

CalNex Forecast Notes - Saturday May 29, 2010

Anticipated Activities of Platforms

WP-3D

Saturday: evening-night flight, 7 pm takeoff

Sunday: night-early am flight, 10 PM takeoff

NOAA Twin Otter:

CIRPAS Twin Otter:

NASA King Air:

R/V Atlantis:

Saturday: LA bight, Sat am off Palos Verdes

Local Features:

Saturday night:

Build up of concentrations in Southern SJV and LA Basin for contrast of emission mixes and chemistry, weak outflow from SJV to SE deserts;

LA bight contrast in marine layer vs 700mb trajectories and concentrations, see winds at 700 mb & sfc and LA plume at 4 sigma levels.

Ozone 1,600' elev. Catalina Isle: <http://tbsys.serveftp.net/Catalina/>

Sunday night:

Continued stagnation Sun am, but pm sea breeze will reestablish.

Similar Sun night target in LA bight as on Sat

Contrast of chemical compositions for late Sunday (e.g., 23 PDT - COAMPS) outflows from SJV and LA Basin into E Deserts

Early Next week: Weak trough.

Late Next week: Uncertain as GFS predicts 500 mb ridge builds but ECMWF predicts continued influence from a somewhat deeper and slower trough with zonal flow through Thursday.

California Synoptic Overview - Jeff Lancero (jlancero@arb.ca.gov)

Saturday May 29

- High Pressure Ridge building over the west

- Transport flow turns more Northwesterly
- Strong northwesterly surface gradients in the N. CA
- Strong Offshore gradients for SoCal coast

Sunday May 30

- Ridge flattens as weak trof approaches from the north
- Westerly transport flow
- Weaker surface onshore flow in north weaker offshore in south

Monday May 31

- Weak PacNW trough over N CA
- Transport flow turns W/SW

Tuesday June 1

- Zonal flow
- Transport flow turns W/NW

GFS Notes - Extended Outlook Jim Pederson (jrpeders@arb.ca.gov)

GFS and ECMWF diverge - GFS predicts weak ridge with stagnation by mid to late week. ECMWF predicts continued trough and zonal flow.

Large Scale Transport Notes - Brad Pierce (brad.pierce@noaa.gov)

LA/Bakersfield AIRNOW Site Comparison

Good to Moderate O3 AQ during FX period

Moderate LA PM2.5 AQ Good Bakersfield PM2.5 AQ during FX period

Recent O3 analysis overestimating O3. PM2.5 FX good at Riverside low at Bakersfield.

LA/SF AIRNOW Ensemble

LA Long-range transport to east with dispersion for trajectories ending Sun. Initial transport to south during first 24hrs then turning northward for ensembles ending Mon/Tue

Initial SF Long-range transport to south then turning northward. Alignment with LA ensemble on Mon/Tues

500m RDF FX 00Z 05/30 (Sat Afternoon)

>80% CONUS PBL Exposure over Central CA during previous 3 days

Moderate (5-10 ppbv/day) background O3 P-L over LA and south of SF

500m RDF FX 00Z 05/31 (Sun Afternoon)

Building high pressure off shore bringing in low CO/O3. New IC CO/O3 enhancement arriving from NW

60-80% CONUS PBL Exposure over Southern CA during previous 3 days
Moderate (5-10 ppbv/day) background O3 P-L over LA & SF

500m RDF FX 00Z 06/01 (Mon Afternoon)

Building high pressure off shore bringing in low CO/O3 into Northern CA. New IC CO/O3 enhancement offshore
Moderate (5-10 ppbv/day) background O3 P-L over LA. Low (~5ppbv/day) O3 P-L over SF
Descent over and south of LA

500m RDF FX 00Z 06/02 (Tue Afternoon)

New IC CO/O3 enhancement onshore over Northern CA
Moderate (5-10 ppbv/day) background O3 P-L over LA & SF
Descent associated with New IC CO/O3 and over/south of LA

Area Forecast Details

San Francisco Bay Area - Danny Kam (dkam@airquality.org) - not available

Sacramento Valley - Danny Kam (dkam@airquality.org) - not available

San Joaquin Valley - Jon Klassen (jon.klassen@valleyair.org)

Saturday

- *N to NW 5 to 10kt, strongest in the afternoon; light and variable wind at late night*
- *Max aftn temp: 26C*
- *AM PBL 1,000 ft; PM PBL 4,000*
- *Thin, high cirrus, otherwise clear*
- *Good air quality: max-8hr mean O3 in 0.04 ppm range*

Sunday

- *Light variable wind with downslope flow in early AM*
- *AM PBL 1,000ft*
- *Cirrus and cirrostratus expected*
- *Max aftn temp: 28C*
- *Good air quality: max-8hr mean O3 in 0.05 ppm range*

Monday

- *Light variable wind with downslope flow in early AM, NW to W wind at 5kt in the morning becomes light and variable again in the afternoon; downslope flow at night (northern SV) and SW onshore flow (southern SV)*
- *Cirrus continues but decreases later in the afternoon*
- *Max aftn temp: 27C*

- *Good air quality: max-8hr mean O3 in 0.05 ppm range*
- Extended*
- *Light variable wind, stronger onshore flow gradient; may turn westerly on Wednesday*
 - *Mostly sunny except for occasional cirrostratus*
 - *Higher O3 conc, moderate air quality, becomes more season like*

Central Coast - Gary Arcemont (garcemont@co.slo.ca.us) - not available

SoCal Coastal Waters - Lee Eddington (lee.eddington@navy.mil)

+ Saturday afternoon (00Z 30 May)

- Marine Low Clouds
- * CLR Crescent City to San Diego

- SOCAL Marine Layer Winds
- * NW 15-25 kts outer waters
- * WNW 5-15 kts inner waters

+ Saturday evening (06Z 30 May)

- Marine Low Clouds
- * SCT/CLR St Crescent City to Point Sur
- * CLR Point Sur to San Diego

- SOCAL Marine Layer Winds
- * NW 10-25 kts outer waters

* N Sundowner winds 10-25 kts inner waters Gaviota to Santa Barbara and the Malibu coastline

* SE 5-10 kts inner waters Palos Verdes to San Diego

+ Sunday morning (12Z 30 May)

- Marine Low Clouds

* SCT/CLR St/StCu Crescent City to Point Sur

* CLR Point Sur to Palos Verdes

* SCT/CLR patchy St/fog Palos Verdes to San Diego

- SOCAL Marine Layer Winds

* E 5-10 kts inner waters extending out to channel islands

* NW 5-15 kts west of channel islands

+ Sunday afternoon (00Z 31 May)

- Marine Low Clouds

* SCT/CLR St/fog Crescent City to Point Arena

* CLR Point Arena to Palos Verdes

* BKN/SCT St/fog Palos Verdes to San Diego

- SOCAL Marine Layer Winds

* NW 10-20 kts outer waters

* WNW-SW 5-10 kts inner waters

+ Sunday evening (06Z 31 May)

- Marine Low Clouds
 - * OVC/BKN St/fog Crescent City to Point Reyes
 - * CLR Point Reyes to Palos Verdes
 - * OVC/BKN St/fog Palos Verdes to San Diego

- SOCAL Marine Layer Winds
 - * NW 10-15 kts western half of SOCAL bight
 - * S 5-10 kts eastern half of SOCAL bight

+ Monday morning (12Z 31 May)

- Marine Low Clouds
 - * OVC/BKN St/fog Crescent City to San Simeon
 - * CLR St/fog San Simeon to Gaviota
 - * OVC/BKN St/fog Gaviota to San Diego

- SOCAL Marine Layer Winds
 - * S-SE 5-15 kts inner waters
 - * NW 5-15 kts west of channel islands

+ Monday afternoon (00Z 1 June)

- Marine Low Clouds

* OVC/BKN St/fog Crescent City to Palos Verdes

* BKN/SCT St/StCu Palos Verdes to San Diego

- SOCAL Marine Layer Winds

* NW 10-15 kts outer waters

* WSW 5-10 kts inner waters

+ Tuesday morning (12Z 1 June)

- Marine Low Clouds

* BKN/SCT St/StCu Crescent City to San Diego

- SOCAL Marine Layer Winds

* NW 10-20 kts west of channel islands

* SE-NW 0-5 kts inner waters

South Coast - Kevin Durkee - not available