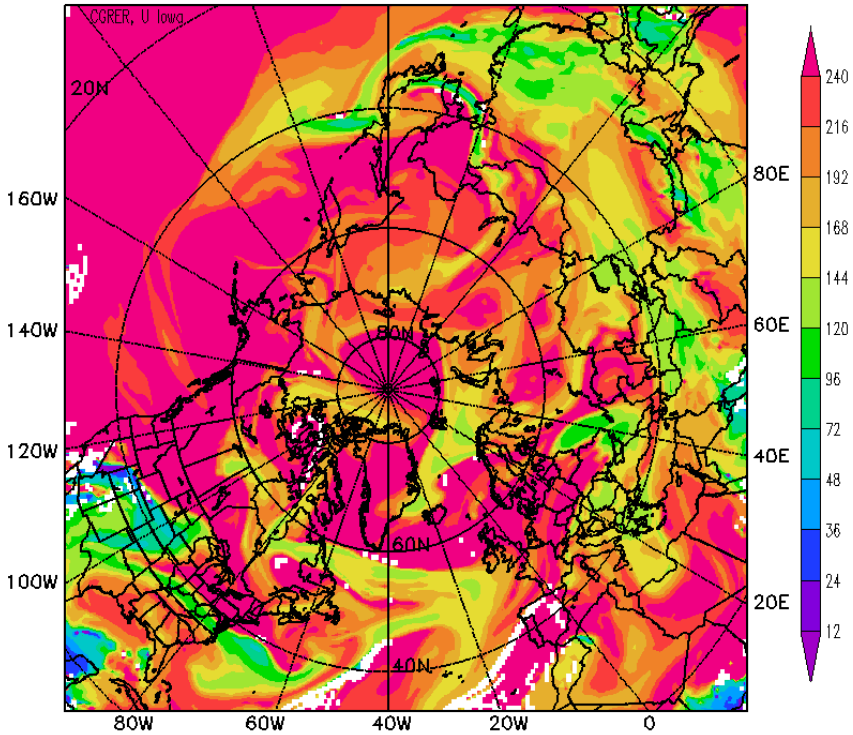
IOWA STEM model forecast

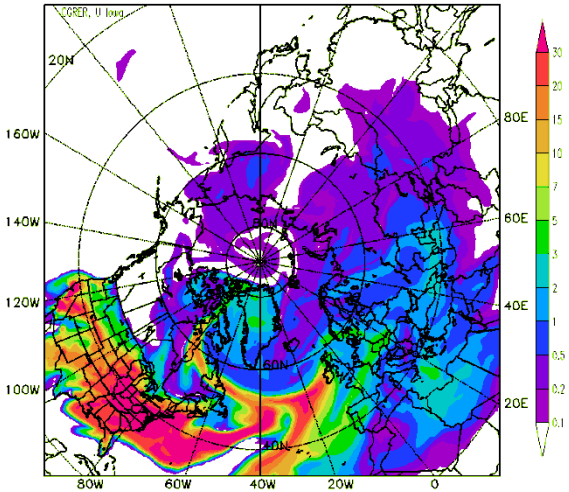
06-23-2008

Outlook for the 26th

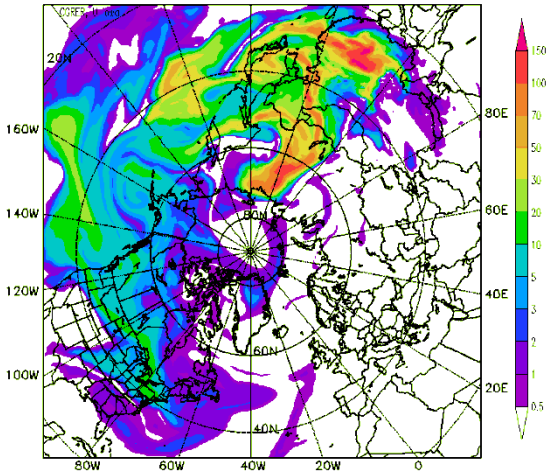
Simulated VOC_Averaged_Age_(hour) in the 8.4km layer
at 18UTC, 06/26/2008



Simulated USA_CO_(ppbv) in the 1.5km layer
at 18UTC, 06/26/2008



Simulated China_CO_(ppbv) in the 5.5km layer
at 18UTC, 06/26/2008

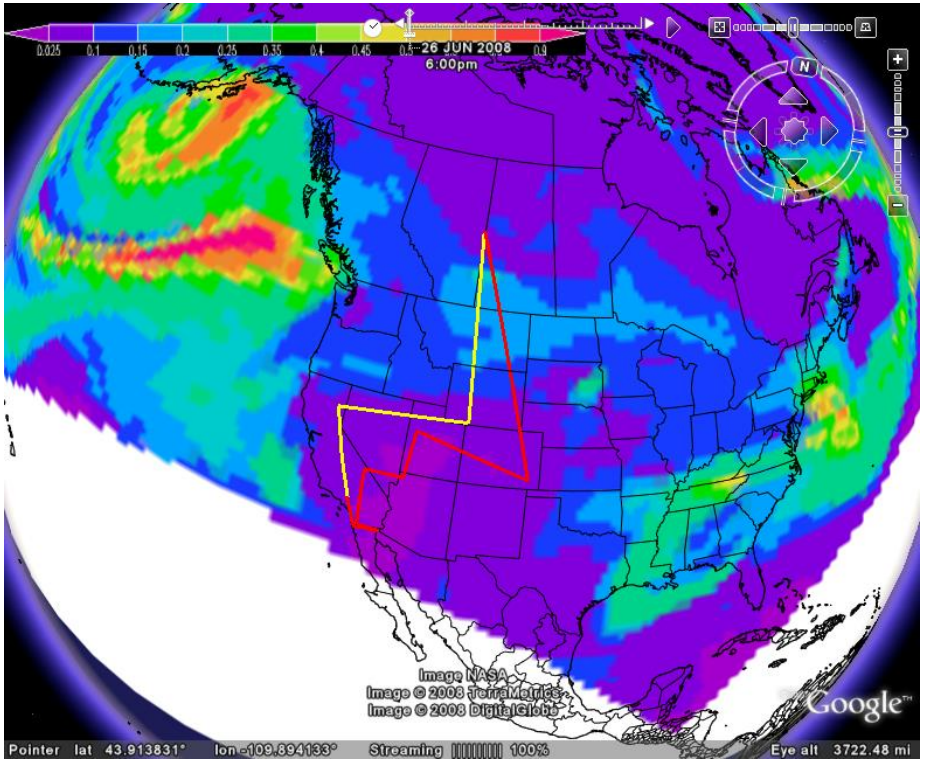


26 th

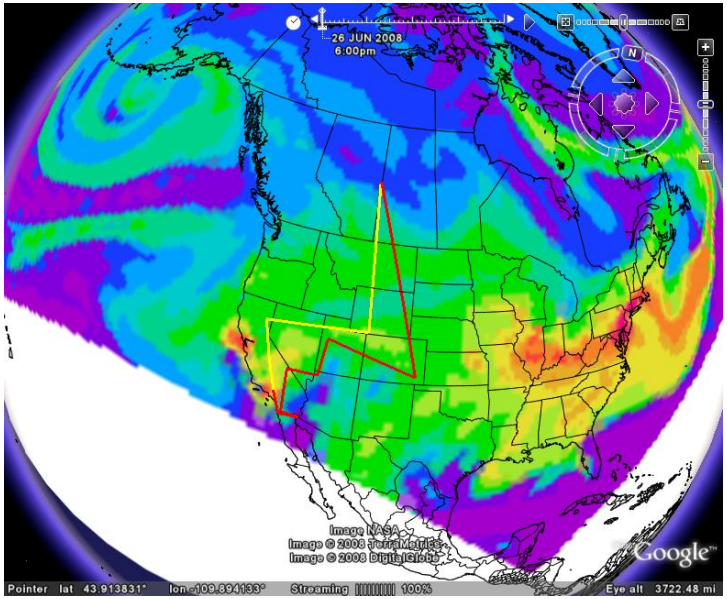
Red – V1 – US mexico border

Yellow – V2 – Via Cheyenne

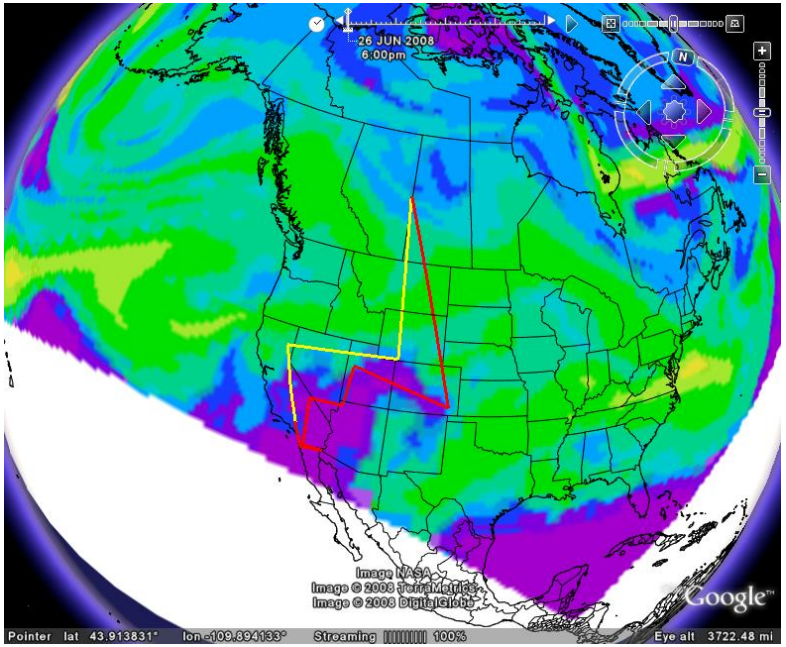
Left – AOD



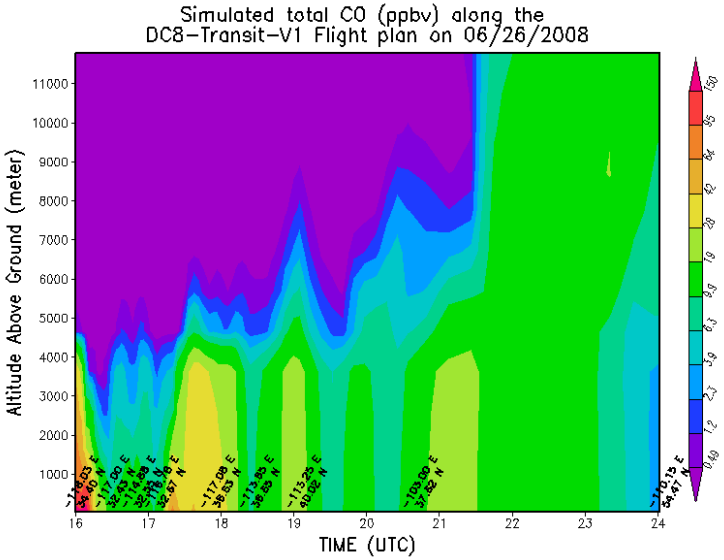
Top right – CO at 1.5 km

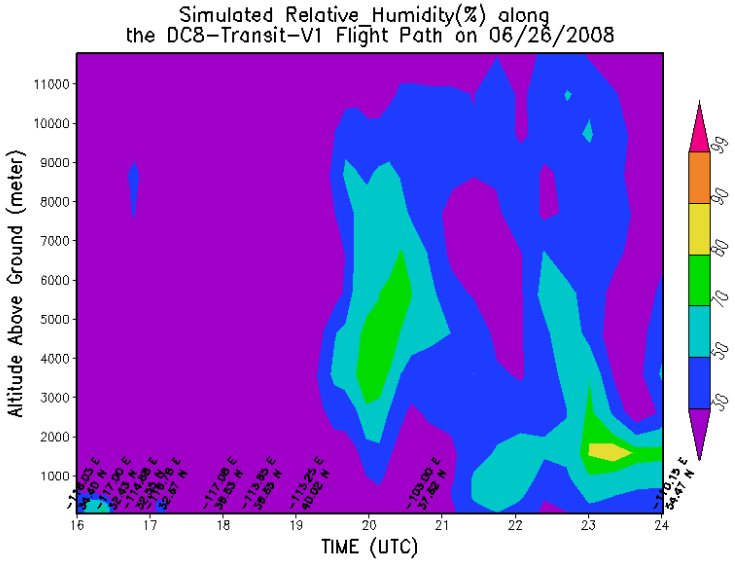


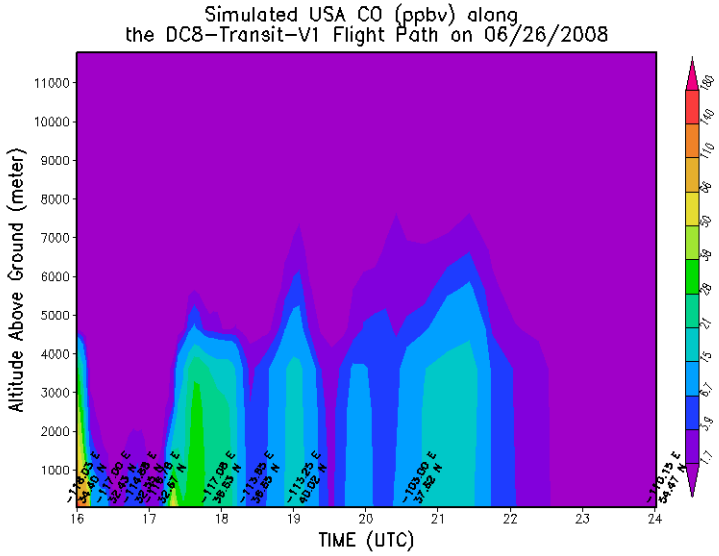
Bottom right – CO at 5.5 km

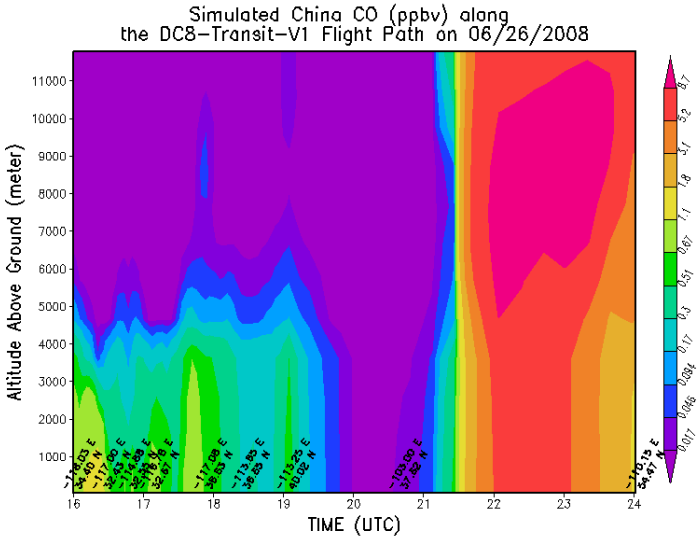


DC8 V1– transit curtains – 26th

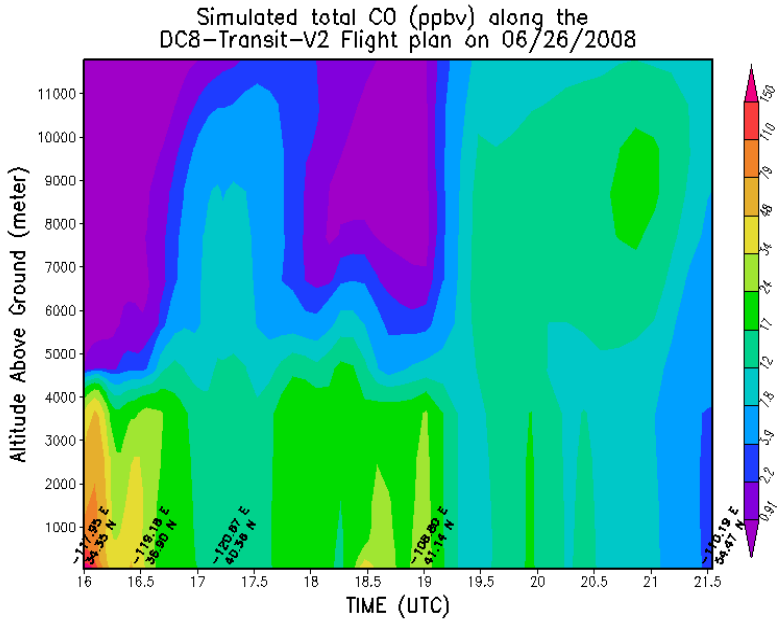


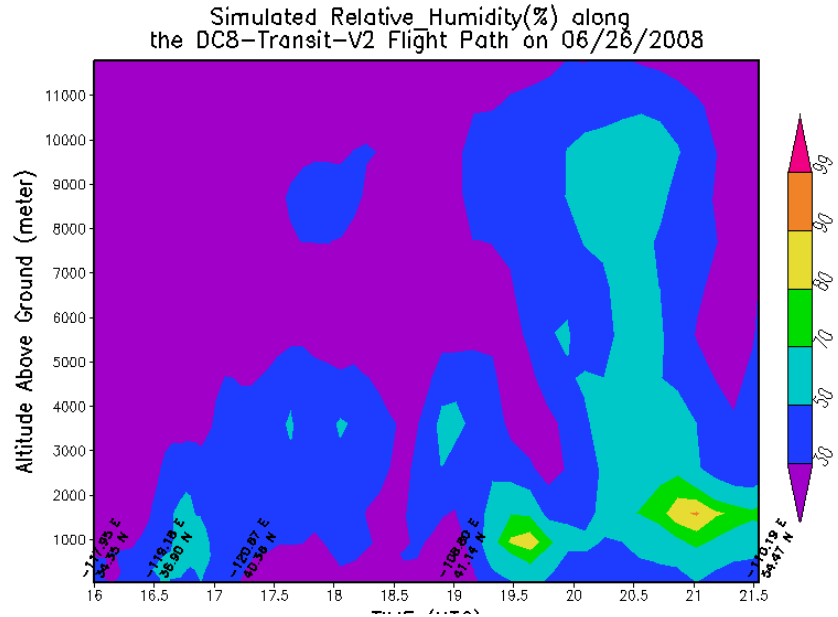


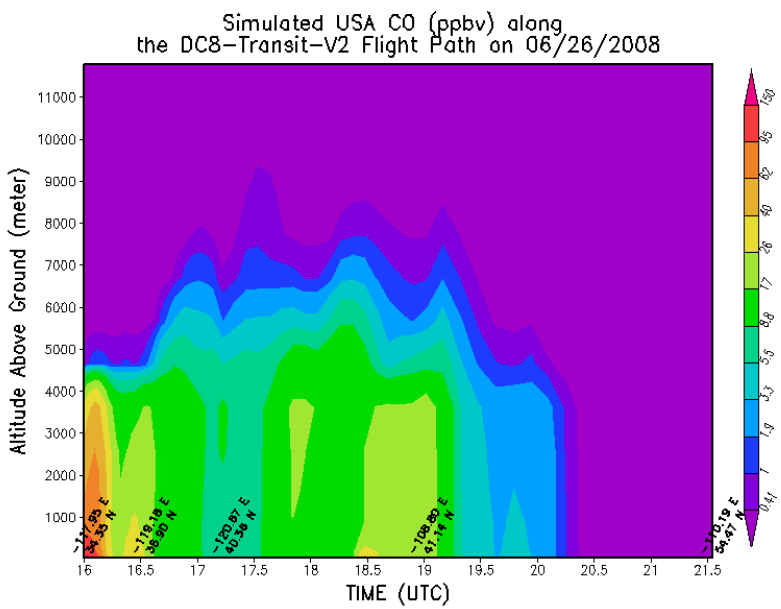


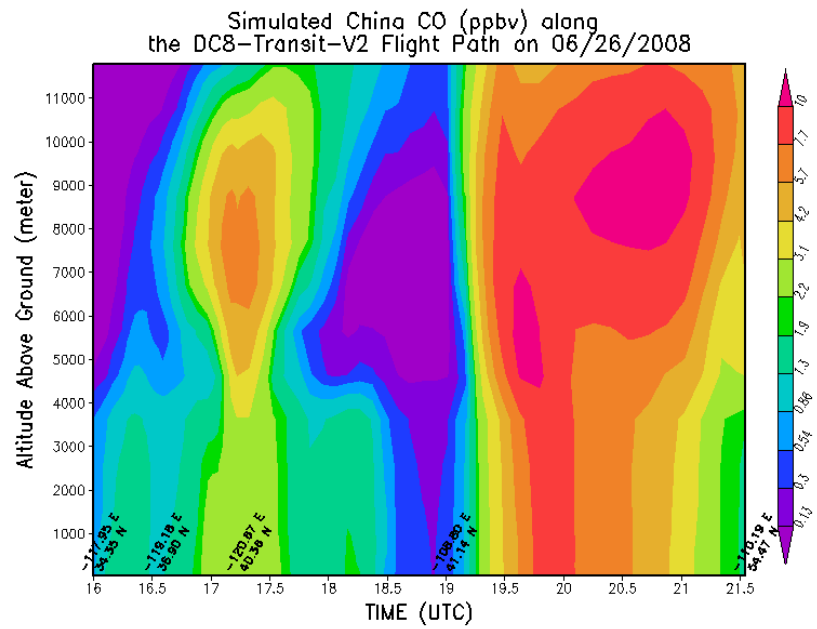


DC8 – V2 - transit – curtains -26th



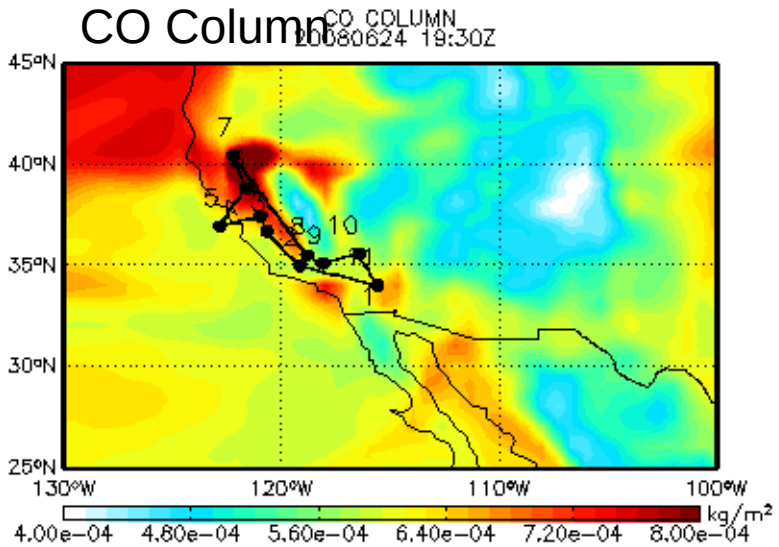






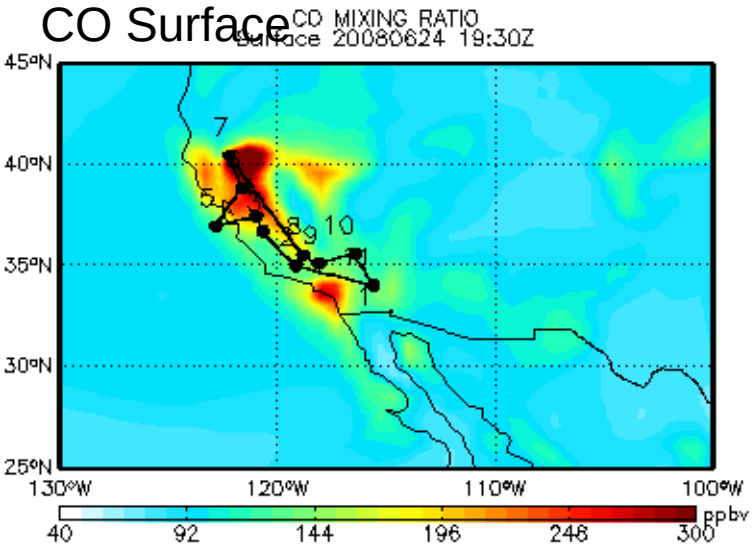
GEOS–5 forecast: 20080623_06z

CO Column

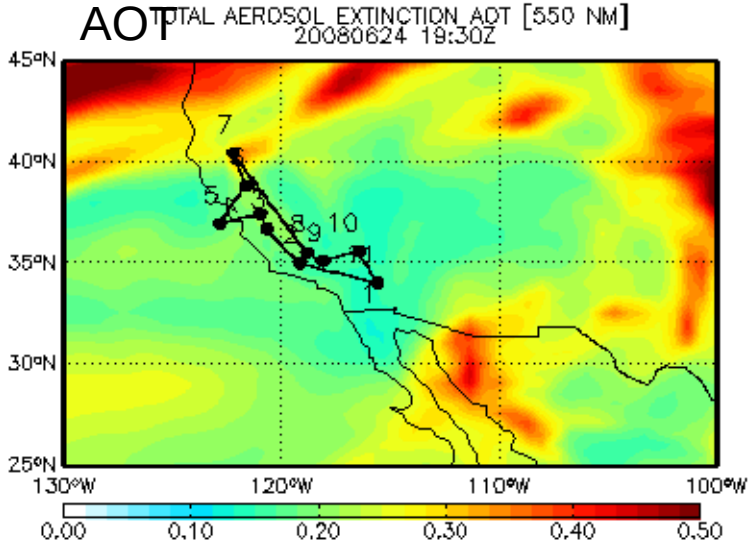


GEOS–5 forecast: 20080623_06z

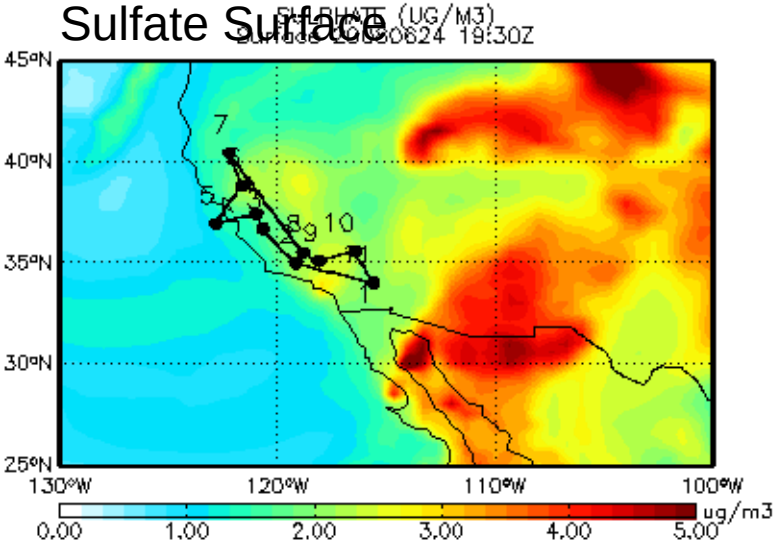
CO Surface



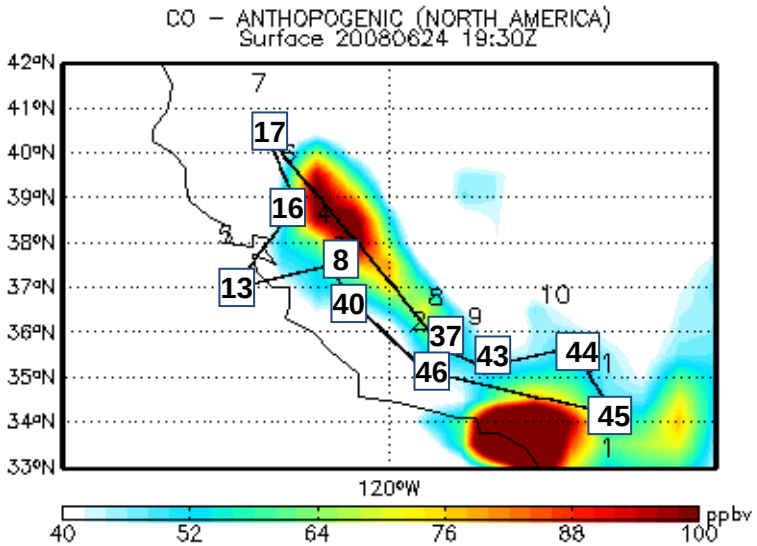
AOT

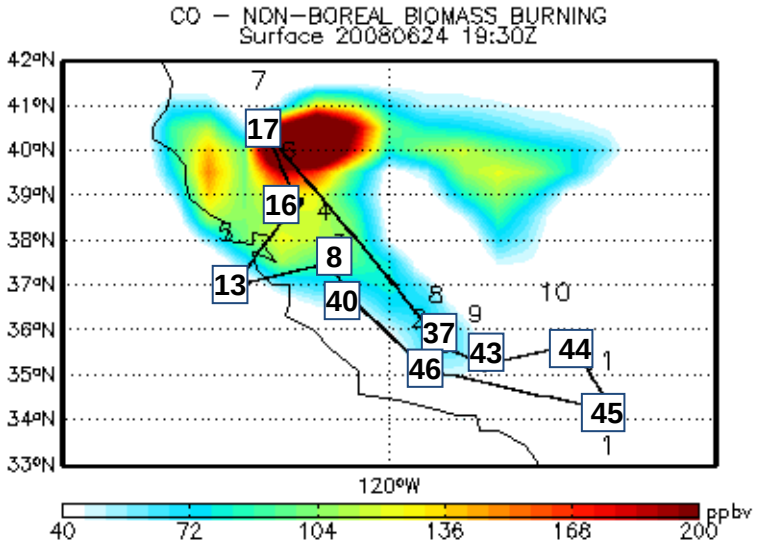


Sulfate Surface



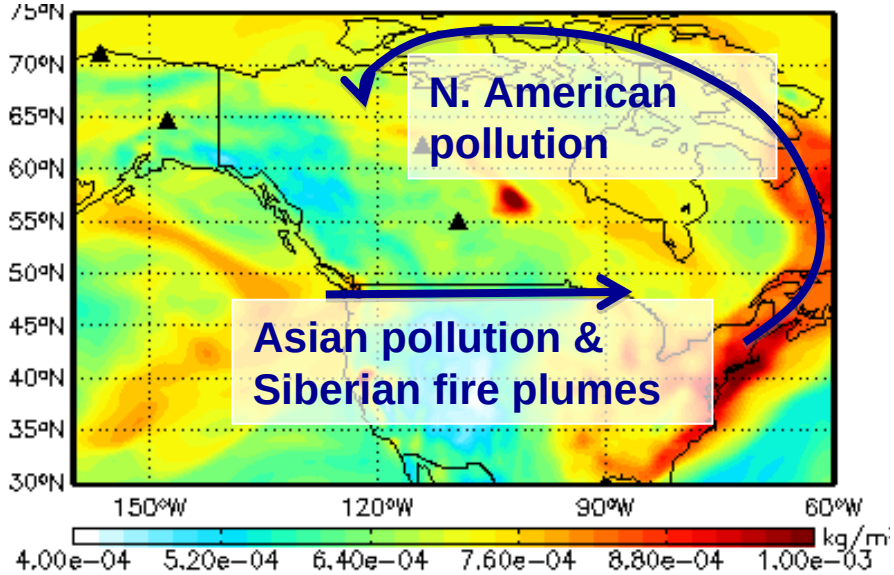
GEOS-5 forecast: 20080623_06z



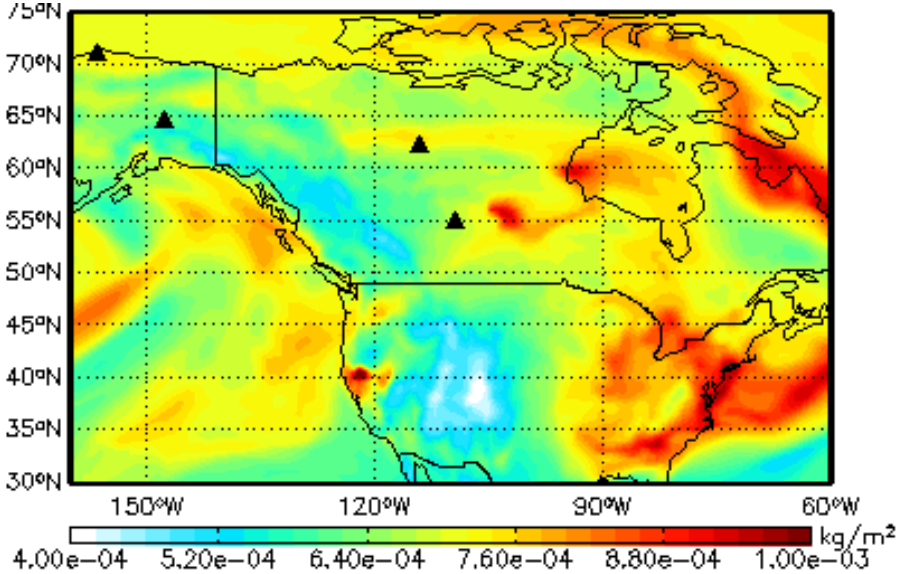


GEOS-5 Outlook: Total Column CO at 19:30Z

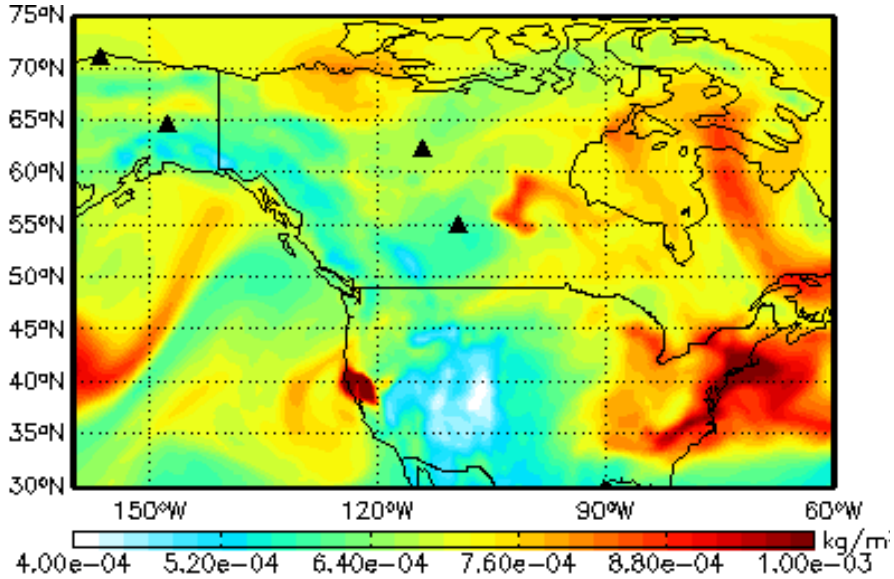
June 24



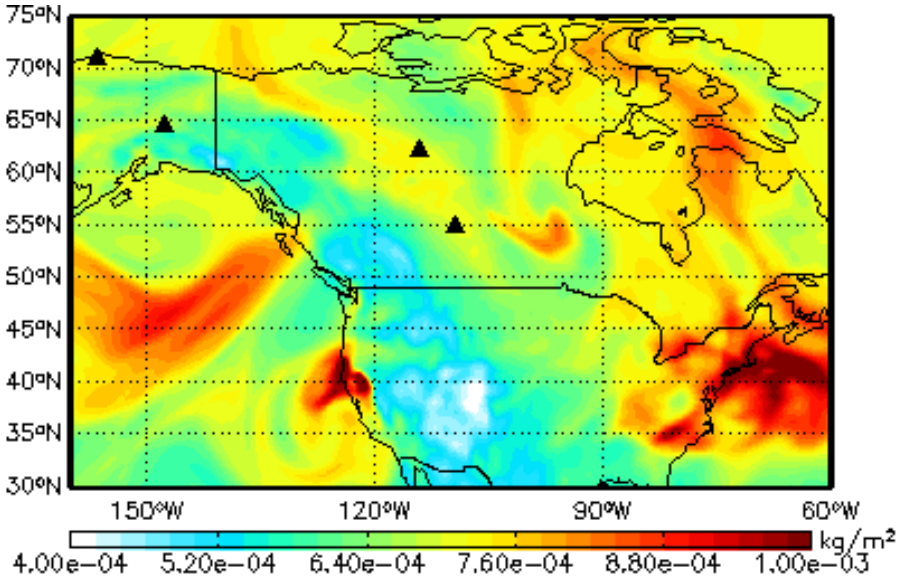
June 25



June 26

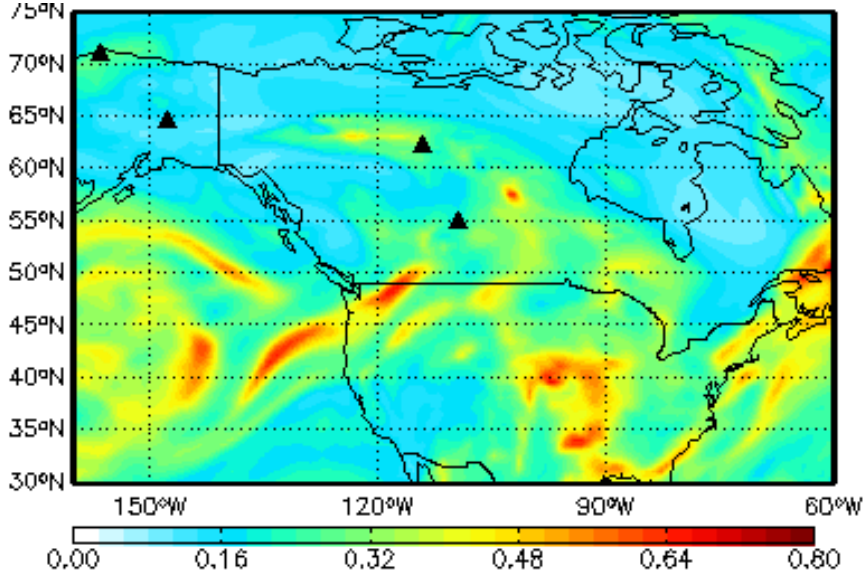


June 27

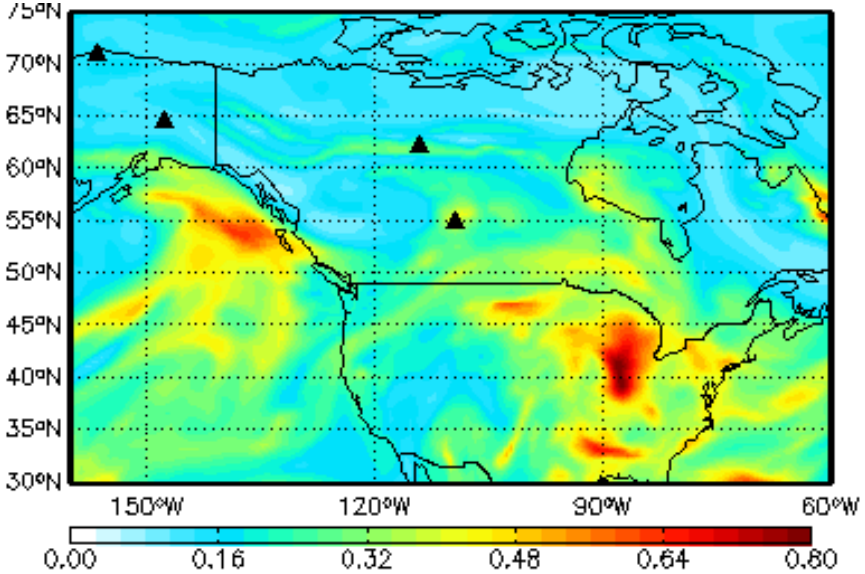


GEOS-5 Outlook: AOT at 19:30Z

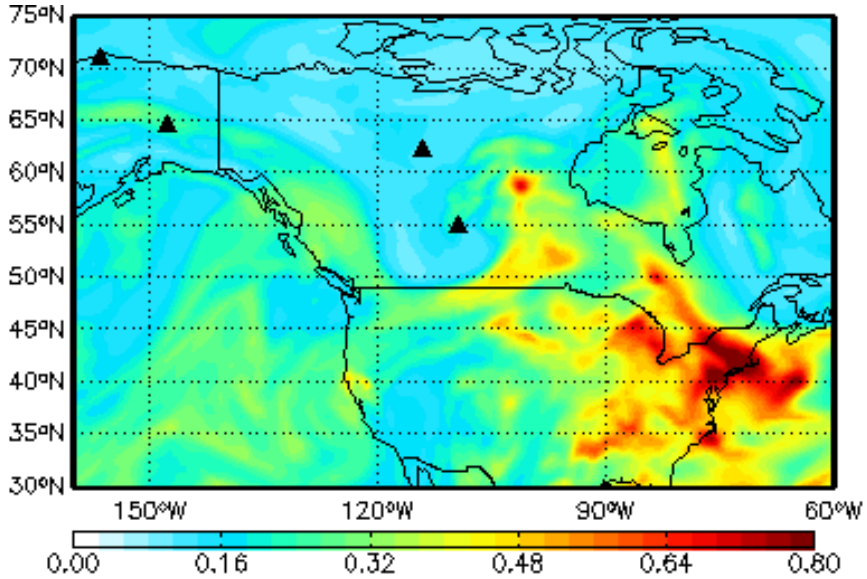
June 24



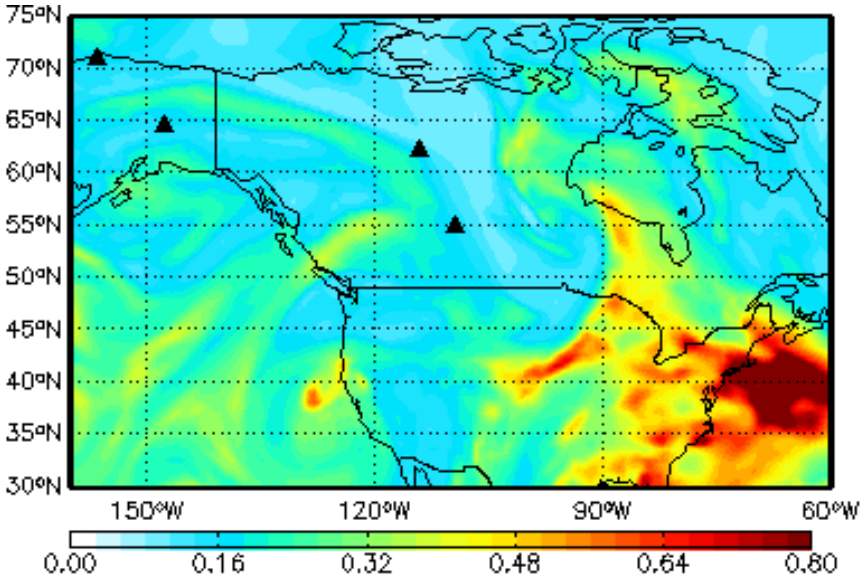
June 25



June 26

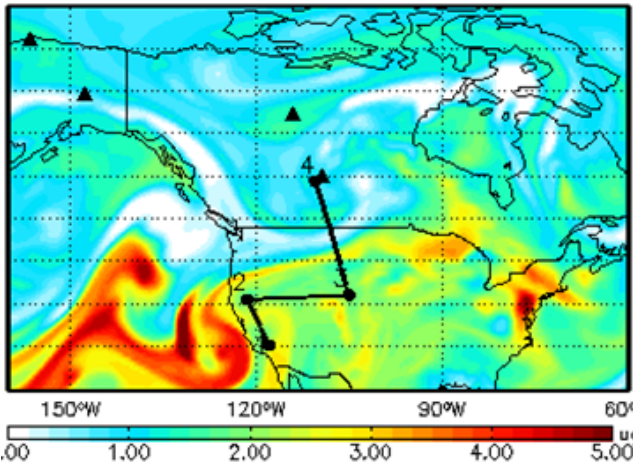


June 27

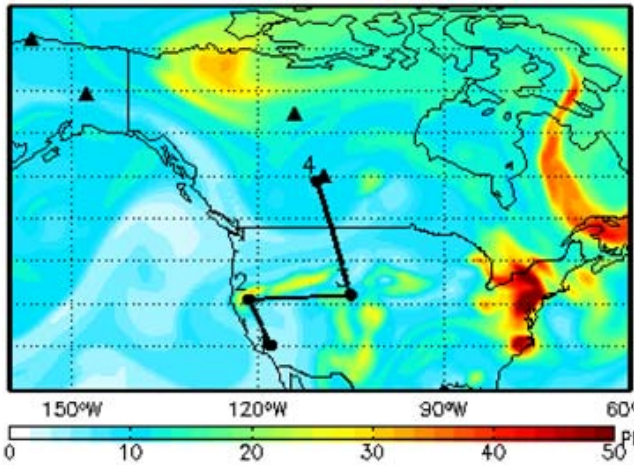


Transit flight – 6/26 19:30Z (all at 500 hPa)

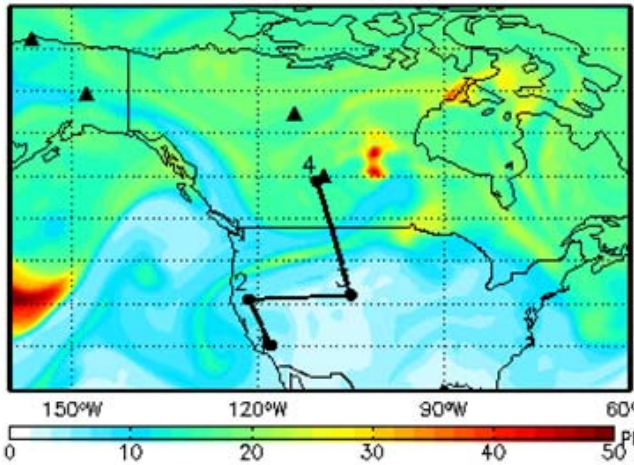
Sulfate aerosol



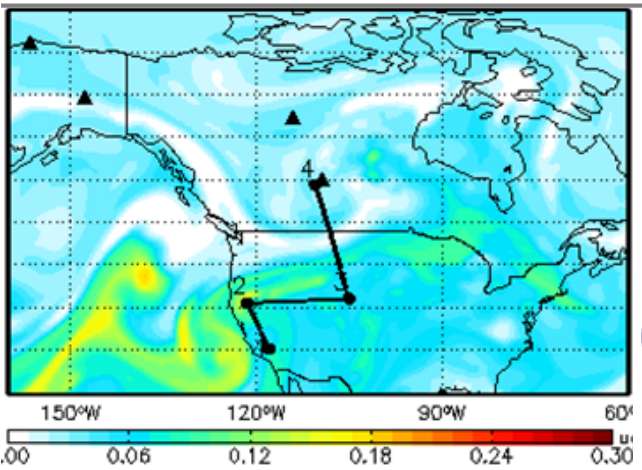
N American fossil fuel CO



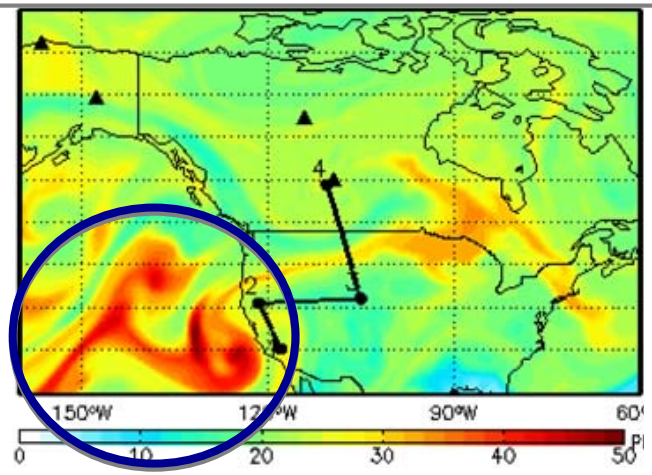
Boreal biomass burning CO



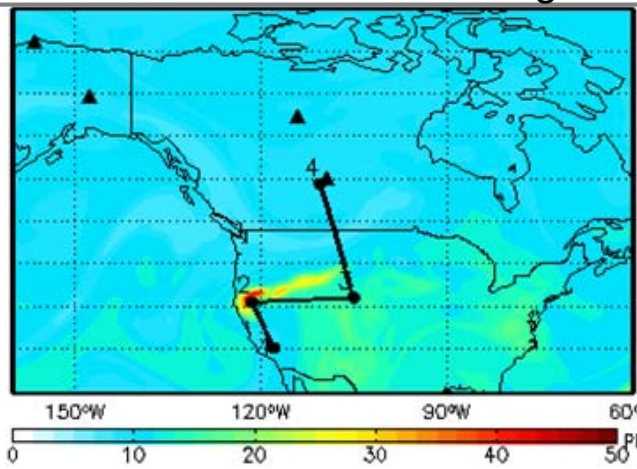
Black carbon aerosol



Asian fossil fuel CO



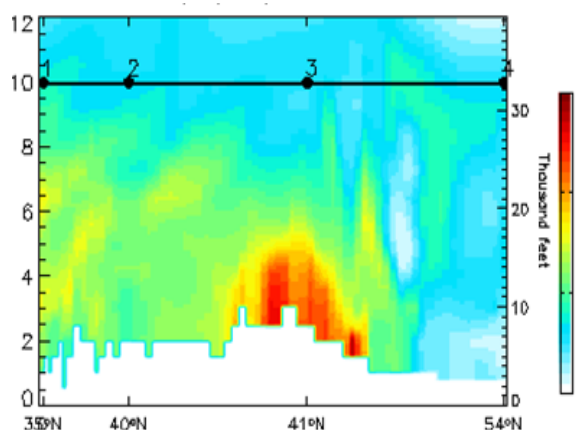
Non-boreal biomass burning CO



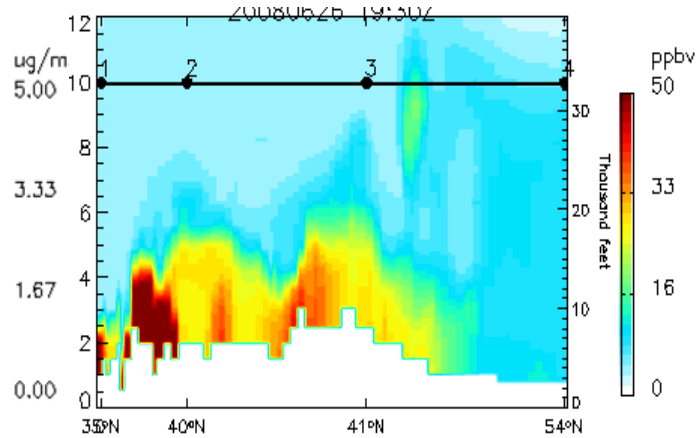
Asian plume won't really affect flight (too far to west)

Transit flight – 6/26 19:30Z (all at 500 hPa)

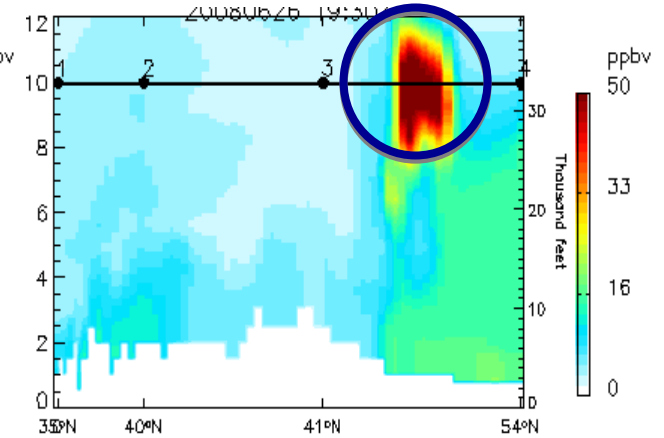
Sulfate aerosol



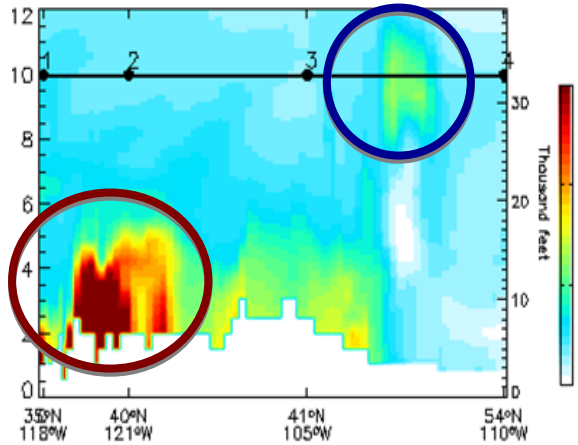
N American fossil fuel CO



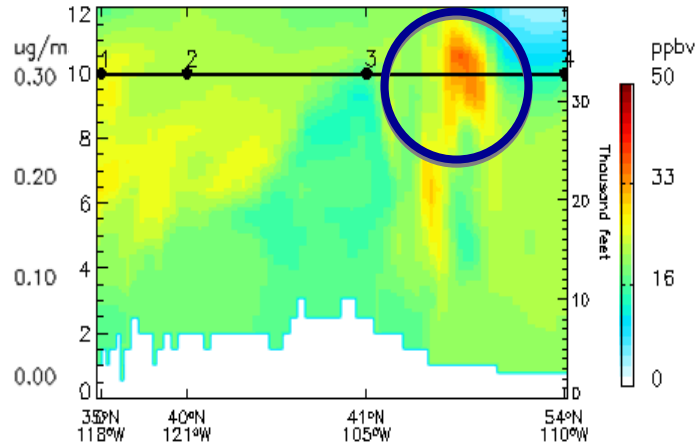
Boreal biomass burning CO



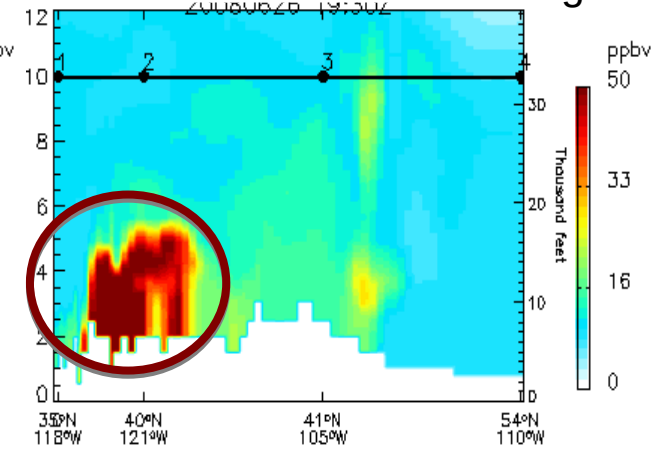
Black carbon aerosol



Asian fossil fuel CO



Non-boreal biomass burning CO

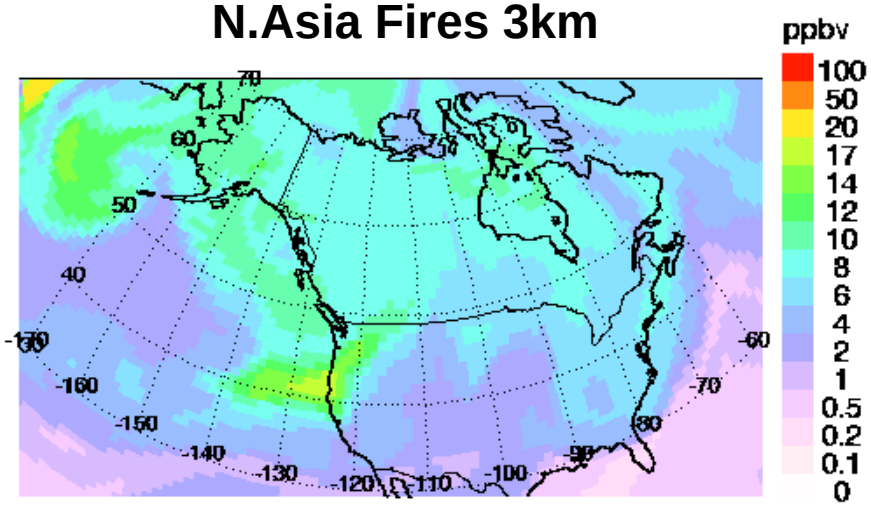


- Asian pollution and Siberian fire plumes transported together at high altitude

- Lots of black carbon and CO from fires in Northern California

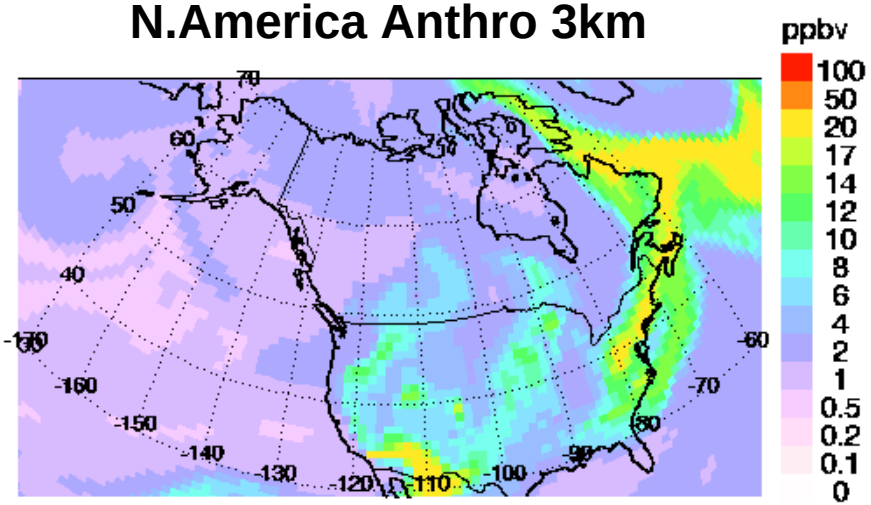
CAM-Chem/DART June 24 21Z (fx from 06-22)

N.Asia Fires 3km



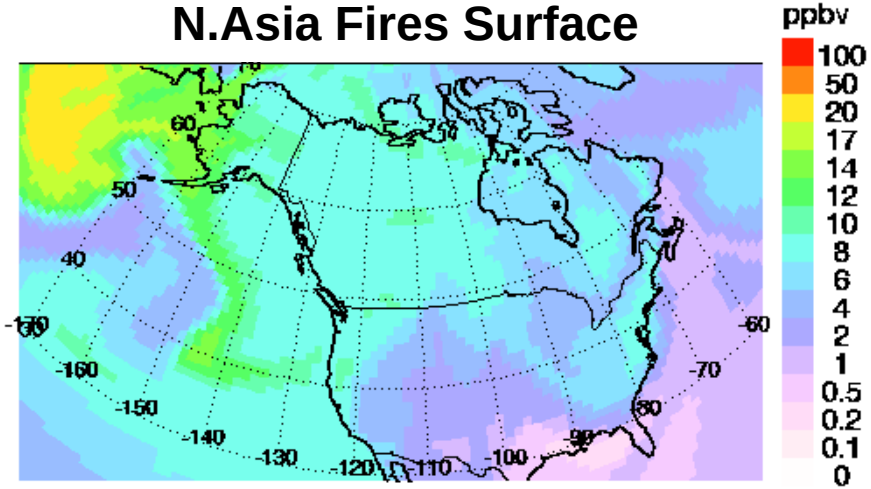
CAM Forecast from 20080622

N.America Anthro 3km



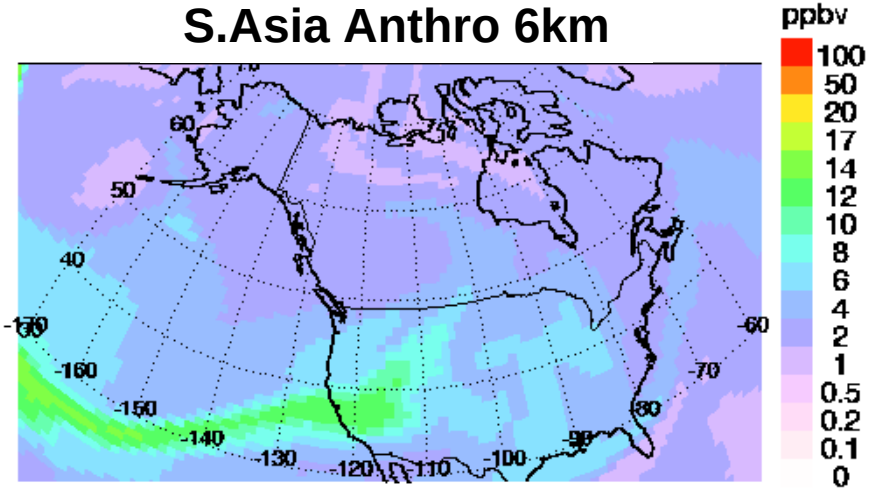
CAM Forecast from 20080622

N.Asia Fires Surface



CAM Forecast from 20080622

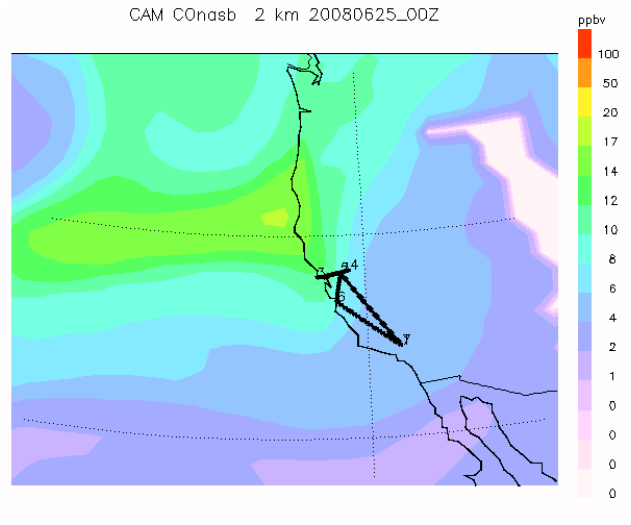
S.Asia Anthro 6km



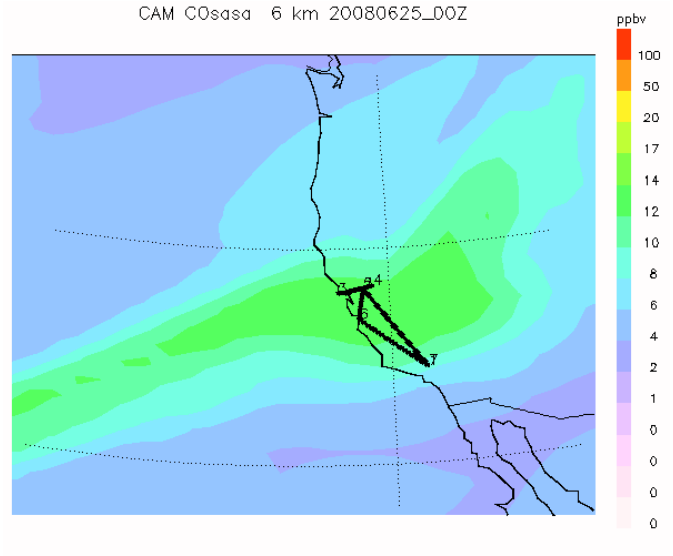
CAM Forecast from 20080622

CAM-Chem/DART 2008-06-24 21Z (06-22 fx)

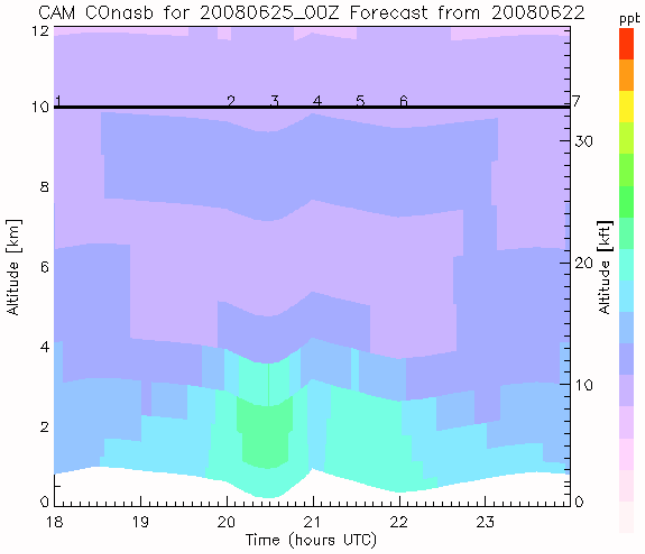
N.Asia Fires 2 km



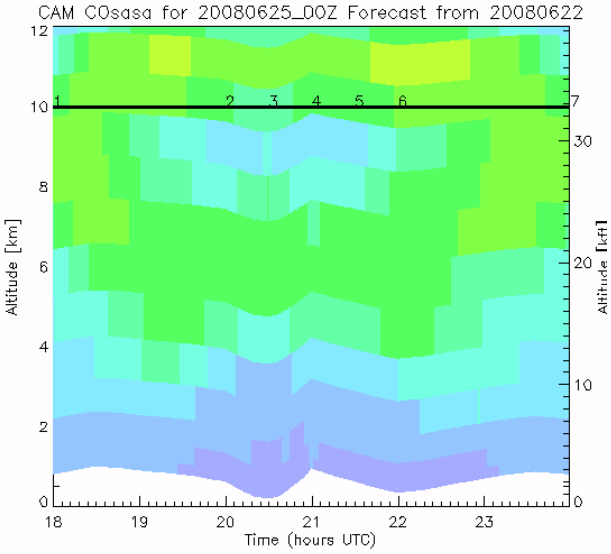
S.Asia Anthro 6 km



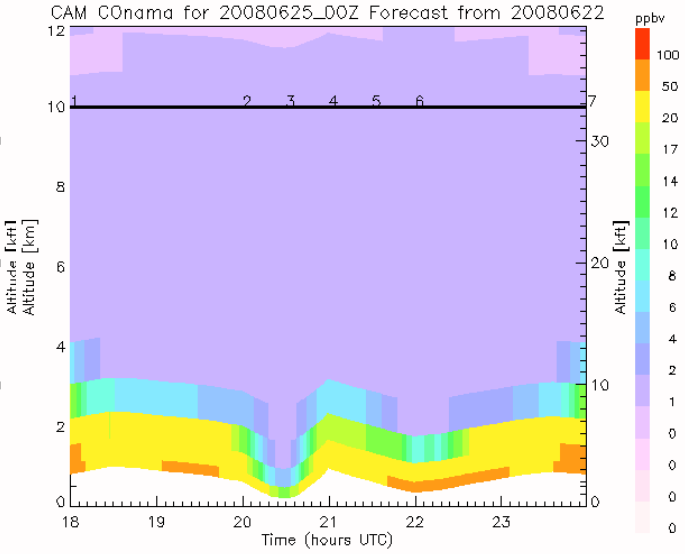
N.Asia Fires



S.Asia Anthro

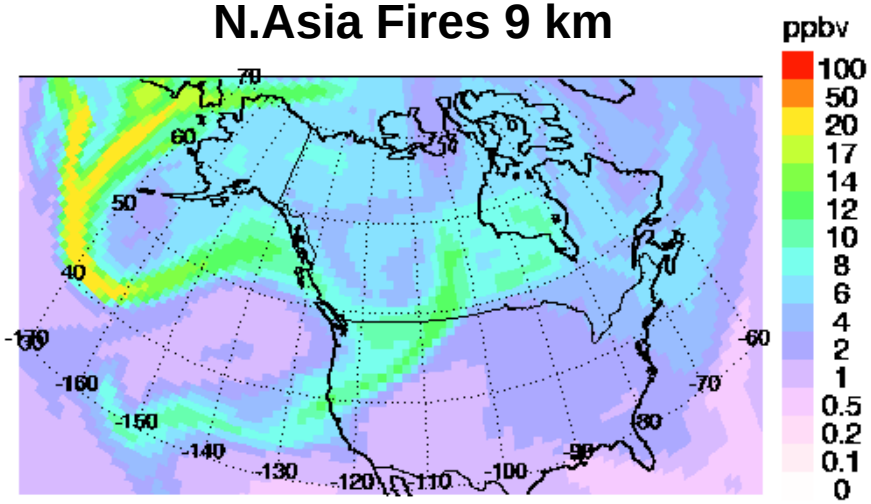


N.America Anthro



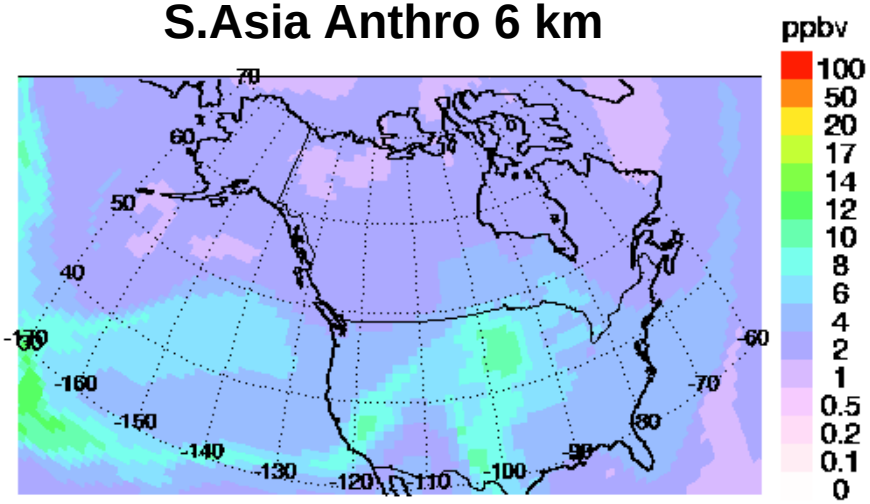
CAM-Chem/DART Outlook for Transit 06-26

N.Asia Fires 9 km



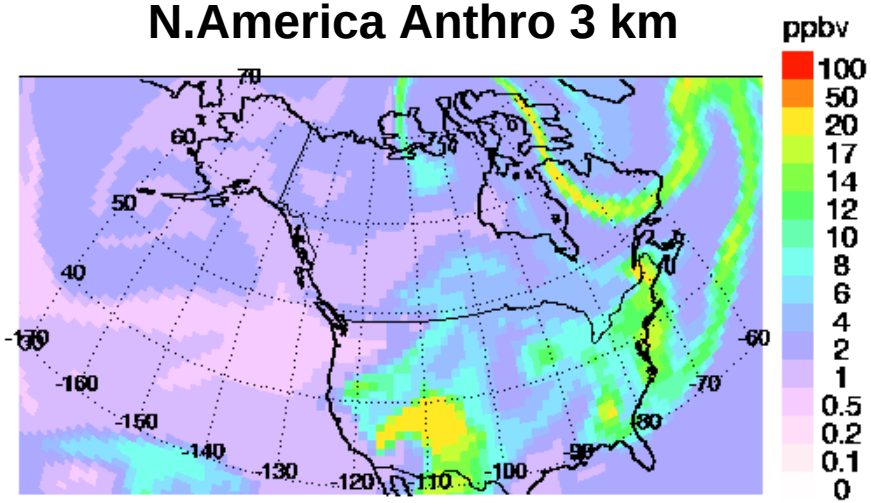
CAM Forecast from 20080622

S.Asia Anthro 6 km



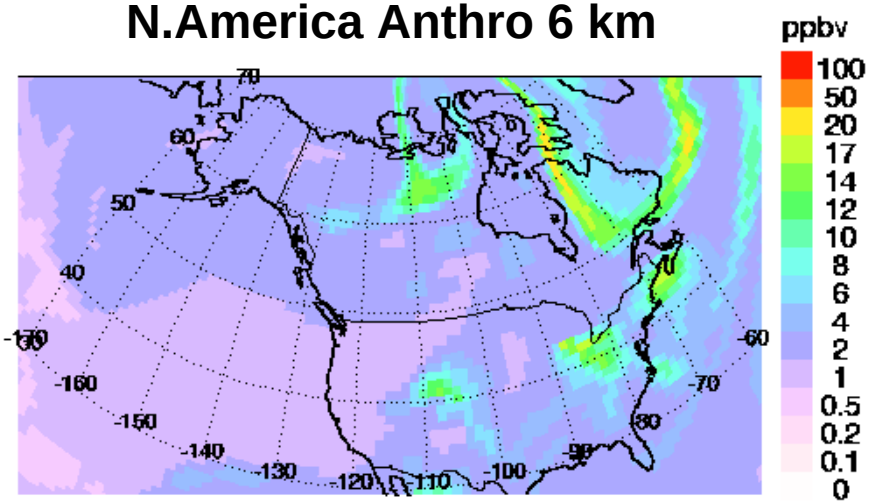
CAM Forecast from 20080622

N.America Anthro 3 km



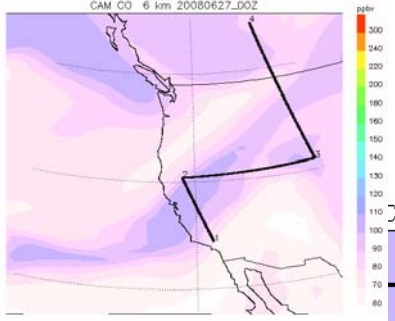
CAM Forecast from 20080622

N.America Anthro 6 km



AM Forecast from 20080622

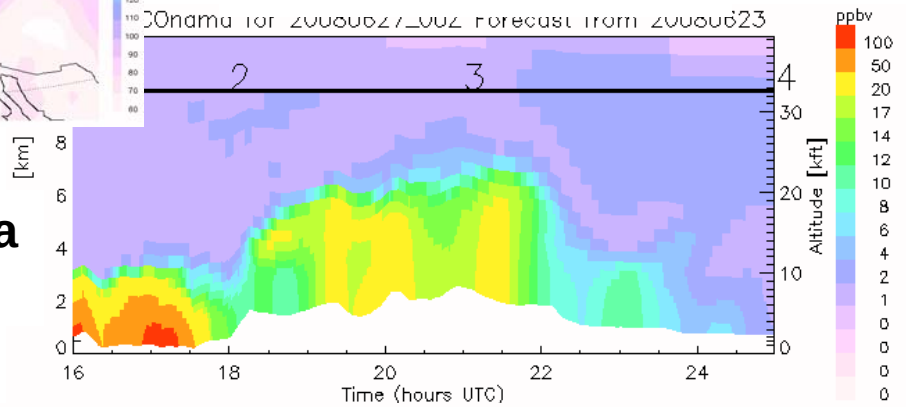
Outlook for Transit 06-26

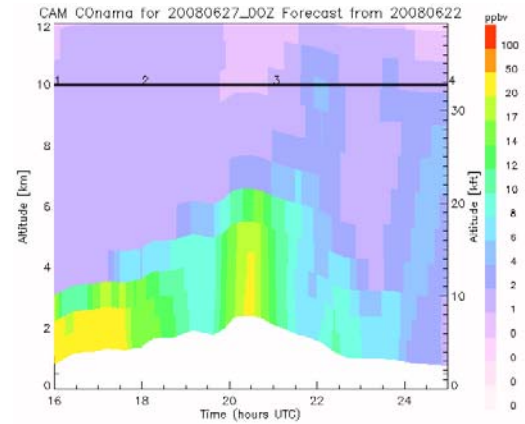


MOZART

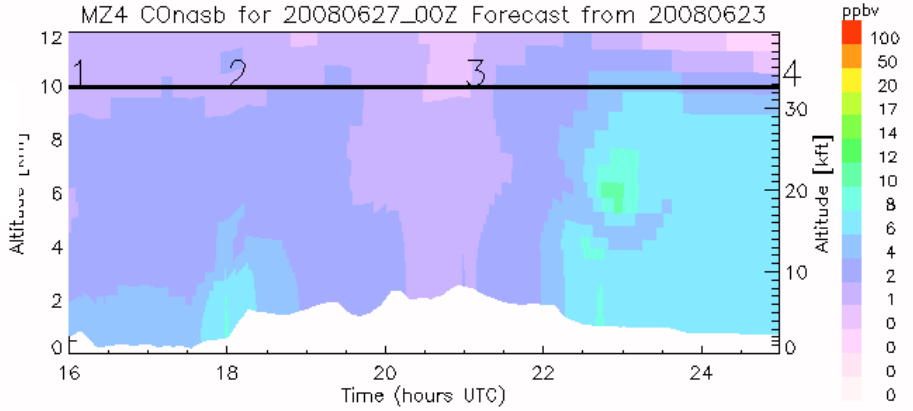
CAM

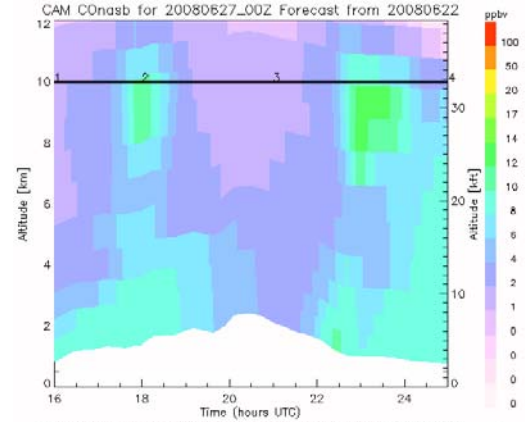
N.America Anthro



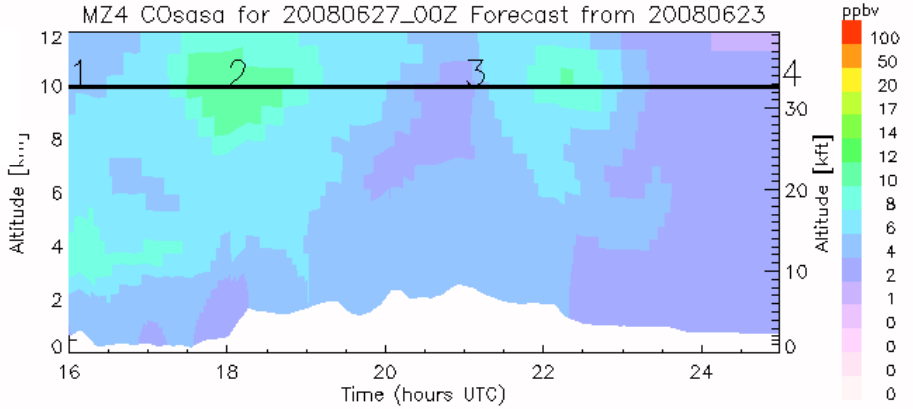


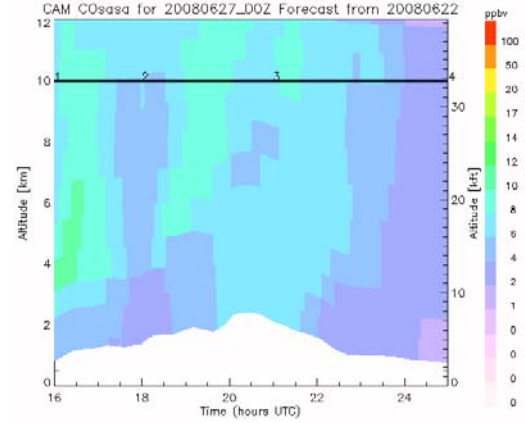
N.Asia Fires





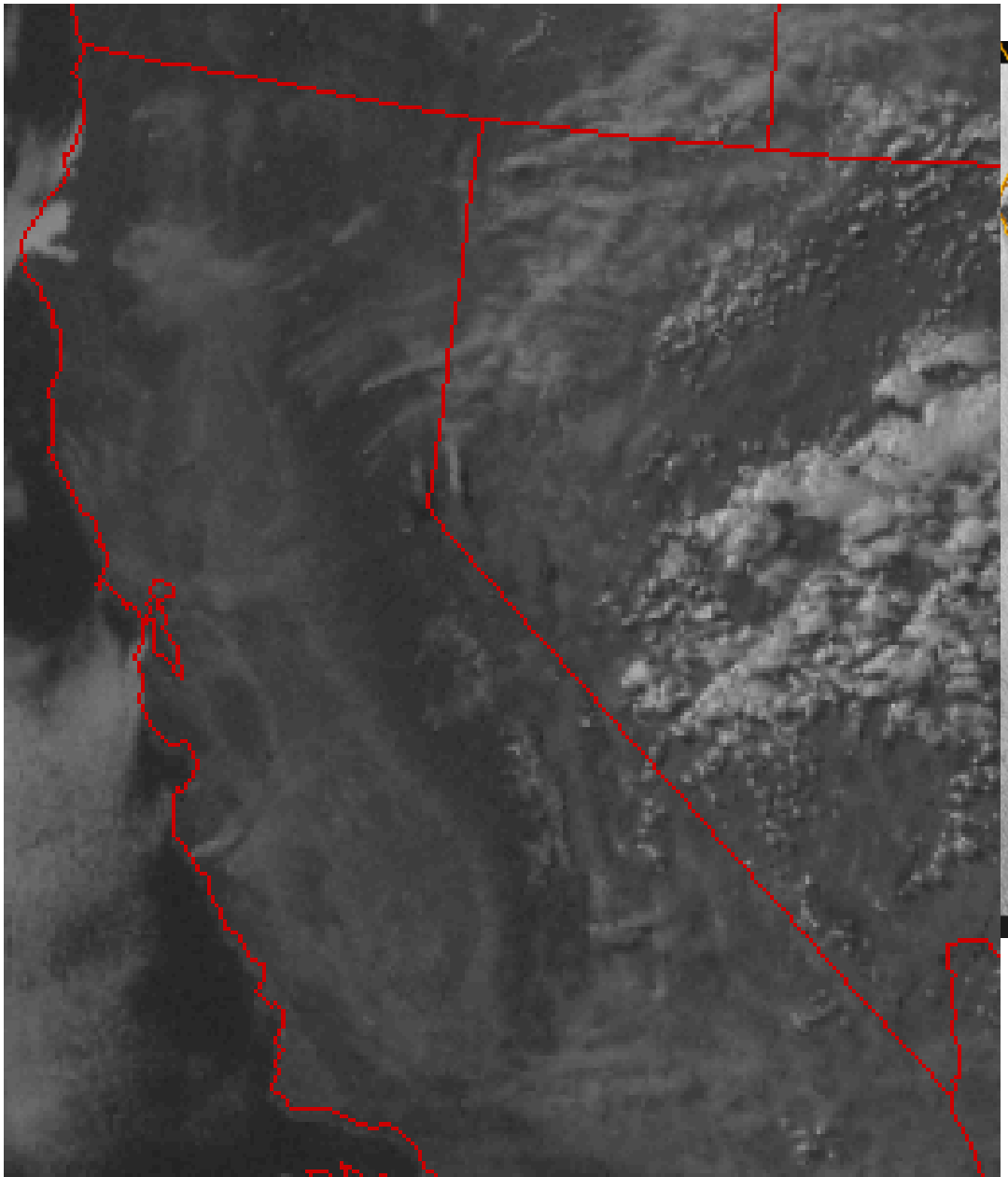
S.Asia Anthro

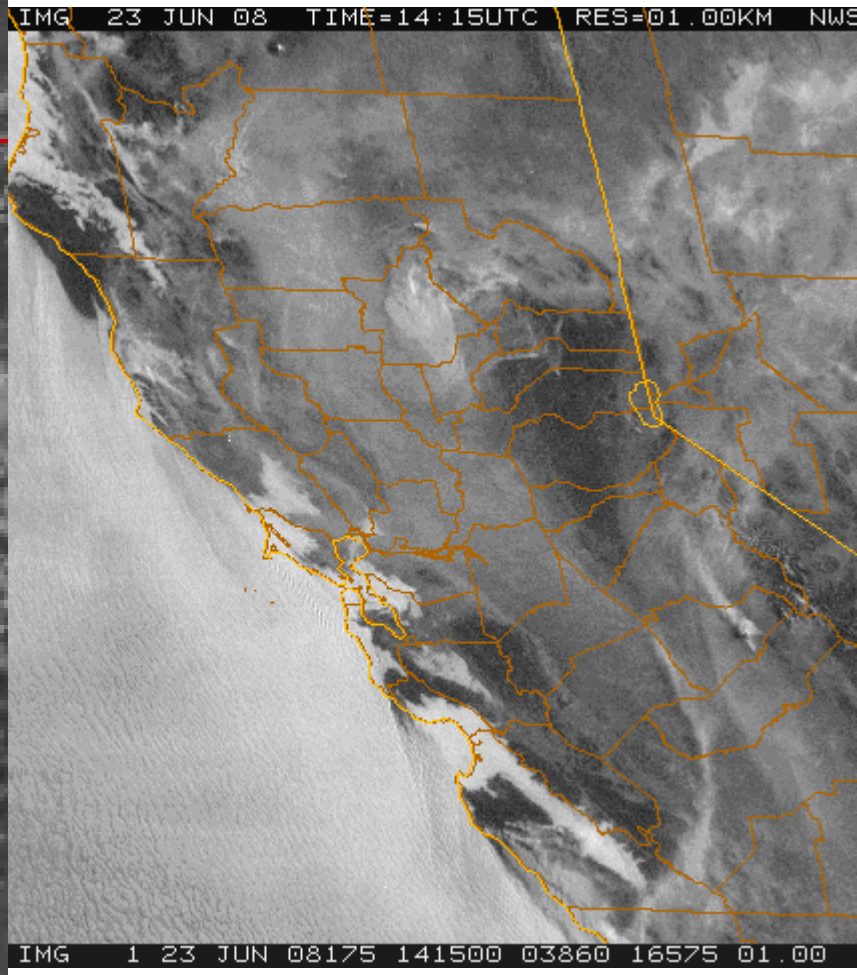


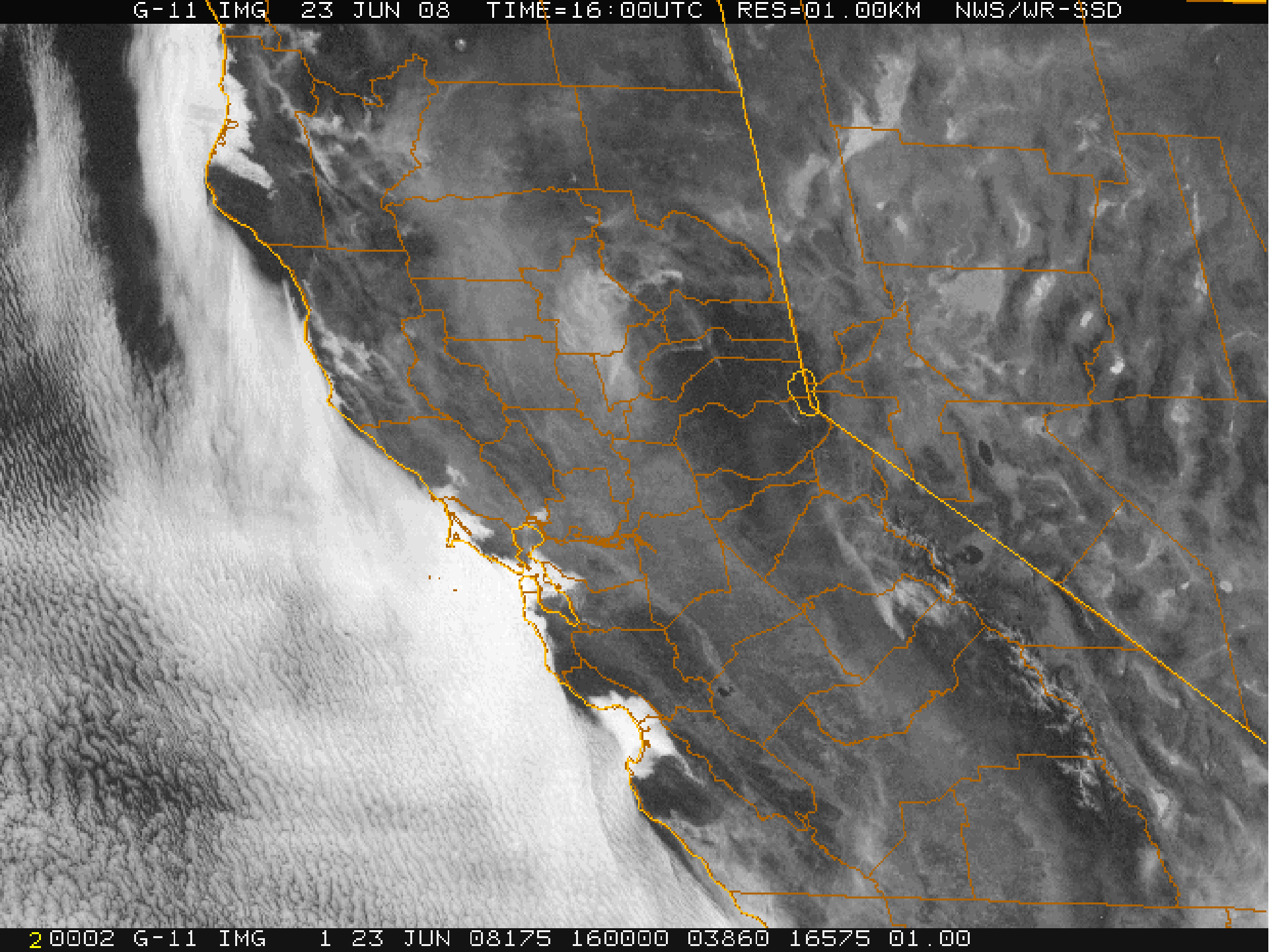


LIGHTNING FIRES SACRAMENTO VALLEY

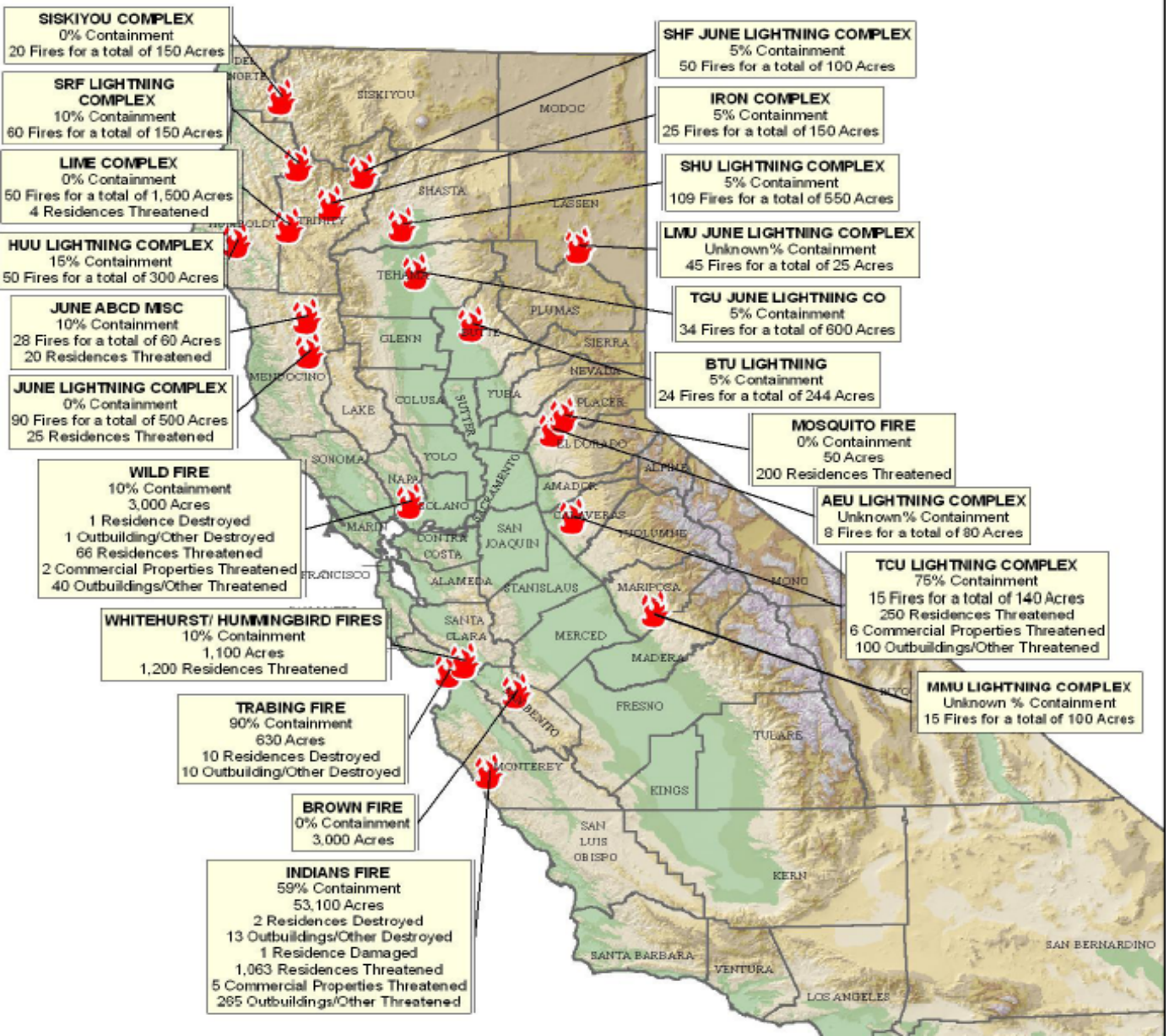
GOES 11 Visible

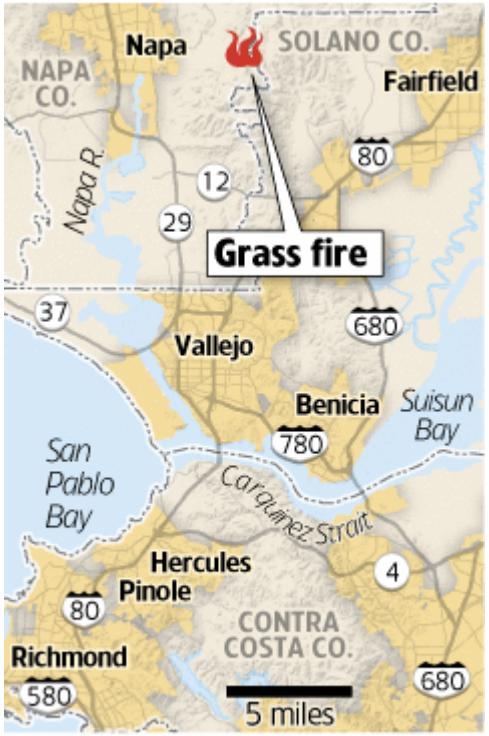





G-11 IMG 23 JUN 08 TIME=16:00UTC RES=01.00KM NWS/WR-SSD
20002 G-11 IMG 1 23 JUN 08175 160000 03860 16575 01.00

MAJOR CALIFORNIA WILDFIRES
as of 06/22/08 0800 Hours

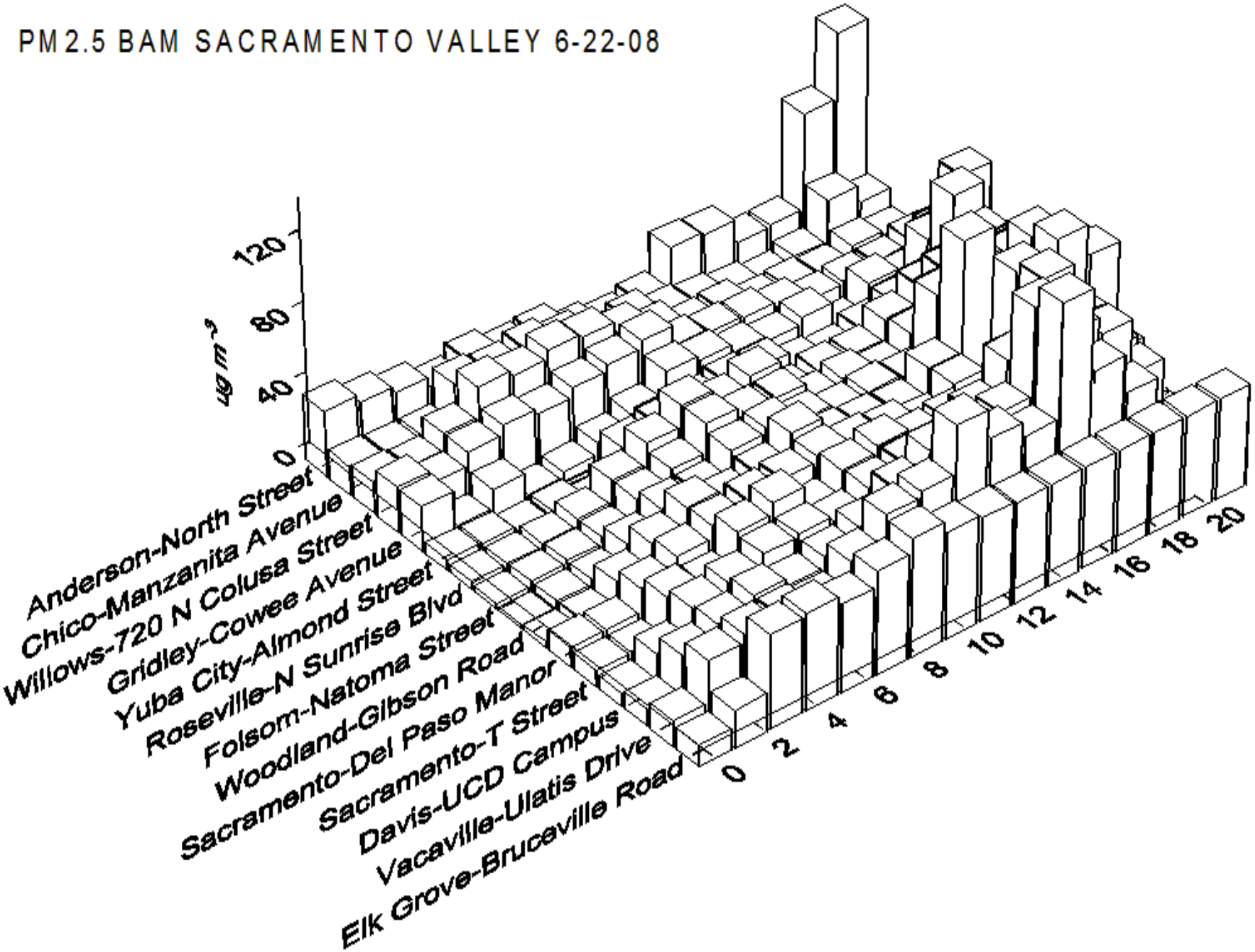




Map data: ESRI, TeleAtlas, USGS

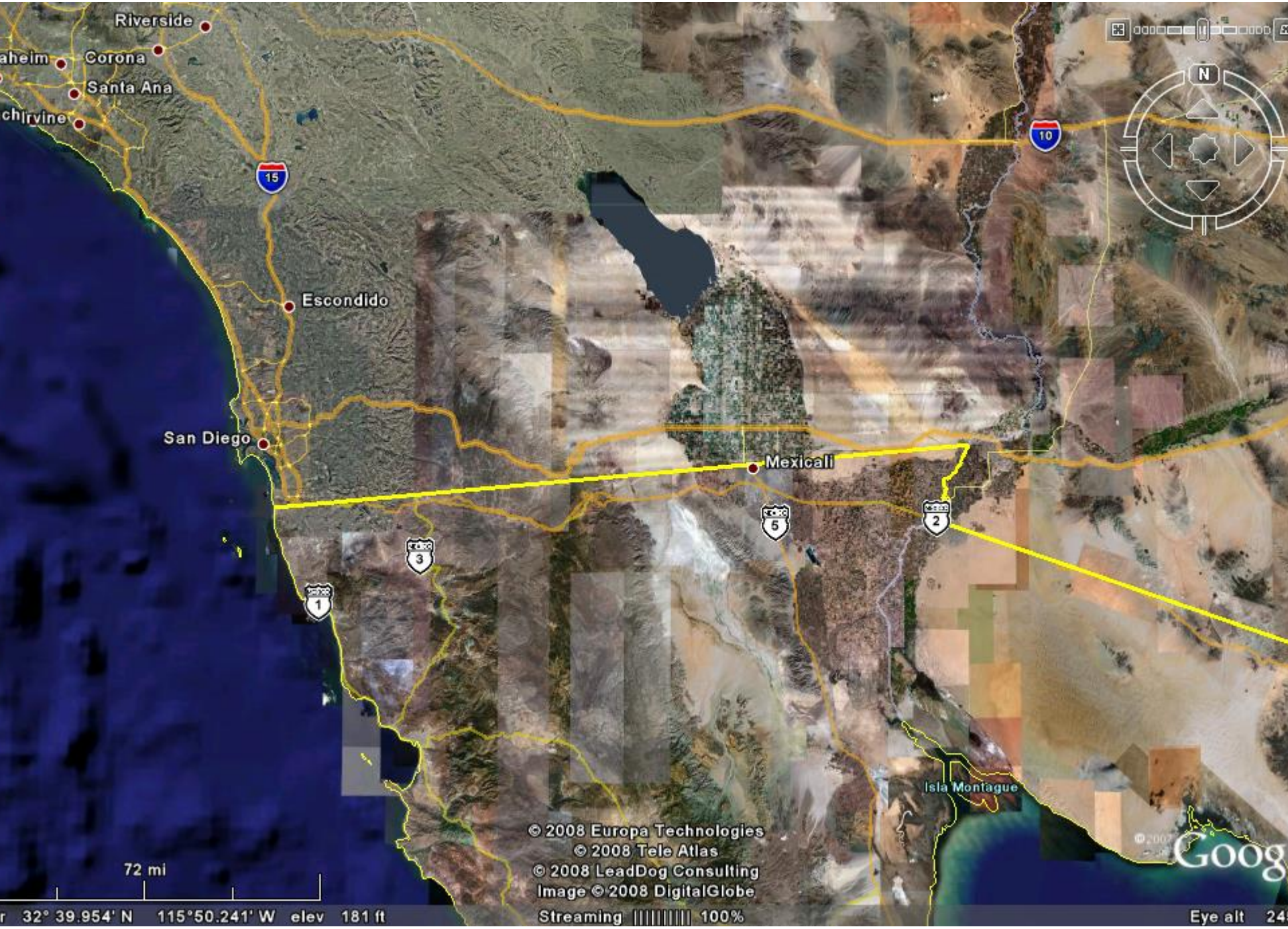
Sacramento Bee

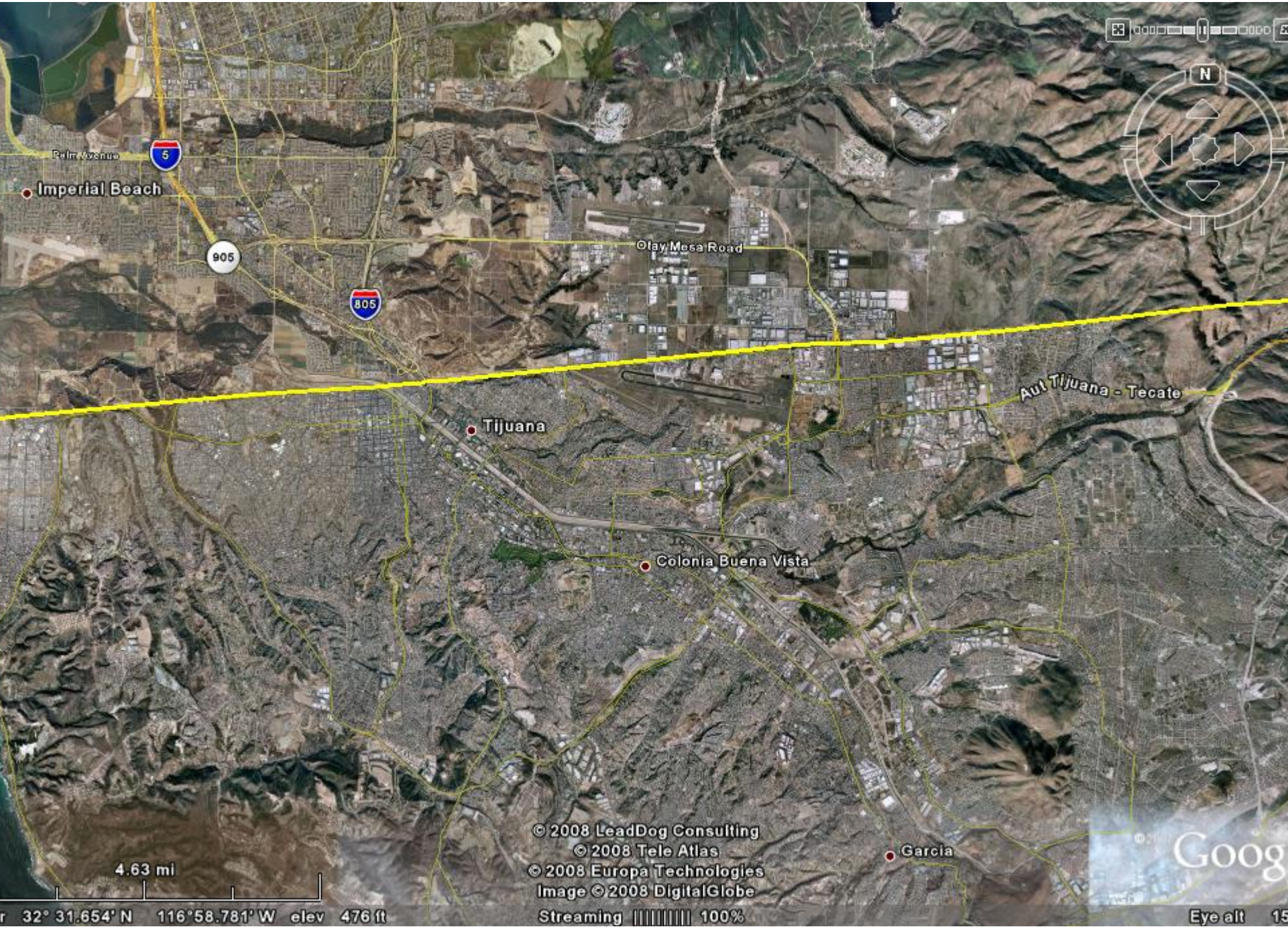
PM2.5 BAM SACRAMENTO VALLEY 6-22-08

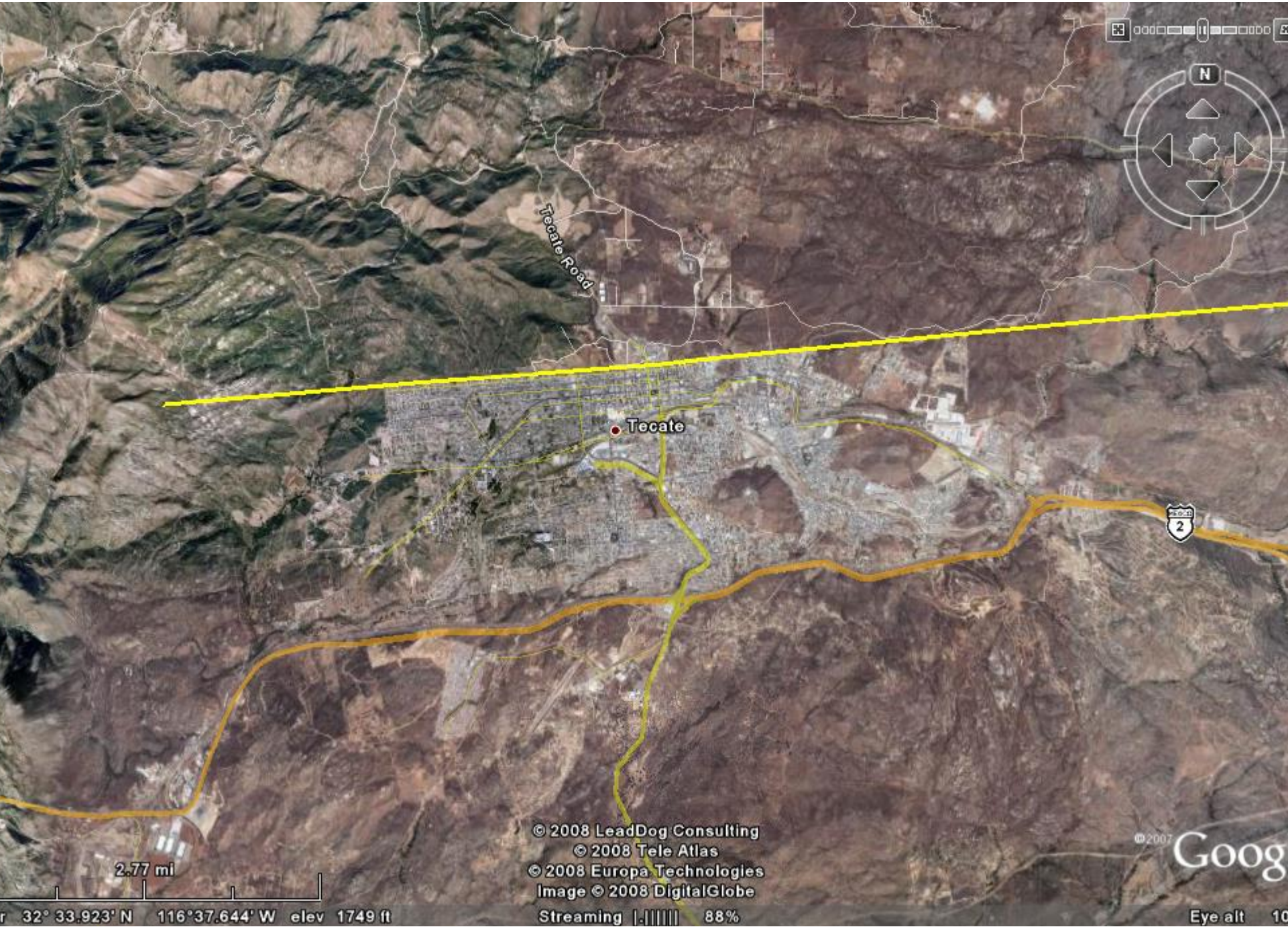


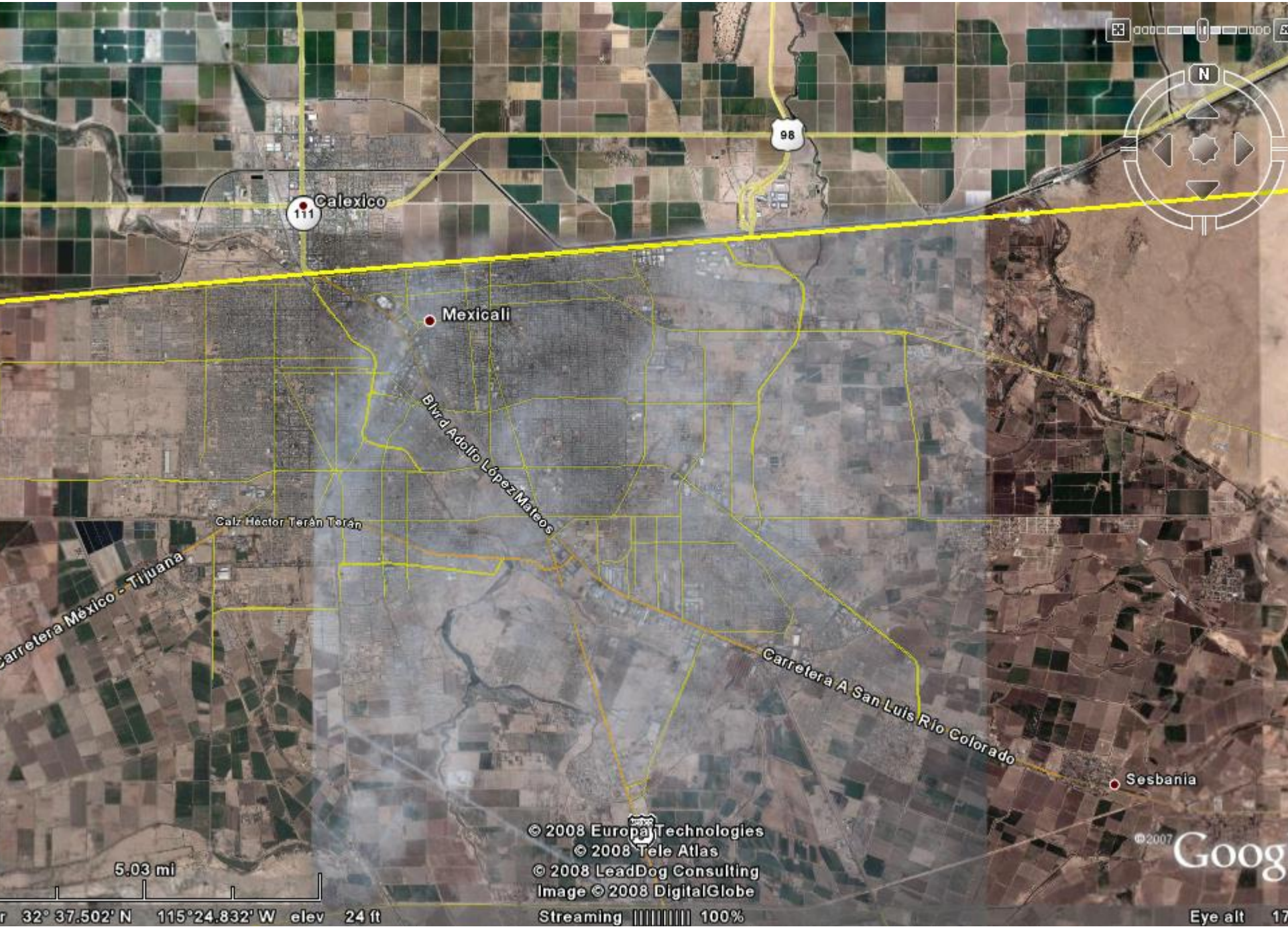
ALTERNATIVE TARGETS

- SOCAL SHIPS / MBL w/ P-3
- MEXICAN BORDER
- EASTERN MOJAVE

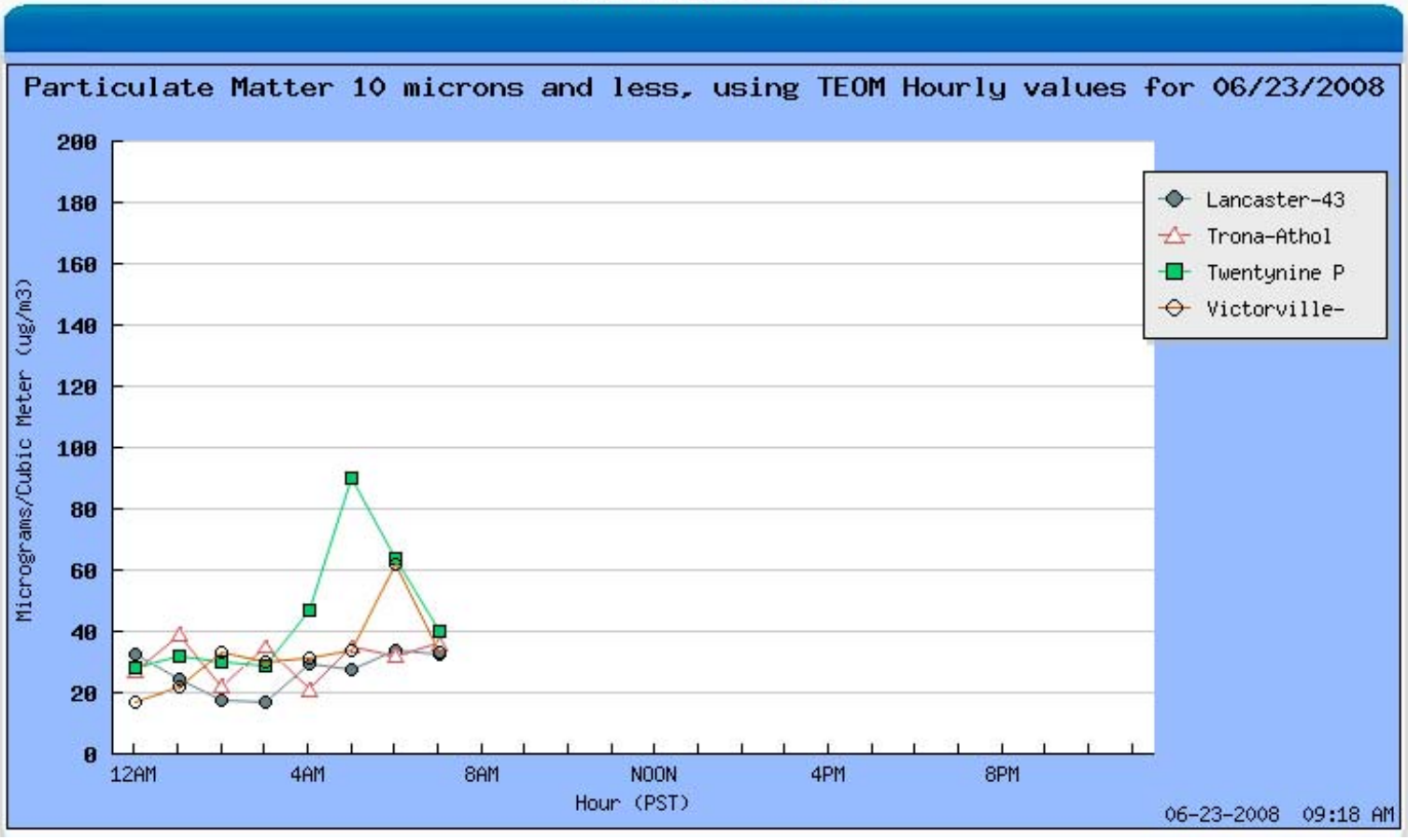

Riverside
Corona
Santa Ana
15
10
Escondido
San Diego
Mexicali
5
2
3
1
Isla Montague
© 2008 Europa Technologies
© 2008 Tele Atlas
© 2008 LeadDog Consulting
Image © 2008 DigitalGlobe
72 mi
32° 39.954' N 115°50.241' W elev 181 ft
Streaming 100%
Eye alt

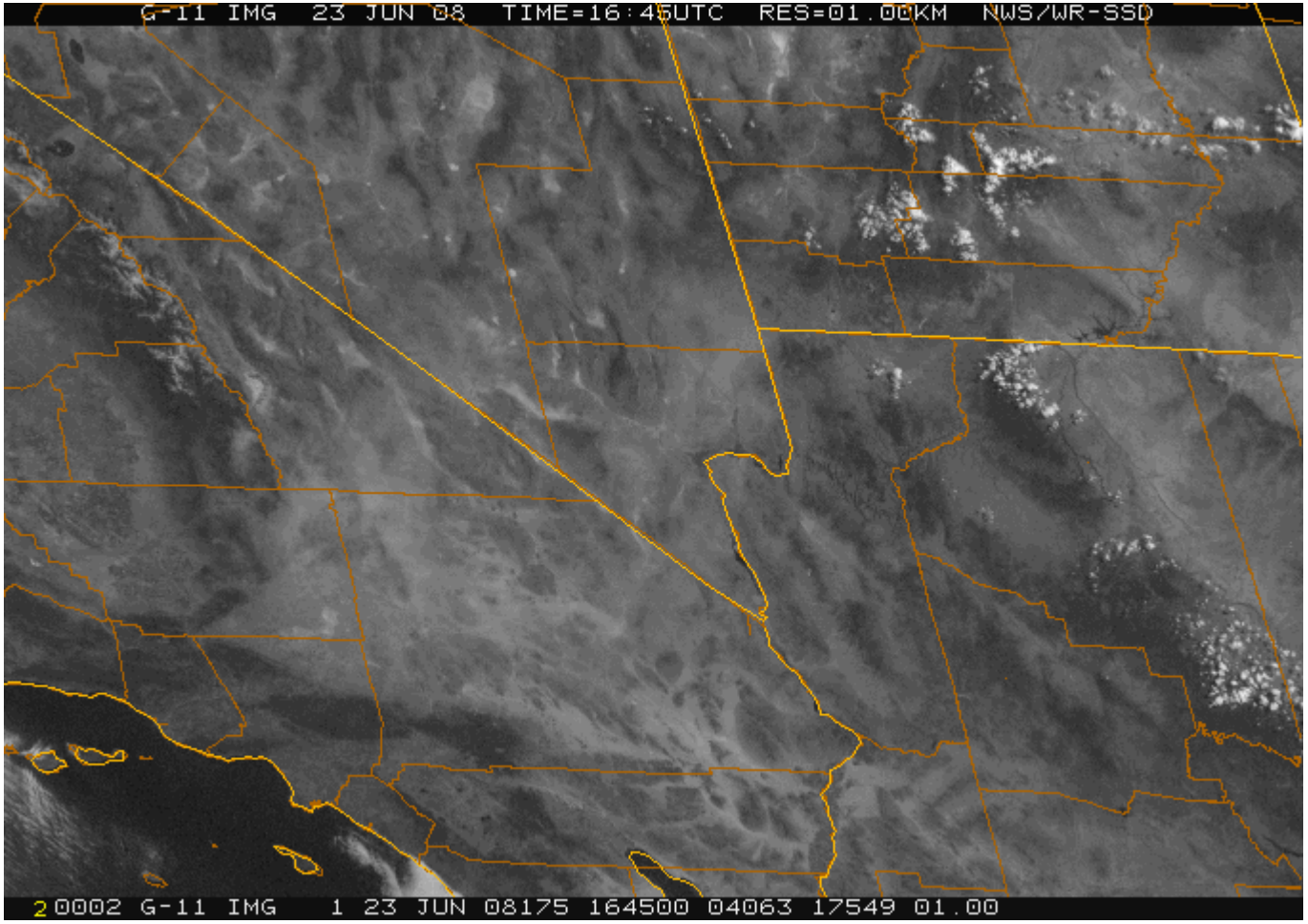

Palm Avenue
5
Imperial Beach
905
805
Otay Mesa Road
Aut Tijuana - Tecate
Tijuana
Colonia Buena Vista
Garcia
© 2008 LeadDog Consulting
© 2008 Tele Atlas
© 2008 Europa Technologies
Image © 2008 DigitalGlobe
Streaming 100%
4.63 mi
32° 31.654' N 116°58.781' W elev 476 ft
Eye alt

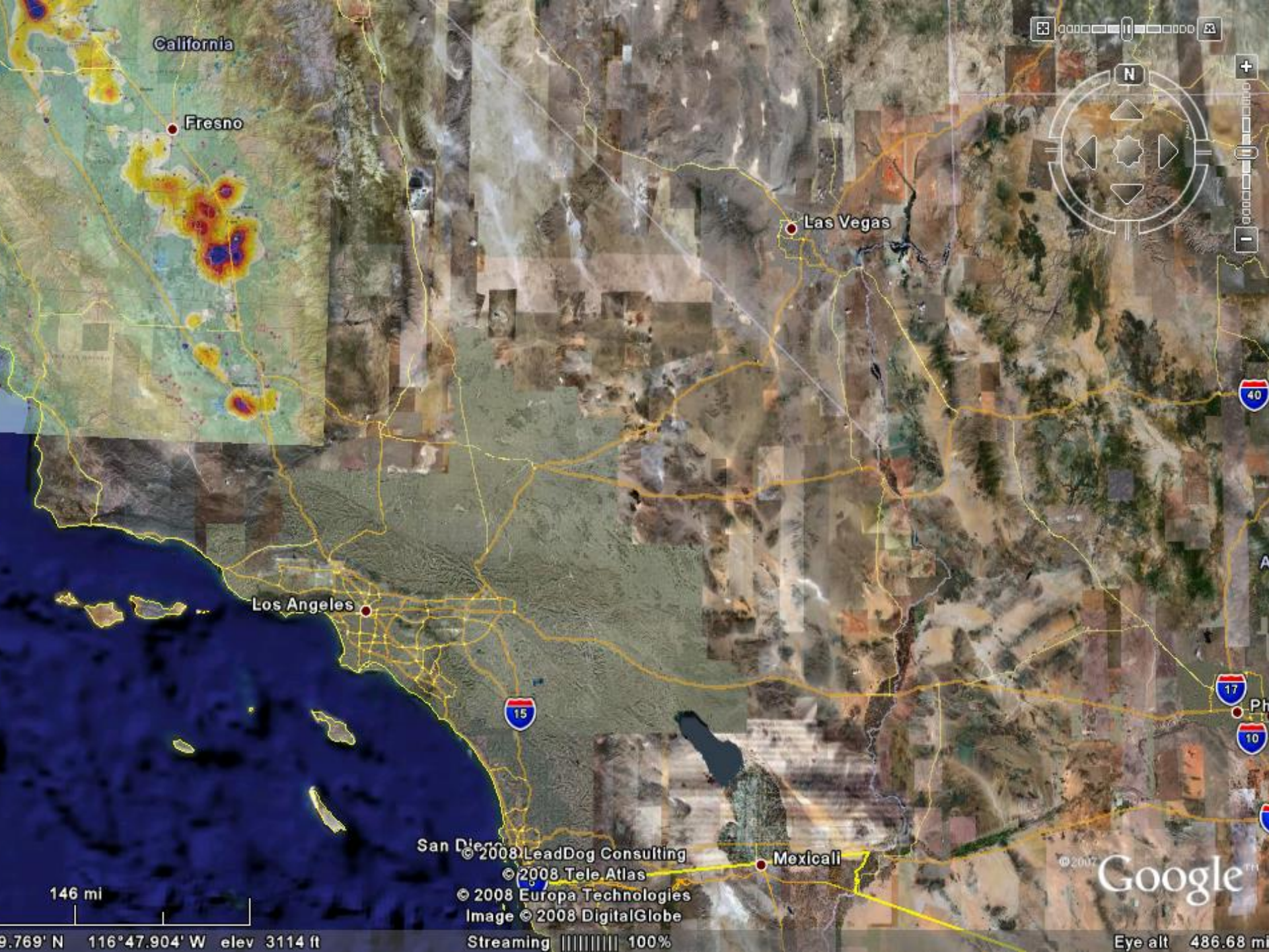

Tecate Road
Tecate
2
2.77 mi
© 2008 LeadDog Consulting
© 2008 Tele Atlas
© 2008 Europa Technologies
Image © 2008 DigitalGlobe
32° 33.923' N 116°37.644' W elev 1749 ft
Streaming 88%
Eye alt

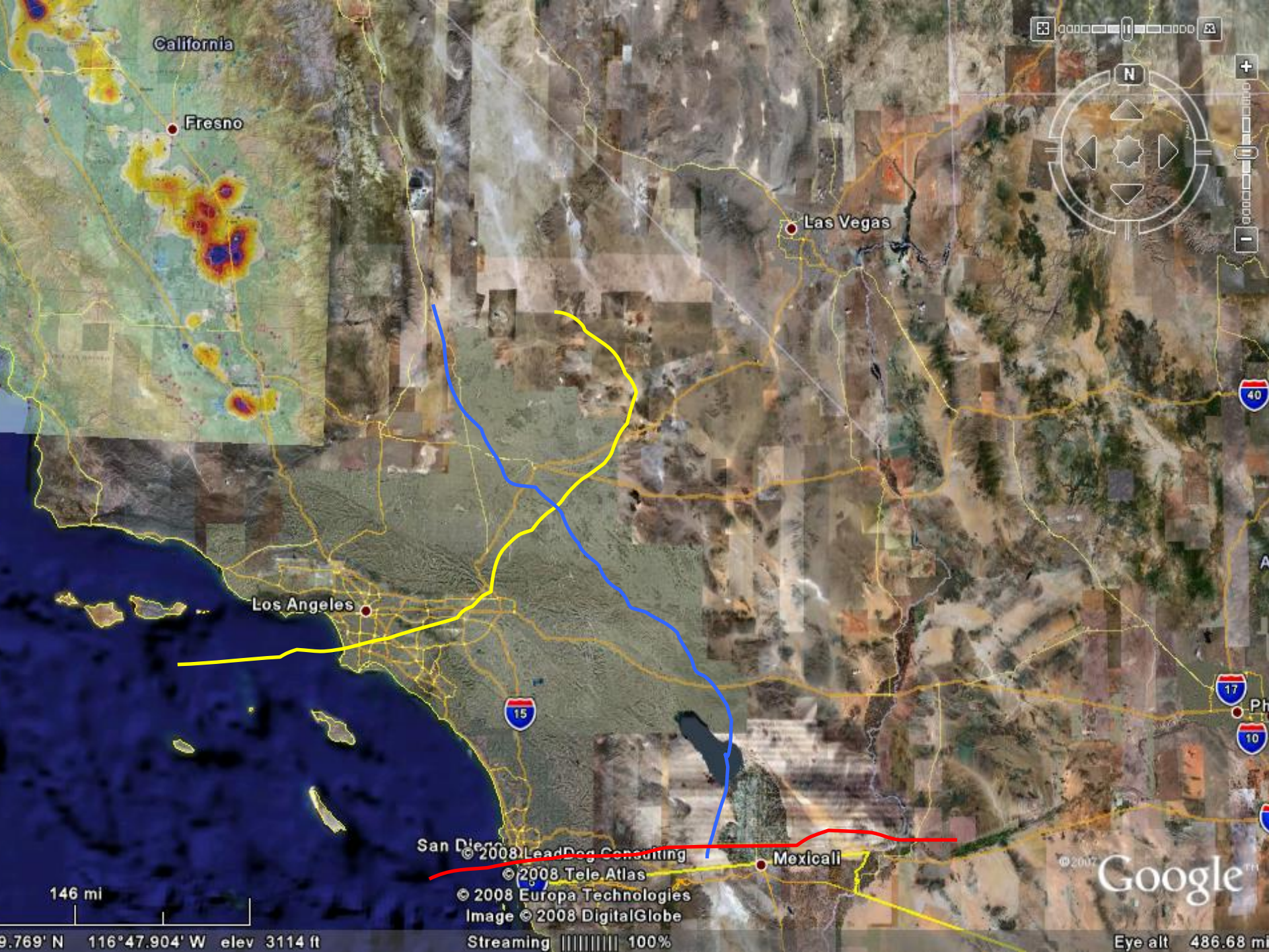

Calexico
111
98
Mexicali
Blvd Adolfo López Mateos
Calz Héctor Terán Terán
Carretera México - Tijuana
Carretera A San Luis Río Colorado
Sesbania
© 2008 Europa Technologies
© 2008 Tele Atlas
© 2008 LeadDog Consulting
Image © 2008 DigitalGlobe
5.03 mi
32° 37.502' N 115°24.832' W elev 24 ft
Streaming 100%
Eye alt
N

Data are preliminary



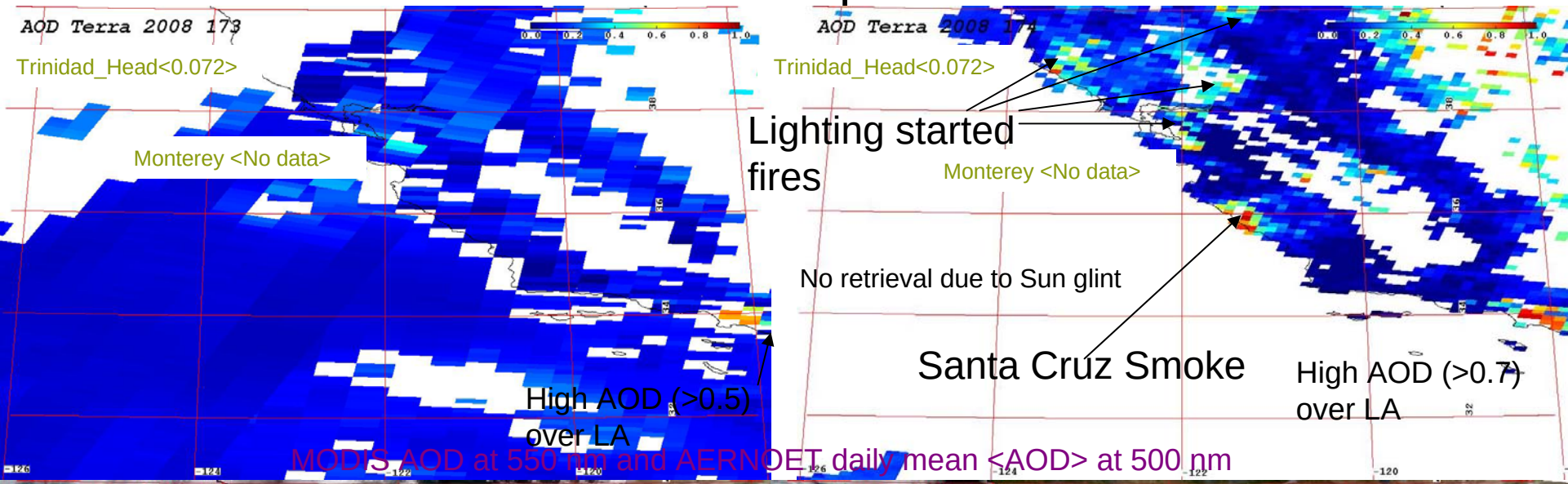

G-11 IMG 23 JUN 08 TIME=16:45UTC RES=01.00KM NWS/WR-SSD
20002 G-11 IMG 1 23 JUN 08175 164500 04063 17549 01.00


California
Fresno
Las Vegas
Los Angeles
San Diego
Mexicali
15
40
17
10
146 mi
© 2008 LeadDog Consulting
© 2008 Tele Atlas
© 2008 Europa Technologies
Image © 2008 DigitalGlobe
Streaming 100%
Google
9.769' N 116°47.904' W elev 3114 ft
Eye alt 486.68 mi

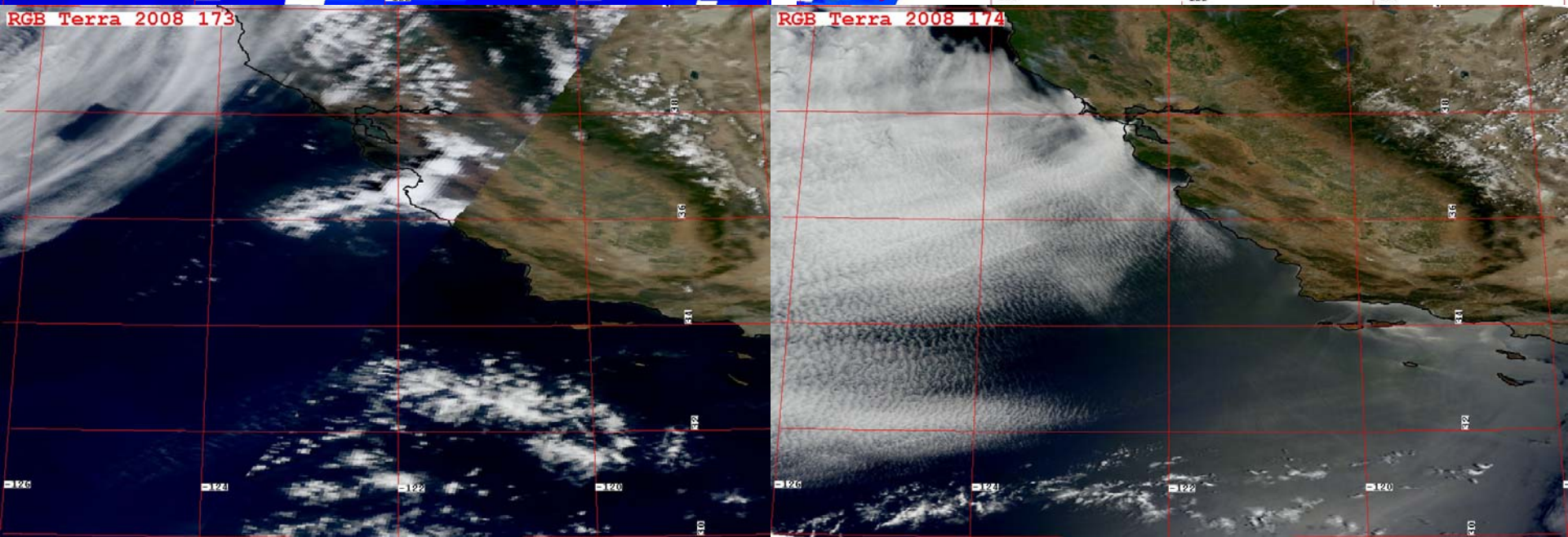

California
Fresno
Las Vegas
Los Angeles
San Diego
Mexicali
15
40
17
10
146 mi
© 2008 LeadDog Consulting
© 2008 Tele Atlas
© 2008 Europa Technologies
Image © 2008 DigitalGlobe
Streaming 100%
Google
9.769' N 116°47.904' W elev 3114 ft
Eye alt 486.68 mi

Day 173 & 174 (June 21 & 22) Sat (Left) and Sun (Right)

MODIS AOD Hot Spots in California

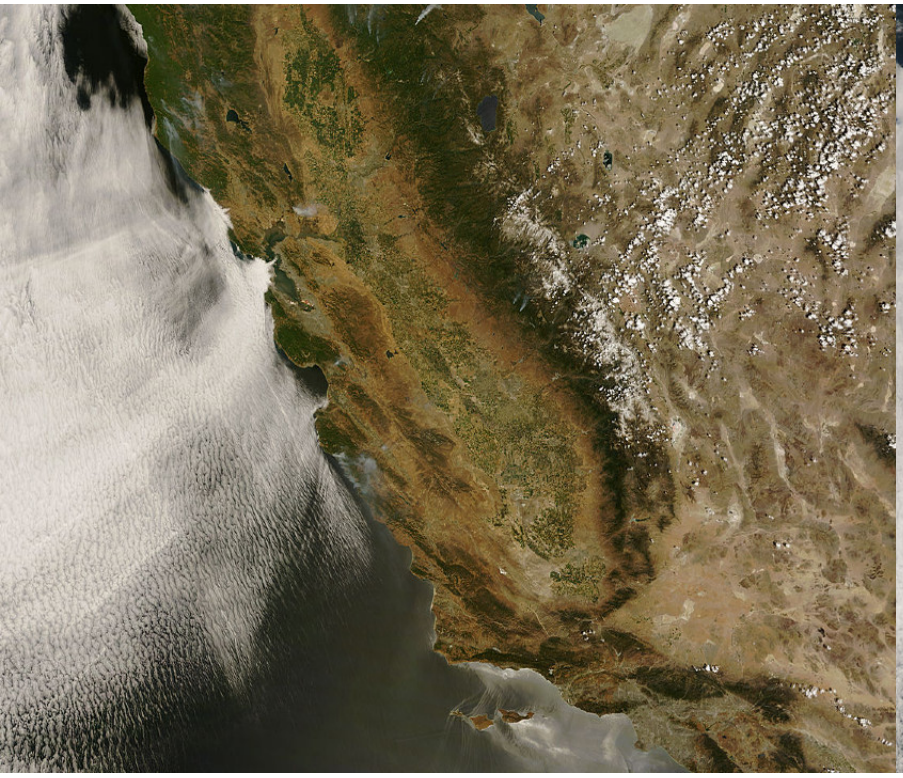


MODIS AOD at 550 nm and AERNOET daily mean <AOD> at 500 nm

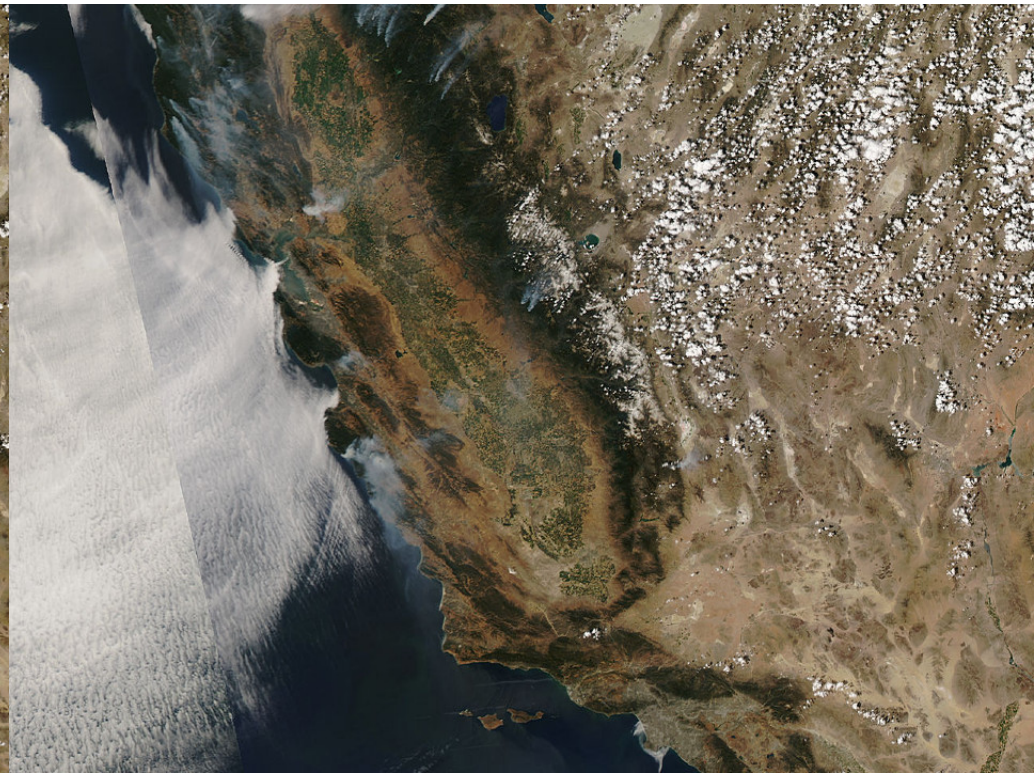


More Smoke Shown in Afternoon….June 22

Terra MODIS (10:30 am)

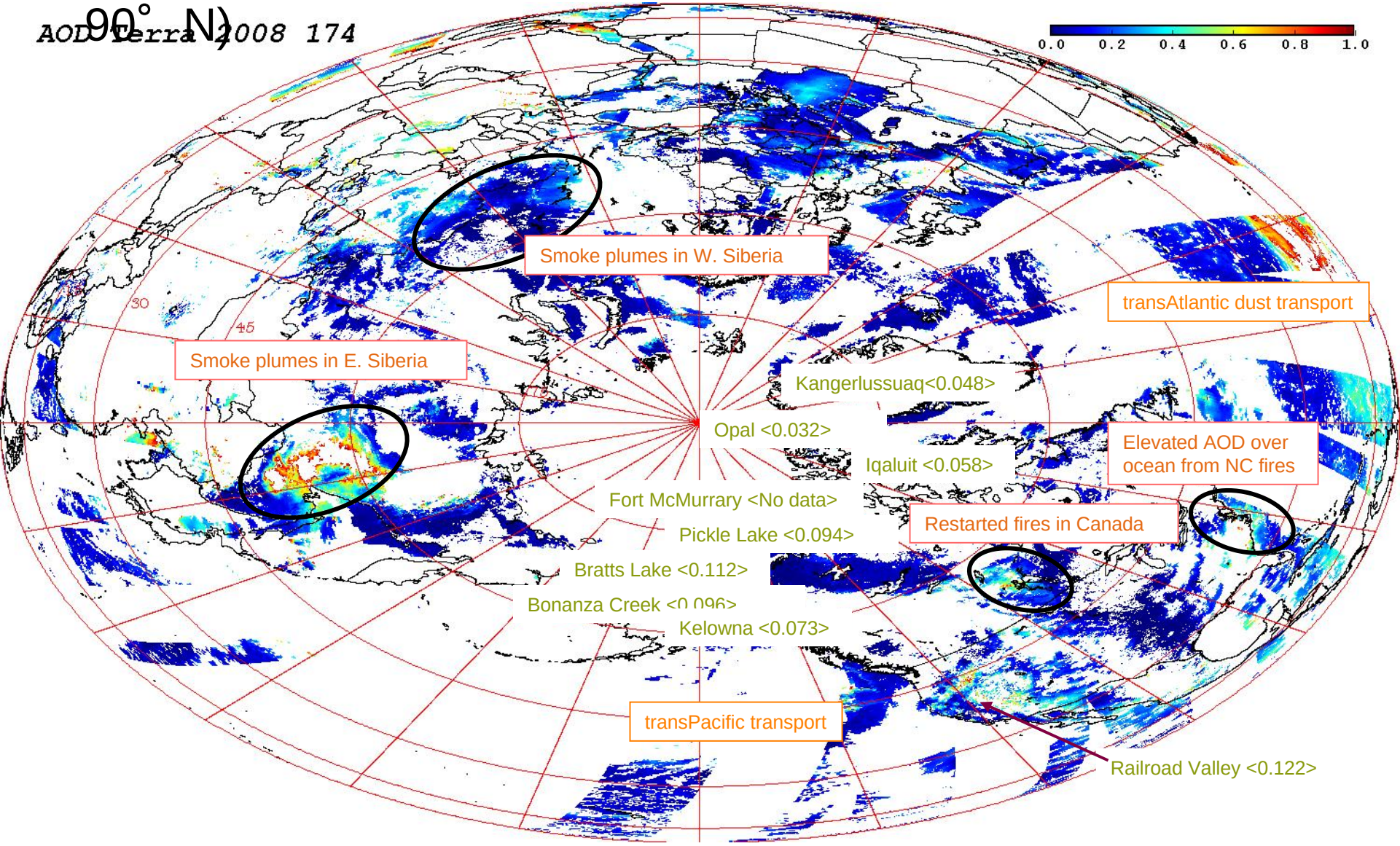


Aqua MODIS (1:30 pm)



Day 174 (June 22) Sunday

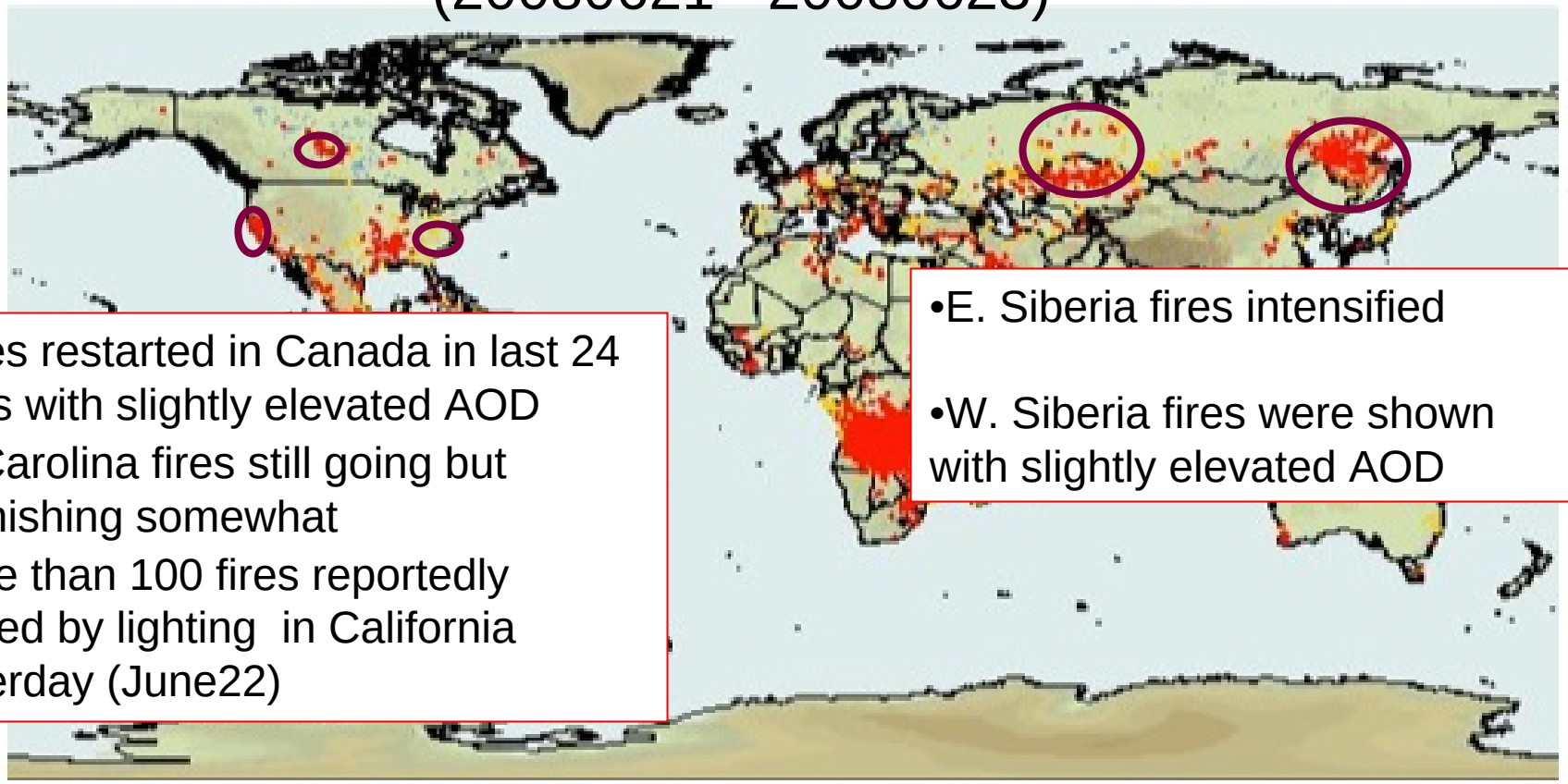
MODIS AOD Hot Spots in Northern Hemisphere (0° - 90° N)



MODIS AOD at 550 nm and AERNOET daily mean <AOD> at 500 nm

MODIS Global Active Fire Count Map In Last 24 hours (Red) and 7 Days (Yellow)

(20080621 - 20080623)



- Fires restarted in Canada in last 24 hours with slightly elevated AOD
- N. Carolina fires still going but diminishing somewhat
- More than 100 fires reportedly caused by lighting in California yesterday (June22)

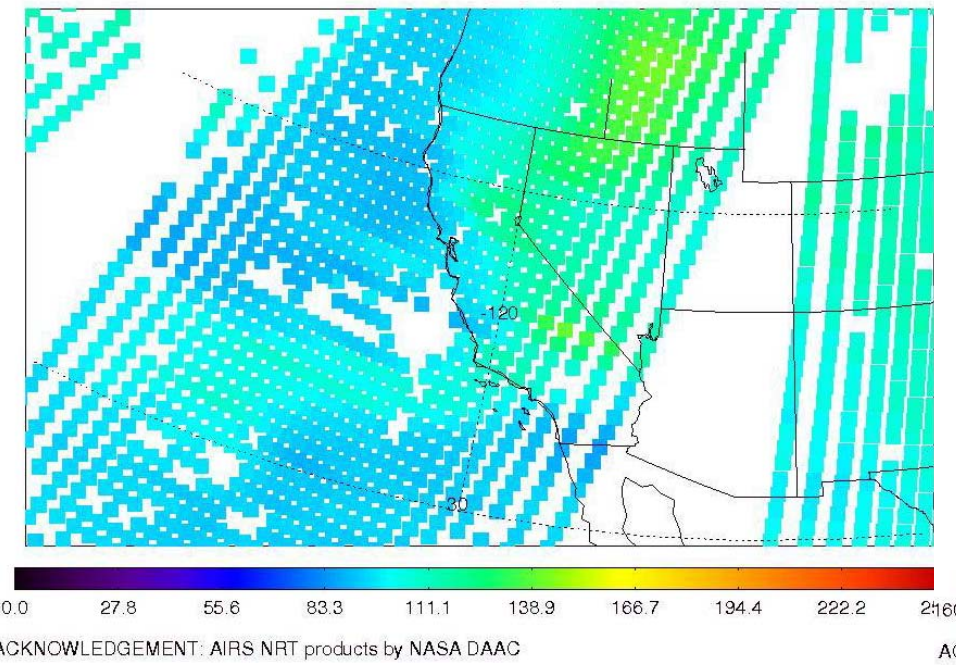
- E. Siberia fires intensified
- W. Siberia fires were shown with slightly elevated AOD

http://maps.geog.umd.edu/activefire_html

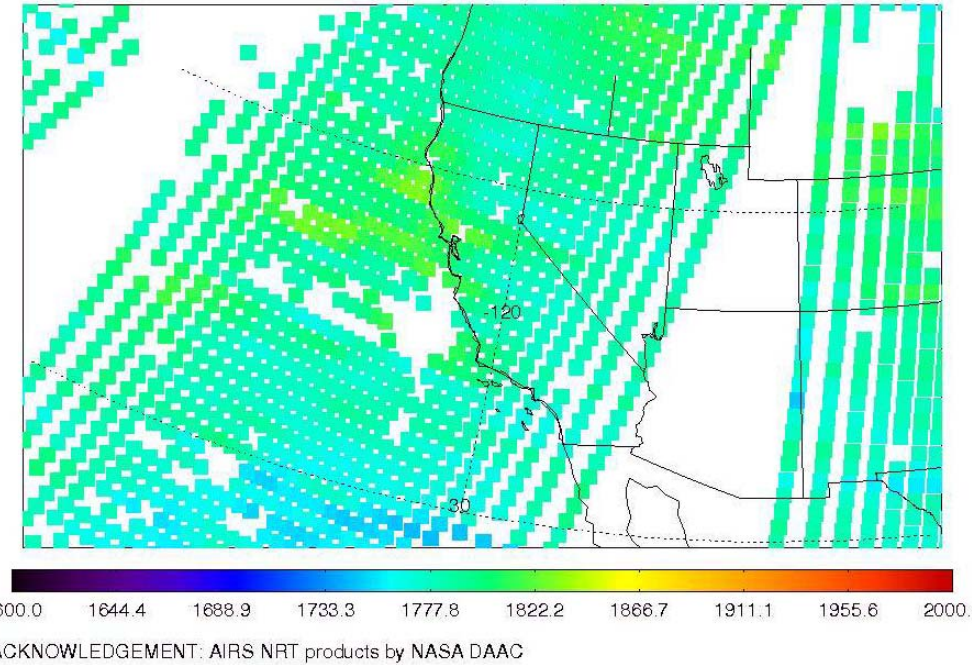
Circles indicate fires that produced elevated AOD noted on previous slides

AIRS Support for CARB

NRT AIRS CO mr 500mb June 23



NRT AIRS CH4 mr 300mb June 23



- The CO off the coast is very low, and higher over eastern CA and Nevada.
- Trajectories doesn’t indicate strong transport from Russia fires.