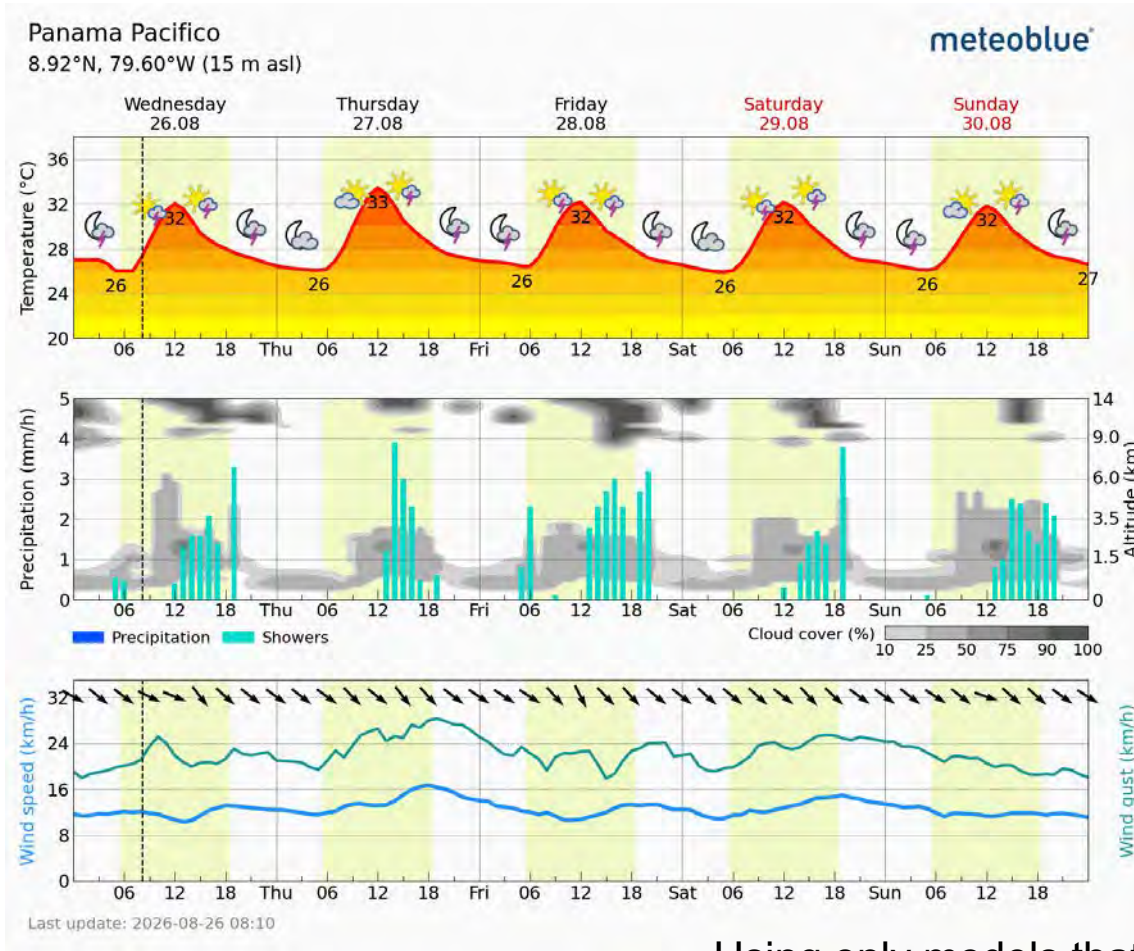
## Convective



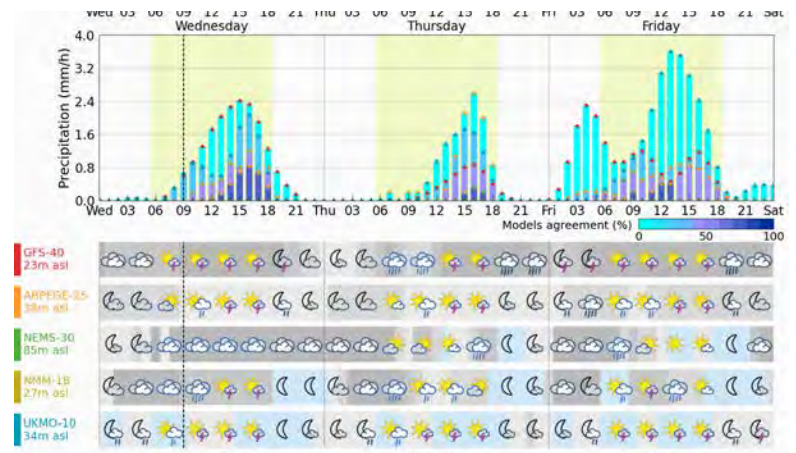
Convective activity collects along tropical wave axes, while high cloud cover follows the monsoon trough.

# Today's Visible Satellite Images





Same general weather patterns on potential science flight days (Thursday and Saturday). Both Thursday and Saturday have some chance of afternoon t-storms.



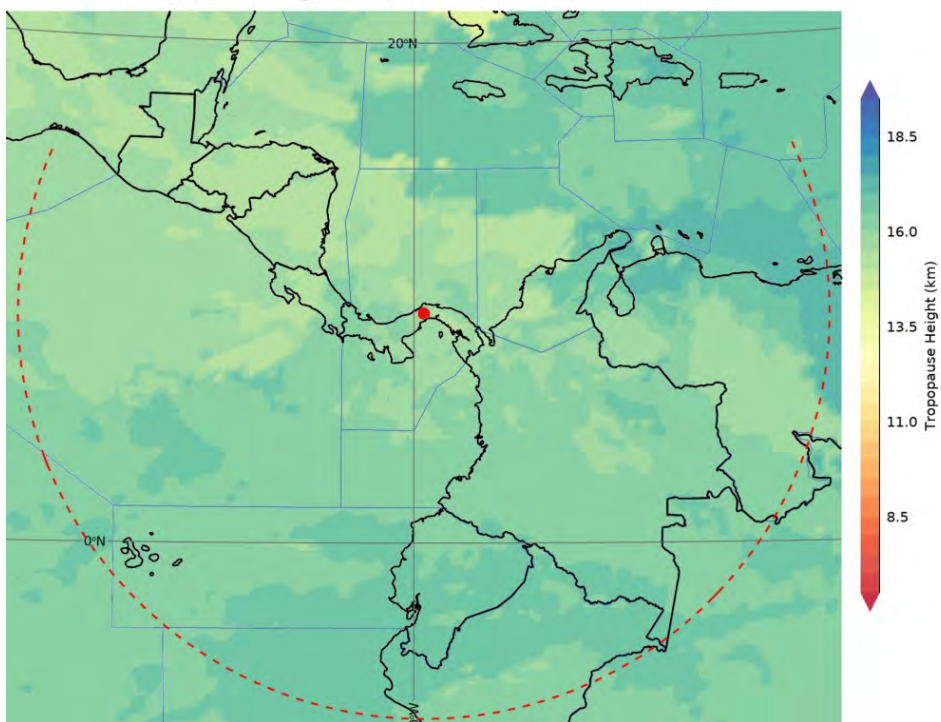
Using only models that seem to have more reasonable forecasts, chances for rain Thursday at MPPA are less than today, peaking around 3-4p.

# Upper Level Forecasts for Thursday 8/27/2026

# Tropopause 15Z (10a local)

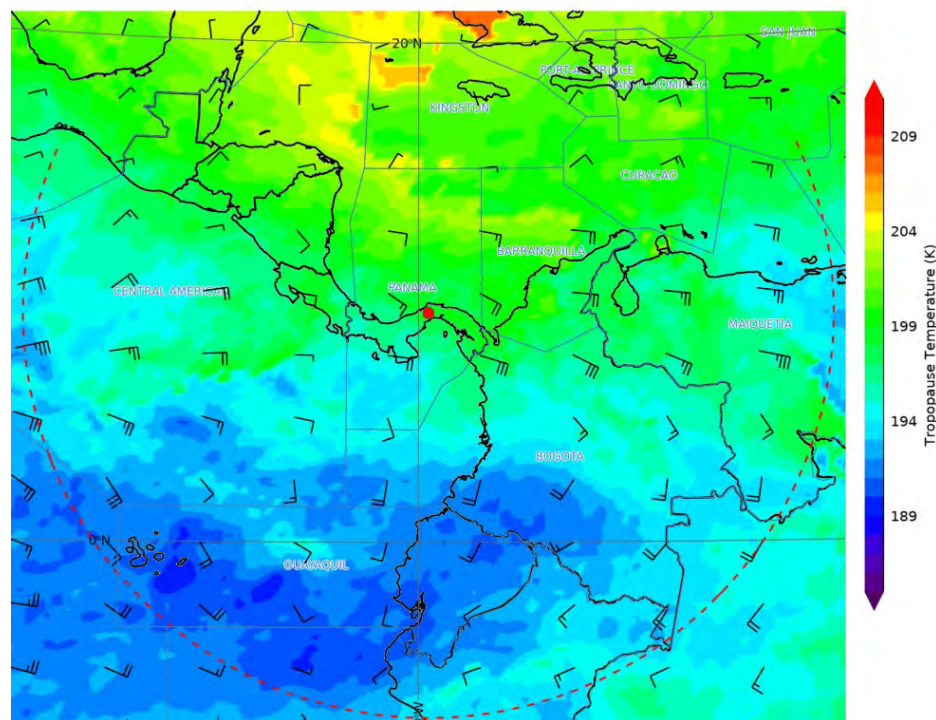
## Pressure

NCEP Tropopause Height Init: 2026082606 Valid: 2026082715



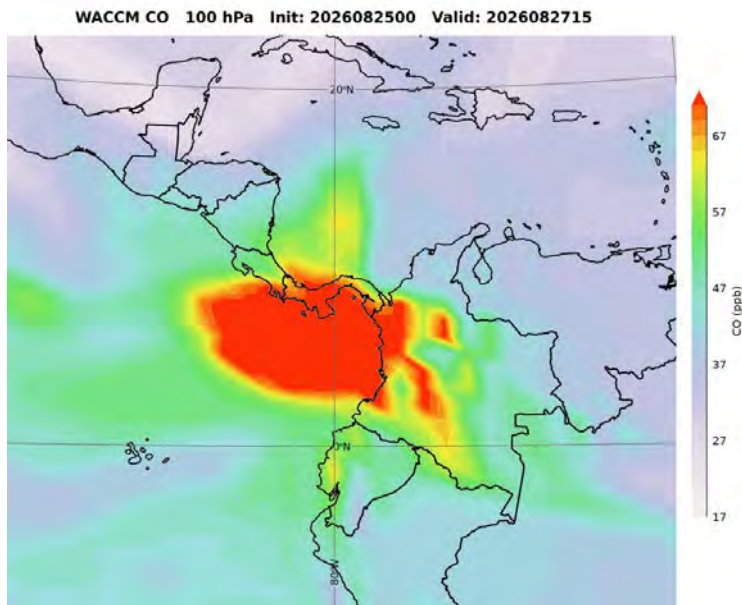
## Temperature & 100 mb winds

NCEP Tropopause Temperature Init: 2026082606 Valid: 2026082715

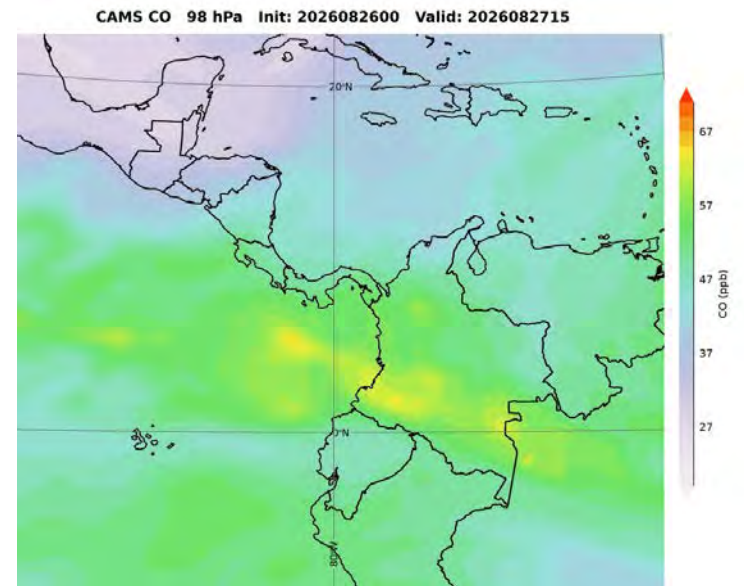


Region of higher tropopause heights to the NE. Tropopause temperatures get much colder to the south.

# CO@100 hPa



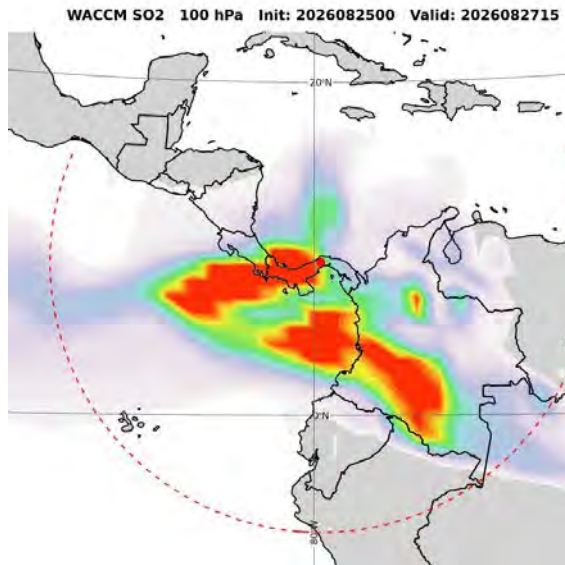
WACCM



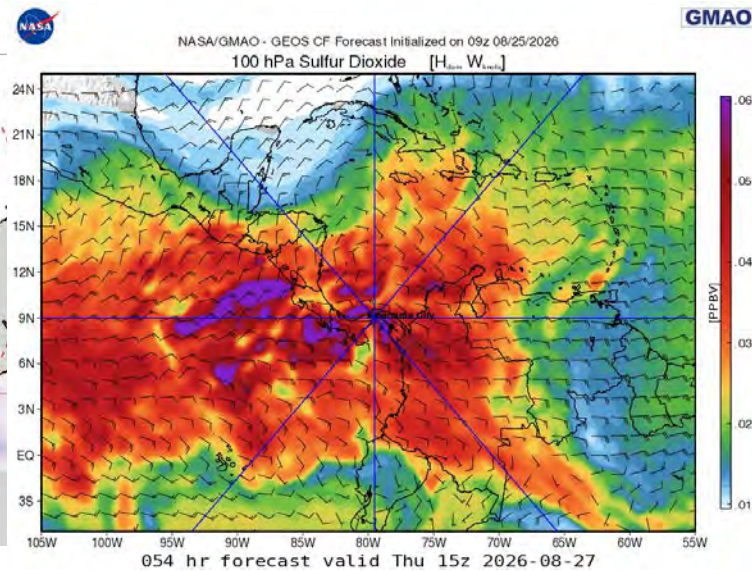
CAM

GEOS

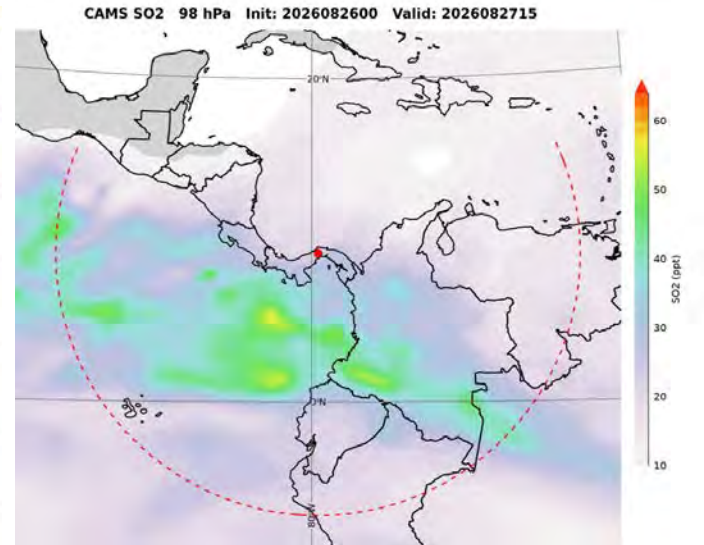
# SO<sub>2</sub>@100 hPa



WACCM



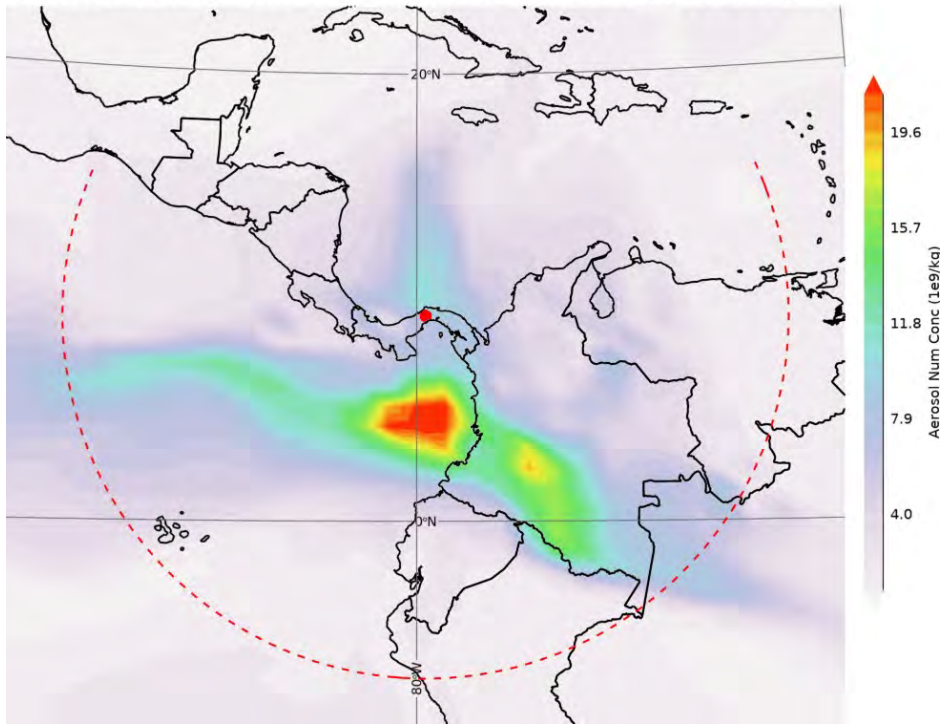
GEOS



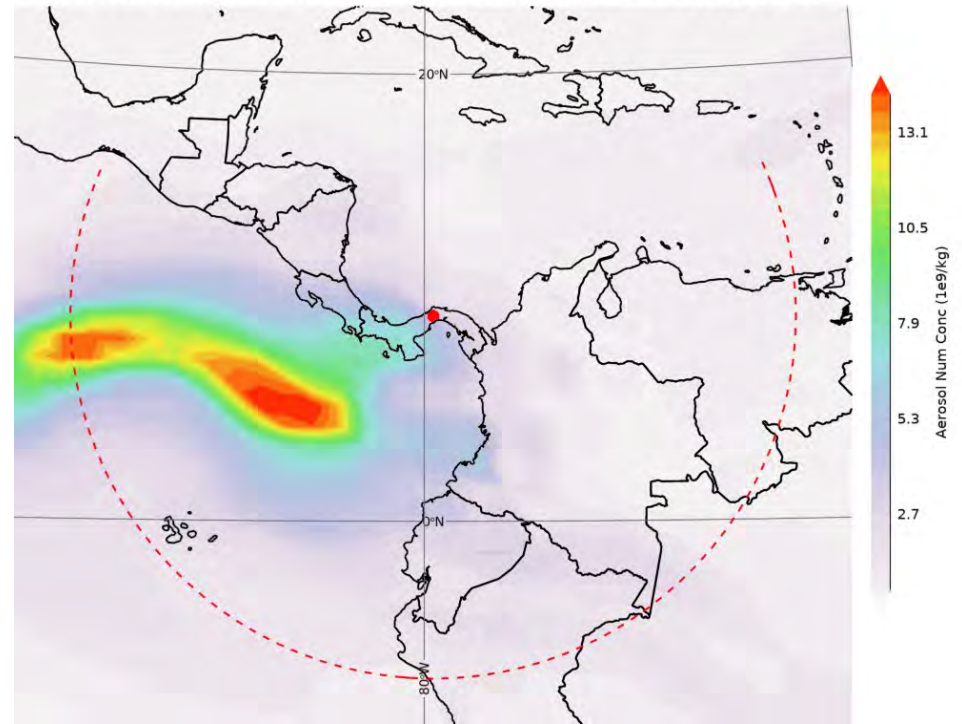
CAMS

# Aerosol Number Concentration

WACCM Aerosol Num Conc 100 hPa Init: 2026082500 Valid: 2026082715

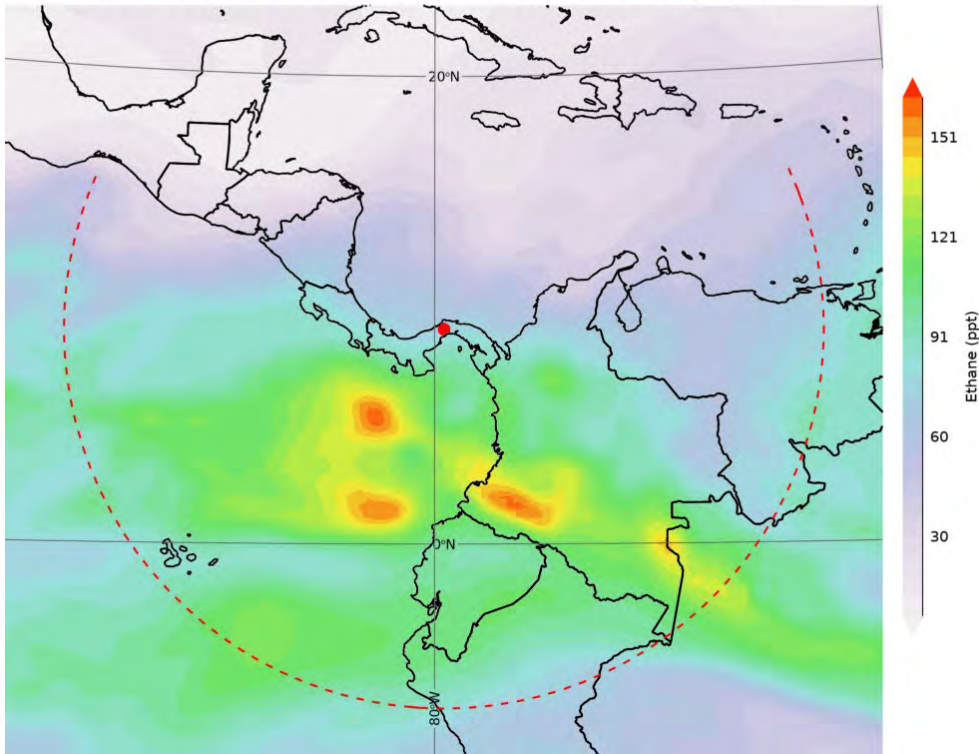


WACCM Aerosol Num Conc 85 hPa Init: 2026082500 Valid: 2026082715

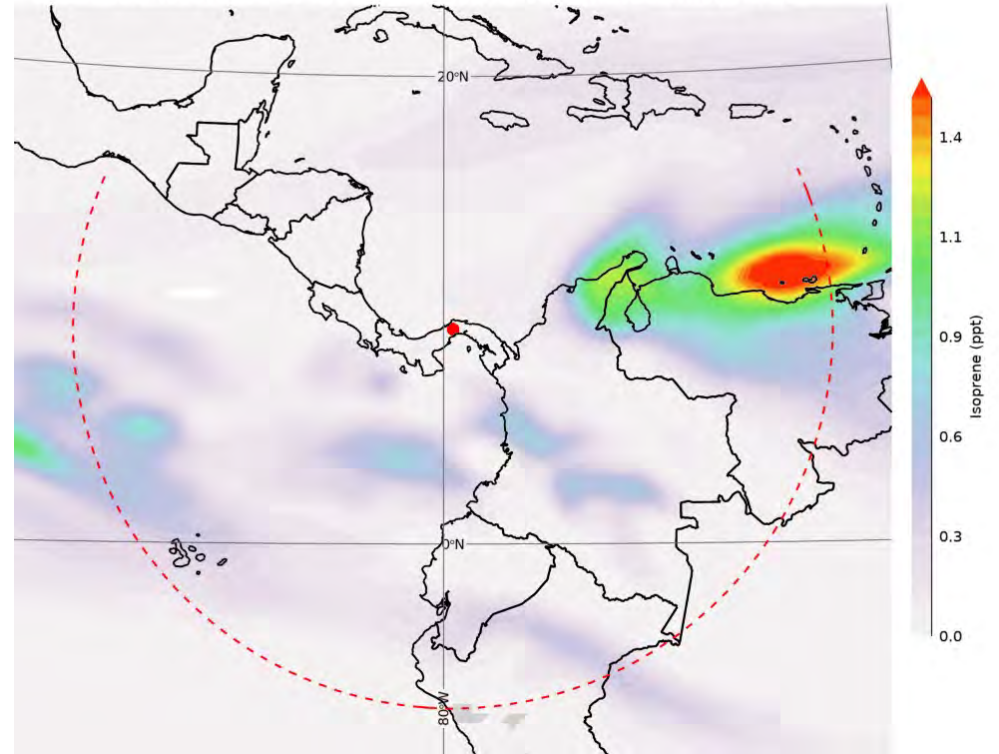


# Short-lived tracers

CAMS Ethane 98 hPa Init: 2026082600 Valid: 2026082715

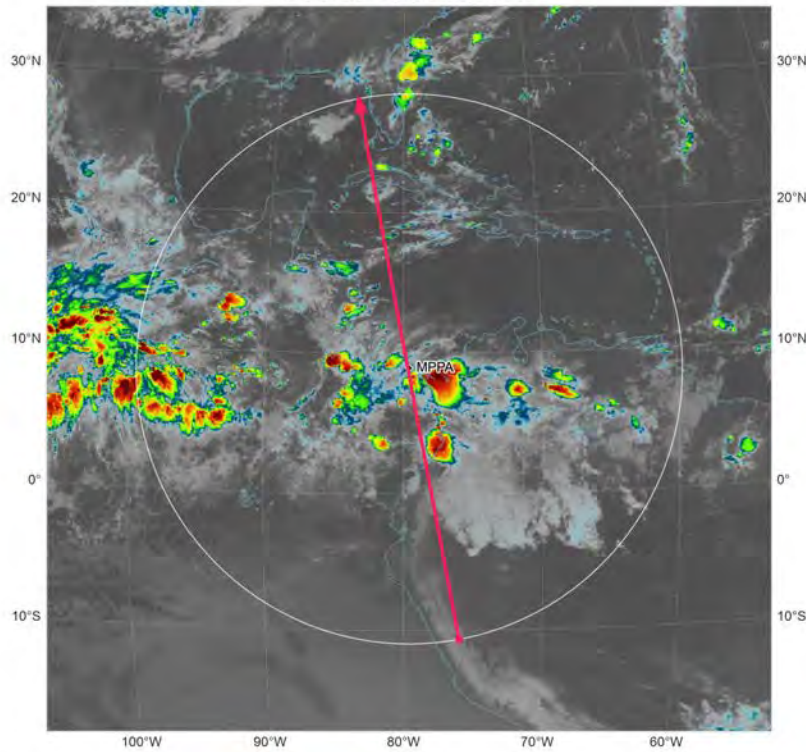


CAMS Isoprene 83 hPa Init: 2026082600 Valid: 2026082715

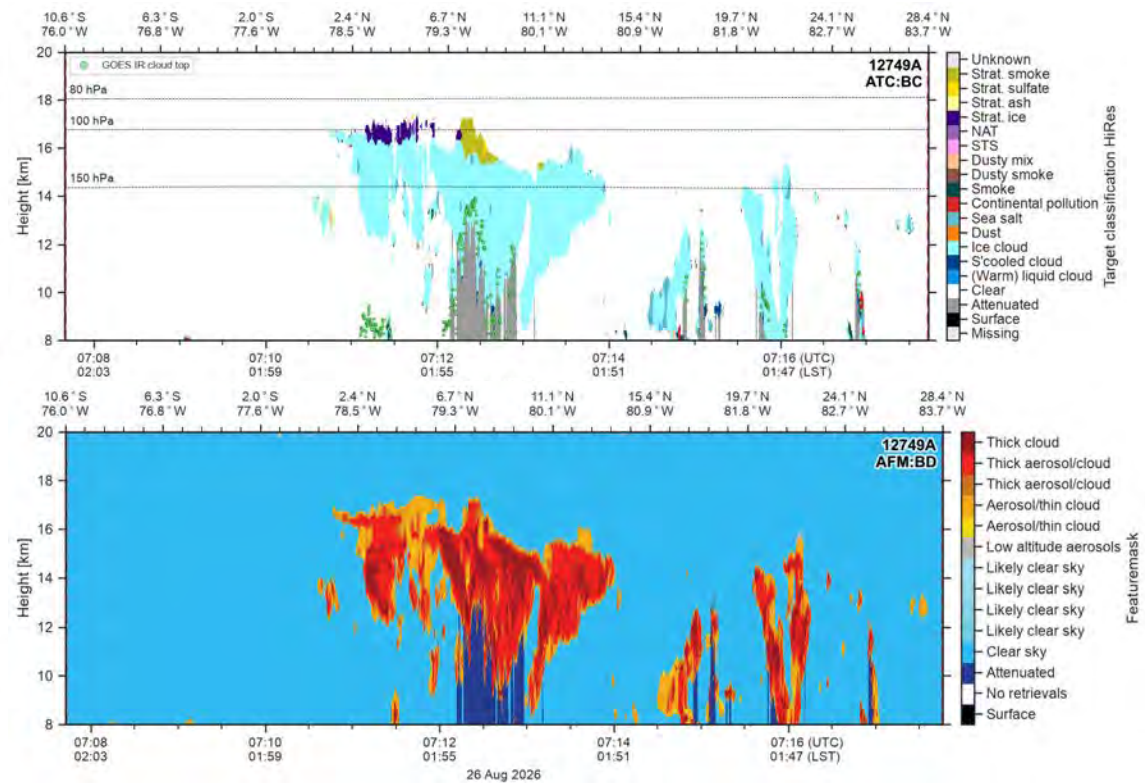


# Recent Earthcare passes

2026-08-26 07:12 UTC

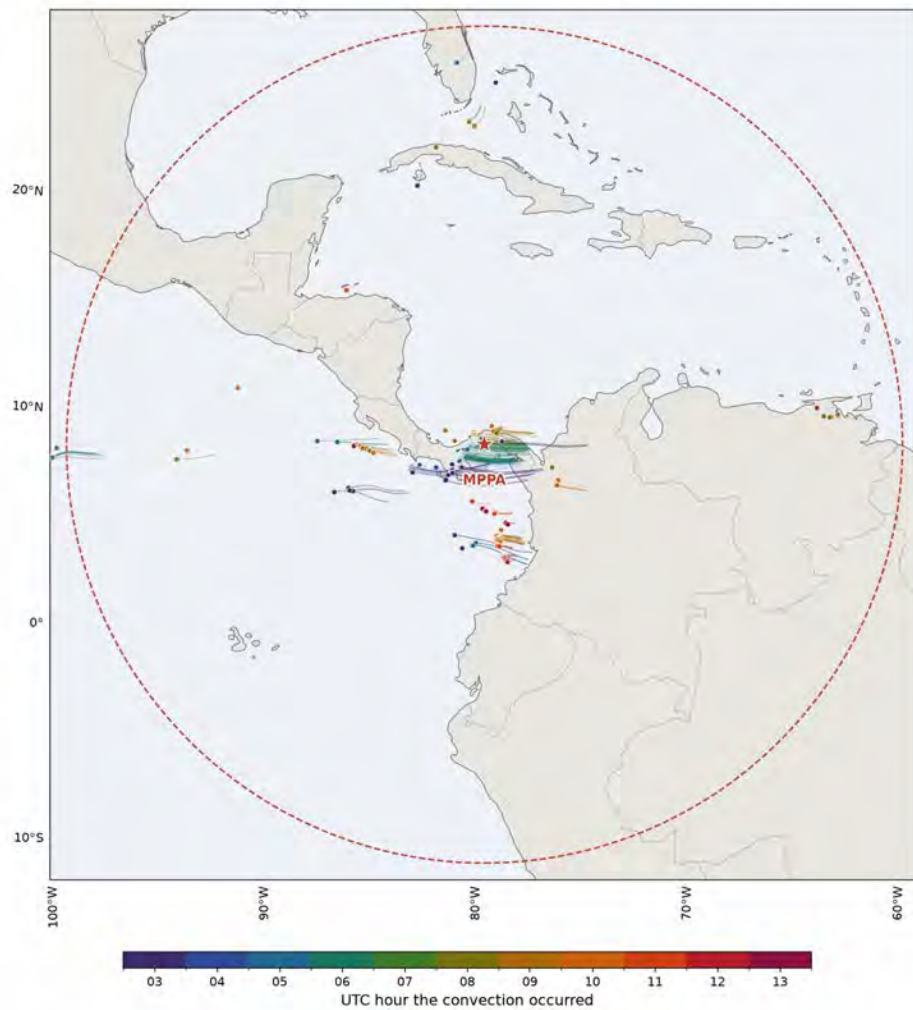


GOES-19 band 13 brightness temperature [K] scan 07:10Z (-2 min from overpass)



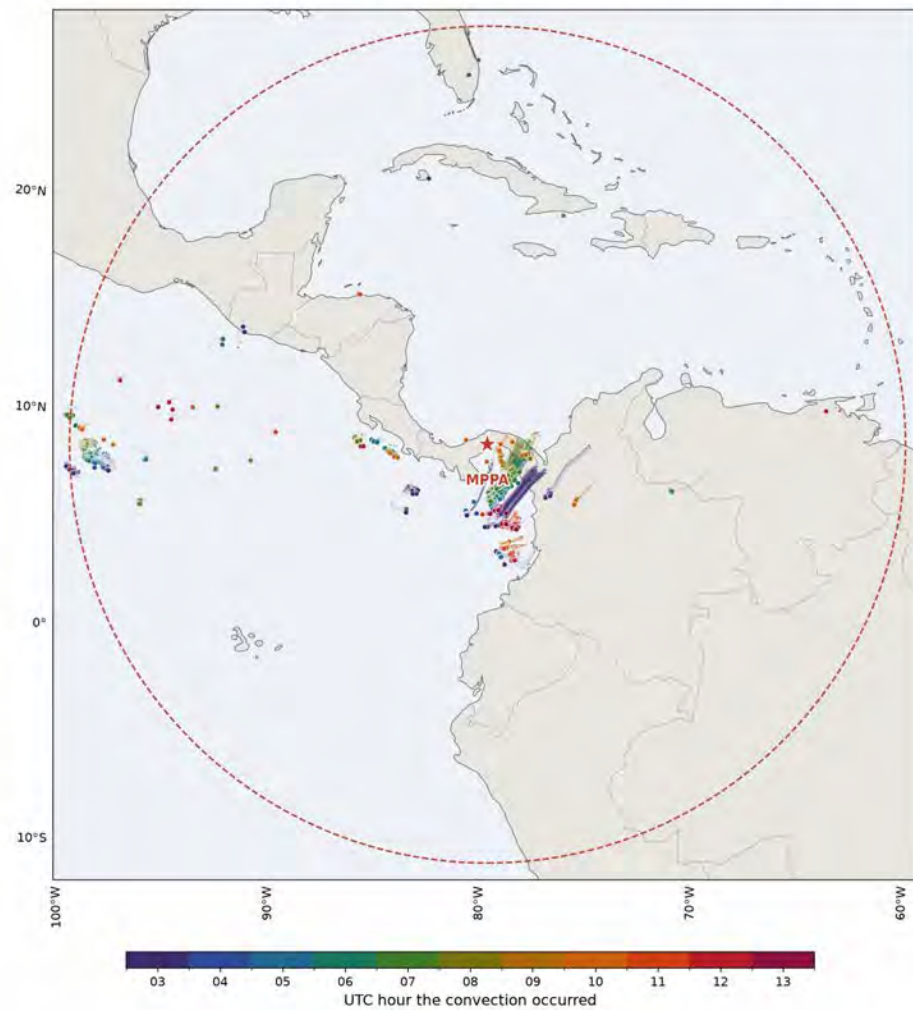
### Convective outflow at 90 hPa — 2026-08-26 14:00Z

air injected by deep convection between 08-26 03:00Z and 08-26 14:00Z, advected to a common valid time  
tops 80-100 hPa, every pixel | 889 source px | 889 parcels, run 0.5-11.0 h | CAMS 08-26 00Z Init, +3 to +14 h



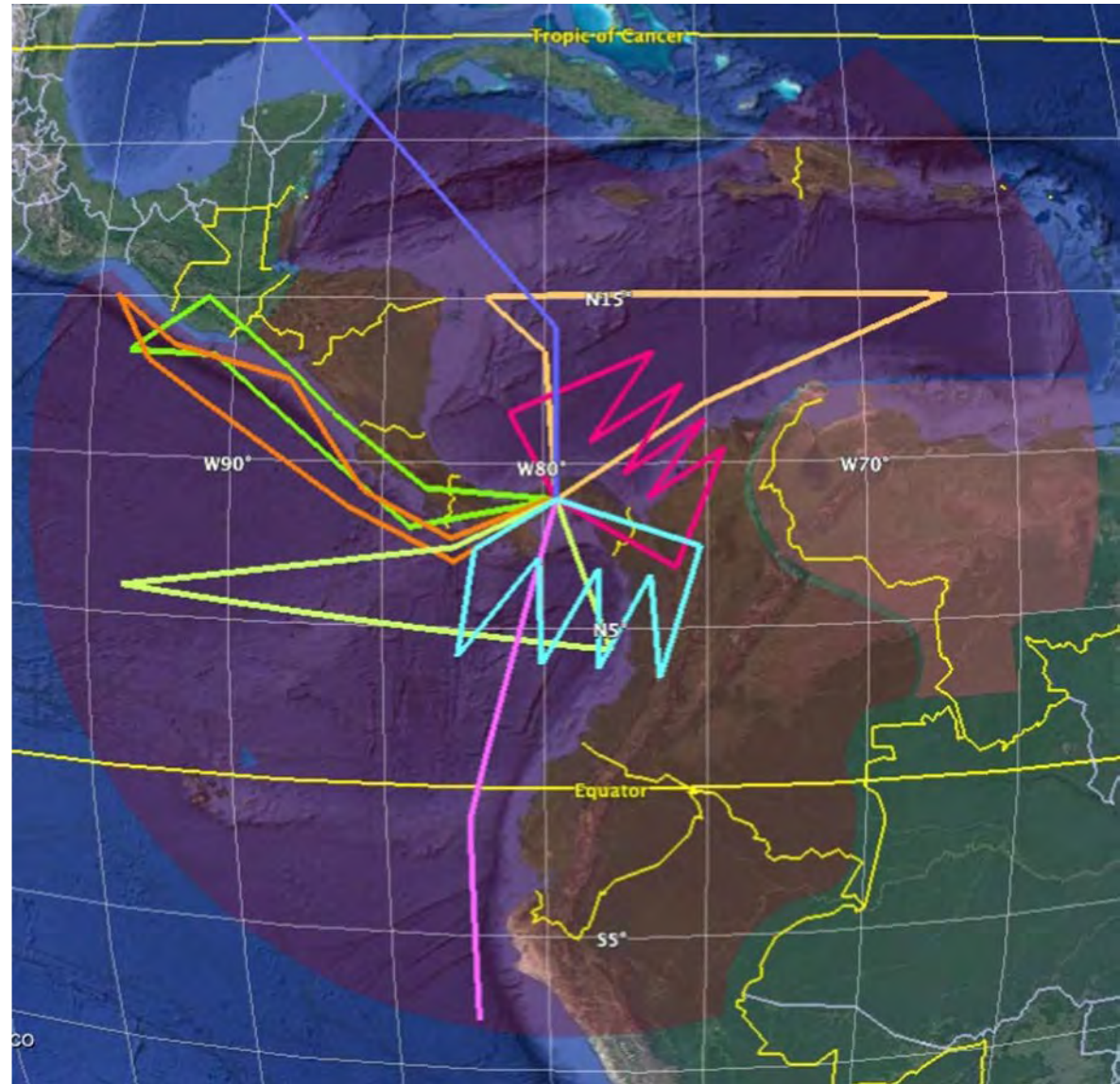
### Convective outflow at 100 hPa — 2026-08-26 14:00Z

air injected by deep convection between 08-26 03:00Z and 08-26 14:00Z, advected to a common valid time  
tops 90-110 hPa, 1 px in 4 | 4,036 source px | 1022 parcels, run 0.5-11.0 h | CAMS 08-26 00Z Init, +3 to +14 h



# SABRE Tropics Flight Plan Options

1. Vertical gradients through the TTL into the LS (under 'background' conditions and in outflow)
2. Near-field continental deep convective outflow
3. Aged outflow from deep continental convection (and/or longitudinal sampling if we can manage)
4. Marine deep ( $> \sim 14.5$  km) convective outflow
5. Sampling of long-range transport from ASM/WAM crossing the Atlantic
6. Cross-ITCZ/equator flights for inter-hemispheric tropical comparison/gradients



# Flight plan

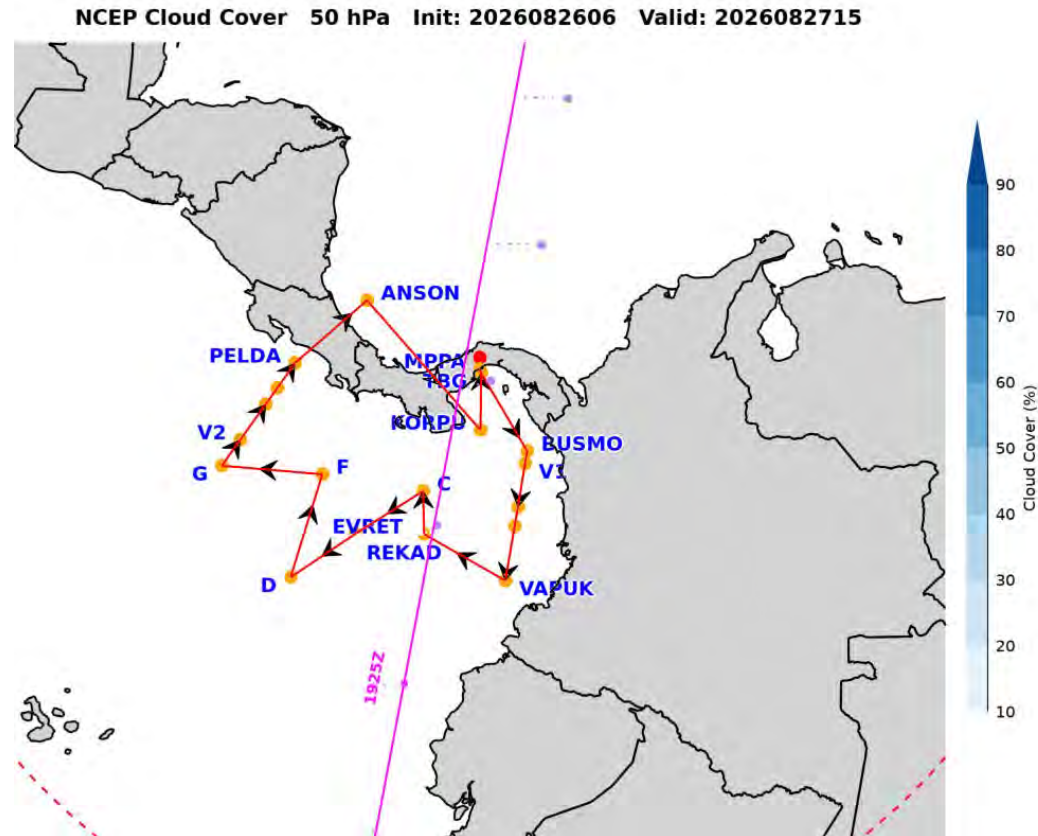
## Targets

3. Aged outflow from deep continental convection (and/or longitudinal sampling if we can manage)
4. Marine deep ( $> \sim 14.5$  km) convective outflow

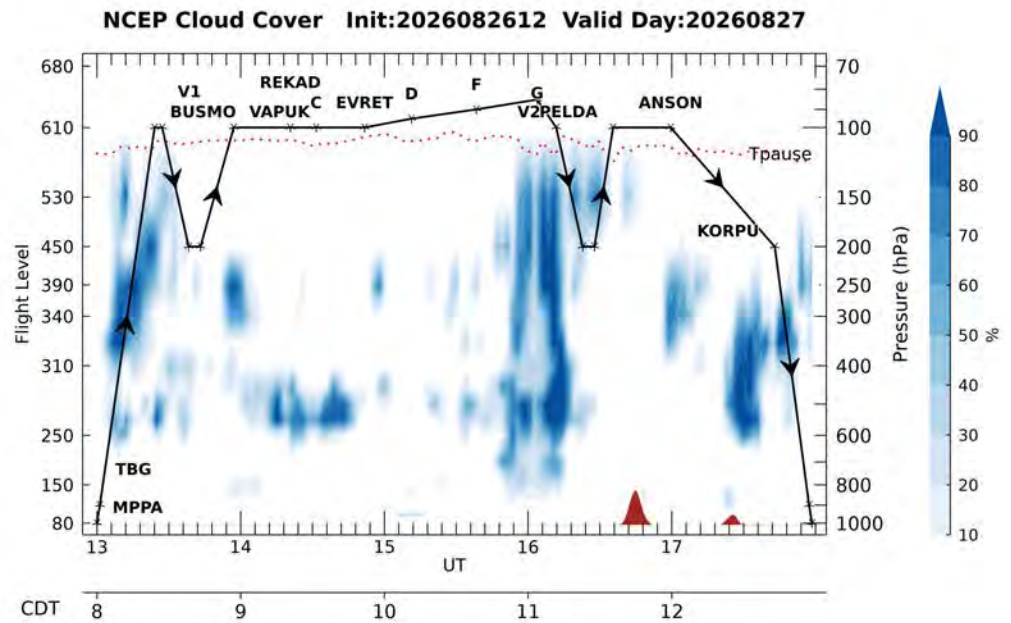
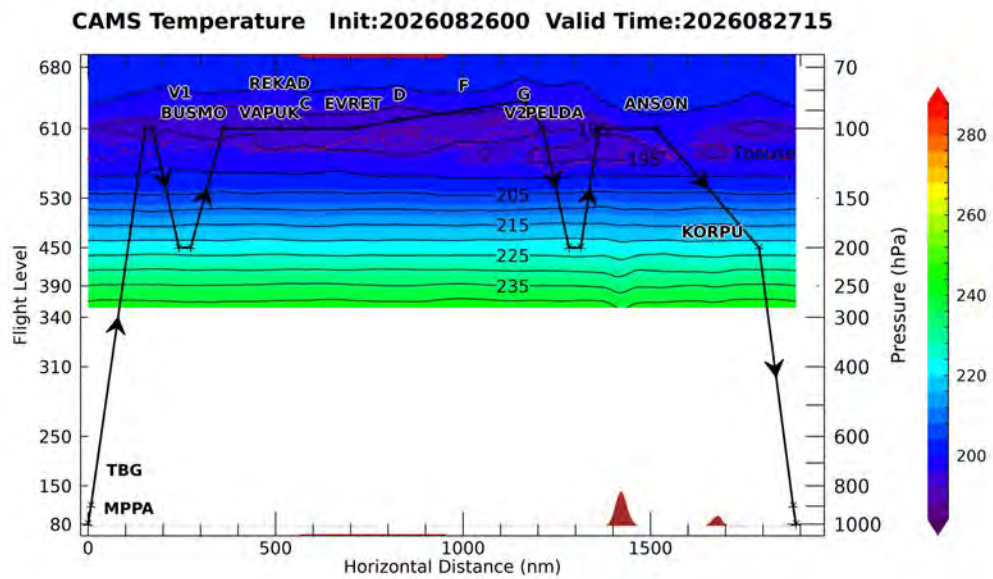
## Bonus Targets

- Some alignment with Earthcare track
- Possible volcanic  $\text{SO}_2$  near Costa Rica

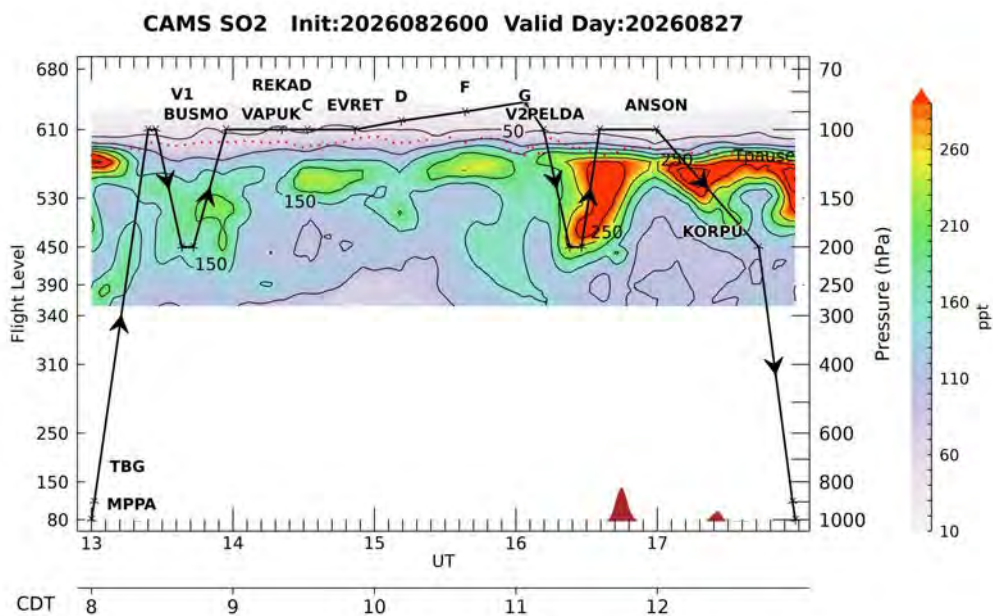
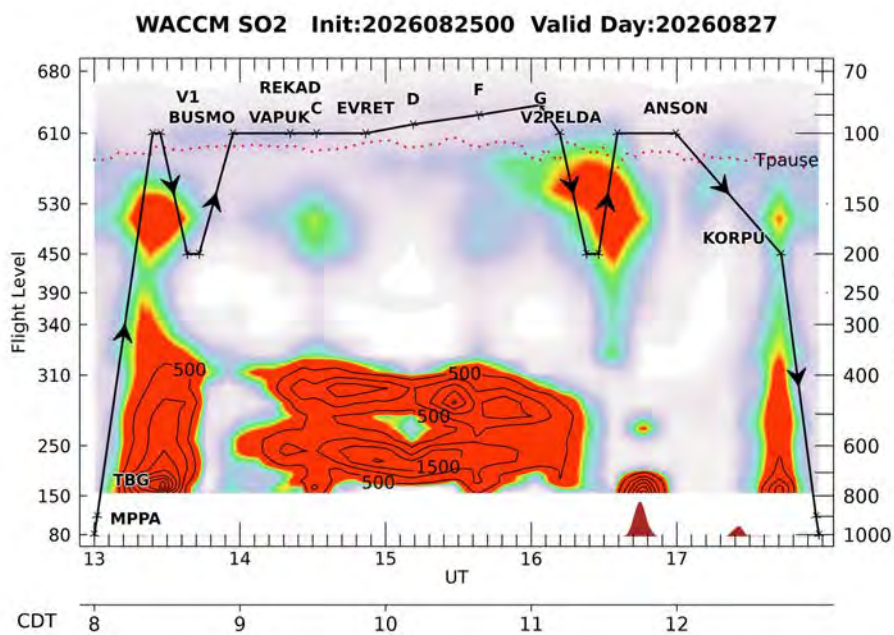
Planned 8a takeoff



# Vertical Profiles

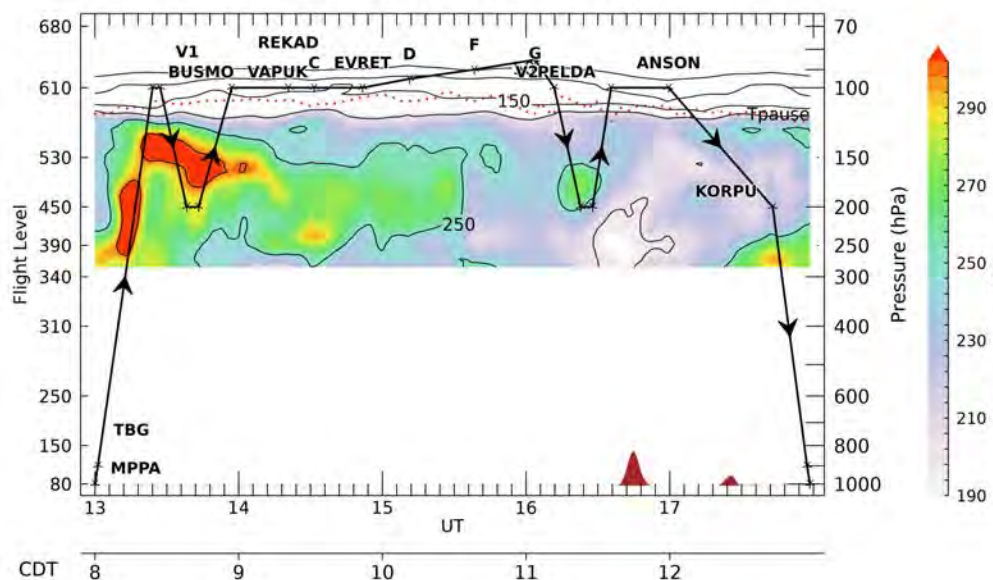


# Vertical Profiles

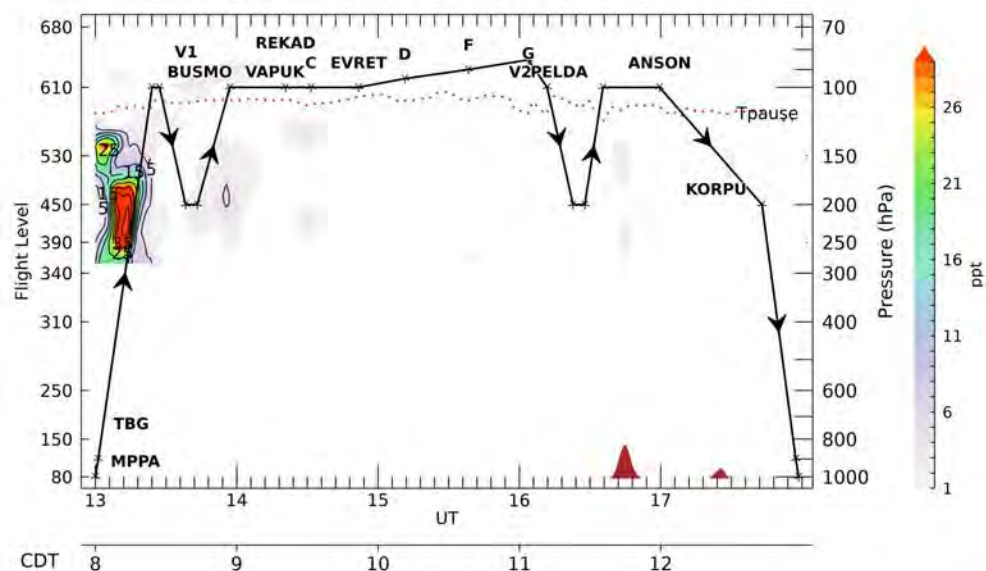


# Vertical Profiles

CAMS Ethane Init:2026082600 Valid Day:20260827

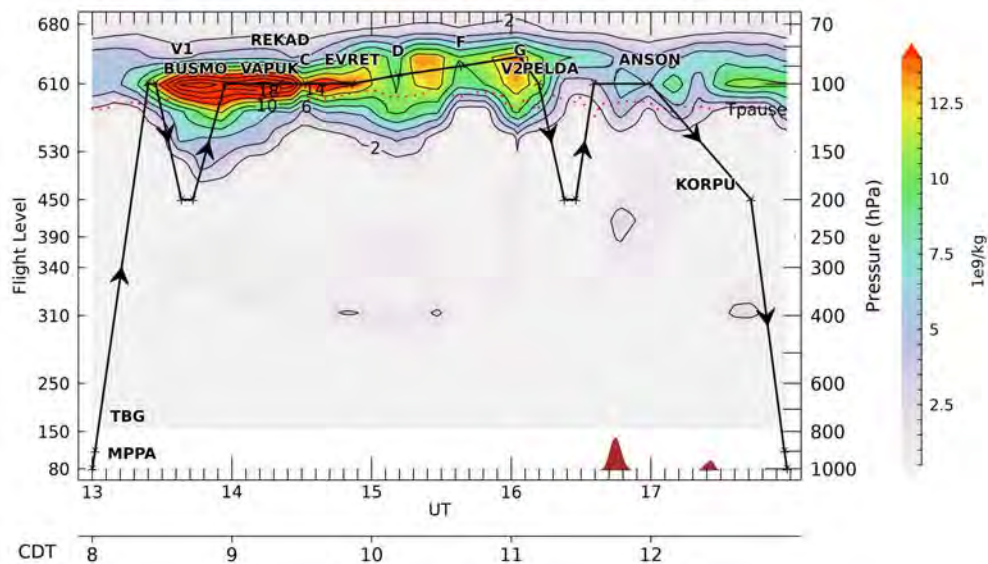


CAMS Isoprene Init:2026082600 Valid Day:20260827



# Vertical Profiles

WACCM Aerosol Num Conc Init:2026082500 Valid Day:20260827



WACCM Sulfate Init:2026082500 Valid Day:20260827

