Convective outflow

Strat/Trop Fold
RAQMS 24 hr FX
Valid 12Z 01/20

- overestimates southwestward extent of convective outflow
- equatorward extension of strat/trop folding event is captured
RAQMS 48hr CO FX
Valid 12Z 01/22

- Weak N/S gradient in CO at 3Km near 15S associated with mid-level (6km) transport of polluted convective outflow to west
- Polluted continental convective outflow moving South at 12km
- Large STE at 75W/40S at 12km
RAQMS 72hr CO FX
Valid 12Z 01/23

• Weak N/S gradient in CO at 3Km moving North

• Mid-level (6km) transport of polluted convective outflow weakens

• Polluted continental convective outflow continues moving Southwest at 12km

• STE being sheared out at 70W/40S at 12km
RAQMS 96hr CO FX
Valid 12Z 01/24

- Weak N/S gradient in CO at 3Km moving Northward
- Mid-level (6km) transport of polluted convective outflow weakens
- Polluted continental convective outflow continues moving Southwest at 12km
- New STE near 65W at 12km
RAQMS 120hr CO FX
Valid 12Z 01/24

- N/S gradient in CO moves South at 3Km
- New plume of Mid-level (6km) polluted convective outflow near 80W/10S?
- Polluted continental convective outflow extending westward and eastward within large anti-cyclone at 12km
- New STE event at 100W/45S at 12km
RAQMS Formaldehyde (HCHO) FX at 20S

- Continental HCHO > 1 ppbv within continental deep convective outflow at 10km extends westward to ~85W with HCHC> 0.4 ppbv (A)
- Residual HCHC enhancements at 2-4km above marine PBL between 115W-70W possibly due to subsiding air (B)
- Continental outflow off Chilean coast extends to 80W within marine PBL (C)
Descent of high O3 within upper level trough at 10km evident at 75W on 02/22, 70W on 02/23 (A), (B)

Descent of high O3 within two New folding events at 10km evident at 100W and 55W on 02/25 (C), (D)