Convective outflow
Maritime convection
RAQMS 24 hr FX
Valid 12Z 01/27

- Captures westward extent of convective outflow
- Underestimates southward extent of convective outflow
- Maritime convection too far to north west
3km RAQMS 48hr CO/HCHO FX
Valid 12Z 01/28

- Low level continental outflow with enhanced CO/HCHO near 25S (A)
- Maritime convection with low HCHO at 110/25S (B)
• Polluted continental convective outflow remaining quasi-stationary (A)

• Maritime convection with enhanced DMS between 110-100W and 20-30S (B)
3km RAQMS 72hr CO/HCHO FX
Valid 12Z 01/29

- Low level continental outflow with enhanced CO/HCHO near 20-25S (A)
- Maritime convection diminishing but still low HCHO at 110/25S (B)
12km RAQMS 72hr CO/DMS FX
Valid 12Z 01/29

- Polluted continental convective outflow beginning to move northward (A)

- Maritime convection diminishing but still enhanced DMS at 110W and 20-30S (B)
RAQMS 72hr CO, HCHO, DMS, O3 FX at 25S
Valid 12Z 01/29

- Long-range transport of CO (>100ppmv) and O3 (>40 ppbv) west of 100W at 5km (A)
- Residual free tropospheric O3 enhancements above PBL at 75W (subsiding air) (B)
- CO/DMS/O3 show evidence of marine convective outflow at 10-12km at 110-100W (C)
- High CO/HCHO from continental convective outflow (D)
3km RAQMS 96hr CO/HCHO FX
Valid 12Z 01/30

• Low level continental outflow with enhanced CO/HCHO near 20S (A)

• Maritime convection nearly gone but still low HCHO at 110/30S (B)
Polluted continental convective outflow continues to move northward (A).

Maritime convection nearly gone but enhanced DMS at 110W and 20-25S from upstream convection (B).
3km RAQMS 120hr CO/HCHO FX
Valid 12Z 01/31

- Low level continental outflow with enhanced CO/HCHO near 20S (A)
- Broad region of low level continental outflow with enhanced CO/HCHO between EQ-15S (B)
- Sharp north-south HCHO gradient at EQ due to marine convection to north of EQ (C)
12km RAQMS 120hr CO/DMS FX
Valid 12Z 01/31

- Polluted continental convective outflow continues to move northward (A)
- Elevated CO from long-range transport over Galapagos (B)
- Elevated DMS from maritime convection at 100W/10N (C)
RAQMS 120hr CO, HCHO, DMS, O3 FX at 80W
Valid 12Z 01/31

- Enhanced CO/HCHO, lower O3 in northward extension of S. American convective outflow
- Broad region of low level continental outflow at 3km with enhanced CO/HCHO between EQ-15S (B)
- Sharp north-south HCHO gradient with enhanced DMS due to upstream marine convection to north of EQ (C)