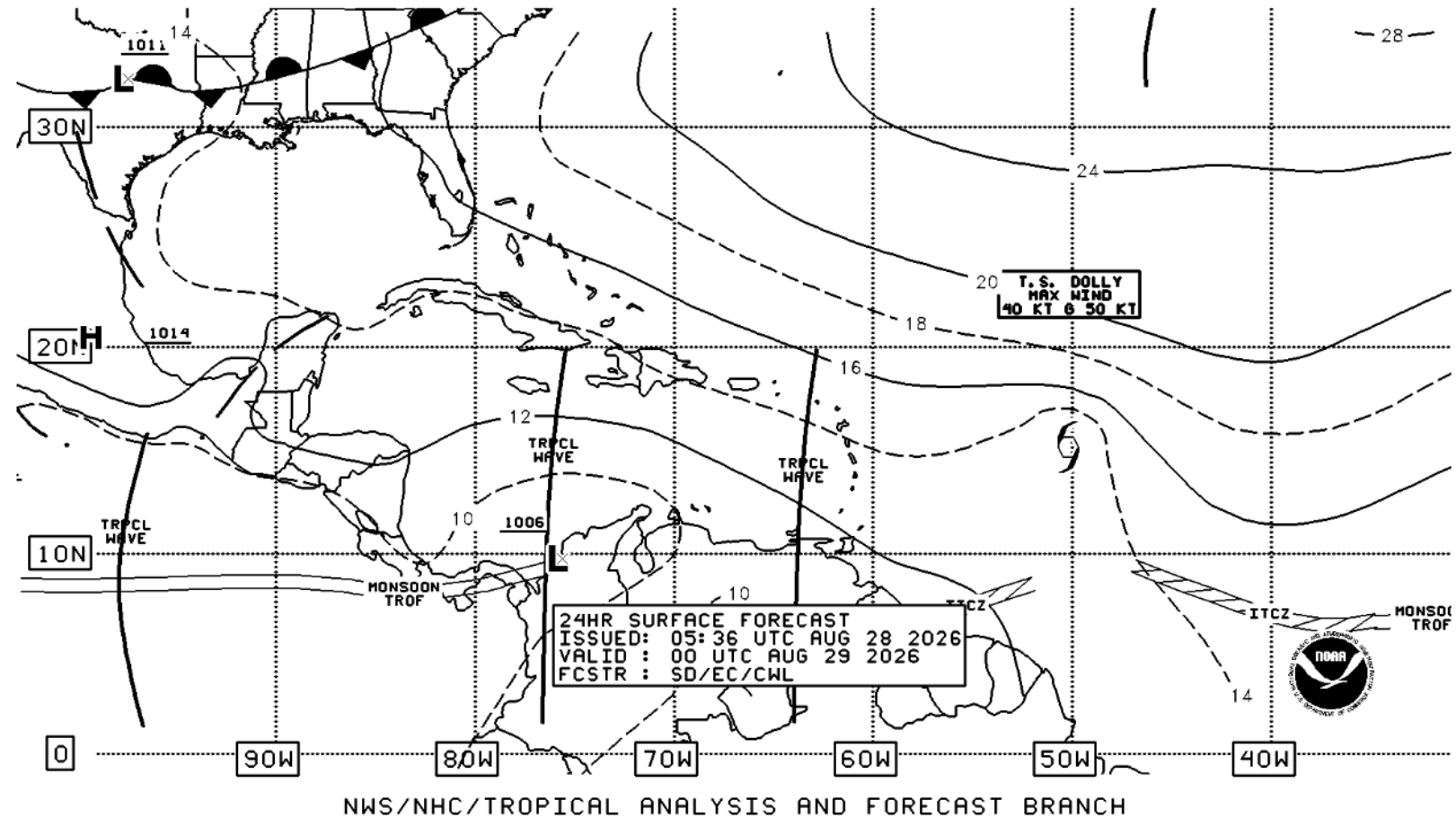


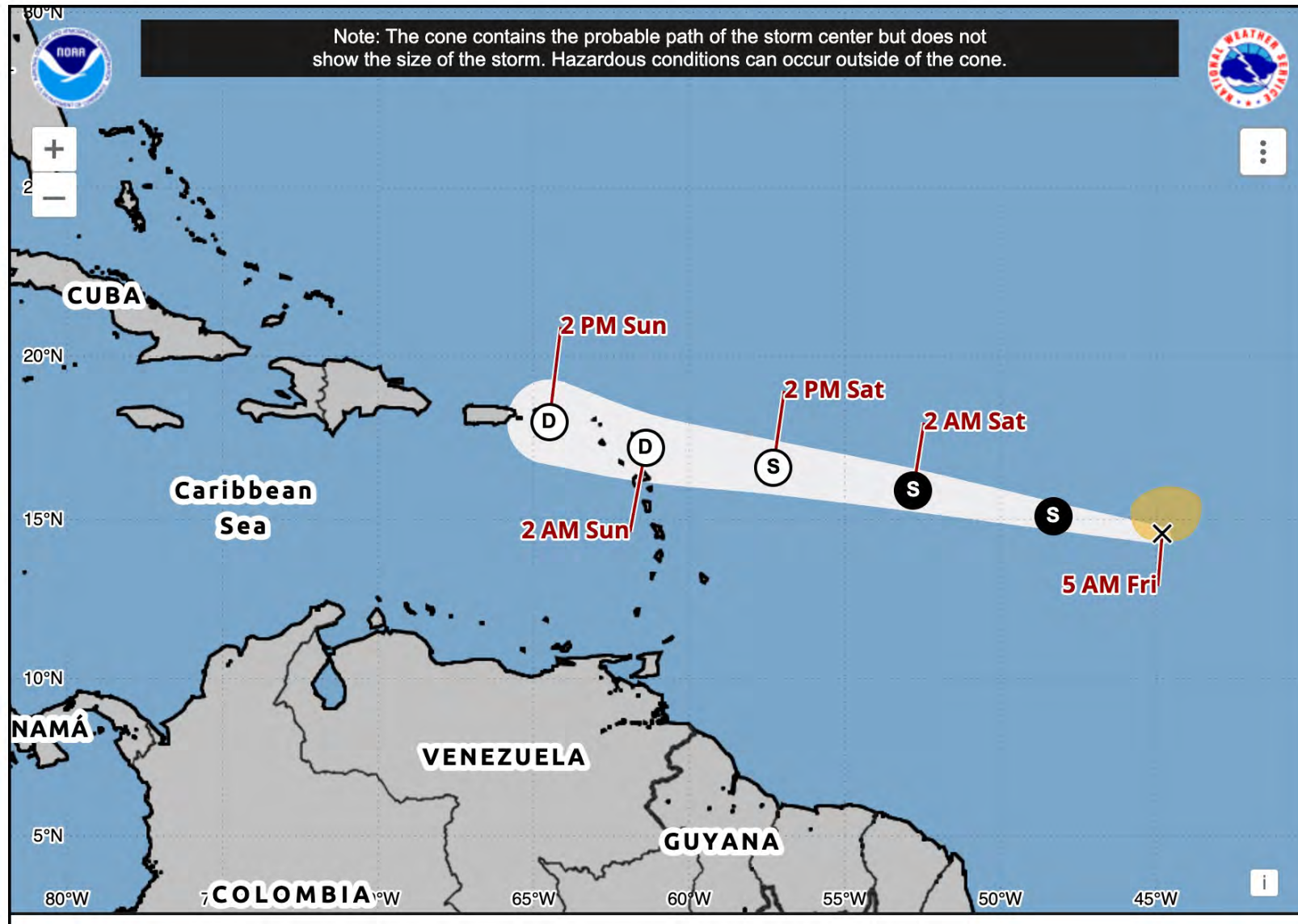
SABRE Forecast Discussion 08/28/2026

Surface Chart

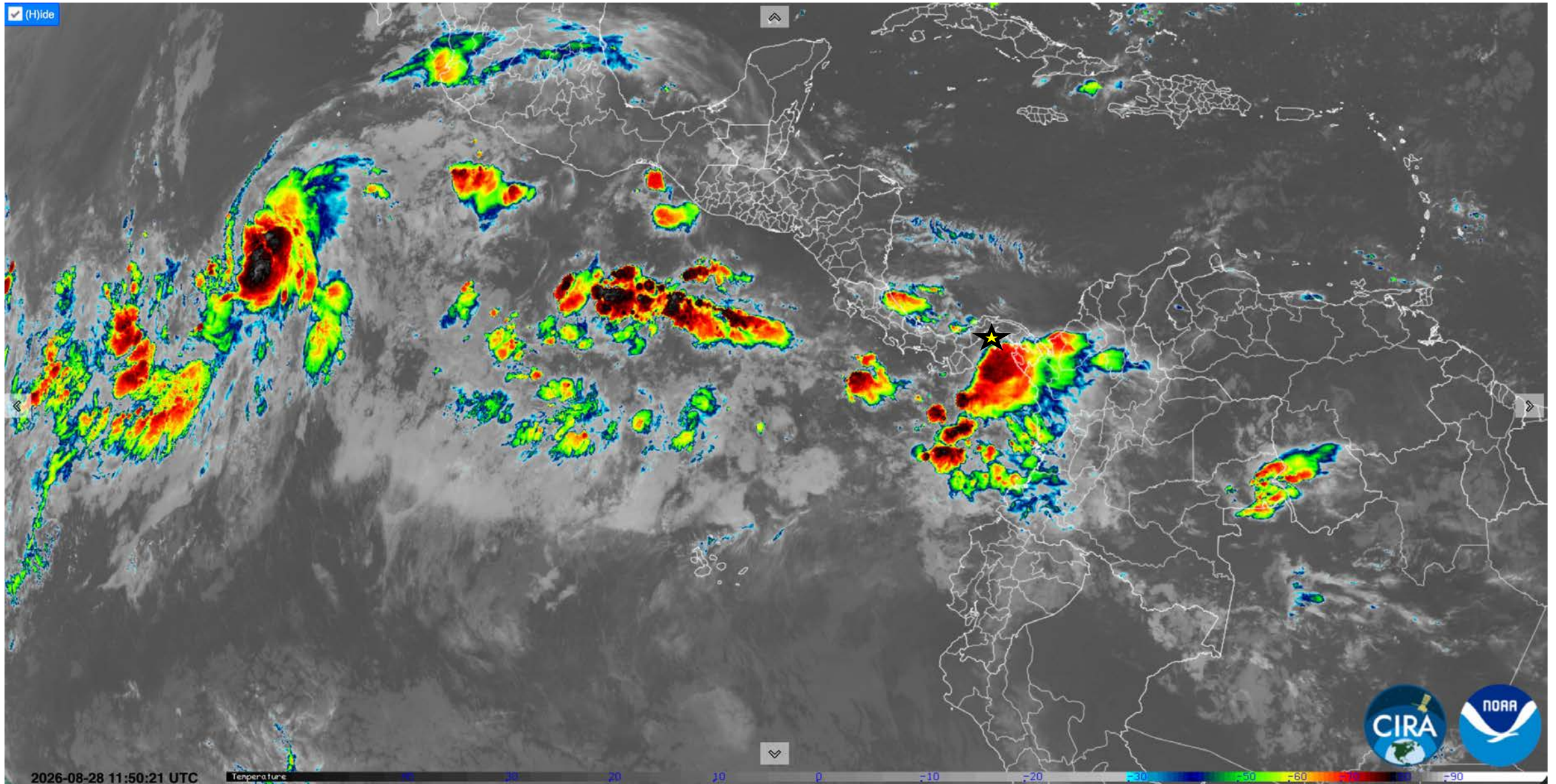


- The axis of a tropical wave is along 92W north of 06N into Chiapas, moving quickly westward at around 25 kt.
- The monsoon trough extends from 10N84W to 09N107W, and from 12N118W to 13N130W to 10N140W. Scattered moderate to isolated strong convection is active from 05N to 115N between 85W and 120W, and from 05N to 12N between 130W and 140W.
- Tropical storm Dolly has formed out east and is moving westward

Tropical Storm Dolly has formed out east and moving westward towards the Caribbean

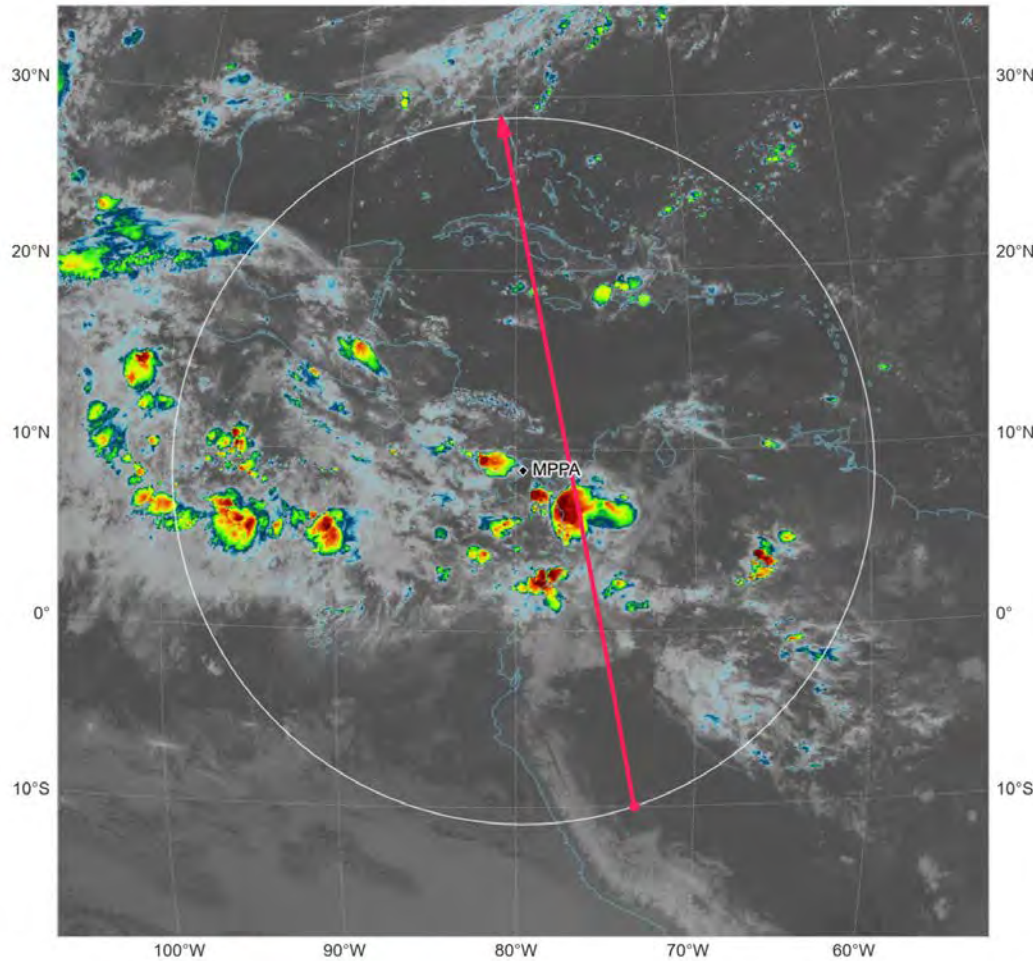


Today's Visible Satellite Images

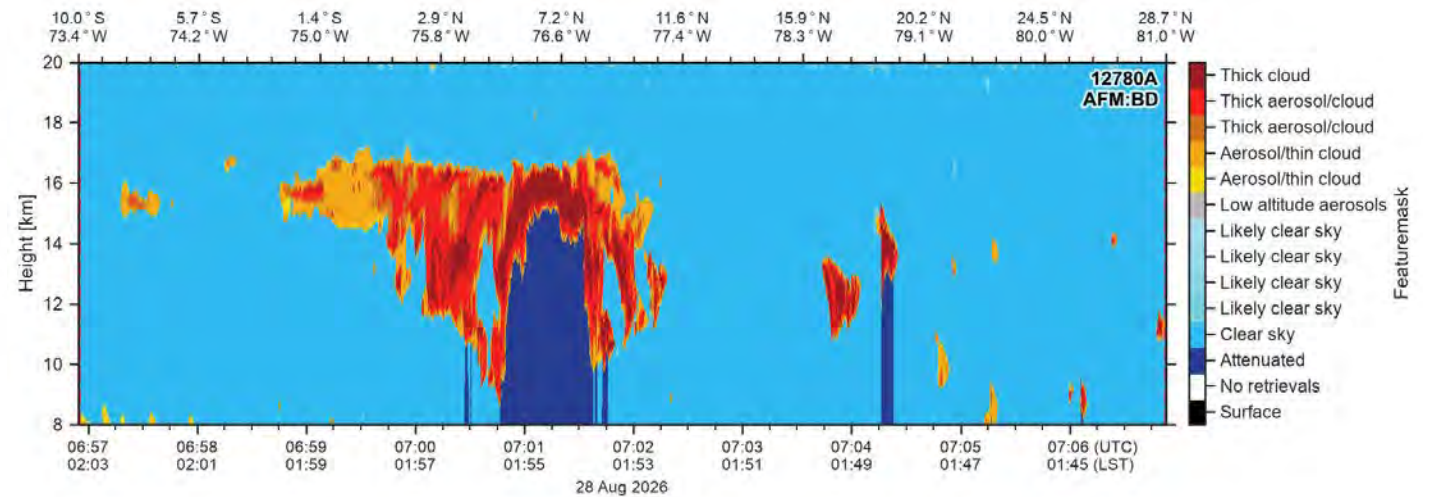
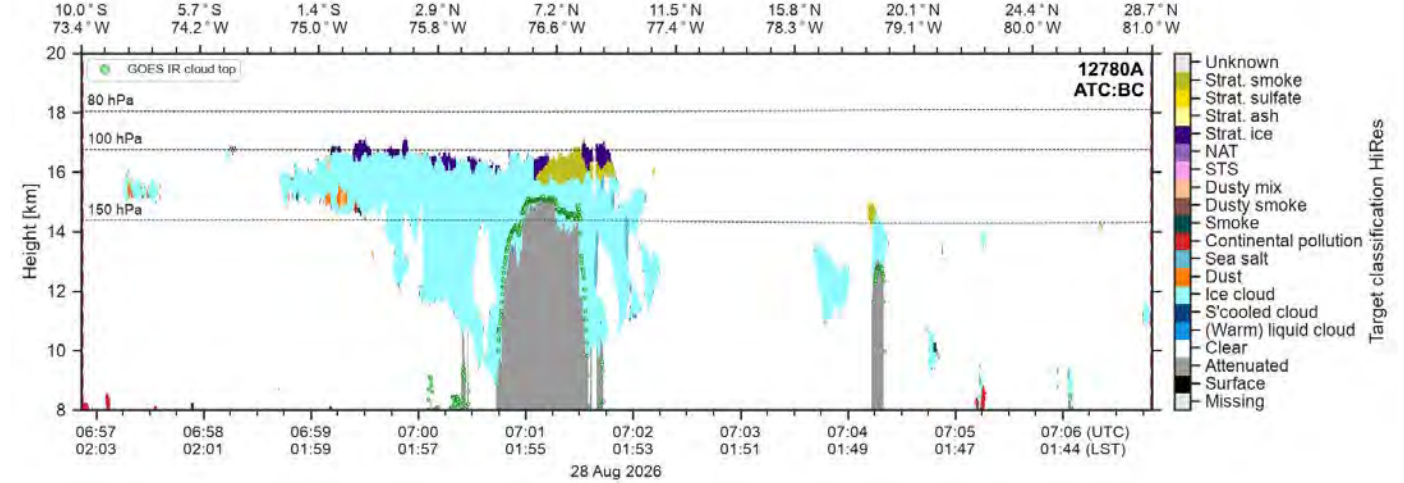


Recent Earthcare passes

2026-08-28 07:01 UTC

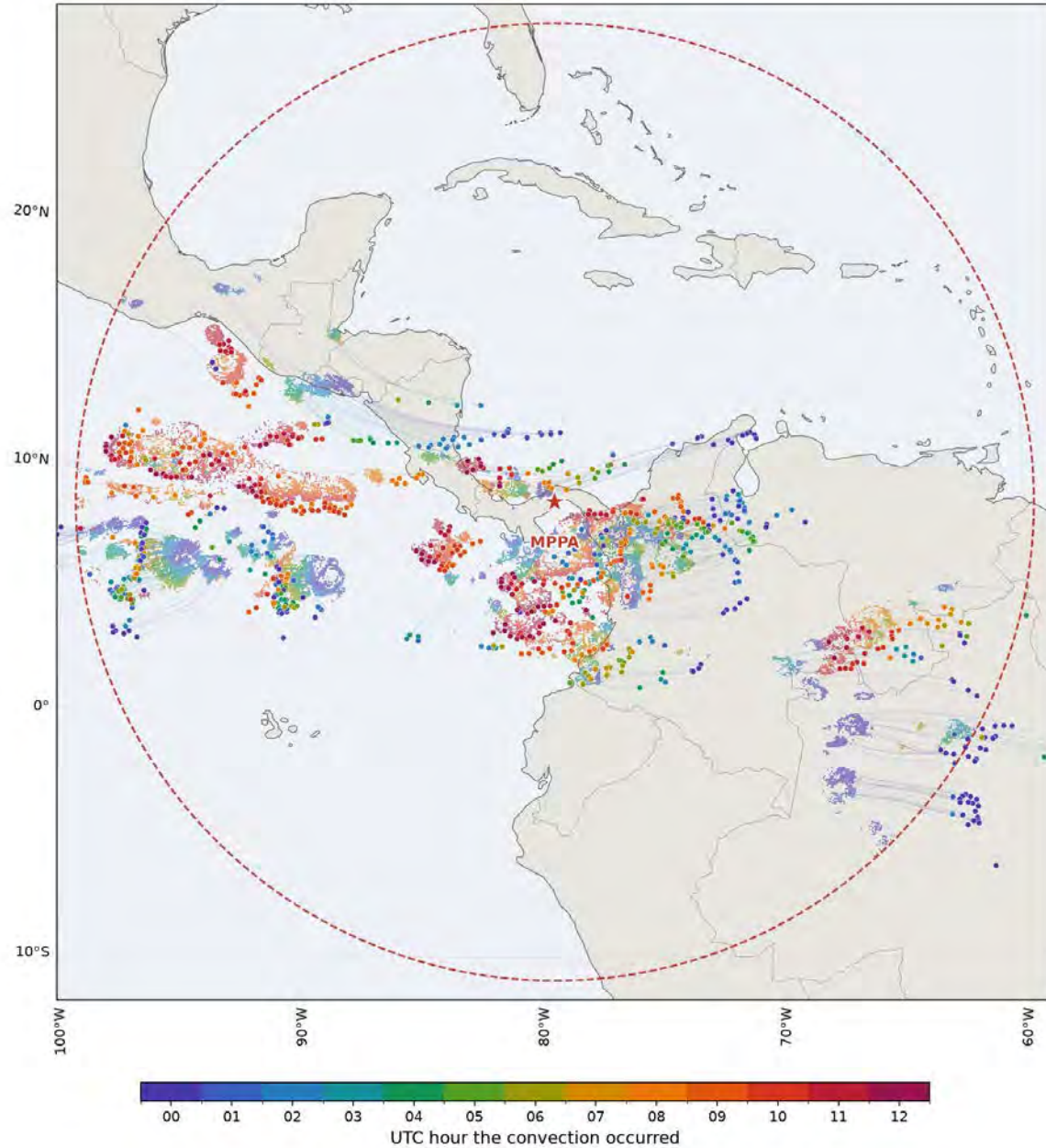


GOES-19 band 13 brightness temperature [K] scan 07:00Z (-1 min from overpass)



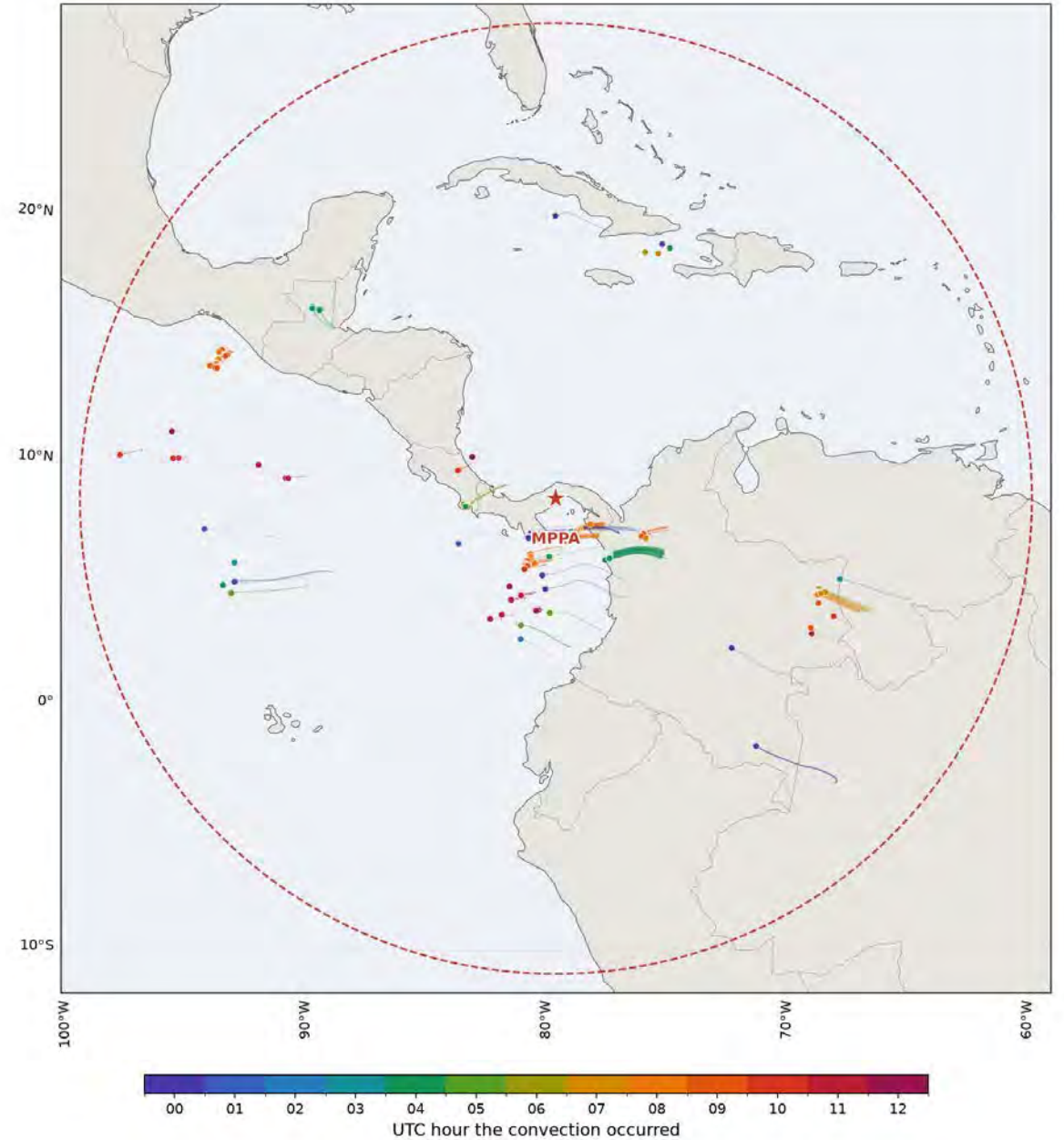
Convective outflow at 140 hPa — 2026-08-28 13:00Z

air injected by deep convection between 08-28 00:00Z and 08-28 13:00Z, advected to a common valid time
tops 130-150 hPa | 152,466 source px | 924 parcels, run 0.5-13.0 h | CAMS 08-28 00Z Init, +0 to +13 h



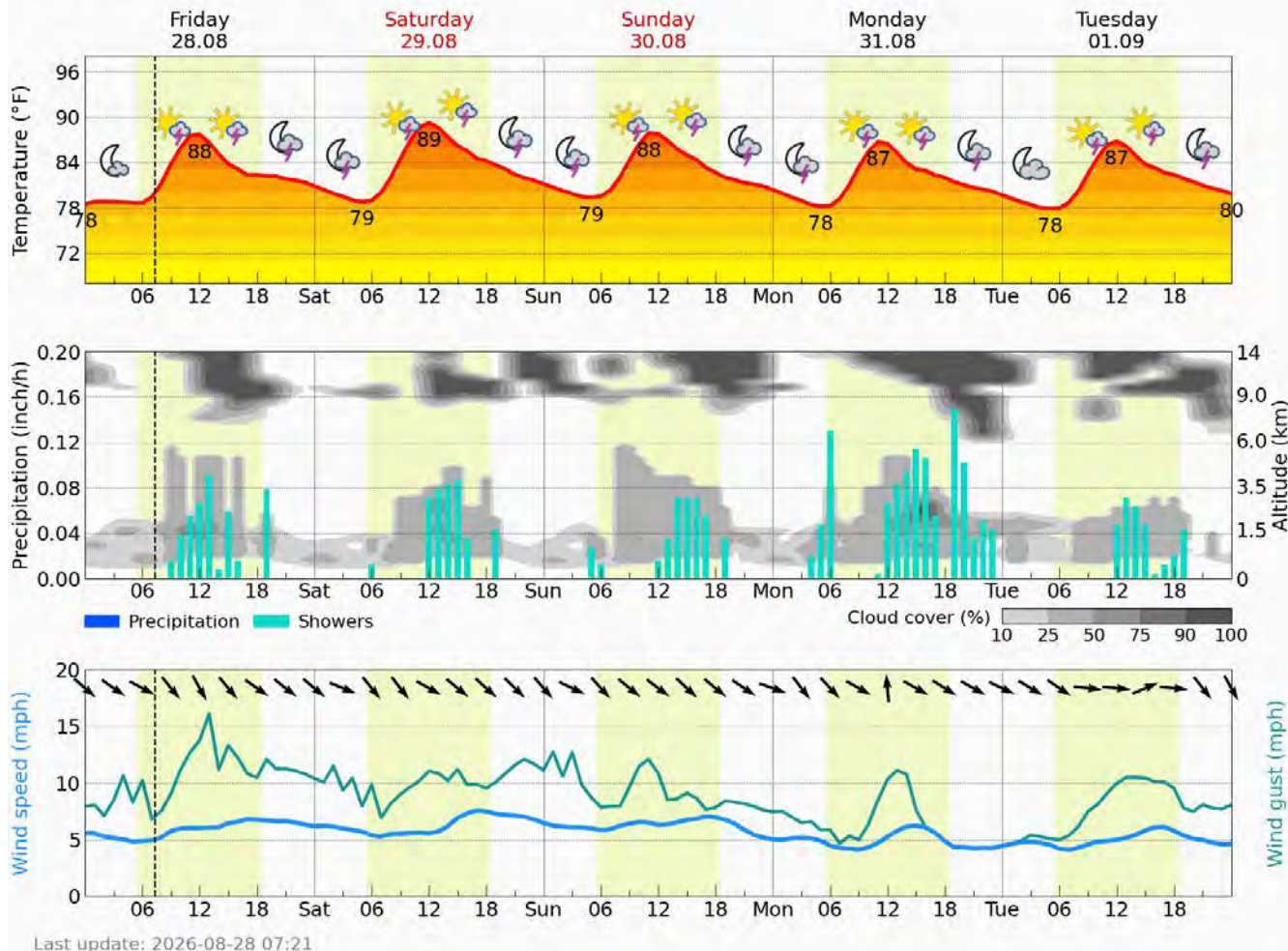
Convective outflow at 90 hPa — 2026-08-28 13:00Z

air injected by deep convection between 08-28 00:00Z and 08-28 13:00Z, advected to a common valid time
tops 80-100 hPa, every pixel | 737 source px | 737 parcels, run 0.5-13.0 h | CAMS 08-28 00Z Init, +0 to +13 h



Panama City
8.99°N, 79.52°W (17 m asl)

meteoblue



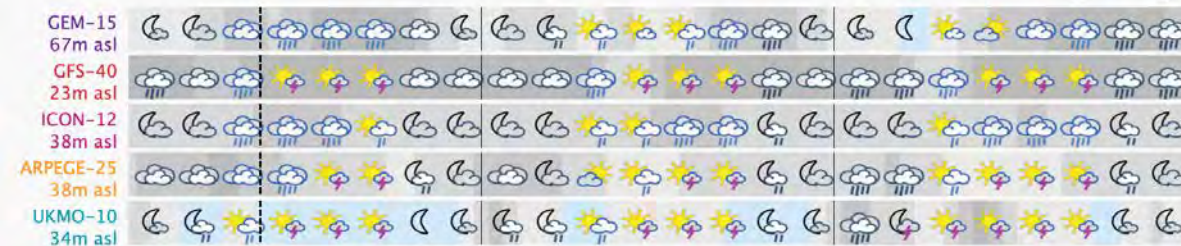
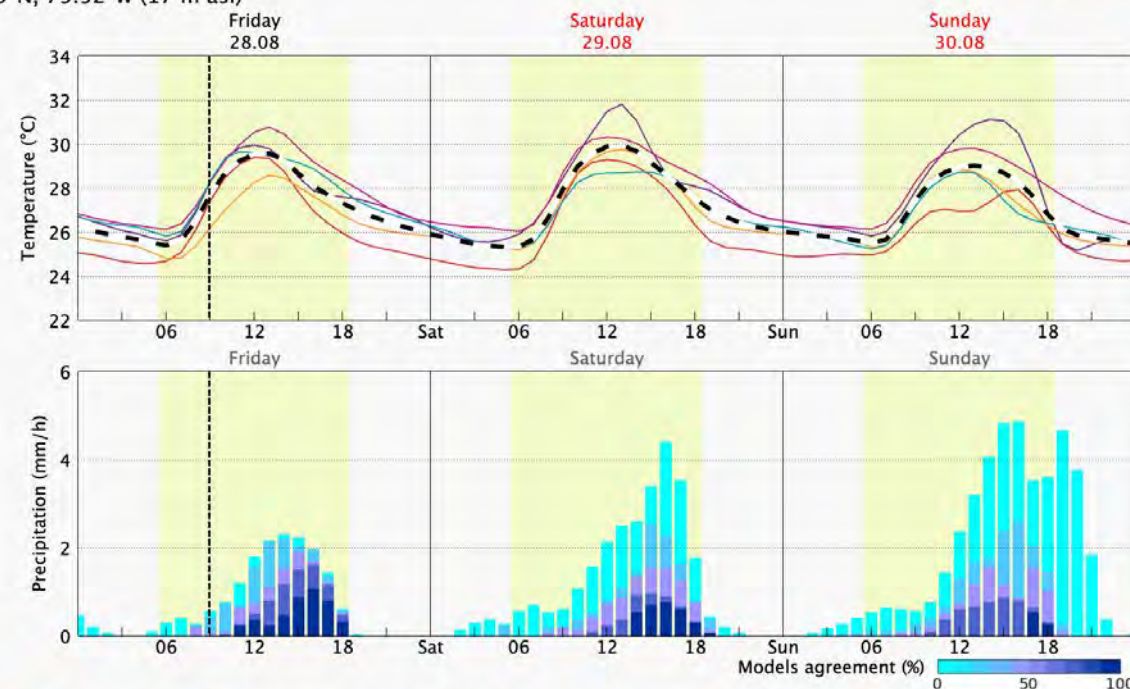
Flight day:

- Clear skies at 8 am for takeoff
- T-storm peak at 4pm, but possibility of T-storms around 1pm landing
- Consistent winds of 5 mph, with gusts of ~10 mph around 1pm landing time

Panama City

8.99°N, 79.52°W (17 m asl)

meteoblue

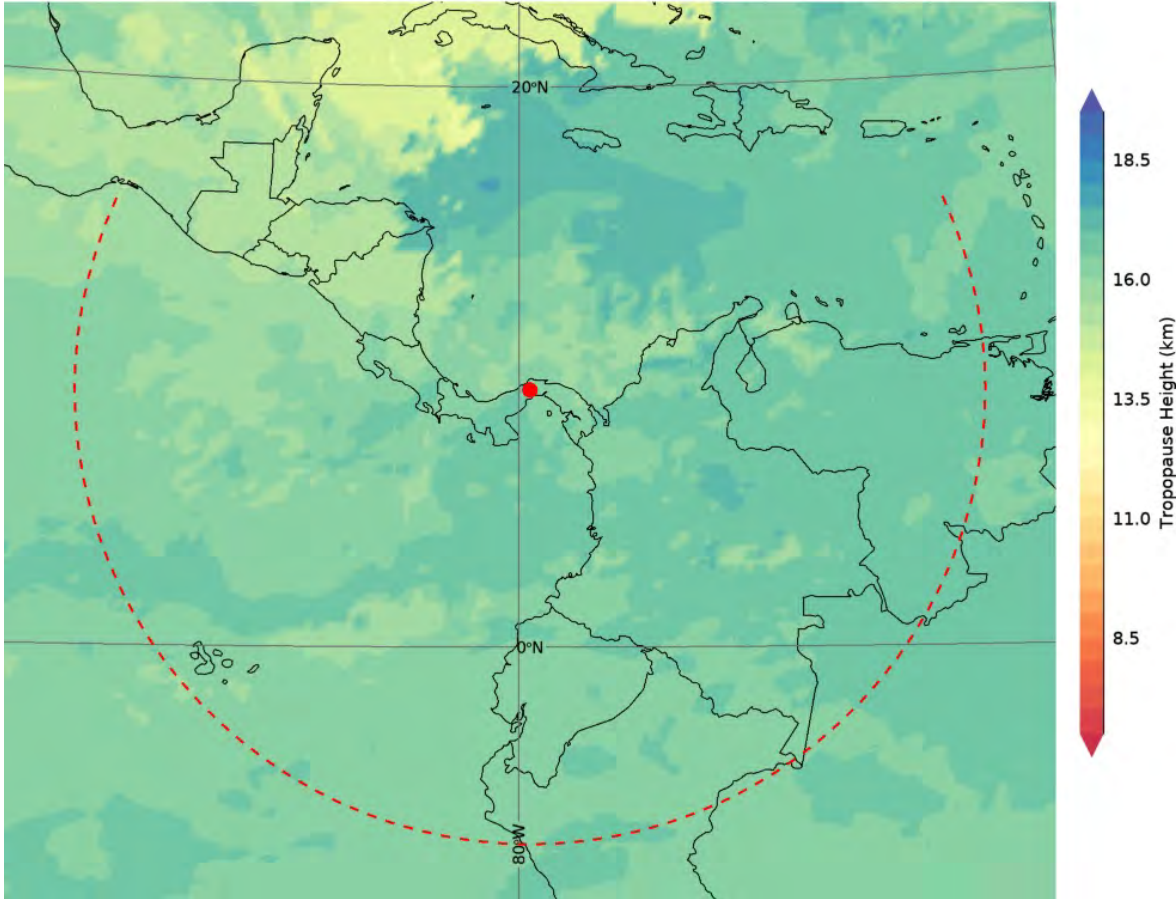


Upper Level Forecasts for Day 08/29/2026

Tropopause 15Z (10a local)

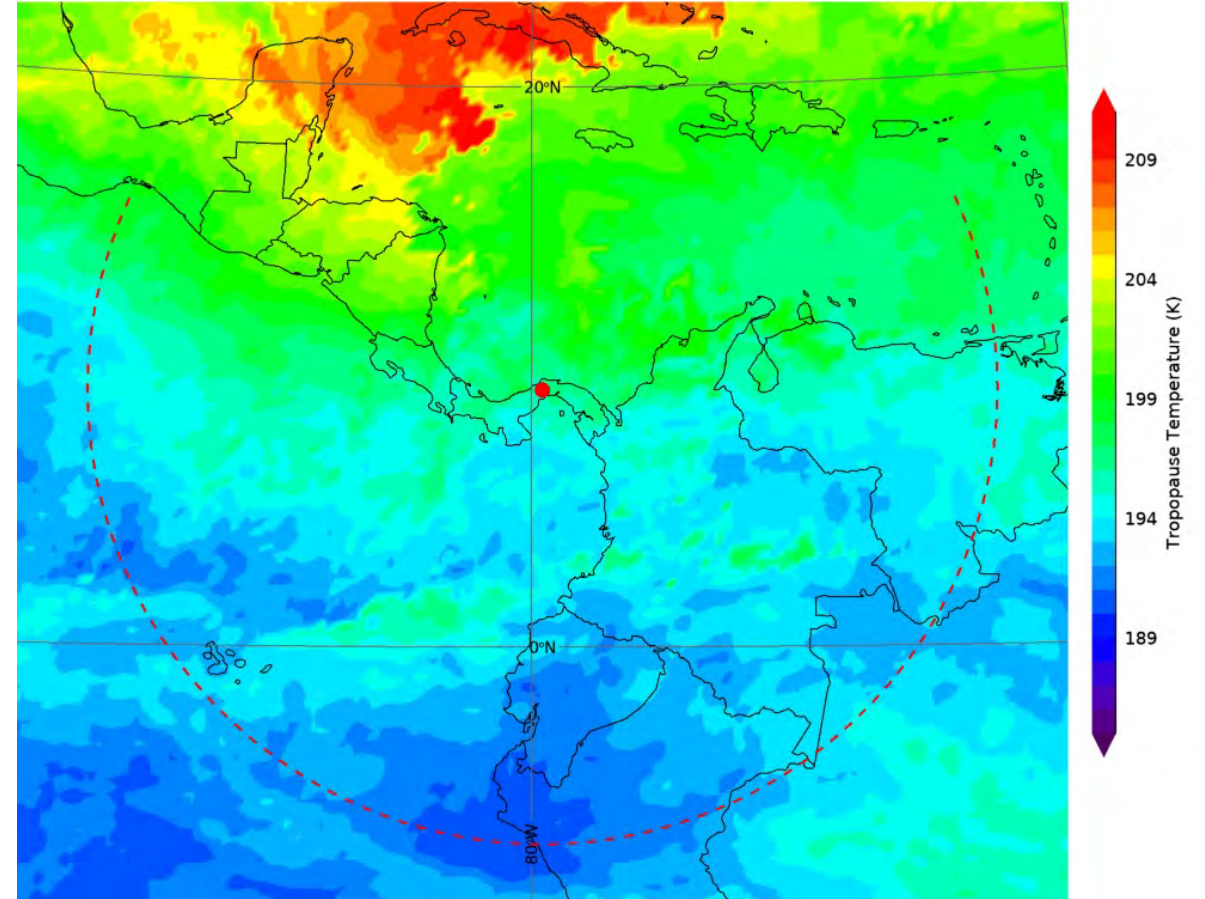
Pressure

NCEP Tropopause Height Init: 2026082806 Valid: 2026082915



Temperature & 100 mb winds

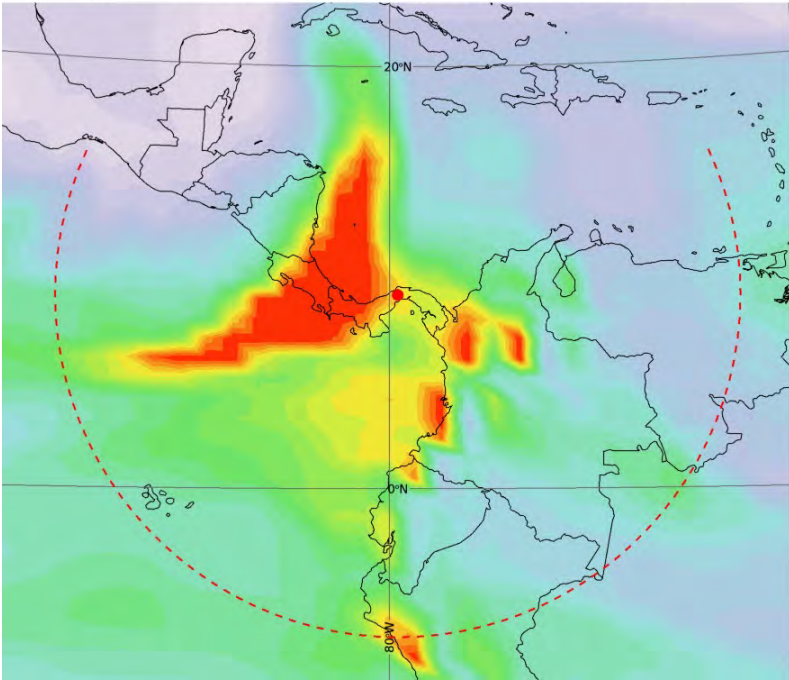
NCEP Tropopause Temperature Init: 2026082806 Valid: 2026082915



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

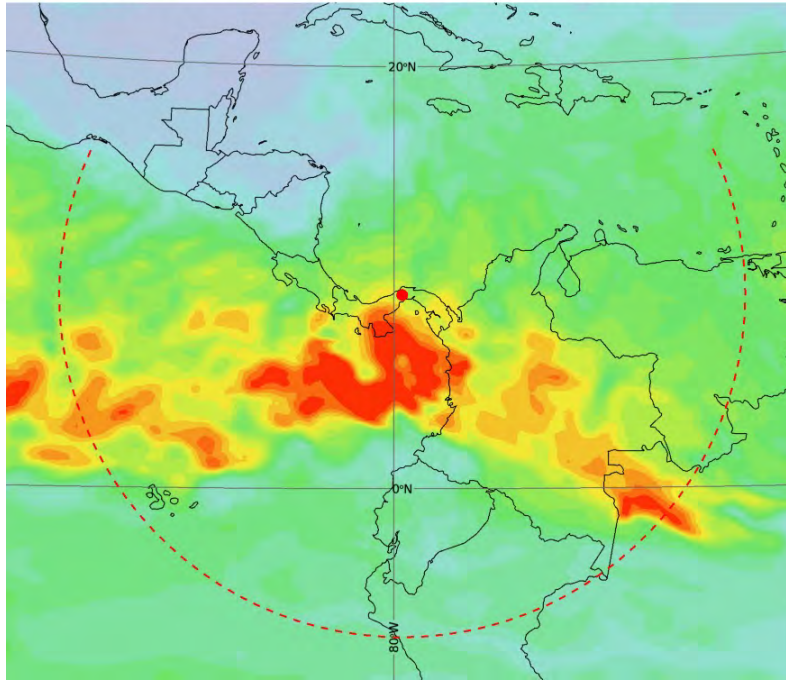
CO@100 hPa

WACCM CO 100 hPa Init: 2026082600 Valid: 2026082915



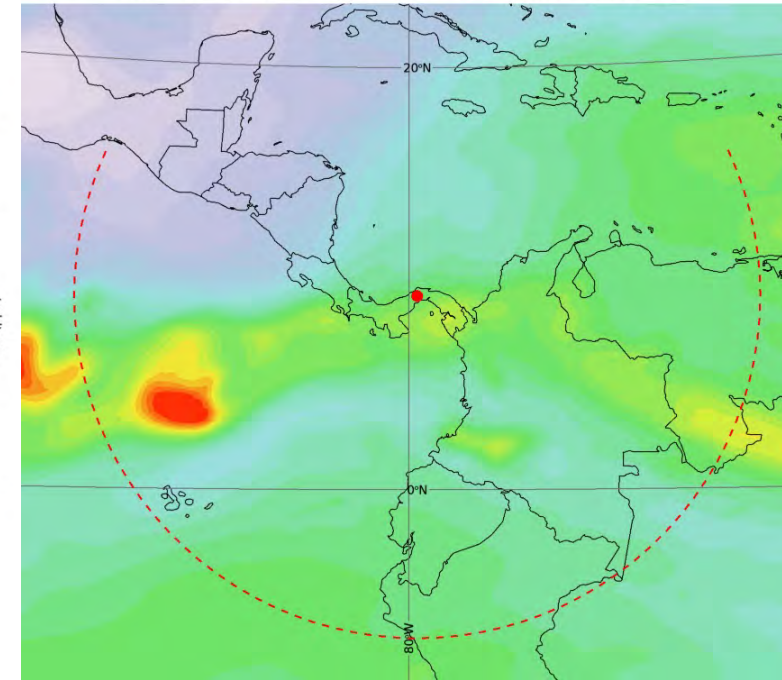
WACCM

GEOS CO 100 hPa Init: 2026082609 Valid: 2026082906



GEOS

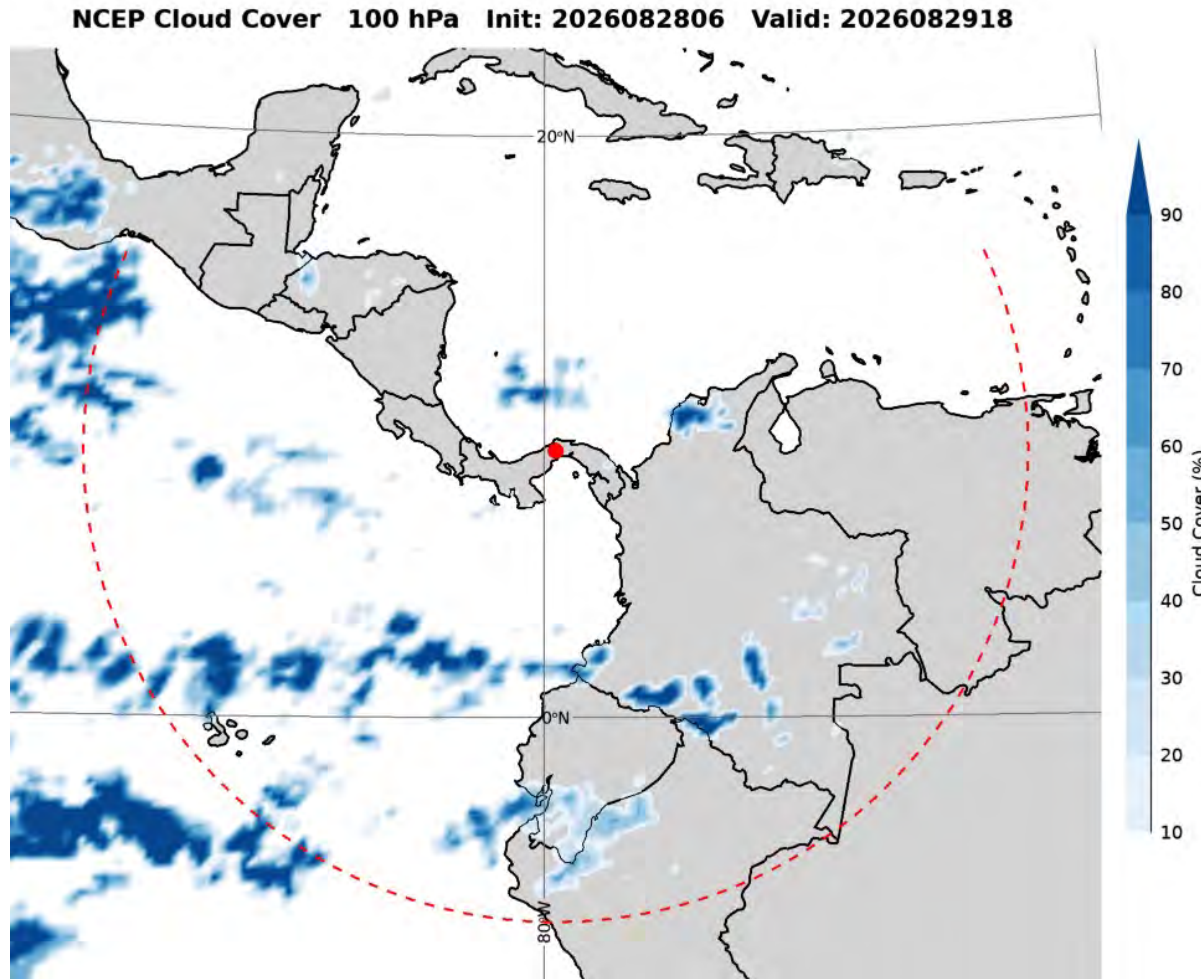
CAMS CO 98 hPa Init: 2026082712 Valid: 2026082915



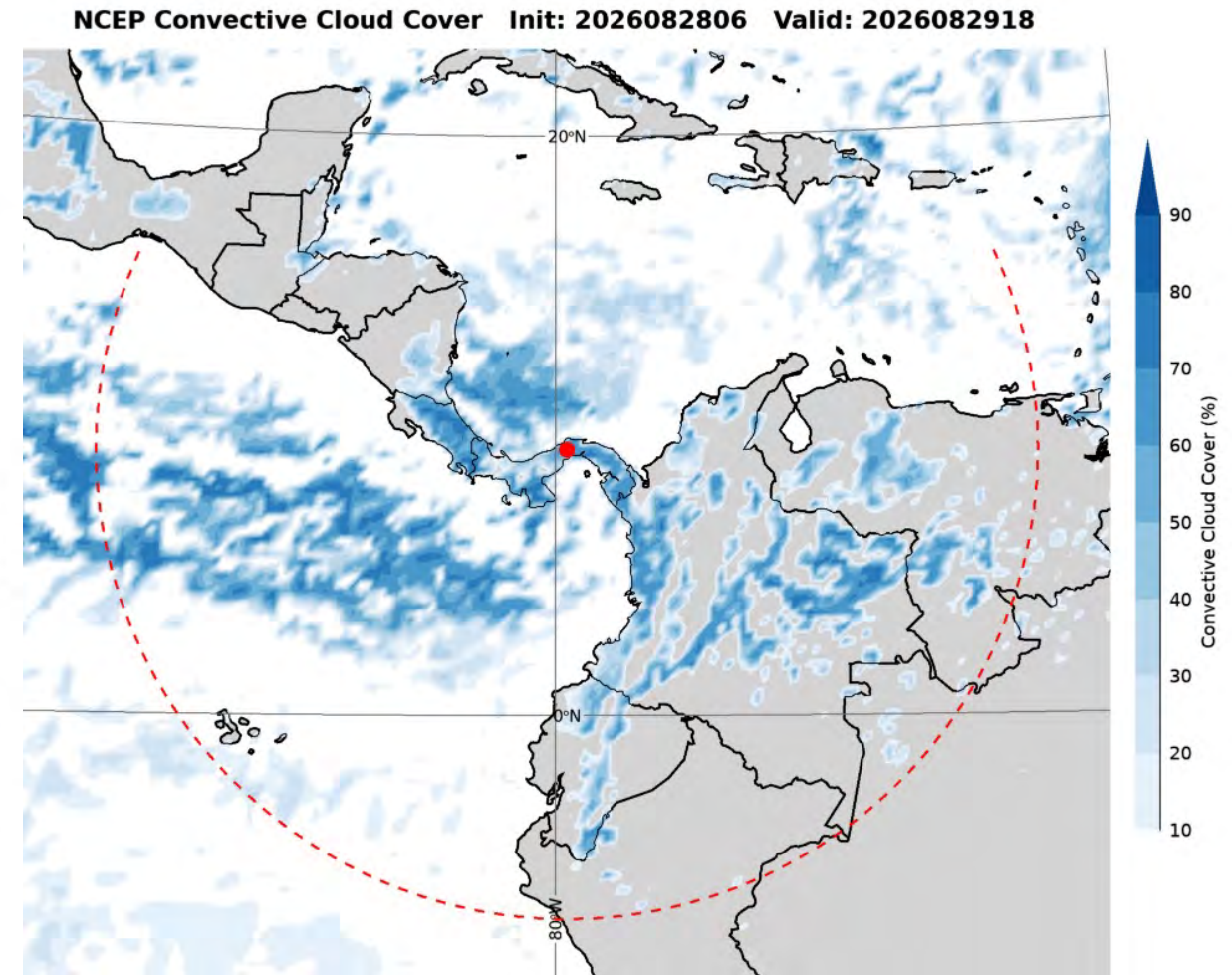
CAMS

Cloud Cover 18Z (1p local)

Clouds at 100 hPa

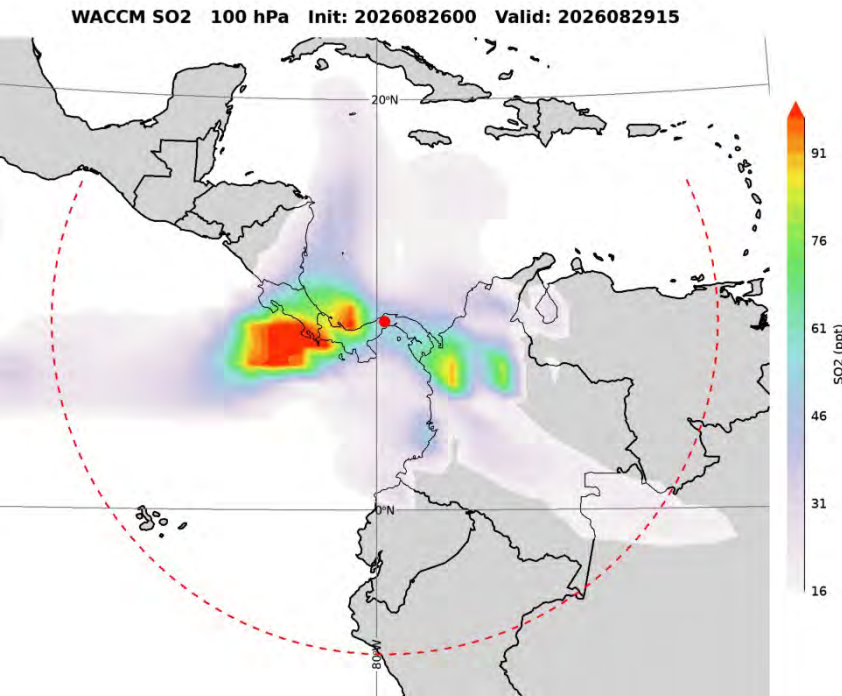


Convective

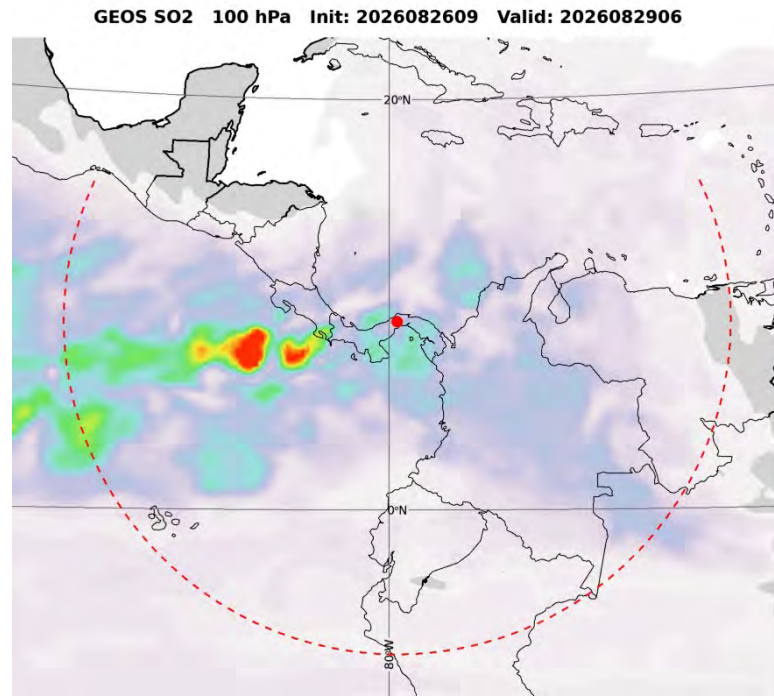


High cloud cover follows the monsoon trough. Convective cloud cover expected over most of the western flight region, Panama, and directly north of Panama.

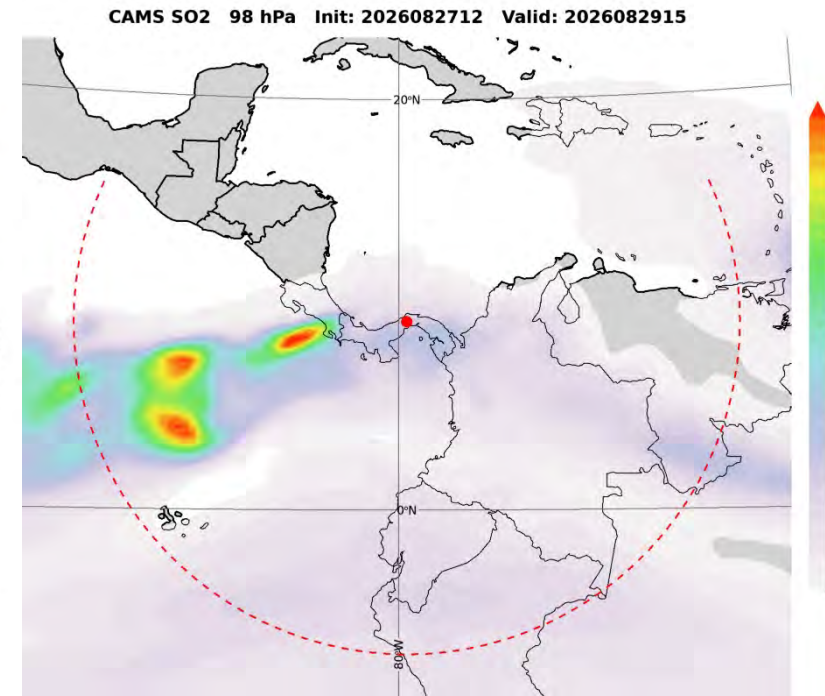
SO₂@100 hPa



WACCM



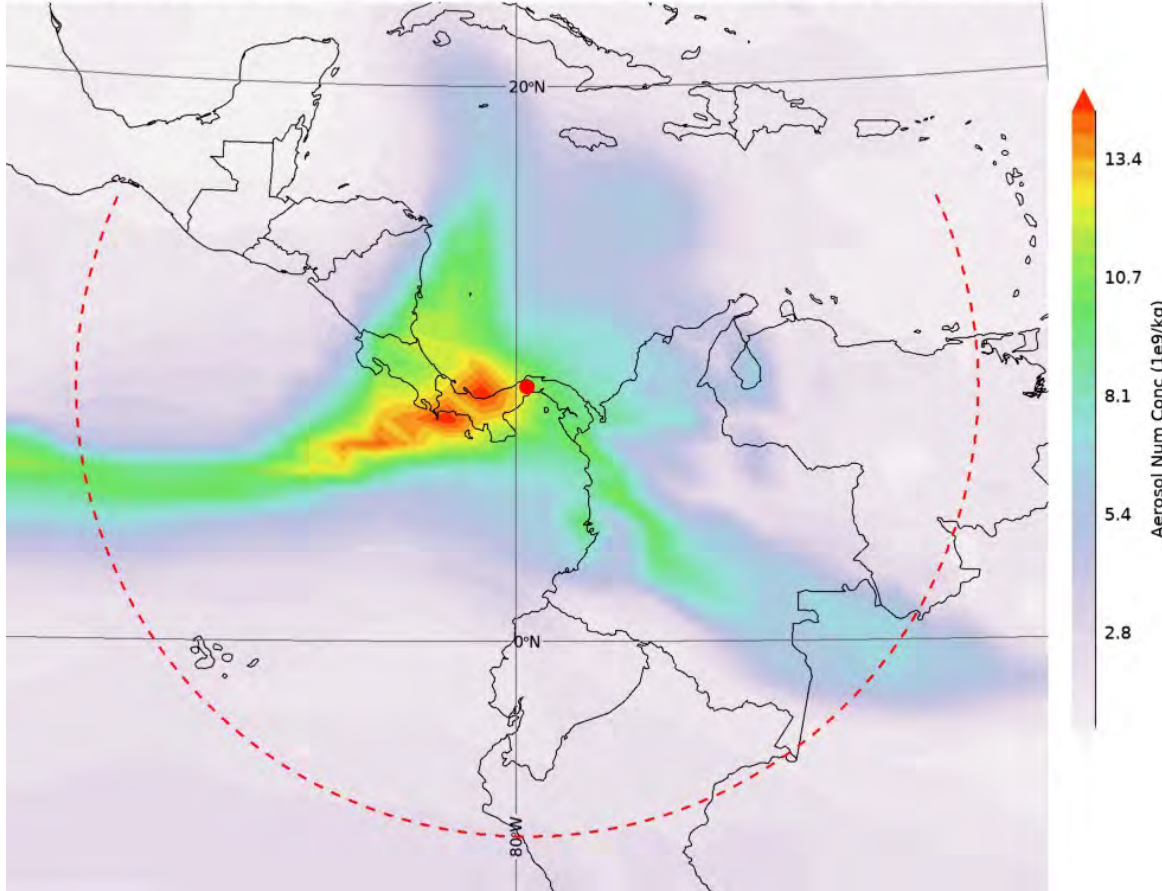
GEOS



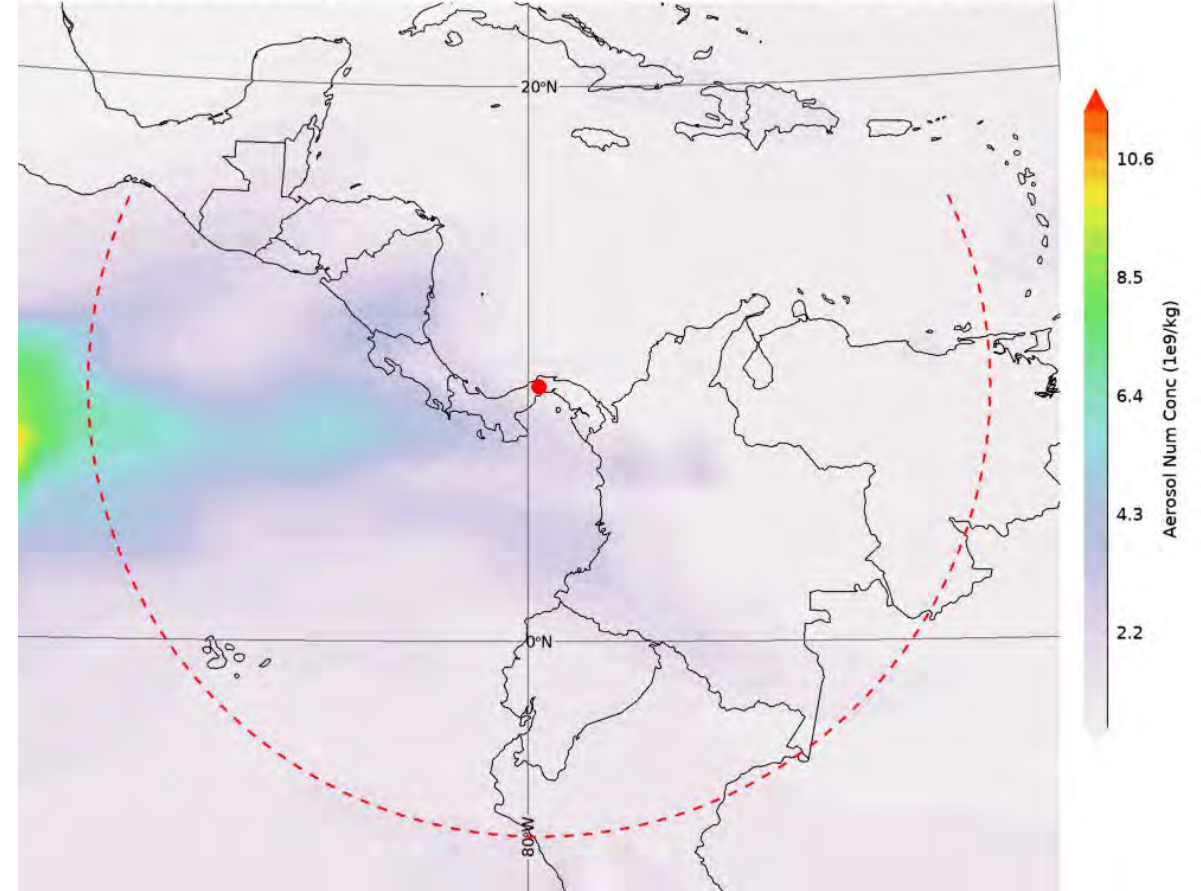
CAMS

Aerosol Number Concentration

WACCM Aerosol Num Conc 100 hPa Init: 2026082600 Valid: 2026082915

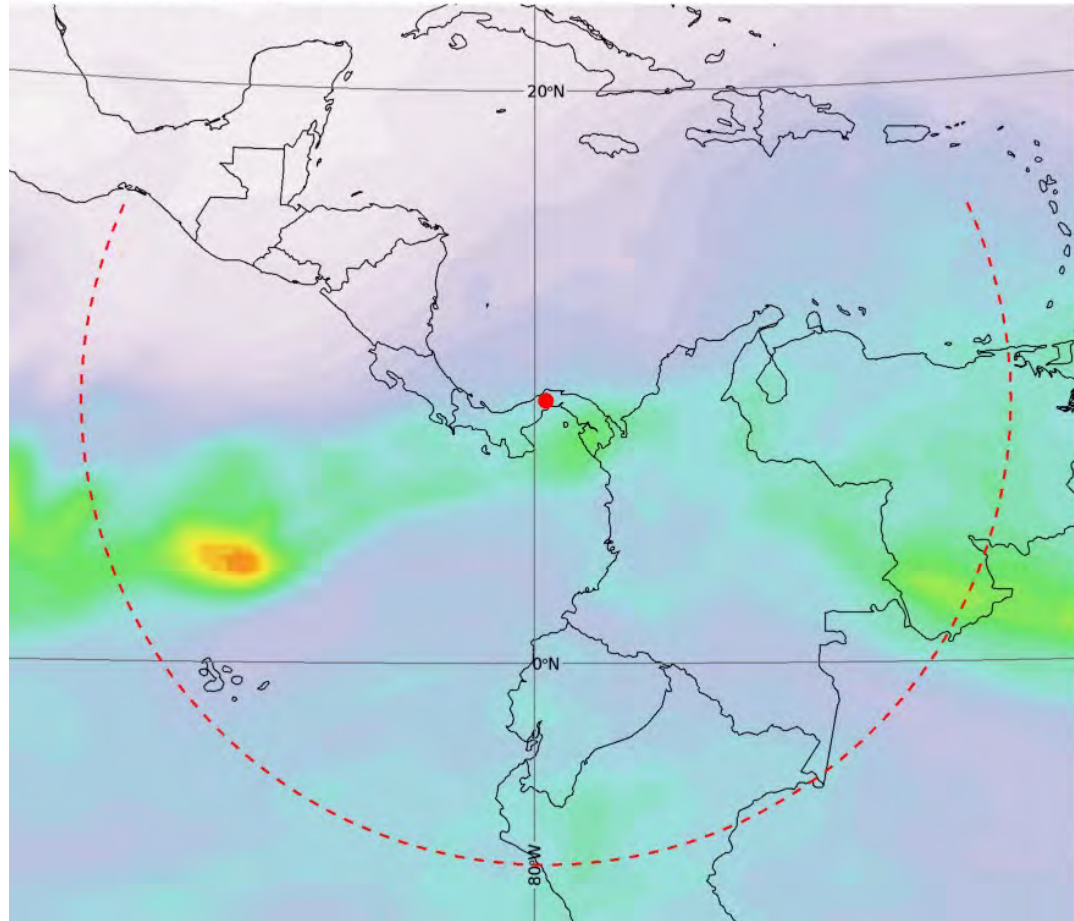


WACCM Aerosol Num Conc 85 hPa Init: 2026082600 Valid: 2026082915

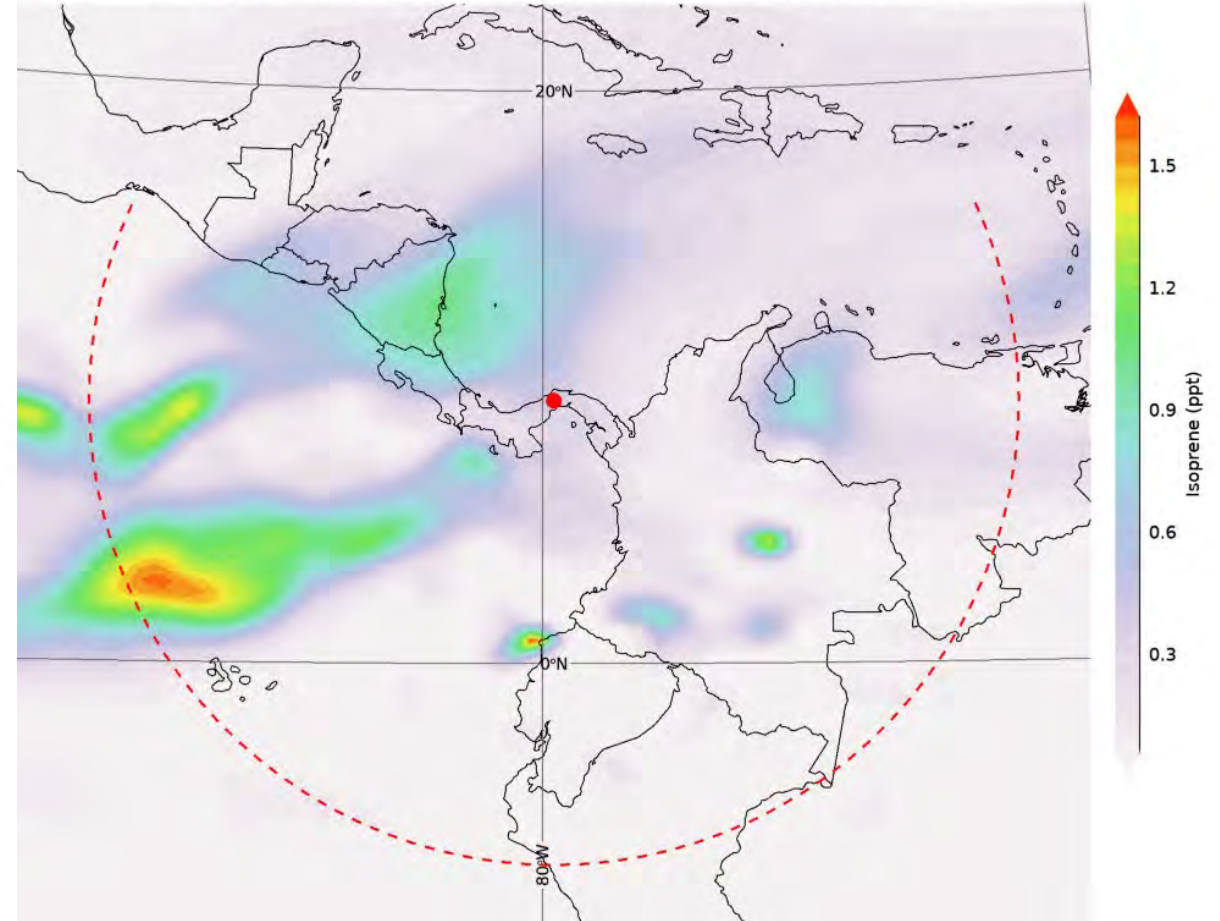


Short-lived tracers

CAMS Ethane 98 hPa Init: 2026082712 Valid: 2026082915

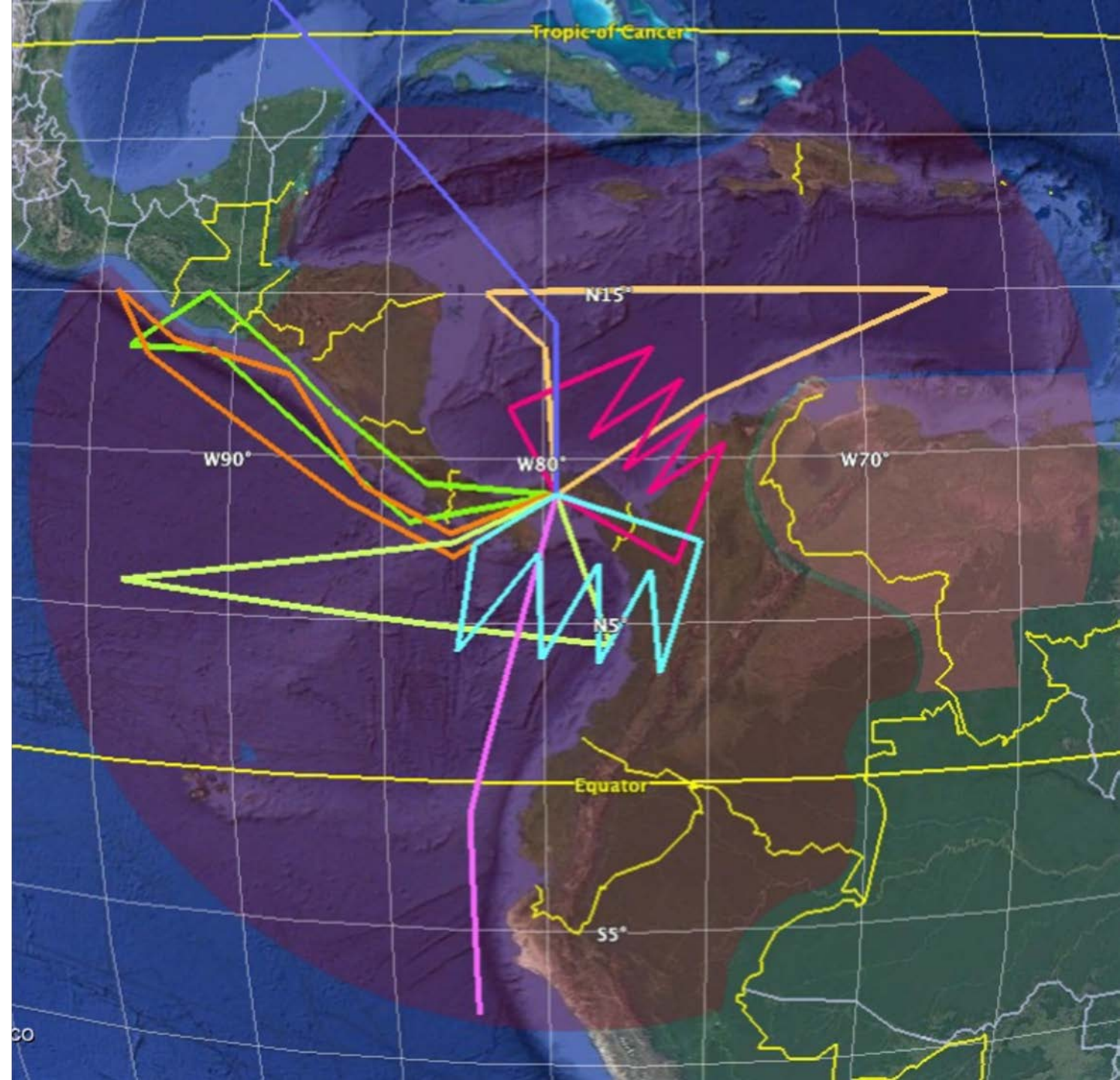


CAMS Isoprene 83 hPa Init: 2026082712 Valid: 2026082915



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)

Bonus Targets

- Possible volcanic SO₂ near Costa Rica and Nicaragua

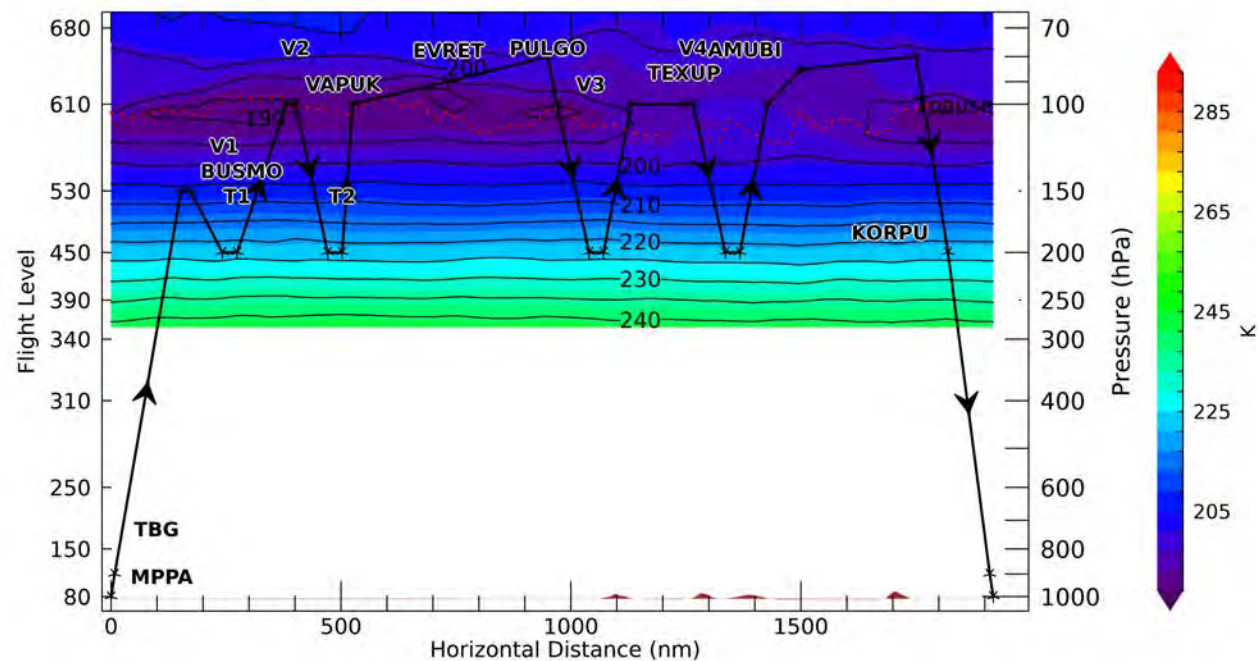
Flight Specs

- Take off: 8am
- Landing time: 1pm
- Distance: 1,912 nautical miles
- Duration: 5 hours

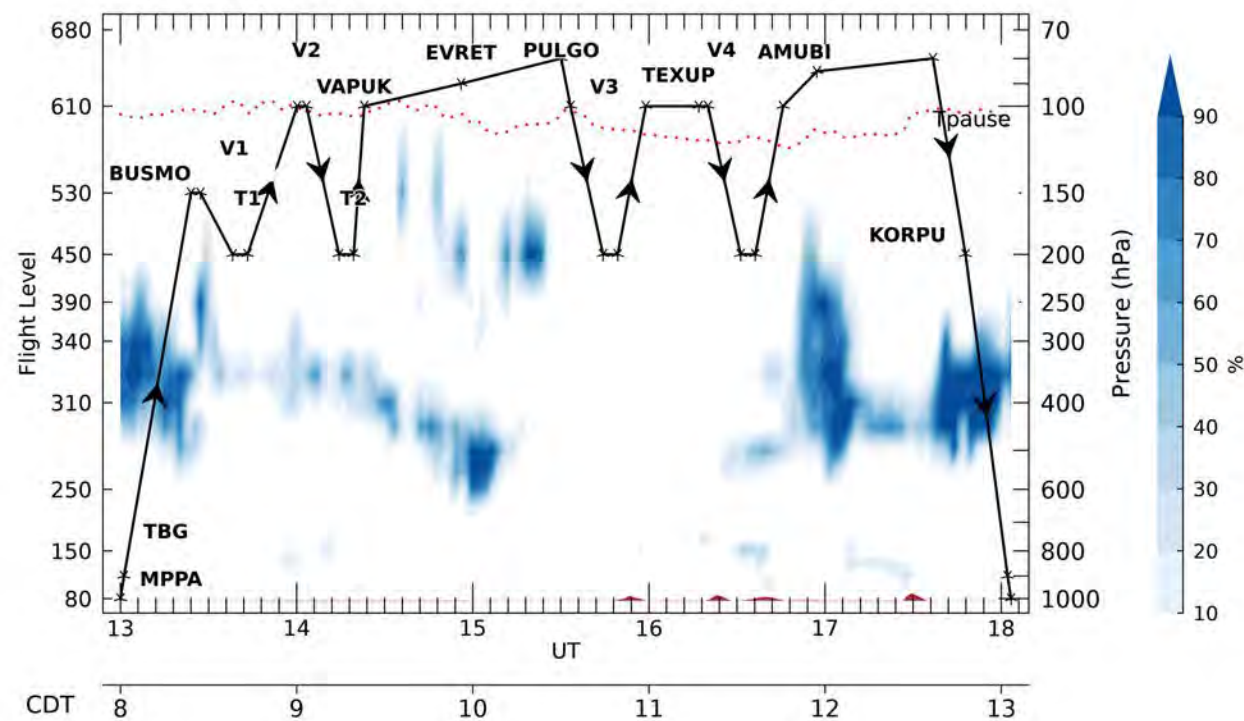


Vertical Profiles

CAMS Temperature Init:2026082712 Valid Time:2026082915

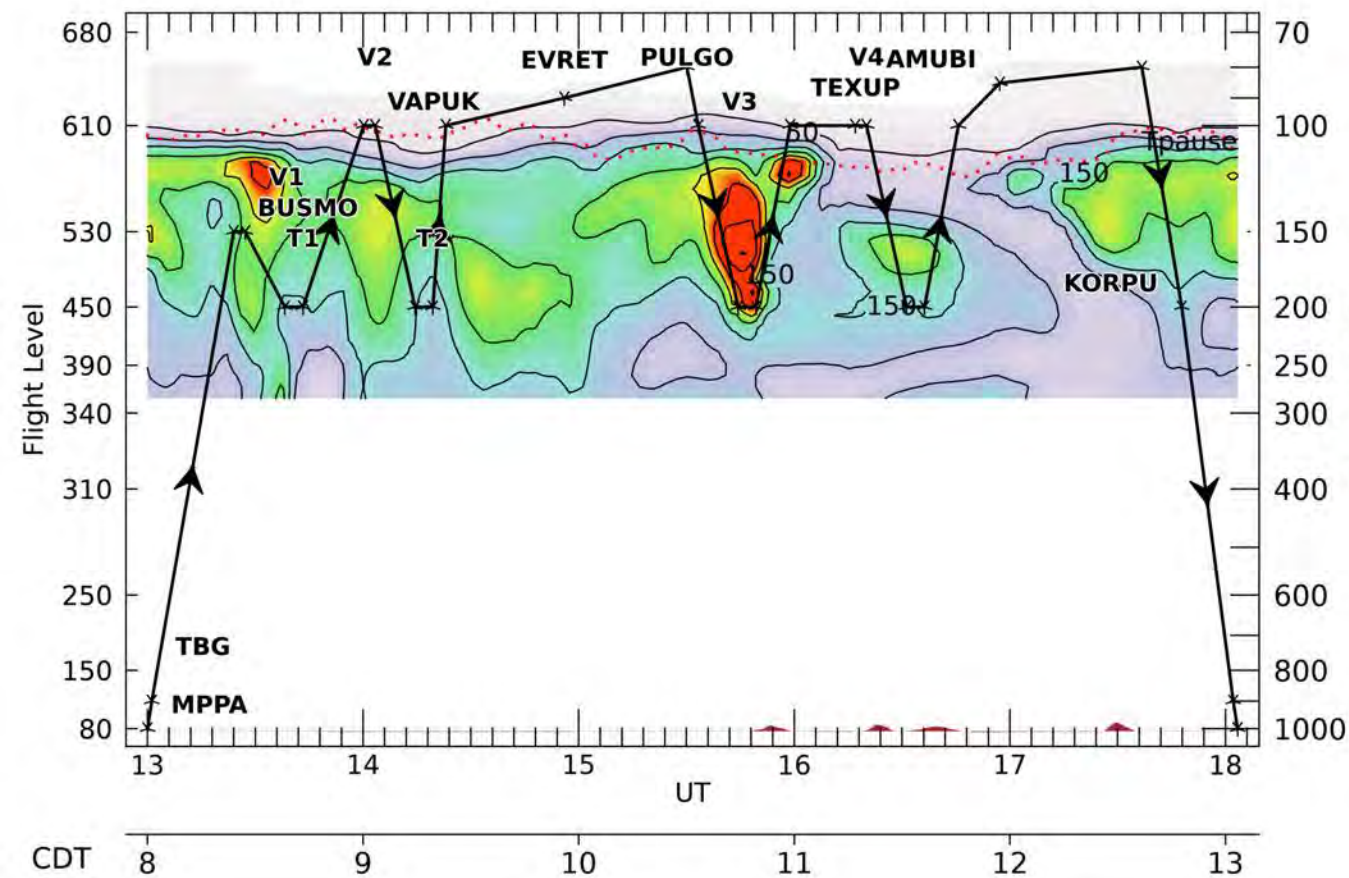


NCEP Cloud Cover Init:2026082806 Valid Day:20260829

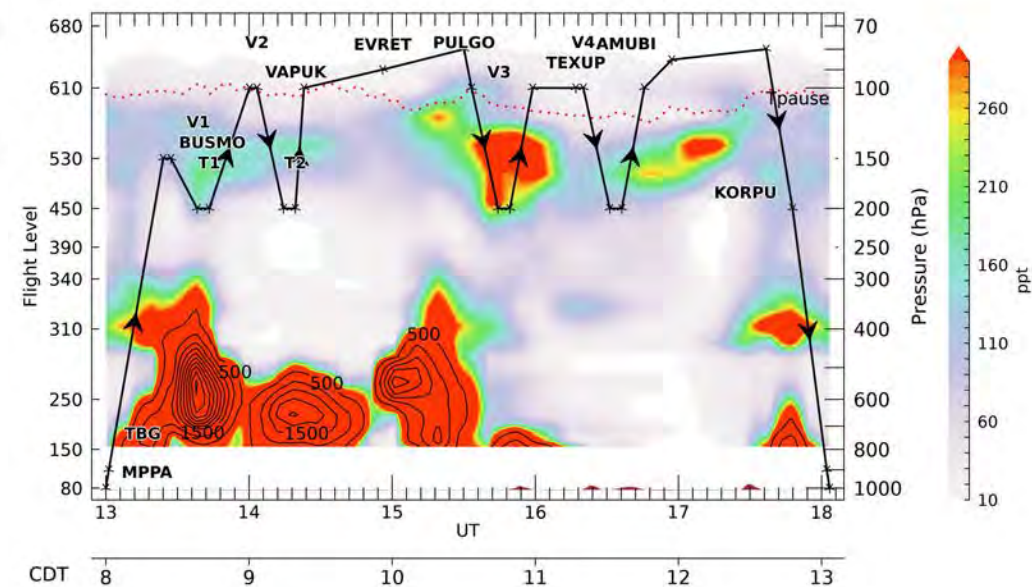


Vertical Profiles

CAMS SO2 Init:2026082712 Valid Day:20260829

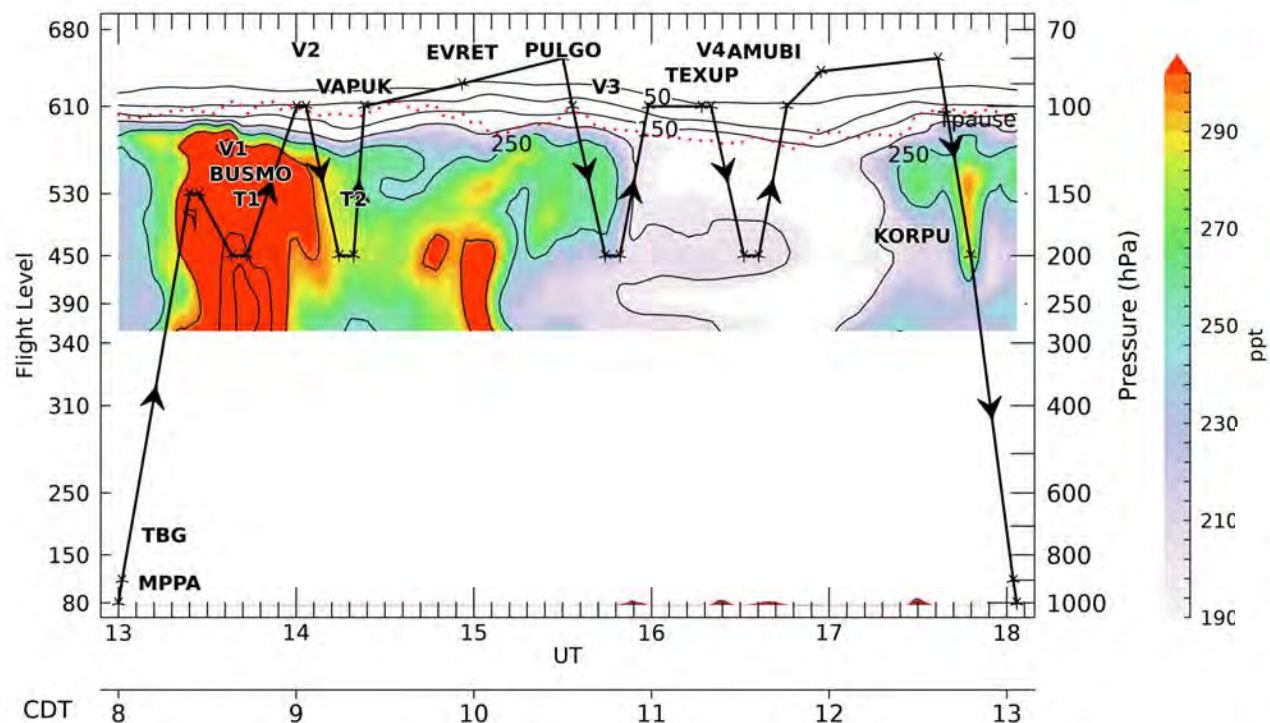


WACCM SO2 Init:2026082600 Valid Day:20260829

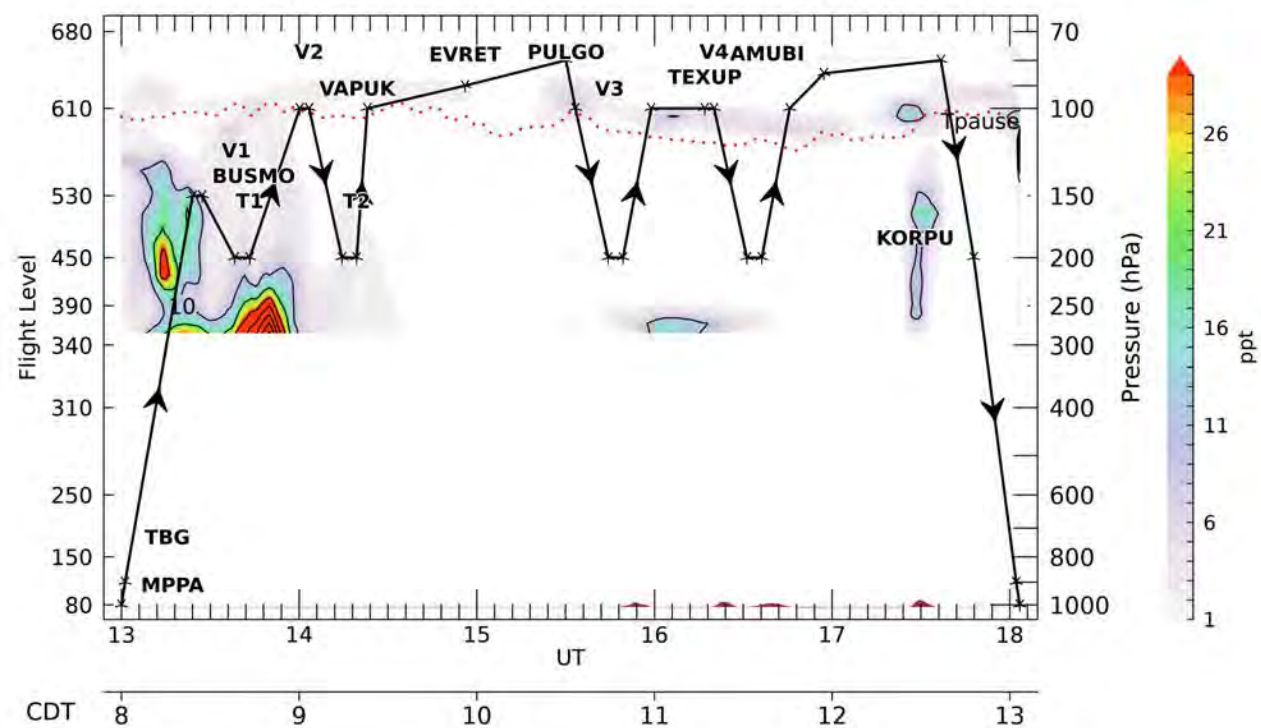


Vertical Profiles

CAMS Ethane Init:2026082712 Valid Day:20260829

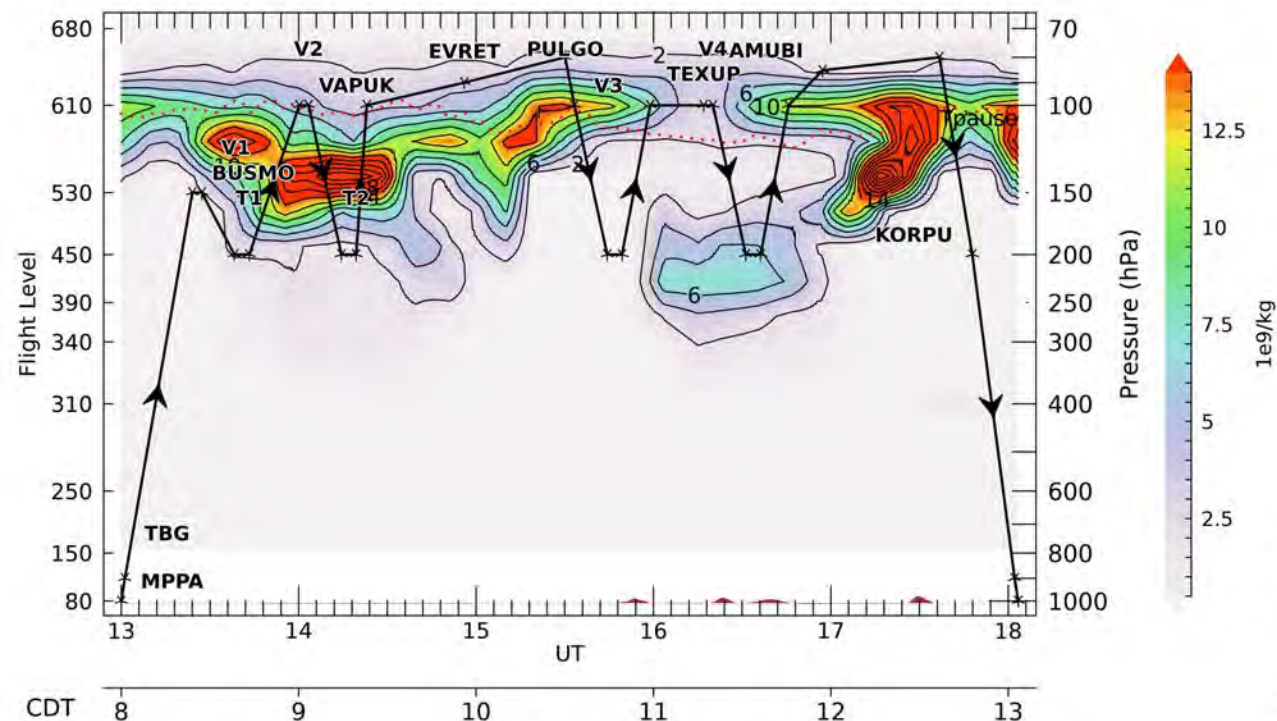


CAMS Isoprene Init:2026082712 Valid Day:20260829

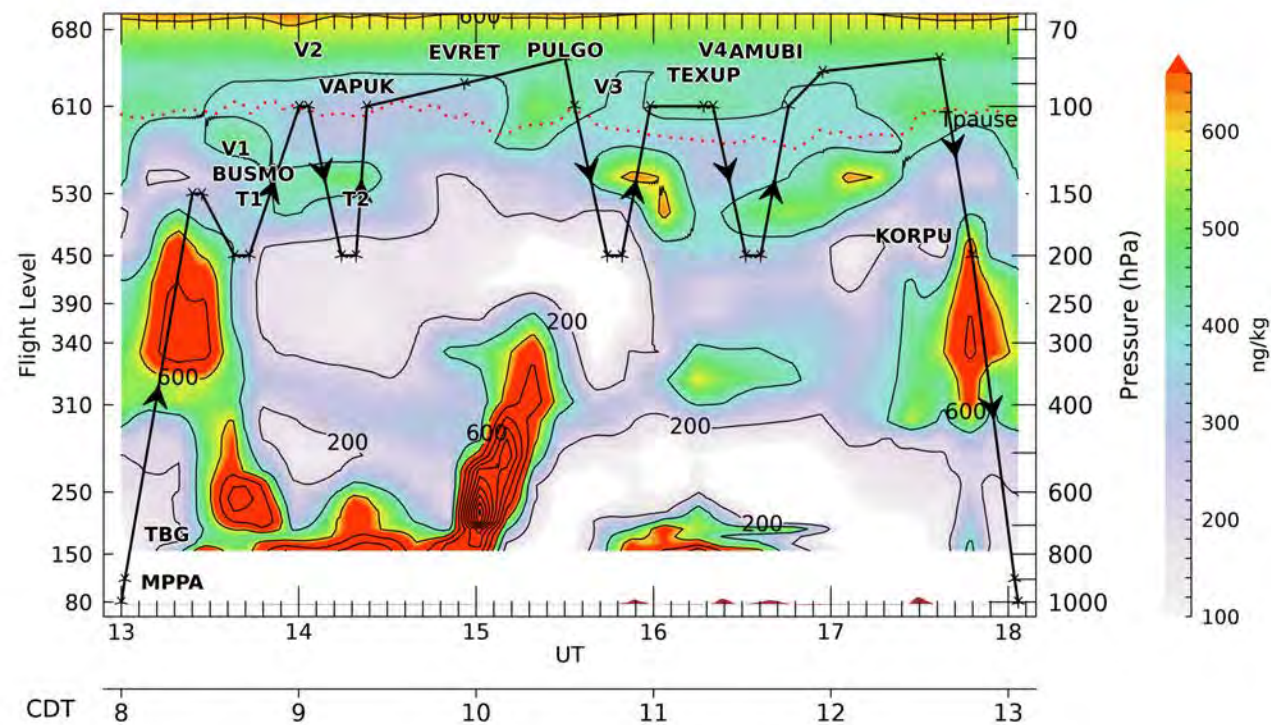


Vertical Profiles

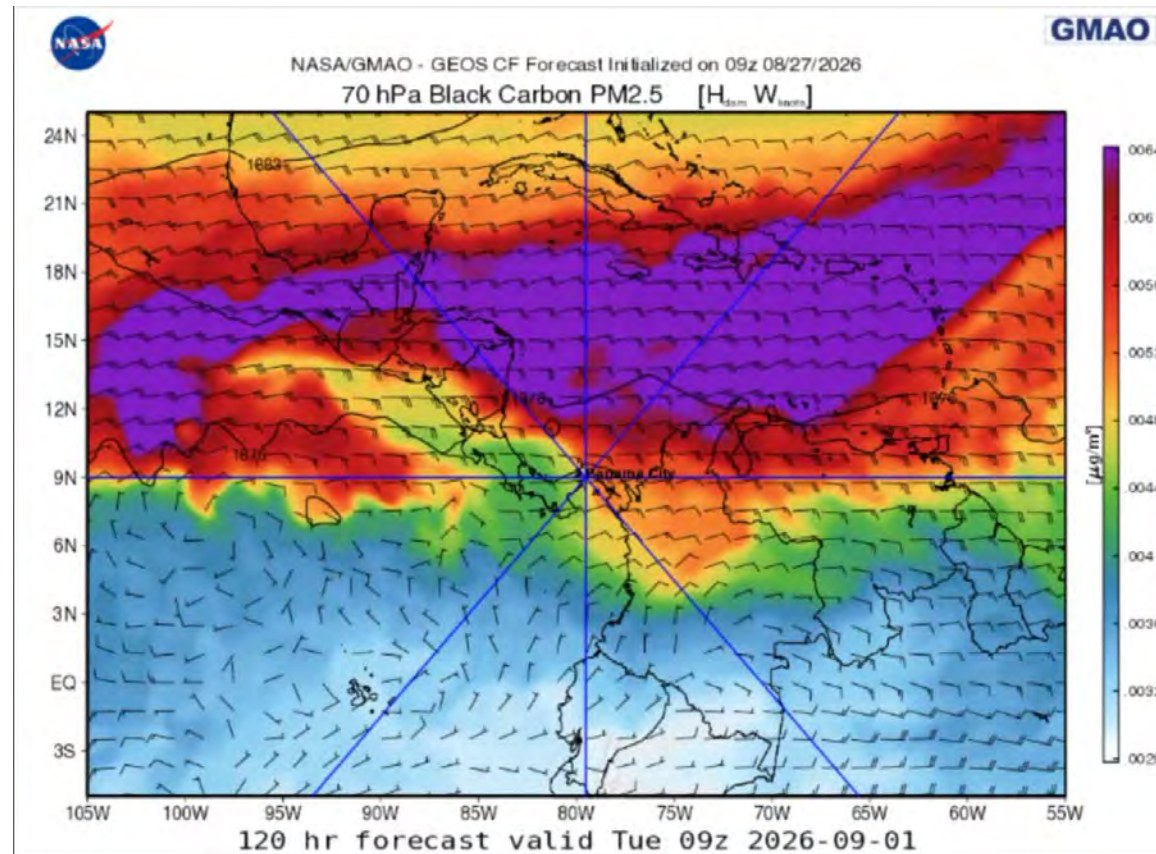
WACCM Aerosol Num Conc Init:2026082600 Valid Day:20260829



WACCM Sulfate Init:2026082600 Valid Day:20260829

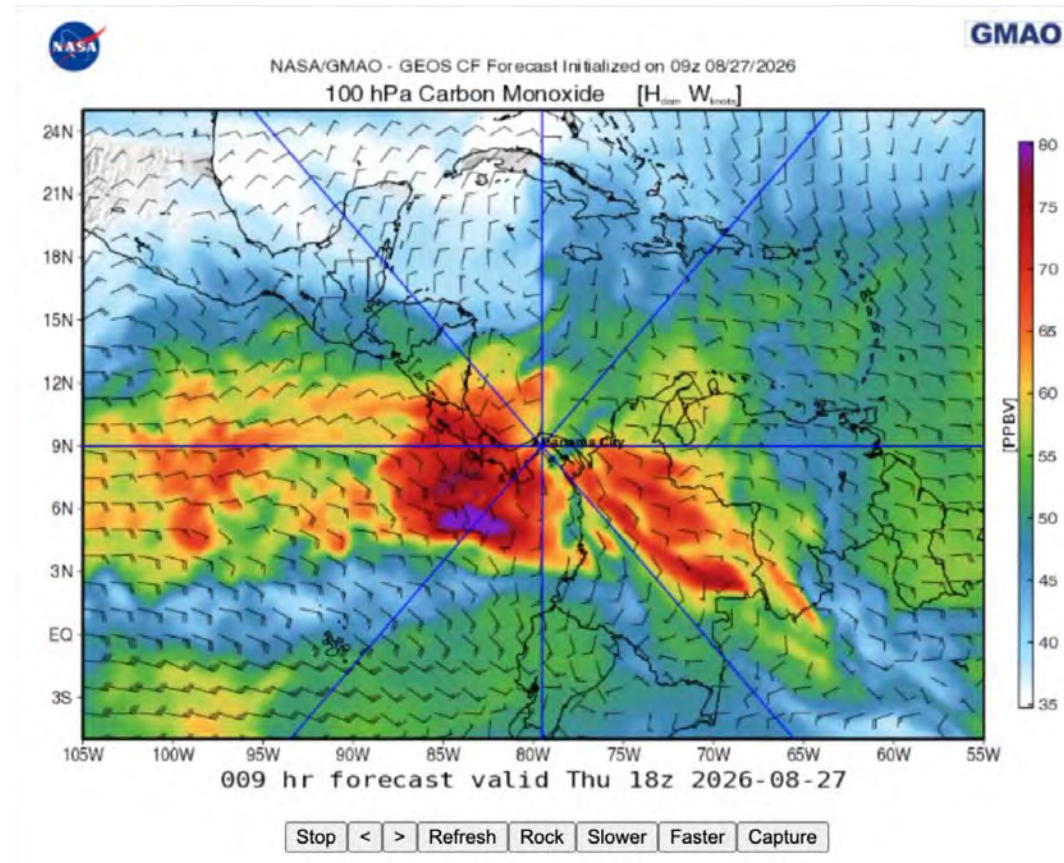


Possible flight for Tuesday: Out and back to the North-East



- Forecast through 09Z Tuesday
- BC, Dust, and SOA moving eastward over the north-east area of the flight region
- Sustained climb outward and vertical profiles during the return

Possible flight for Tuesday: Cross Equatorial flight South



- Forecast through 09Z Tuesday
- High CO concentrations along the equator
- Flat and level at 100hPa outward and vertical profiles during the return