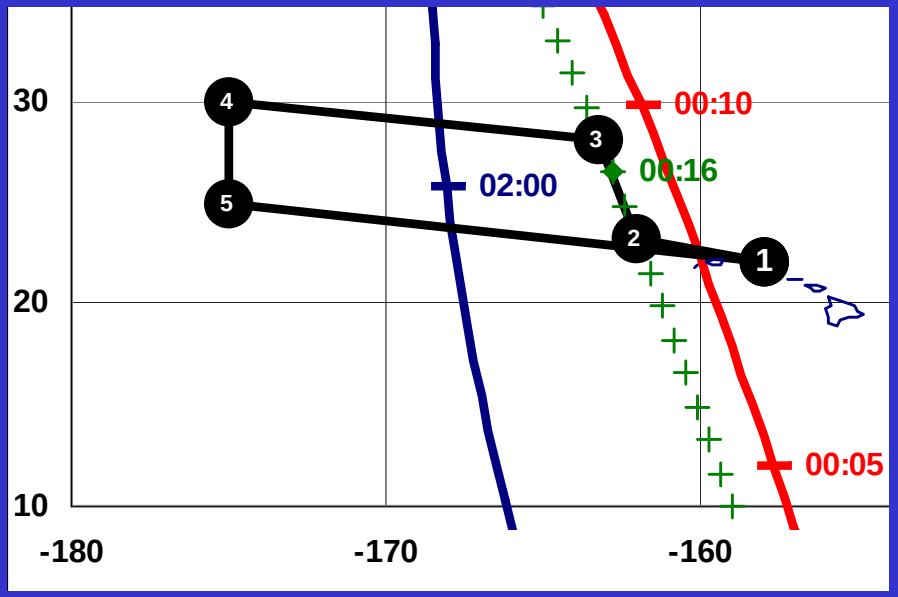
Plan for INTEX-B flight#13 – Hawaii local 2 on Friday 4/28 updated Thursday 4/27 @22Z

Objectives:

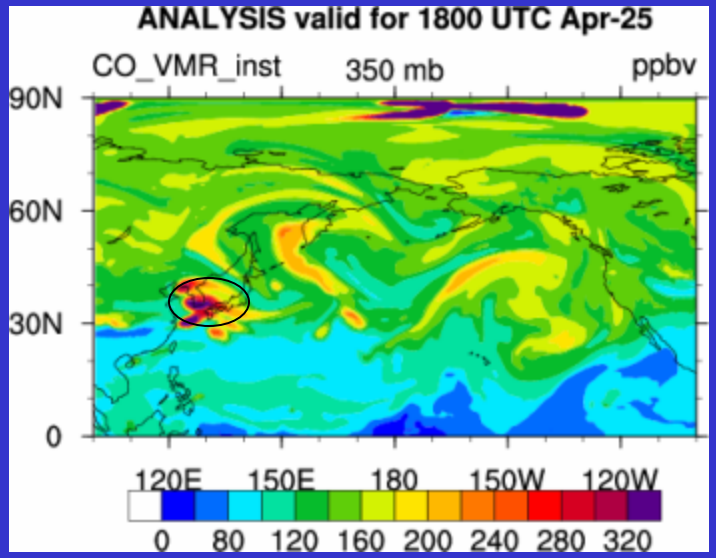
- Asian pollution
- TES validation

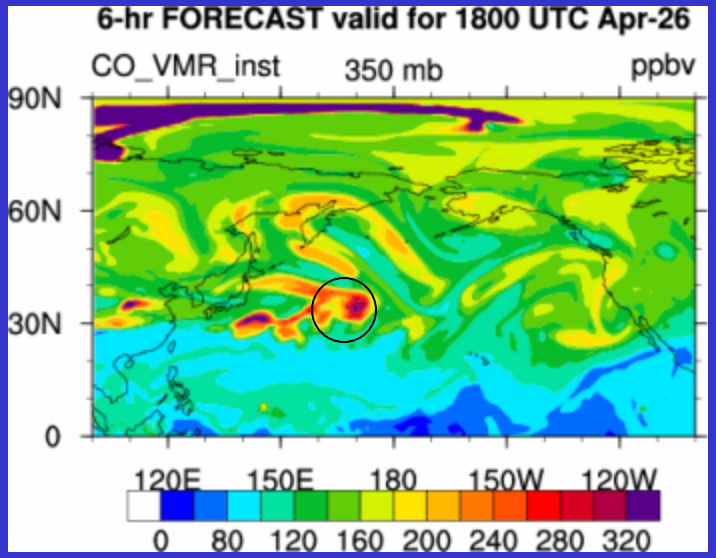


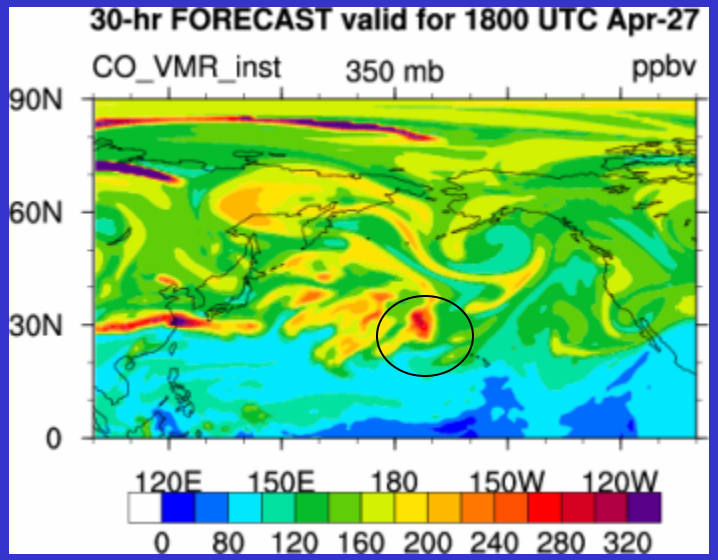
Point	1	2	3	4	5	6
Latitude	22	23.152	28.085	30	25	22
Longitude	-158	-162.006	-163.223	-175	-175	-158

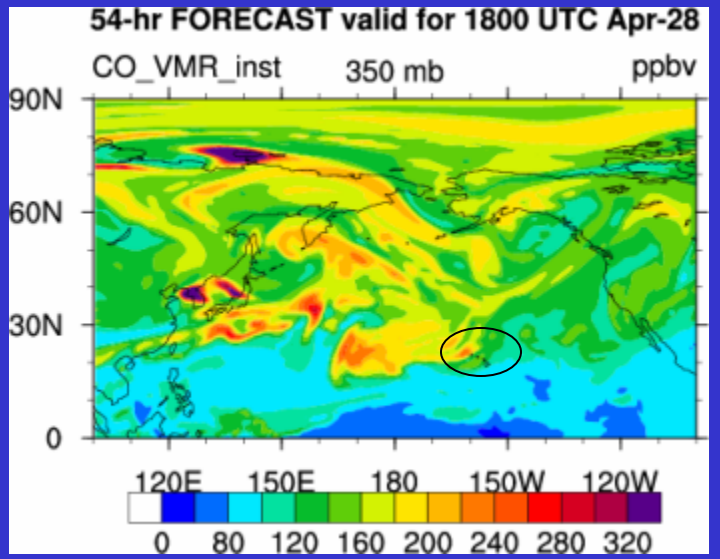
- Points 2-3: TES validation track with spirals at each end
- Points 3-4-5-1: Vertical profiling through Asian plumes

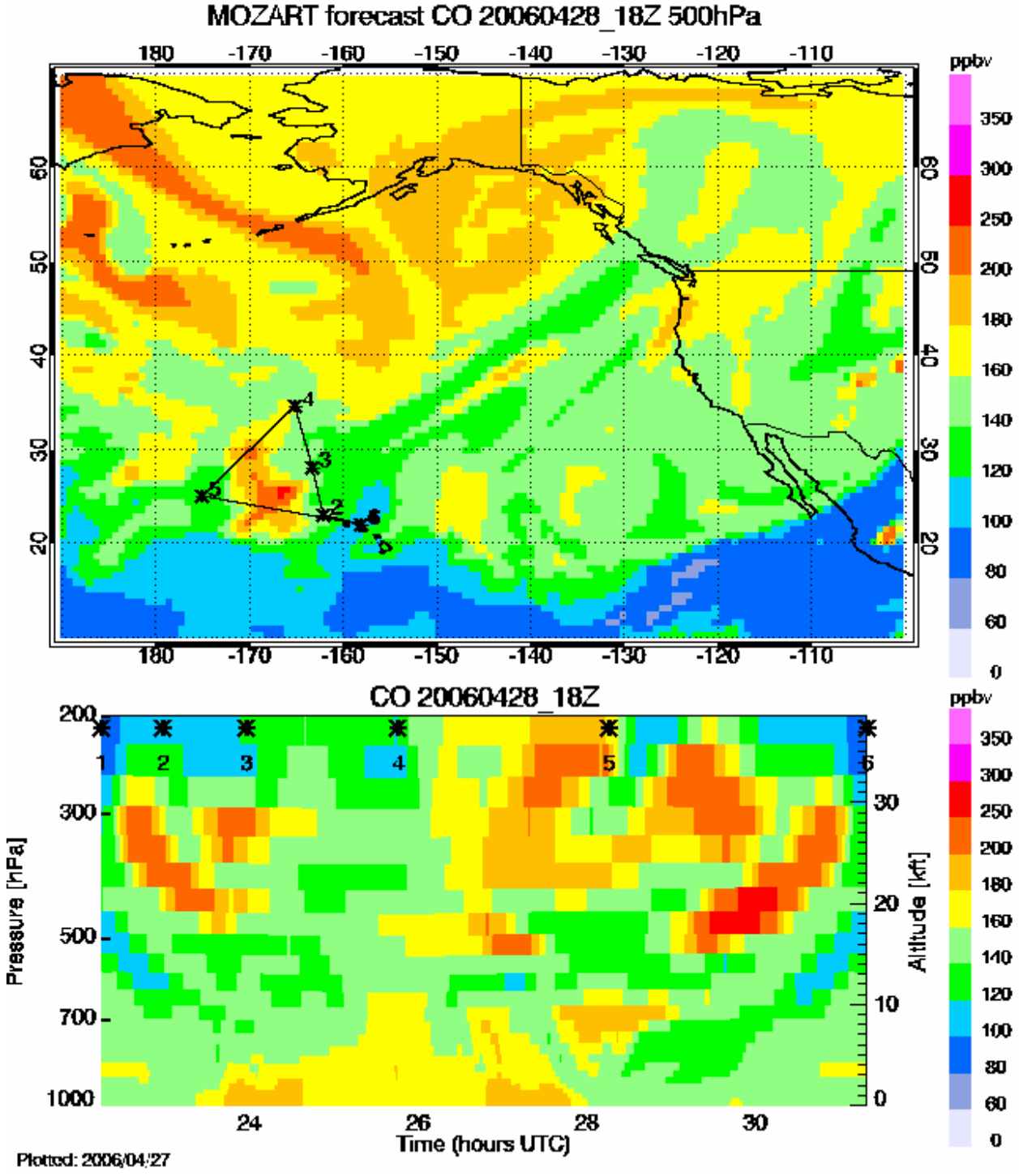
Take-off time 1145 local, 8:46 h flight

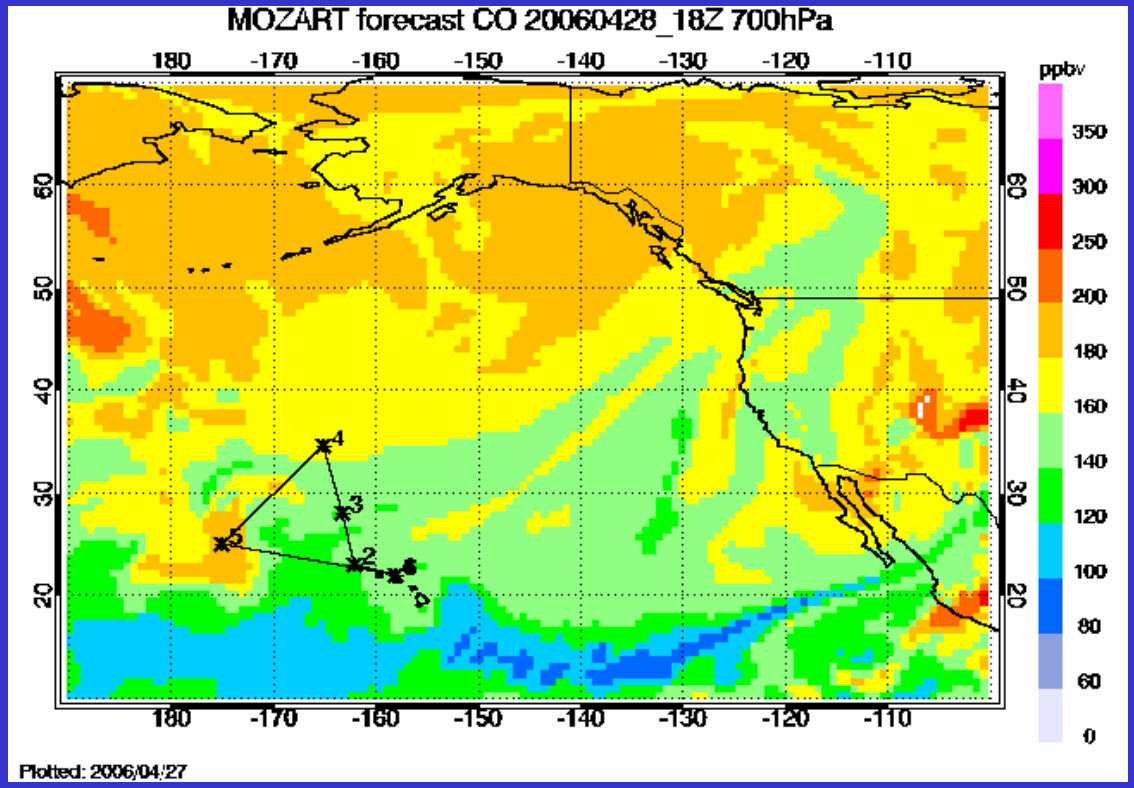

ANALYSIS valid for 1800 UTC Apr-25
CO_VMR_inst
350 mb
ppbv
90N
60N
30N
0
120E
150E
180
150W
120W
0
80
120
160
200
240
280
320

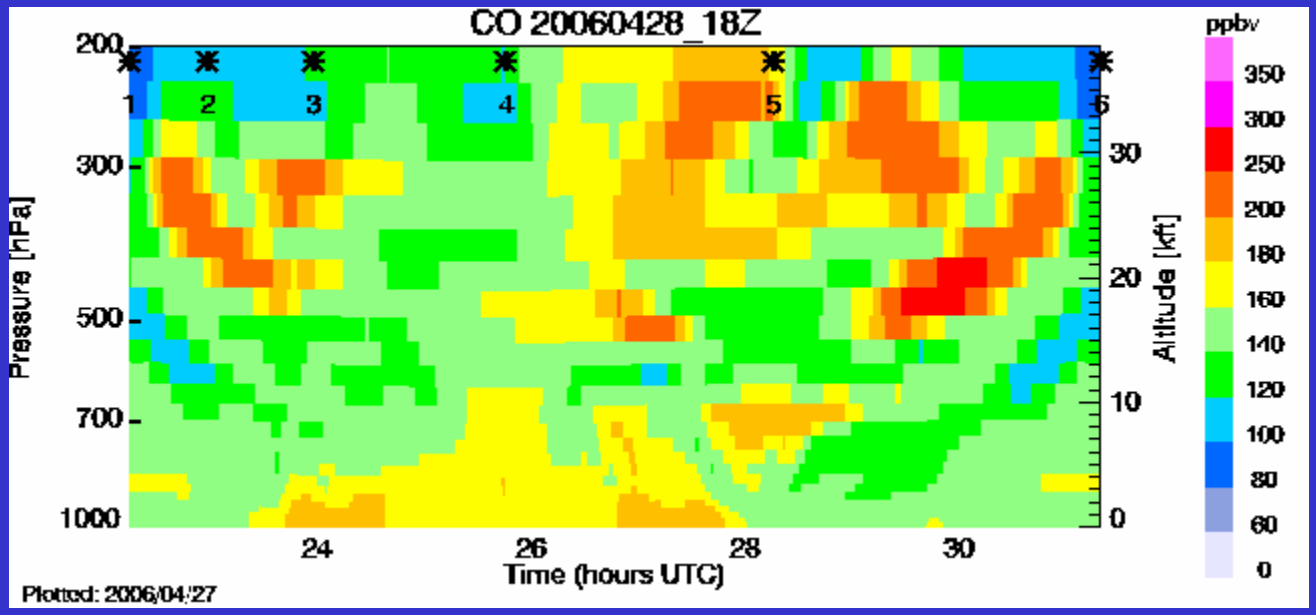

6-hr FORECAST valid for 1800 UTC Apr-26
CO_VMR_inst
350 mb
ppbv
90N
60N
30N
0
120E
150E
180
150W
120W
0
80
120
160
200
240
280
320


30-hr FORECAST valid for 1800 UTC Apr-27
CO_VMR_inst
350 mb
ppbv
90N
60N
30N
0
120E
150E
180
150W
120W
0
80
120
160
200
240
280
320

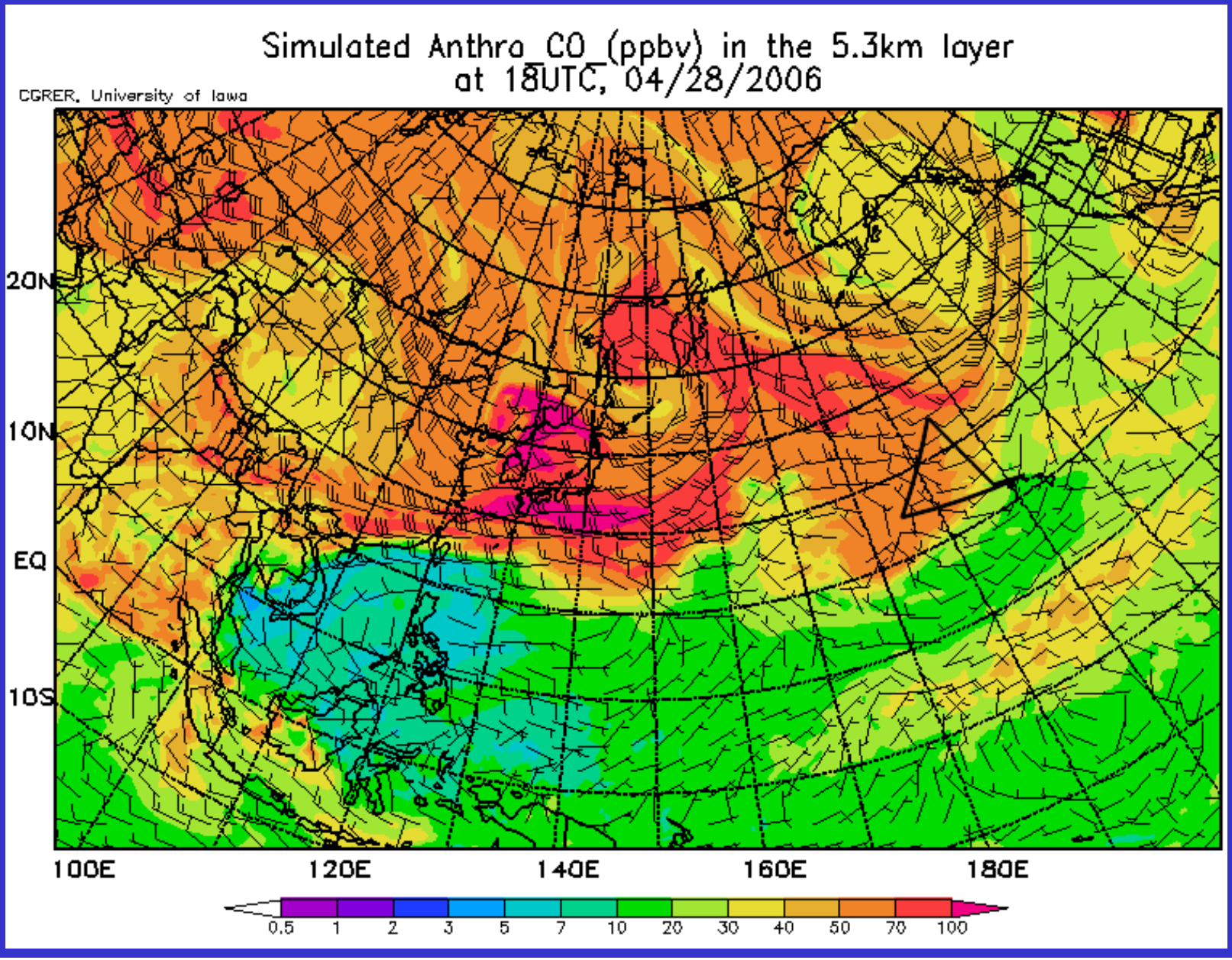

54-hr FORECAST valid for 1800 UTC Apr-28
CO_VMR_inst
350 mb
ppbv
90N
60N
30N
0
120E
150E
180
150W
120W
0
80
120
160
200
240
280
320


MOZART forecast CO 20060428_18Z 500hPa
180 -170 -160 -150 -140 -130 -120 -110
60 50 40 30 20
ppbv
350 300 250 200 180 160 140 120 100 80 60 0
CO 20060428_18Z
200 300 500 700 1000
Pressure [hPa]
1 2 3 4 5 6
30 20 10 0
Altitude [kft]
24 26 28 30
Time (hours UTC)
Plotted: 2006/04/27

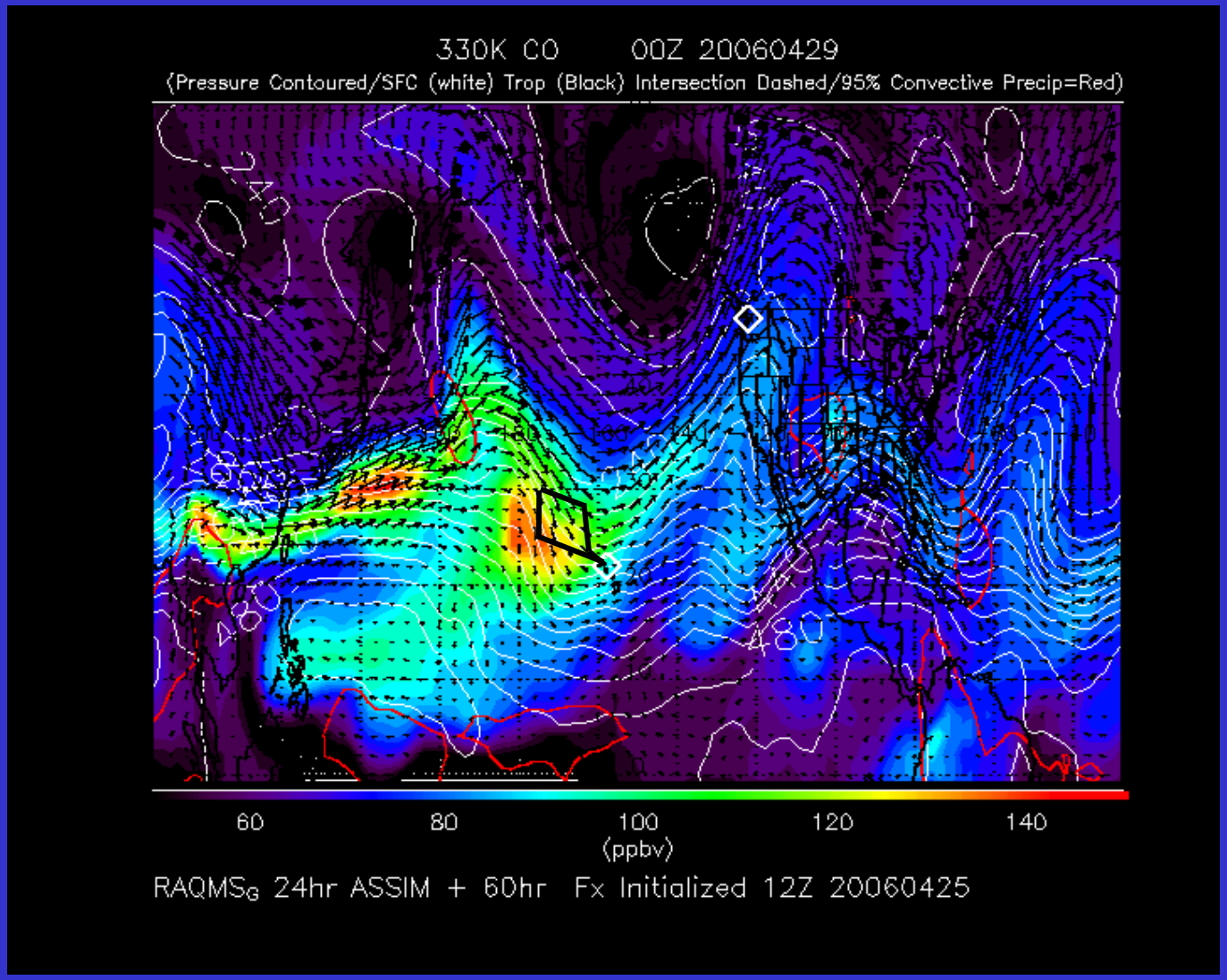

MOZART forecast CO 20060428_18Z 700hPa
180 -170 -160 -150 -140 -130 -120 -110
60 50 40 30 20
ppbv
350 300 250 200 180 160 140 120 100 80 60 0
1 2 3 4 5
Plotted: 2006/04/27


CO 20060428_18Z
Pressure [hPa]
200 300 500 700 1000
1 2 3 4 5 6
24 26 28 30
Time (hours UTC)
Altitude [kft]
30 20 10 0
ppbv
350 300 250 200 180 160 140 120 100 80 60 0
Plotted: 2006/04/27

CO Initialized 0Z 27th proposed flight track west

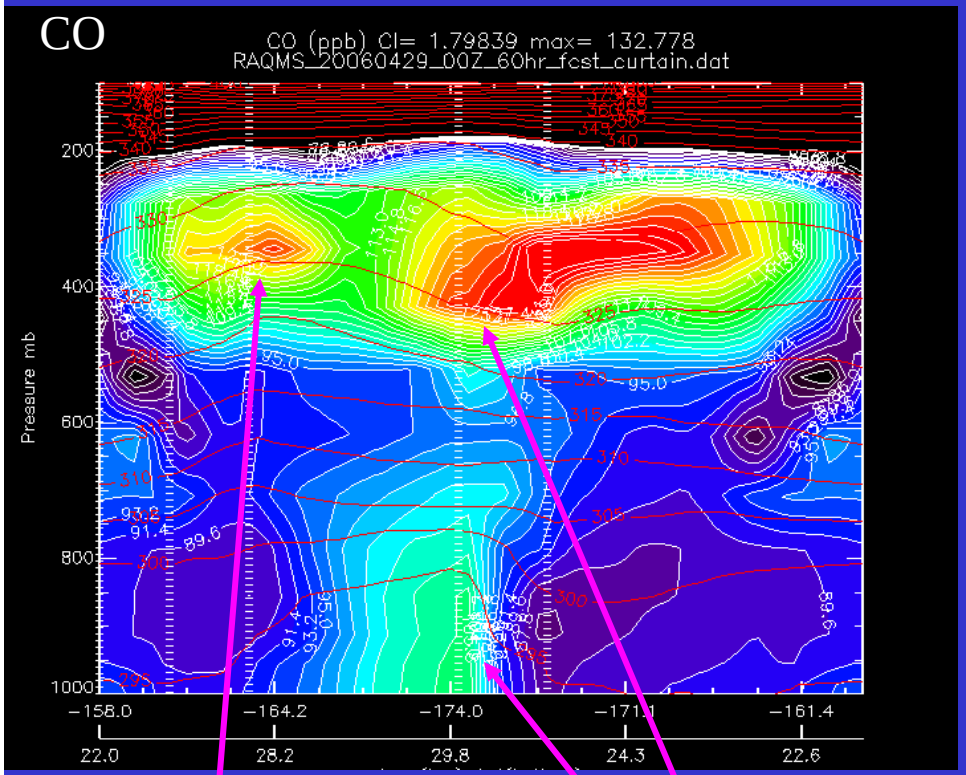


RAQMS 330K CO 60hr Fx valid 00Z 04/29 (2PM Fri. 04/28 Hawaii local)

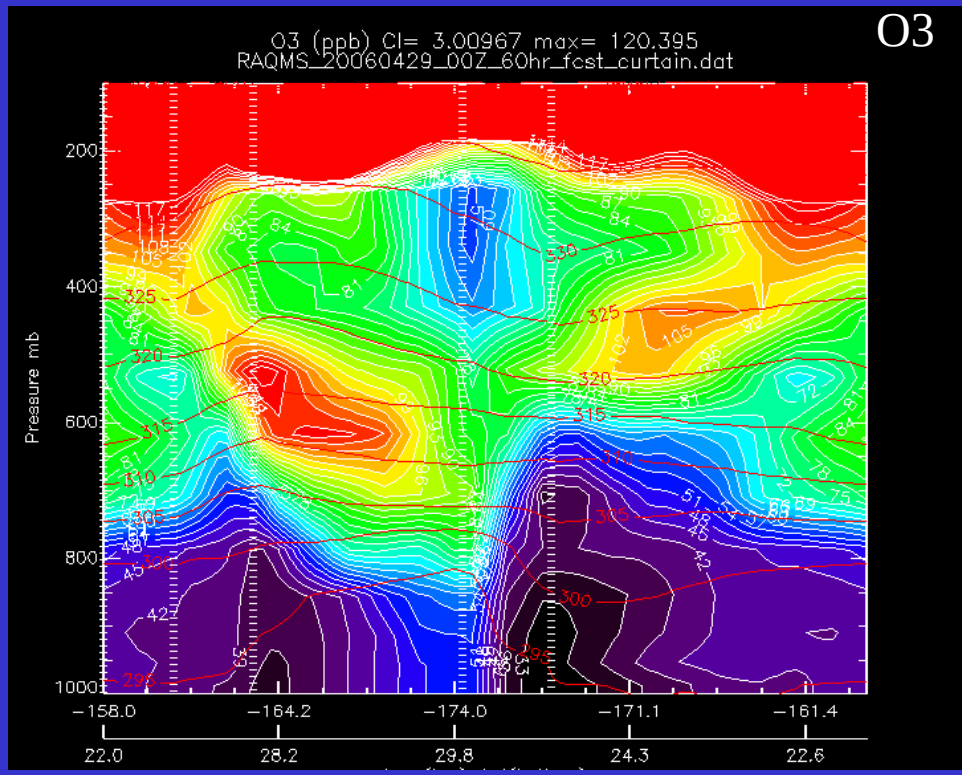


RAQMS Flight track curtain 60hr Fx valid 00Z 04/29 (2PM Fri. 04/28 Hawaii local)

CO



O3

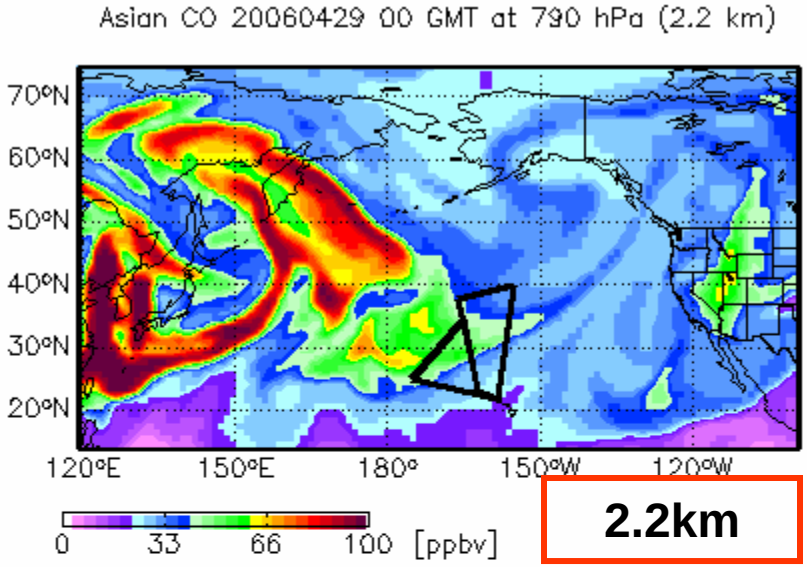


High altitude CO along Aura validation segment

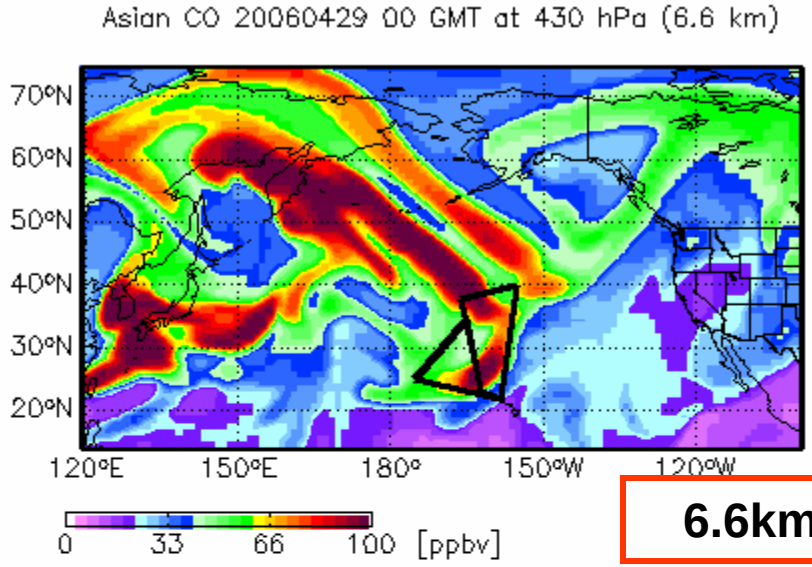
High and low altitude CO along westward segment

GMAO Asian CO

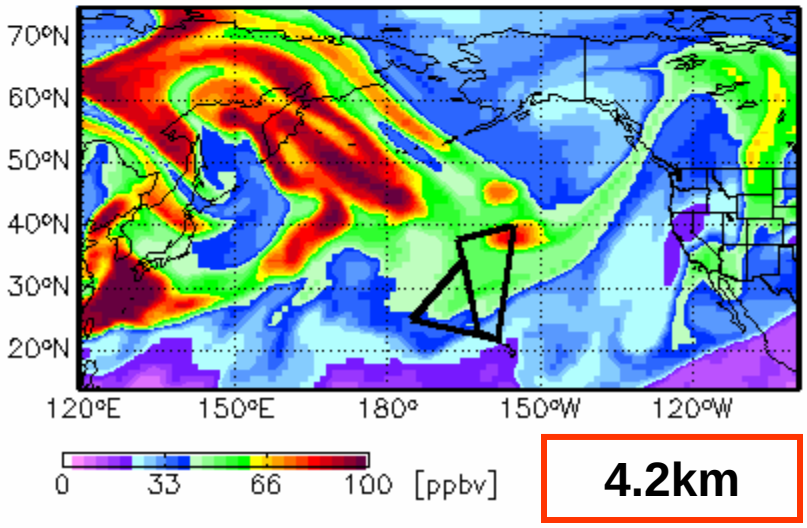
Friday 4/29 0Z



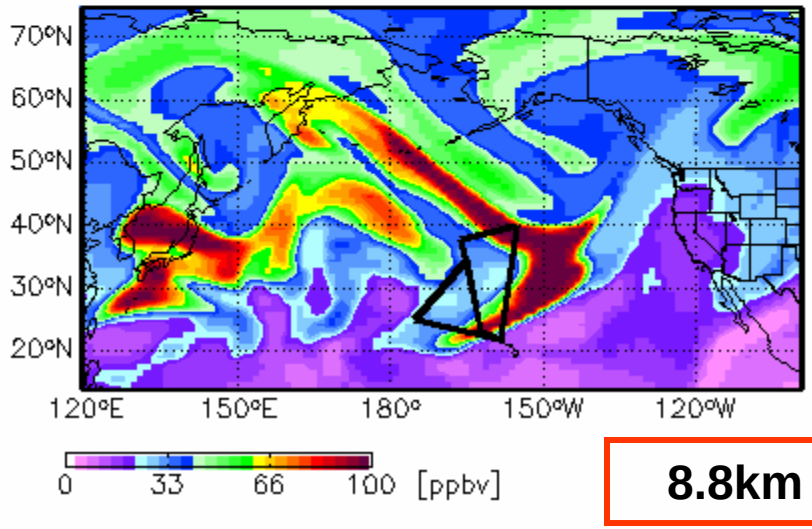
2.2km



6.6km



4.2km



8.8km

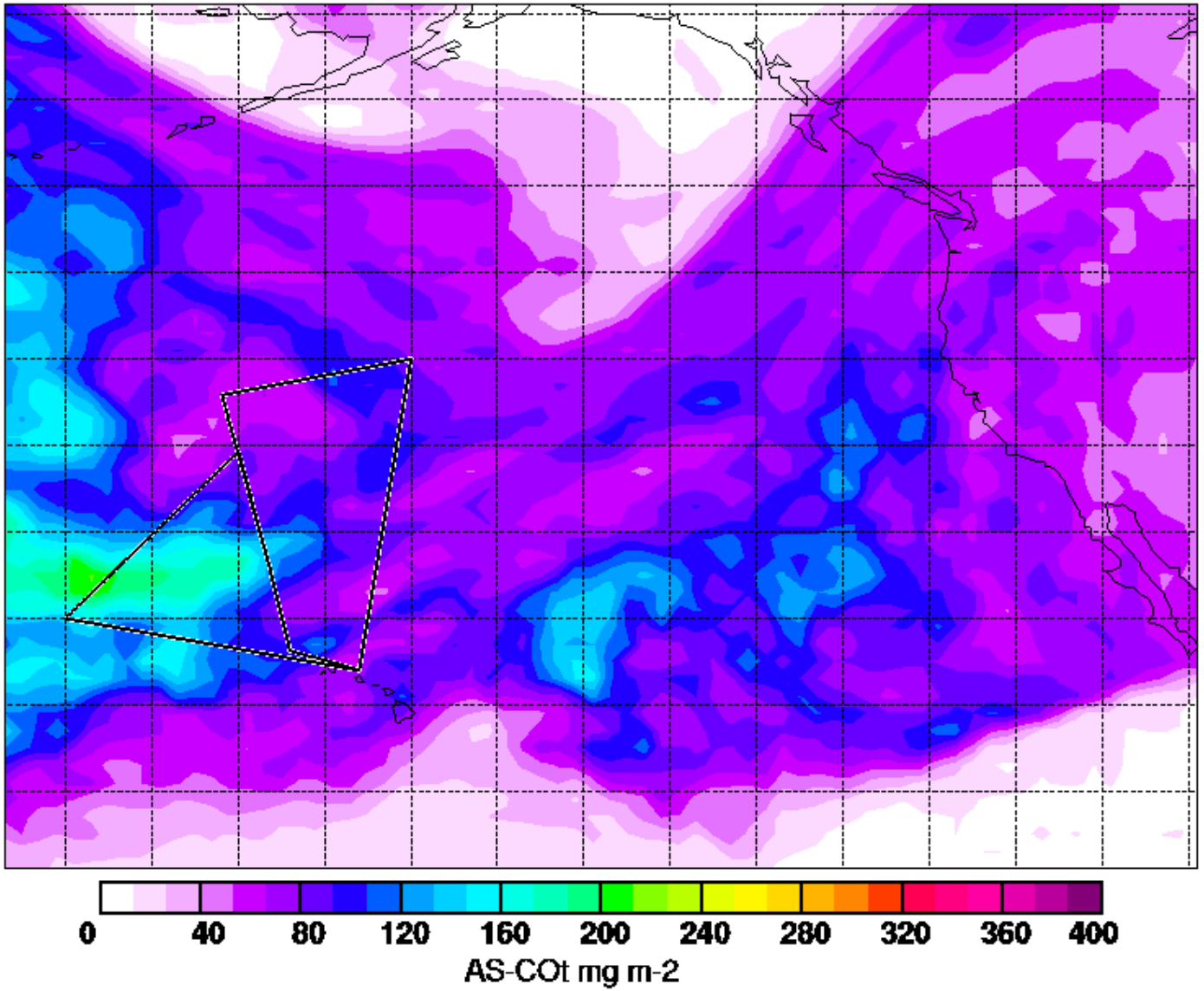
Initialized 4/27 0Z

Total column of species AS-COt for age class 0 - 20.00 DAYS

Latest analysis time 20060427. 0 Actual time 20060429. 0

Mean value 0.423E+02 Maximum value 0.749E+03 Minimum value 0.000E+00

Distance of grid lines 5.0 deg

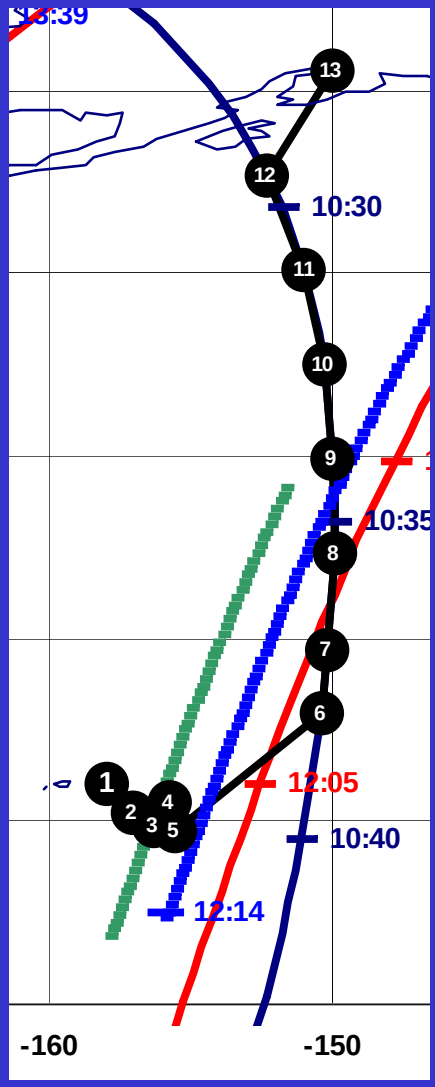


Looking ahead to Sunday's transit flight…

Plan for INTEX-B flight#14 – Hawaii-Anchorage transit on Sunday 4/30 updated Thursday 4/27 @22Z

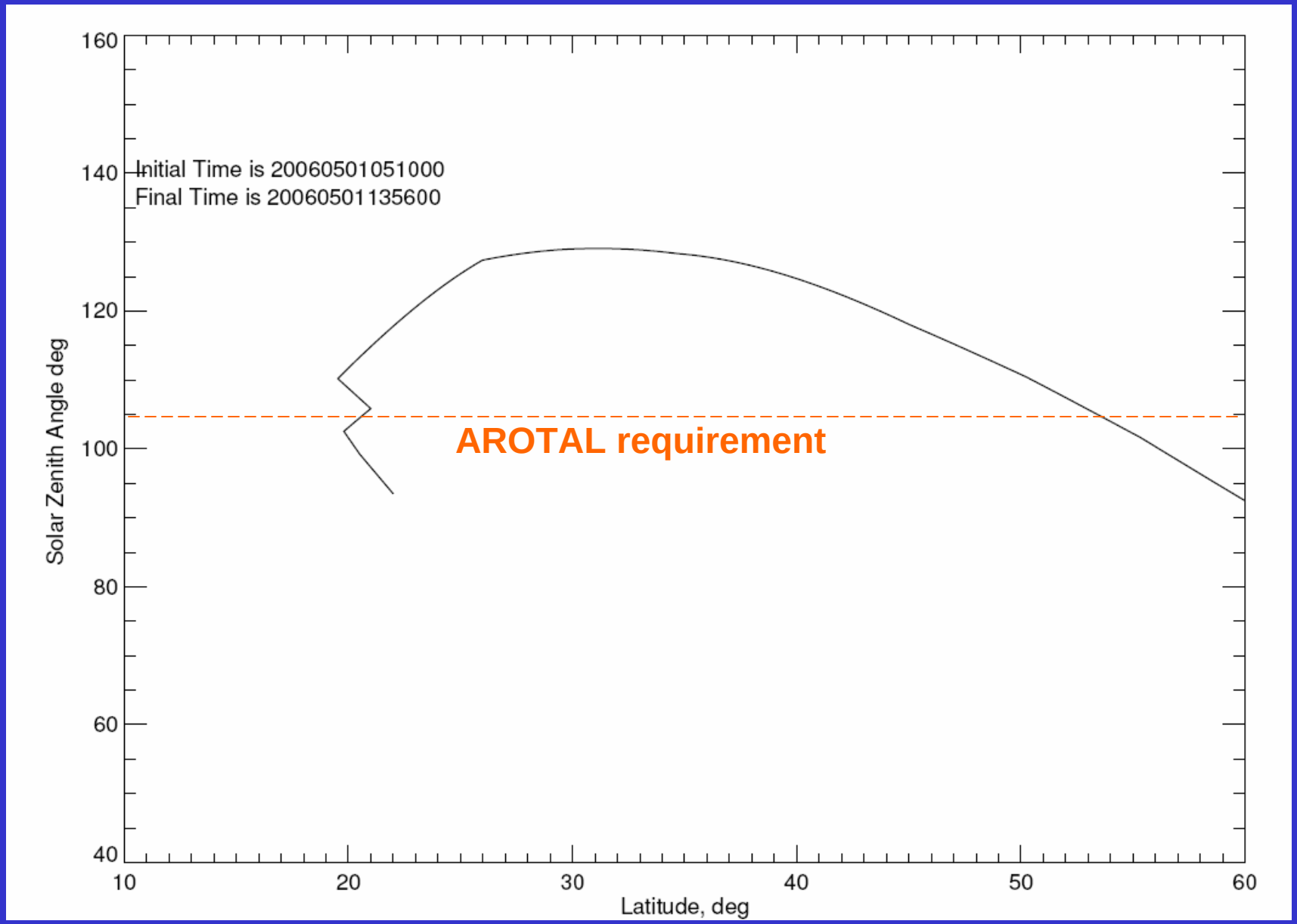
Objectives:

- MBL dynamics, sea salt flux (points 2-4 at 1K)
- MLO spiral (point 5)
- HIRDLS validation (points 6-12 at 35K, underpass at point 9)
- Vertical profile through Asian pollution opportunity

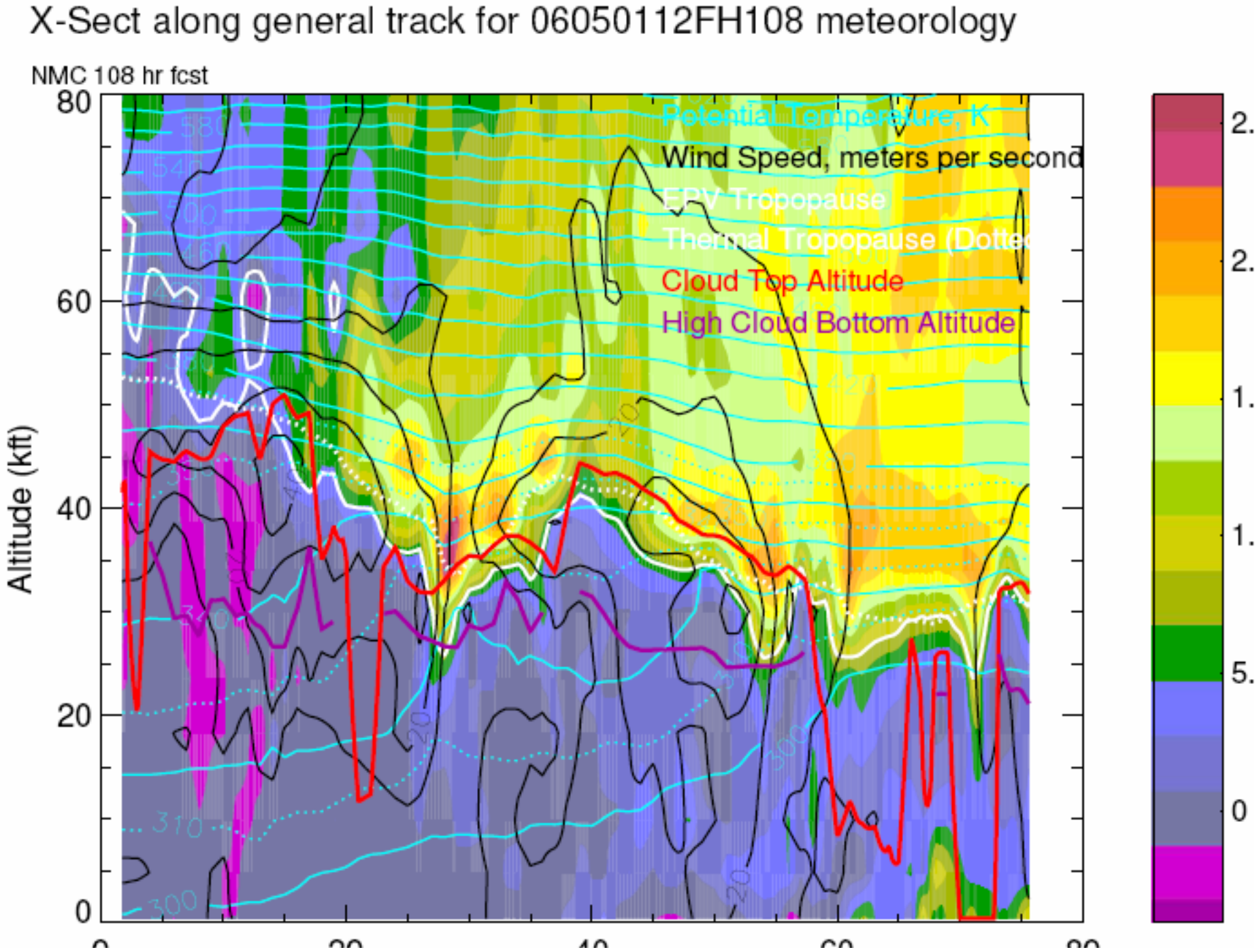


Take-off time 1910 local, 8:47h flight

1	2	3	4	5	6	7	8	9	10	11	12	13
22	20.5	19.8	21	19.53	25.975	29.448	34.657	39.857	45.04	50.194	55.303	61.17
-158	-157	-156.3	-155.7	-155.57	-150.38	-150.141	-149.947	-149.985	-150.316	-151.034	-152.29	-150

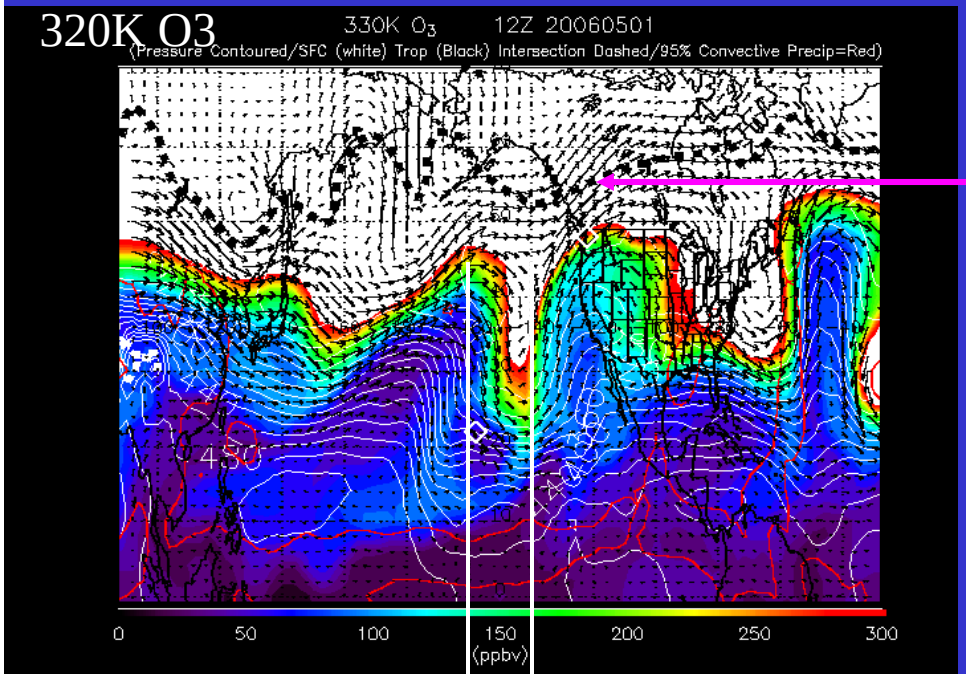


SZA as a function of latitude along proposed flight track

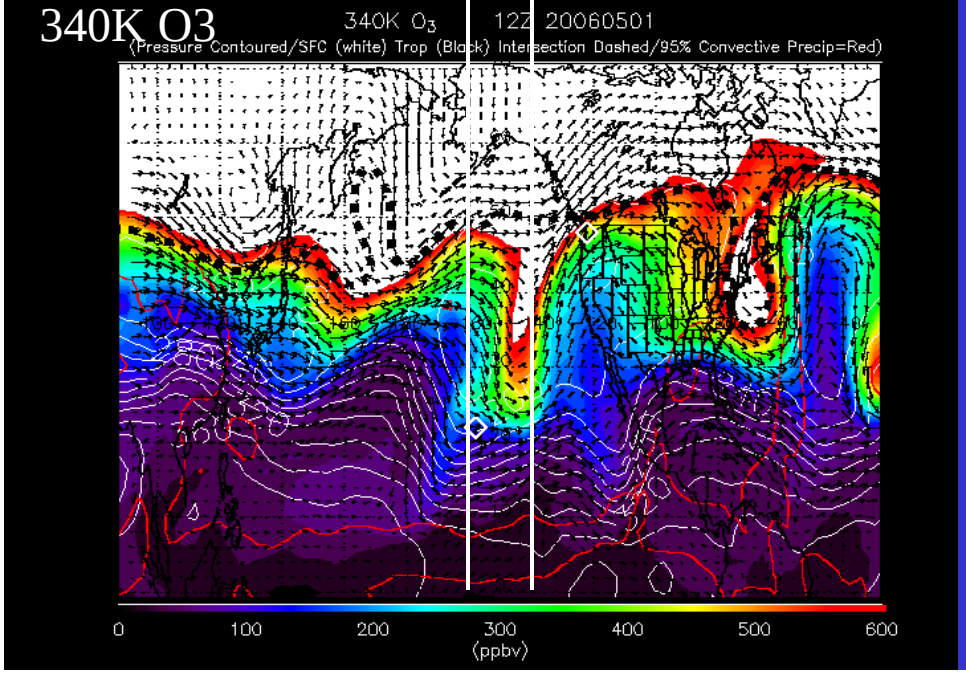

X-Sect along general track for 06050112FH108 meteorology
NMC 108 hr fcst
Potential Temperature, K
Wind Speed, meters per second
EPV Tropopause
Thermal Tropopause (Dotte
Cloud Top Altitude
High Cloud Bottom Altitude
Altitude (kft)
80
60
40
20
0
2.
2.
1.
1.
5.
0

Ahead: RAQMS 120hr Fx valid 12Z 05/01 (2AM Mon. 05/01 Hawaii local)

320K O3

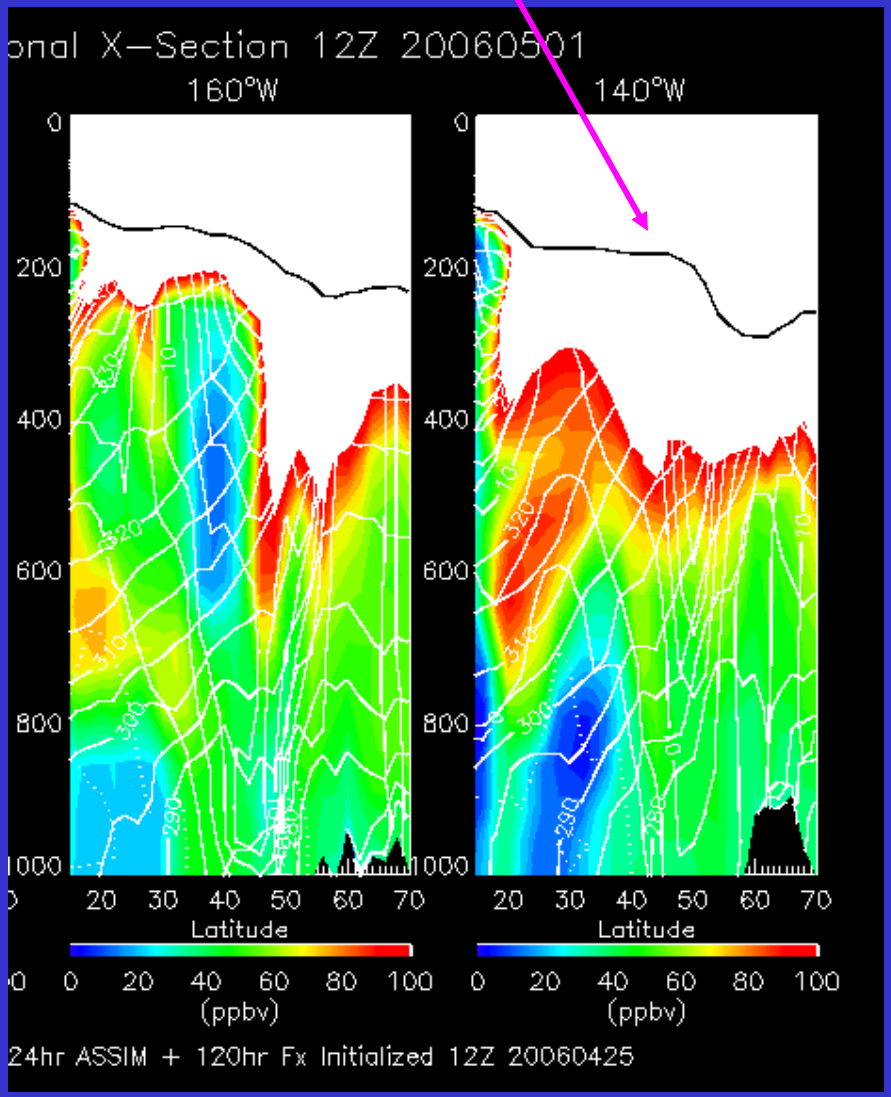


340K O3

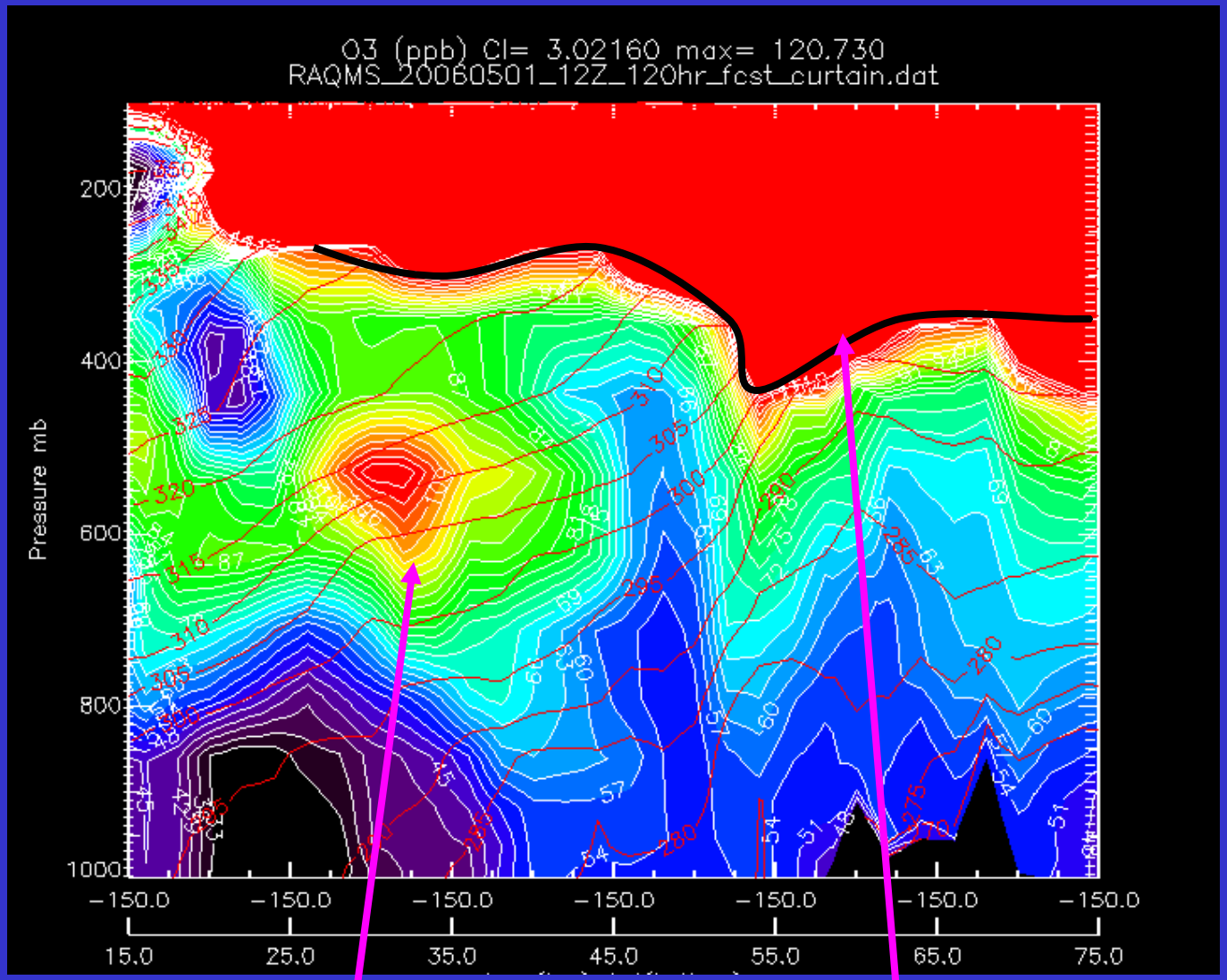


O3 sections at 160W, 140W

Thermal tropopause



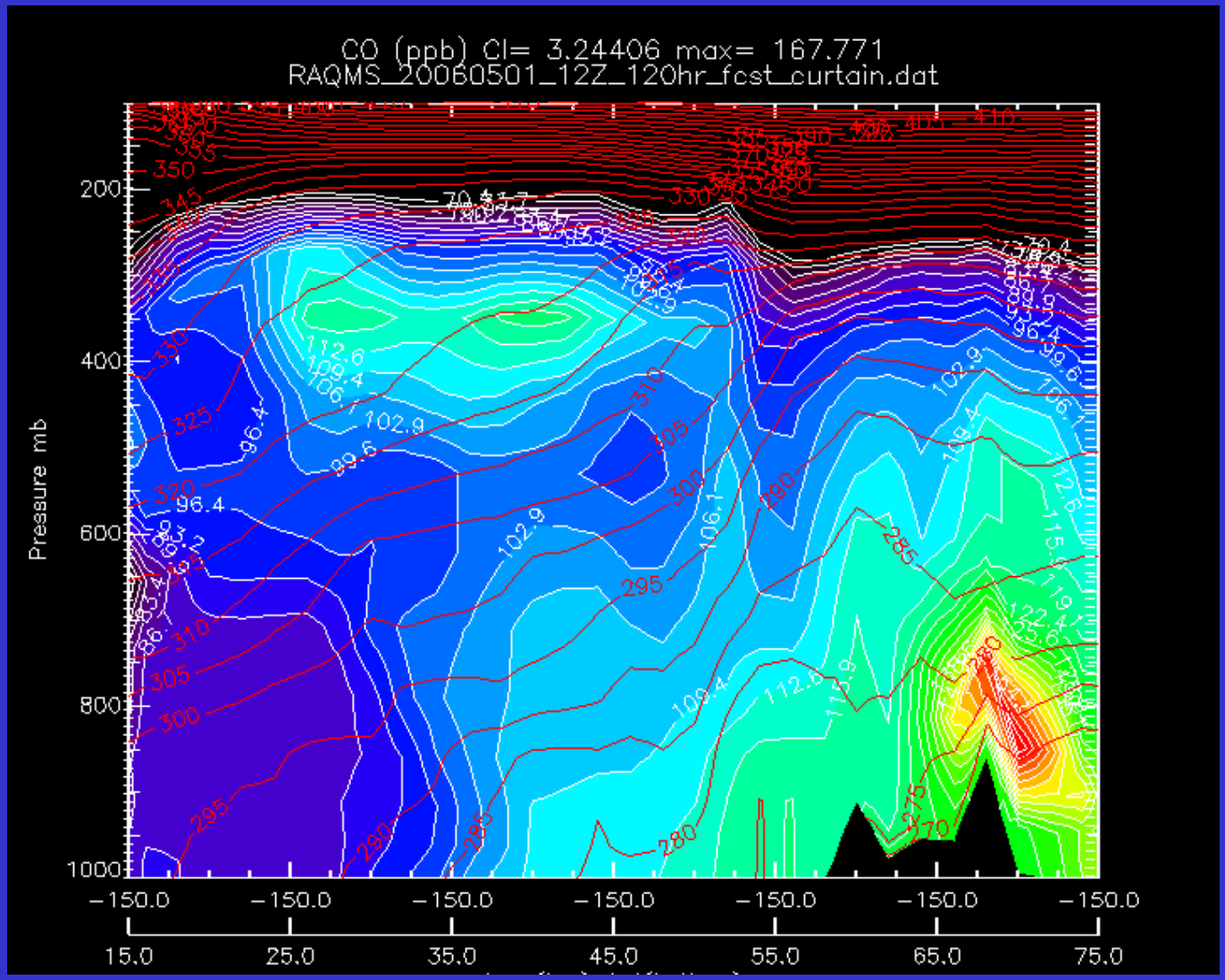
RAQMS O3 curtain along 150W for HI/AK transit (HRDLS val)
120hr Fx valid 12Z 05/01 (2AM Mon. 05/01 Hawaii local)



Filament from upstream stratospheric intrusion

Approx. tropopause altitude

RAQMS CO curtain along 150W for HI/AK transit (HRDLS val)
120hr Fx valid 12Z 05/01 (2AM Mon. 05/01 Hawaii local)

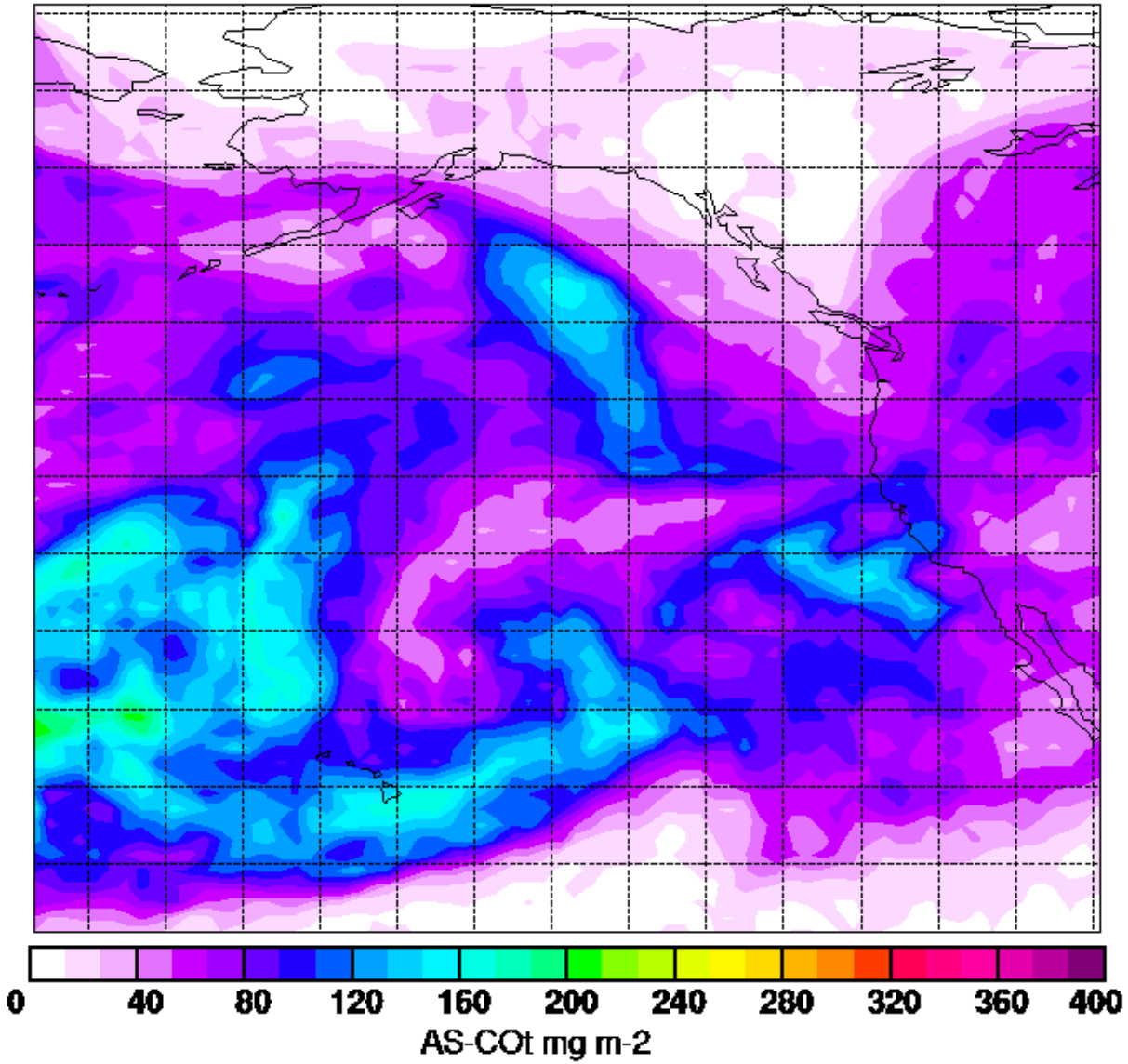


Total column of species AS-COt for age class 0 - 20.00 DAYS

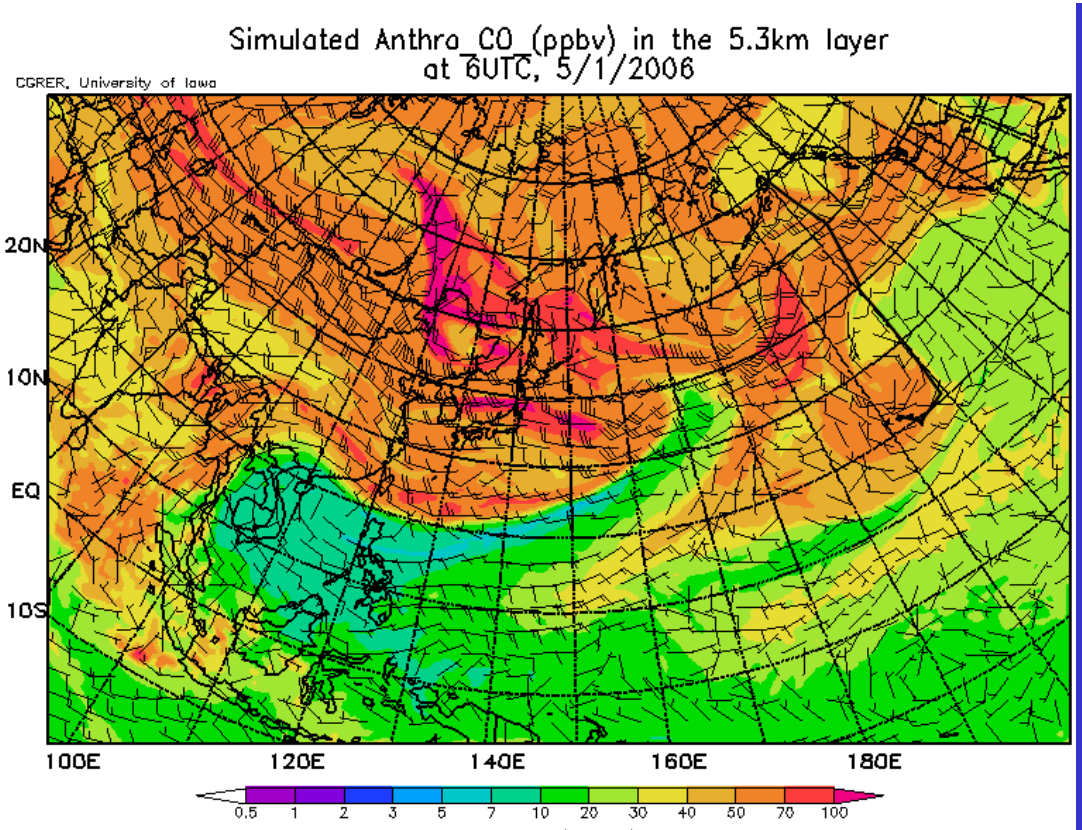
Latest analysis time 20060427. 0 Actual time 20060501.120000

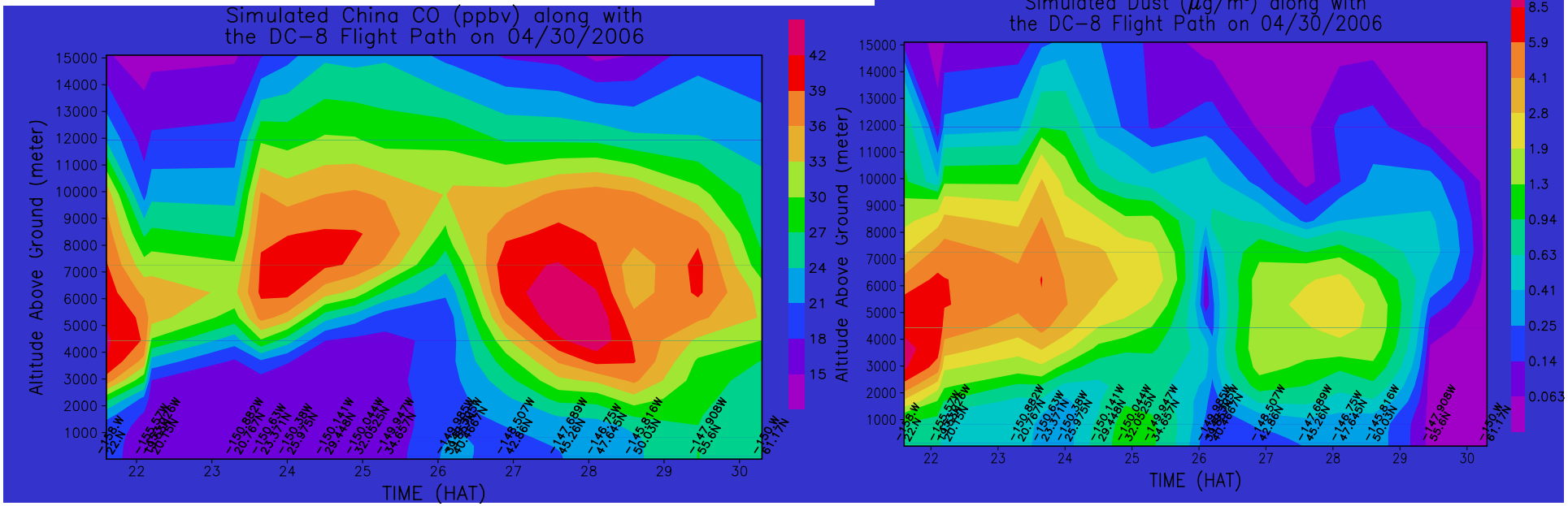
Mean value 0.417E+02 Maximum value 0.730E+03 Minimum value 0.000E+00

Distance of grid lines 5.0 deg



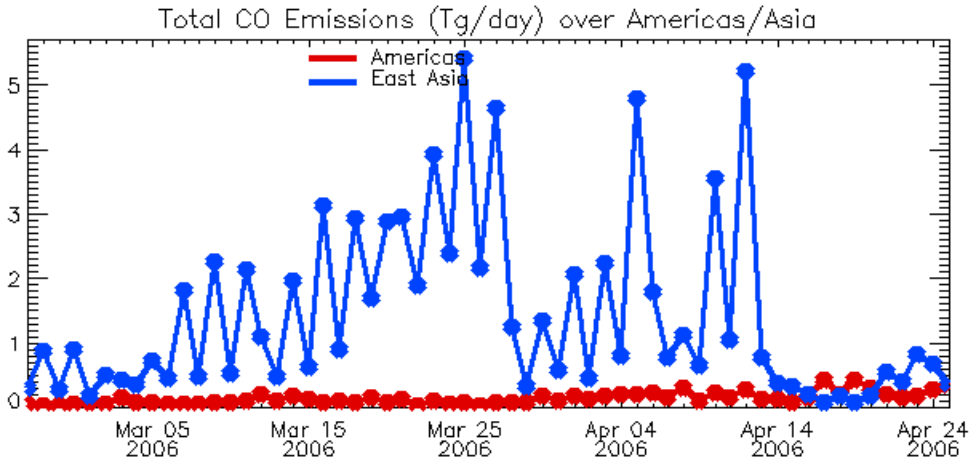
Looking ahead to Sunday

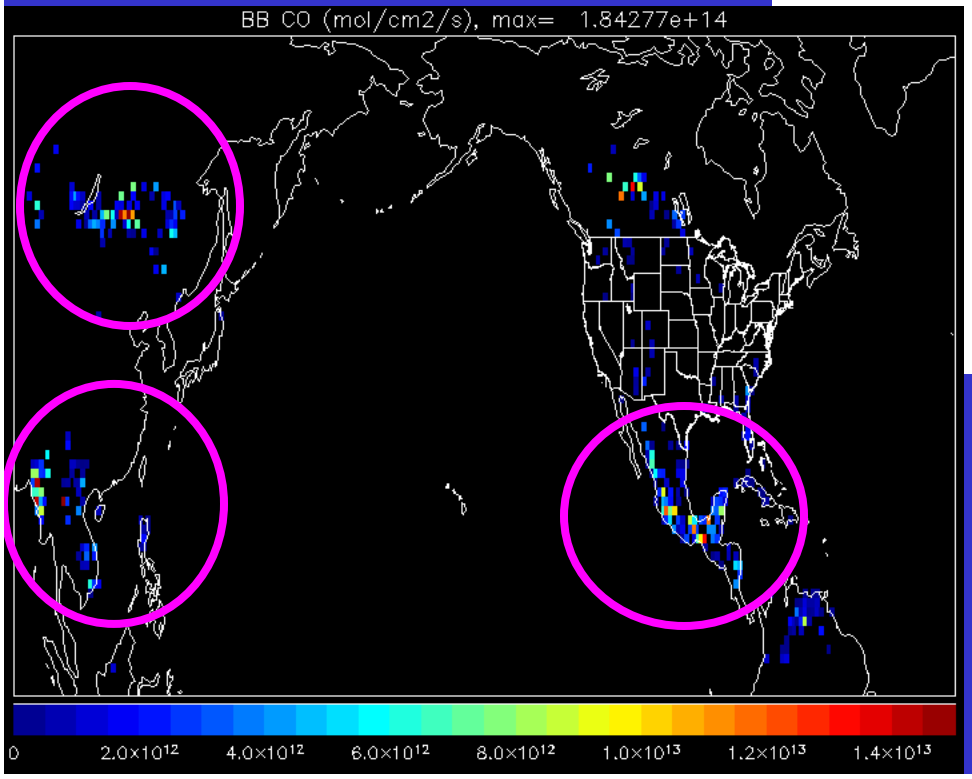


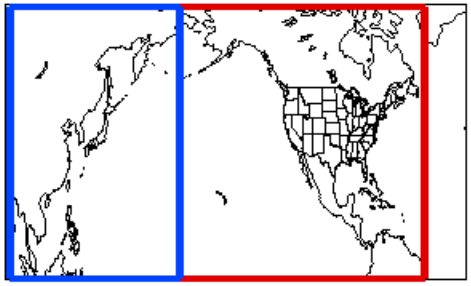


Biomass burning starting up in Northeast Asia?

Overall emissions remain much lower than early April peak







MODIS Firecounts in Canada but no smoke apparent in MODIS truecolor imagery