

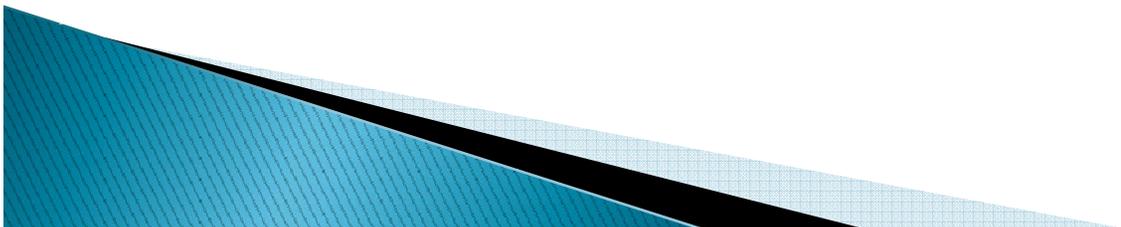
NOAA National Weather Service

Presented by: Mark Jackson
Meteorologist in Charge

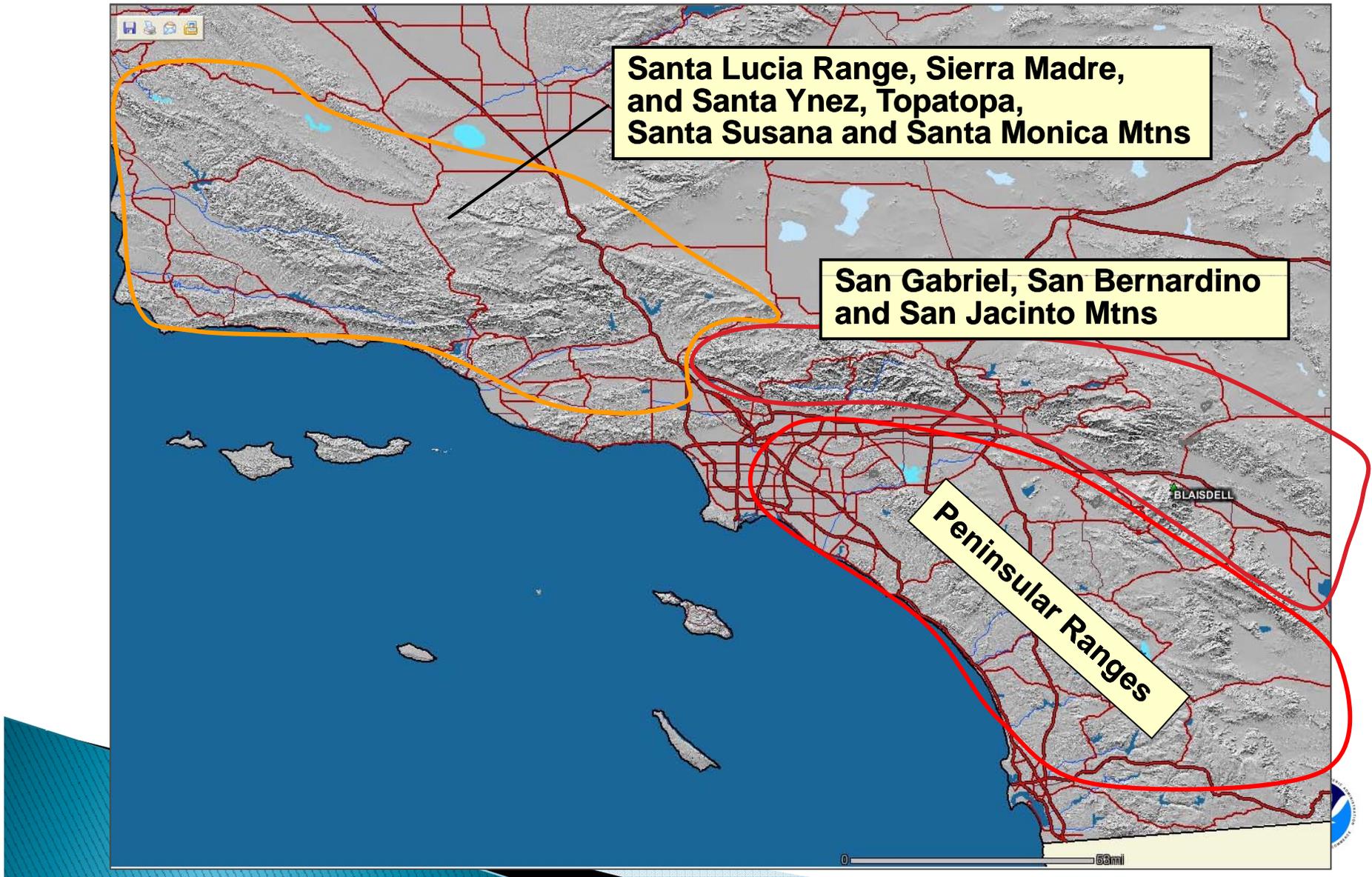
Contact: Jayme L. Laber, P.H.
Senior Hydrologist

NOAA/National Weather Service
Los Angeles/Oxnard, CA

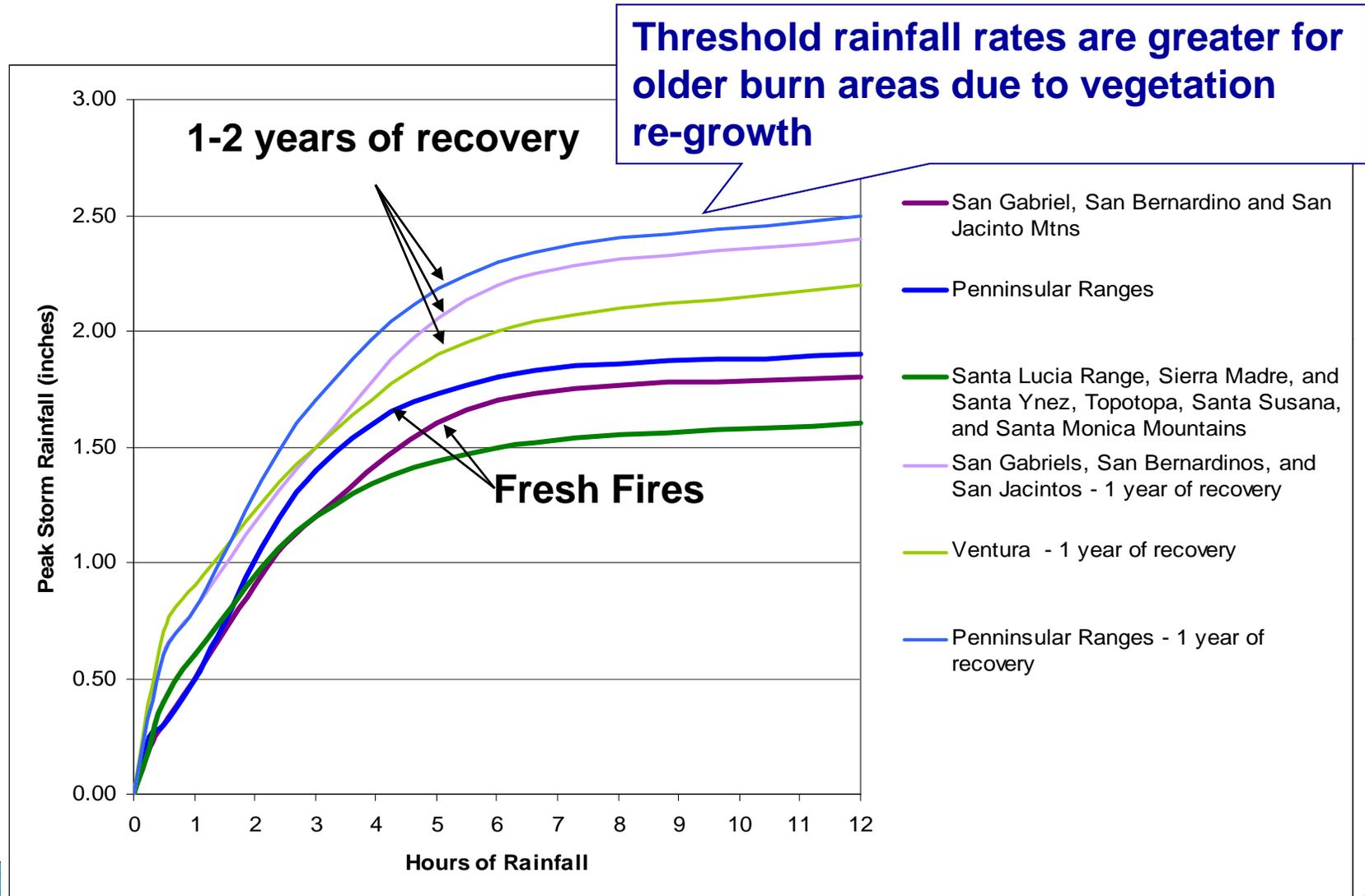
NOAA-USGS Debris Flow Warning System



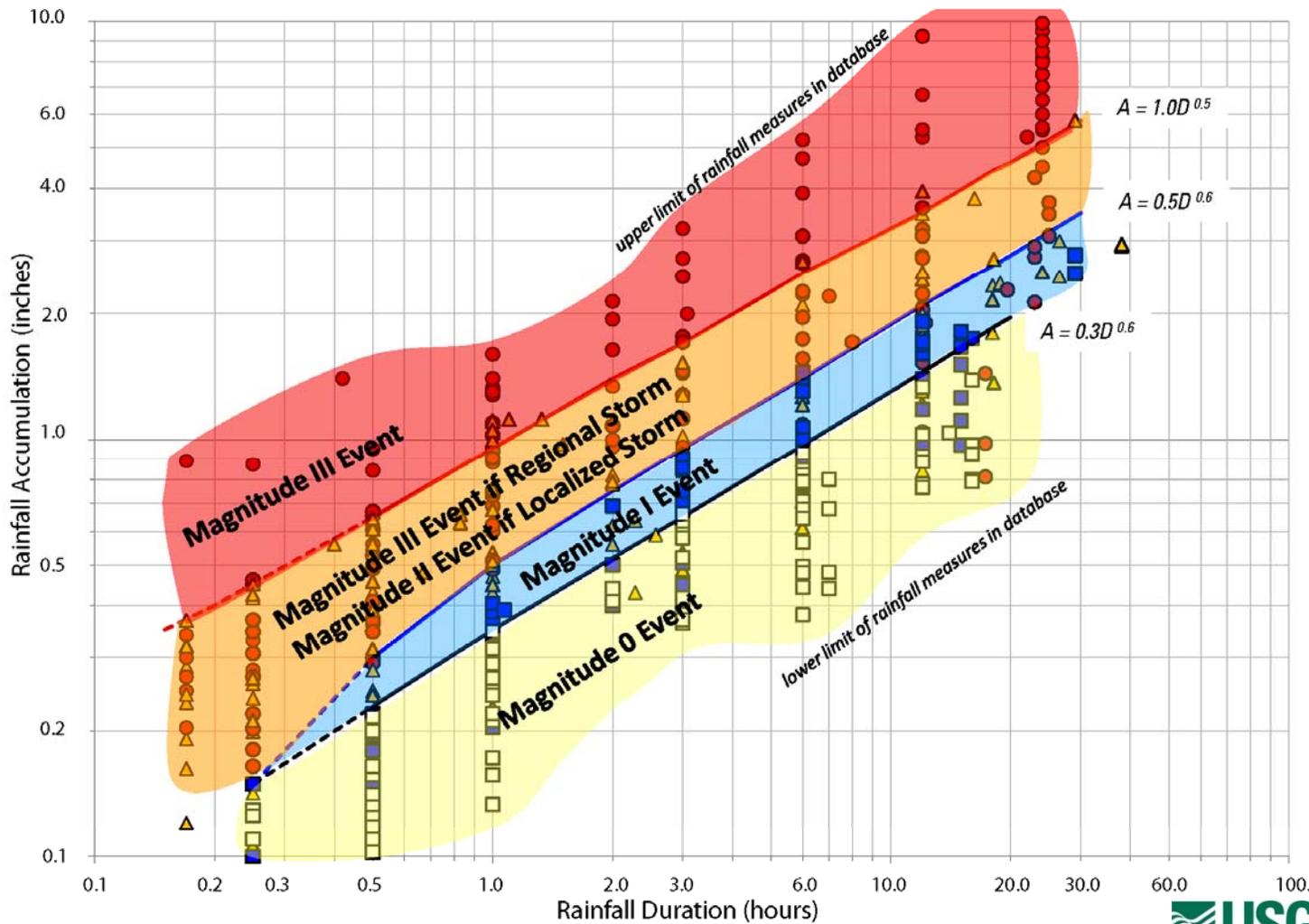
Development of Rainfall Thresholds for Burned Areas



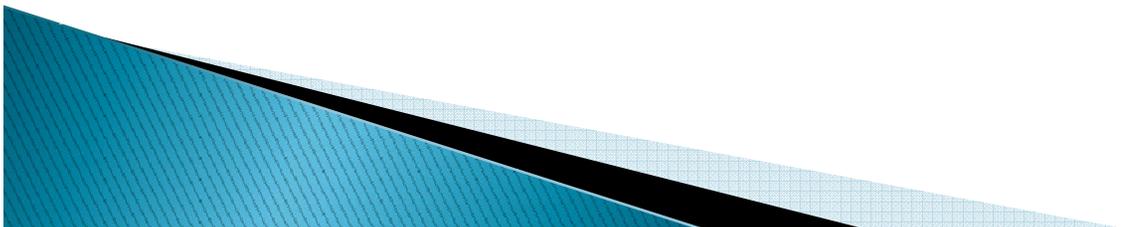
Thresholds for the Regional Areas



Rainfall conditions in storms associated with magnitude 0, I, II, and III events

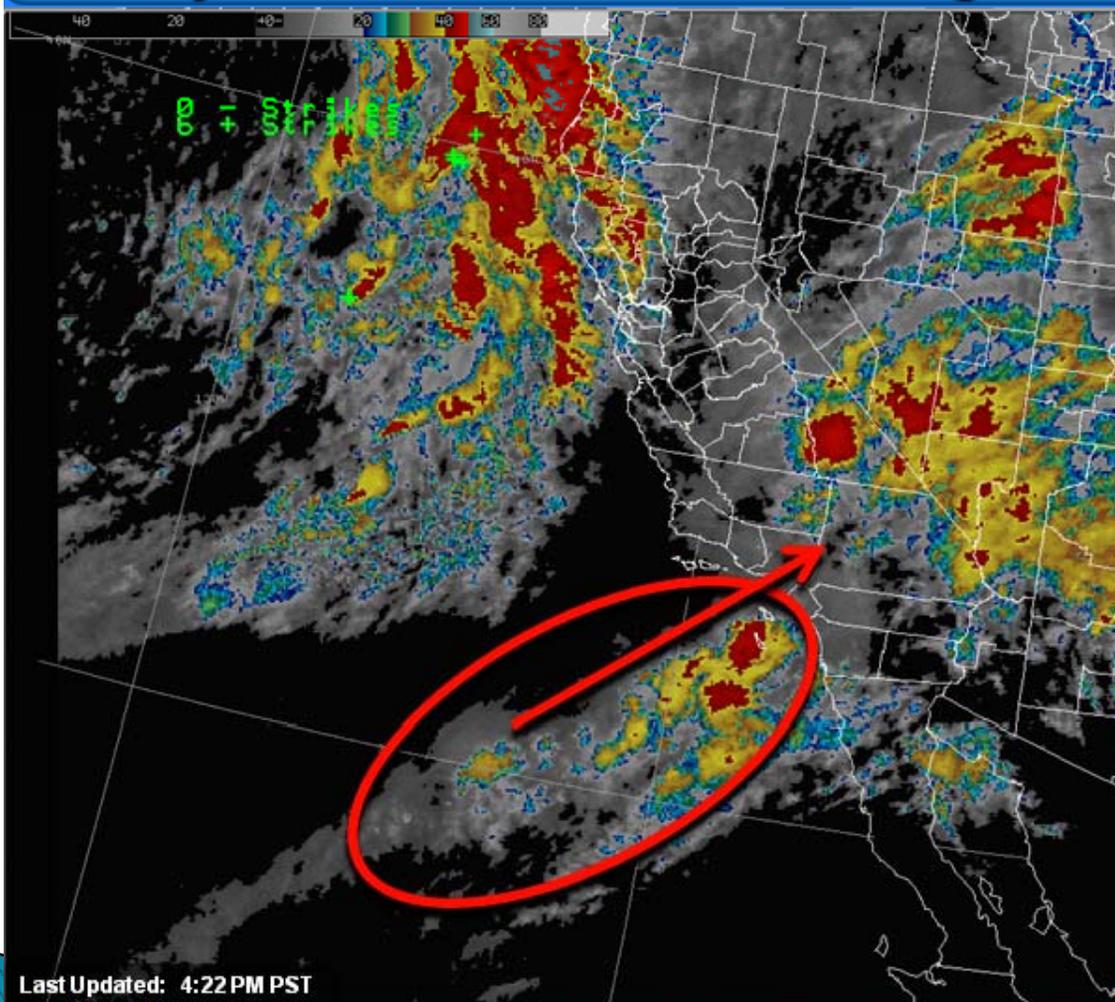


2009–2010 Winter Precipitation Overview for the Station Burn Area



Weather story sent to NWS website on Friday afternoon (Feb. 5th) highlighting the potential for heavy rain and possible debris flows in Los Angeles Co. overnight.

Heavy Rain Possible in Los Angeles County Tonight



Rain will increase overnight in Los Angeles

- Additional 1.5-2.5 inches near the Station and Morris Burn areas through 7am Saturday
- Rain rates could exceed 0.5 inches per hour
- Debris flows will be possible near the burn areas.



Friday, February 05, 2010

National Weather Service - Los Angeles/Oxnard, CA





POINT PRECIPITATION FREQUENCY ESTIMATES FROM NOAA ATLAS 14



SANTA ANITA F L FC 432, SOUTHERN CALIFORNIA (04-7897) 34.2167 N 118.0167 W 3015 feet

from "Precipitation-Frequency Atlas of the United States" NOAA Atlas 14, Volume 1, Version 4

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M. Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland, 2006

Precipitation Frequency Estimates (inches)

ARI* (years)	<u>5</u> <u>min</u>	<u>10</u> <u>min</u>	<u>15</u> <u>min</u>	<u>30</u> <u>min</u>	<u>60</u> <u>min</u>	<u>120</u> <u>min</u>	<u>3 hr</u>	<u>6 hr</u>	<u>12 hr</u>	<u>24 hr</u>	<u>48 hr</u>	<u>4 day</u>	<u>7 day</u>	<u>10</u> <u>day</u>	<u>20</u> <u>day</u>	<u>30</u> <u>day</u>	<u>45</u> <u>day</u>	<u>60</u> <u>day</u>
1	0.22	0.34	0.42	0.56	0.69	1.12	1.45	2.35	3.42	4.32	5.01	6.16	6.97	7.72	8.87	10.31	11.67	13.38
2	0.28	0.43	0.53	0.72	0.89	1.42	1.84	2.99	4.41	5.63	6.62	8.25	9.38	10.38	11.92	13.88	15.72	17.99
5	0.37	0.56	0.70	0.94	1.16	1.83	2.35	3.85	5.84	7.71	9.34	11.94	13.83	15.21	17.39	20.24	23.30	26.40
10	0.45	0.68	0.84	1.13	1.40	2.16	2.77	4.51	6.97	9.34	11.49	14.84	17.41	19.08	21.71	25.19	29.48	33.16
25	0.55	0.84	1.04	1.40	1.73	2.62	3.35	5.41	8.50	11.62	14.56	18.98	22.61	24.67	27.86	32.16	38.59	42.98
50	0.64	0.97	1.20	1.62	2.00	2.99	3.80	6.11	9.72	13.44	17.05	22.35	26.96	29.31	32.89	37.81	46.29	51.16
100	0.73	1.12	1.38	1.86	2.31	3.38	4.28	6.83	10.99	15.36	19.75	25.99	31.74	34.39	38.34	43.87	54.83	60.13
200	0.83	1.27	1.57	2.12	2.62	3.78	4.76	7.55	12.29	17.38	22.62	29.89	36.96	39.91	44.20	50.31	64.25	69.92
500	0.98	1.50	1.86	2.50	3.09	4.34	5.42	8.50	14.08	20.21	26.74	35.49	44.64	47.96	52.62	59.47	78.25	84.24
1000	1.11	1.69	2.09	2.82	3.49	4.80	5.95	9.24	15.48	22.49	30.11	40.08	51.09	54.70	59.56	66.94	90.16	96.25





POINT PRECIPITATION FREQUENCY ESTIMATES FROM NOAA ATLAS 14



MT WILSON NO 2, SOUTHERN CALIFORNIA (04-6006) 34.2264 N 118.0647 W 5295 feet

from "Precipitation-Frequency Atlas of the United States" NOAA Atlas 14, Volume 1, Version 4

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M. Yekta, and D. Riley
NOAA, National Weather Service, Silver Spring, Maryland, 2006

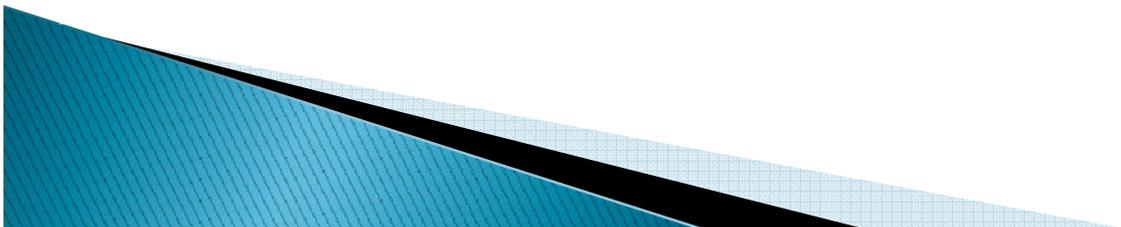
Precipitation Frequency Estimates (inches)

ARI* (years)	<u>5</u> <u>min</u>	<u>10</u> <u>min</u>	<u>15</u> <u>min</u>	<u>30</u> <u>min</u>	<u>60</u> <u>min</u>	<u>120</u> <u>min</u>	<u>3 hr</u>	<u>6 hr</u>	<u>12 hr</u>	<u>24 hr</u>	<u>48 hr</u>	<u>4 day</u>	<u>7 day</u>	<u>10</u> <u>day</u>	<u>20</u> <u>day</u>	<u>30</u> <u>day</u>	<u>45</u> <u>day</u>	<u>60 day</u>
1	0.21	0.33	0.40	0.54	0.67	1.11	1.45	2.33	3.43	4.44	5.30	6.52	7.45	8.23	9.47	11.00	12.50	14.30
2	0.27	0.42	0.52	0.70	0.86	1.42	1.83	2.98	4.43	5.79	7.00	8.74	10.04	11.08	12.74	14.84	16.85	19.24
5	0.36	0.55	0.68	0.92	1.13	1.82	2.35	3.83	5.89	7.94	9.90	12.67	14.84	16.27	18.62	21.66	25.00	28.27
10	0.43	0.66	0.82	1.10	1.36	2.15	2.76	4.49	7.04	9.63	12.20	15.78	18.71	20.45	23.27	26.98	31.68	35.54
25	0.54	0.82	1.02	1.37	1.70	2.62	3.33	5.39	8.61	11.98	15.49	20.21	24.35	26.48	29.90	34.50	41.53	46.13
50	0.62	0.95	1.18	1.59	1.97	2.98	3.78	6.07	9.87	13.87	18.16	23.82	29.07	31.51	35.34	40.60	49.86	54.97
100	0.72	1.10	1.36	1.83	2.26	3.36	4.25	6.78	11.16	15.88	21.05	27.74	34.28	37.02	41.23	47.15	59.14	64.68
200	0.82	1.25	1.55	2.08	2.58	3.76	4.72	7.49	12.51	17.98	24.14	31.94	39.97	43.02	47.57	54.13	69.40	75.28
500	0.97	1.48	1.83	2.46	3.05	4.32	5.37	8.43	14.37	20.94	28.57	37.98	48.36	51.79	56.71	64.07	84.67	90.83
1000	1.09	1.66	2.06	2.77	3.43	4.76	5.88	9.16	15.83	23.32	32.21	42.94	55.42	59.14	64.25	72.18	97.68	103.90



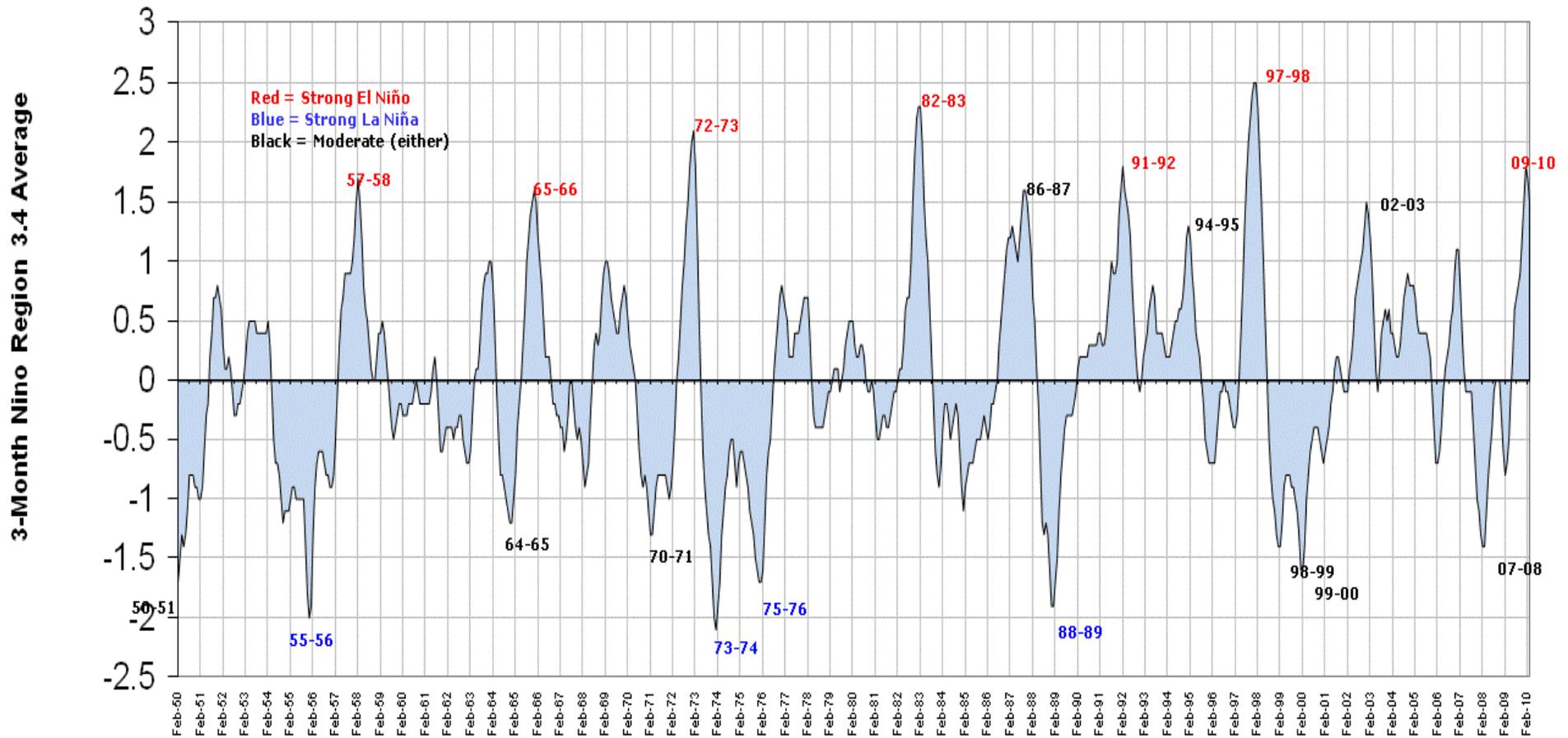
Long Range Winter Outlook

The Return of La Niña



Oceanic Niño Index (ONI)

http://www.cpc.noaa.gov/products/analysis_monitoring/ensostuff/ens



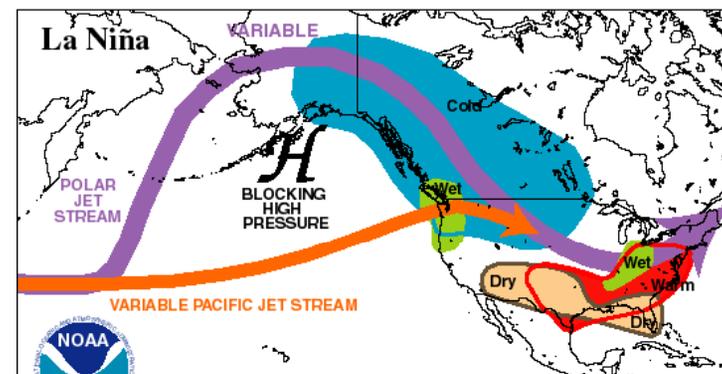
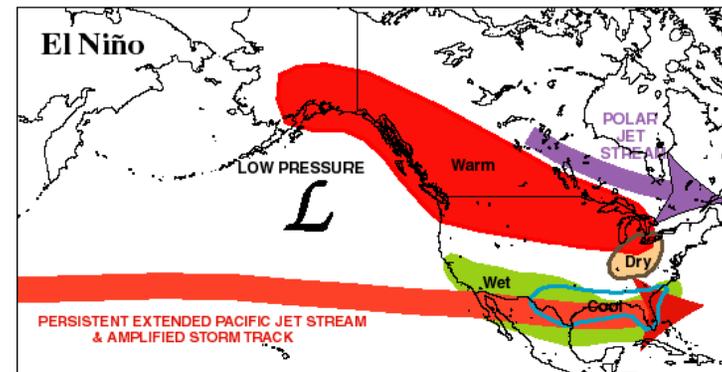
Graphic Courtesy of Jan Null/www.ggweather.com



El Niño/La Niña Jet Stream

- ▶ El Niño produces a near horizontal jet stream causing wet conditions in the Southwest
- ▶ La Niña produces a arching jet stream to the north producing wetter conditions in the Pacific Northwest

TYPICAL JANUARY-MARCH WEATHER ANOMALIES AND ATMOSPHERIC CIRCULATION DURING MODERATE TO STRONG EL NIÑO & LA NIÑA

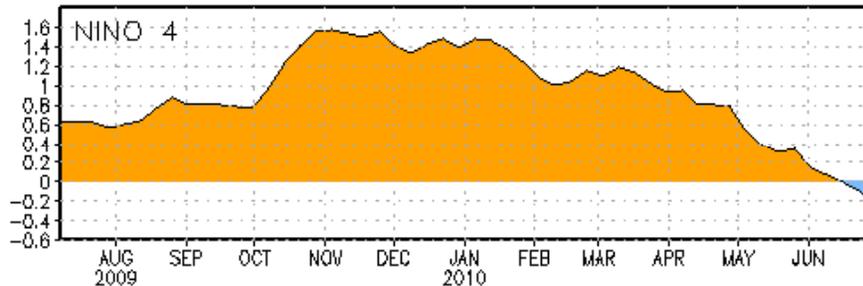


Climate Prediction Center/NCEP/NWS



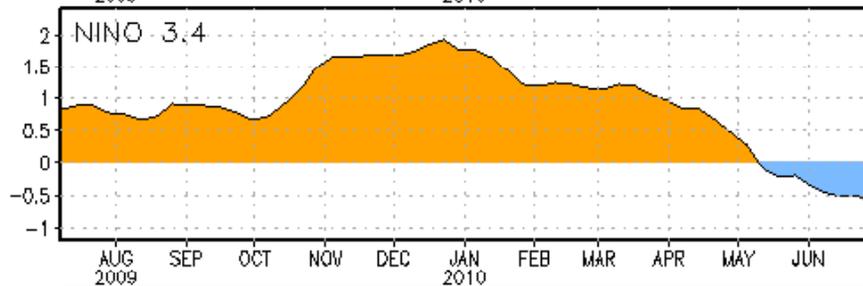
Sea Surface Temperature Anomalies

SST Anomalies

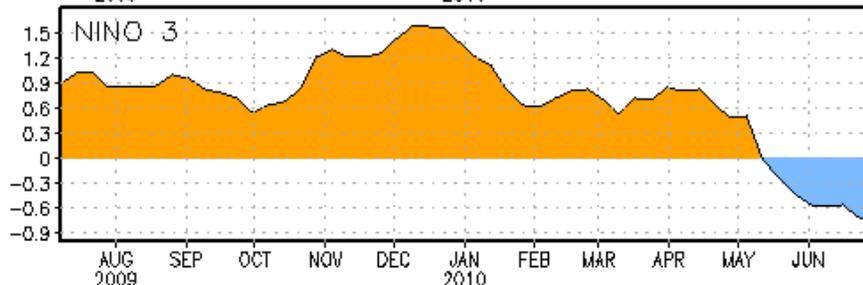


The latest weekly SST departures are:

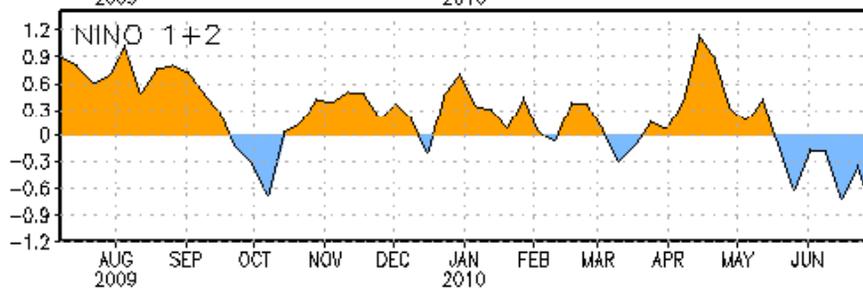
Niño 4 -0.2°C



Niño 3.4 -0.6°C



Niño 3 -0.7°C



Niño 1+2 -0.9°C



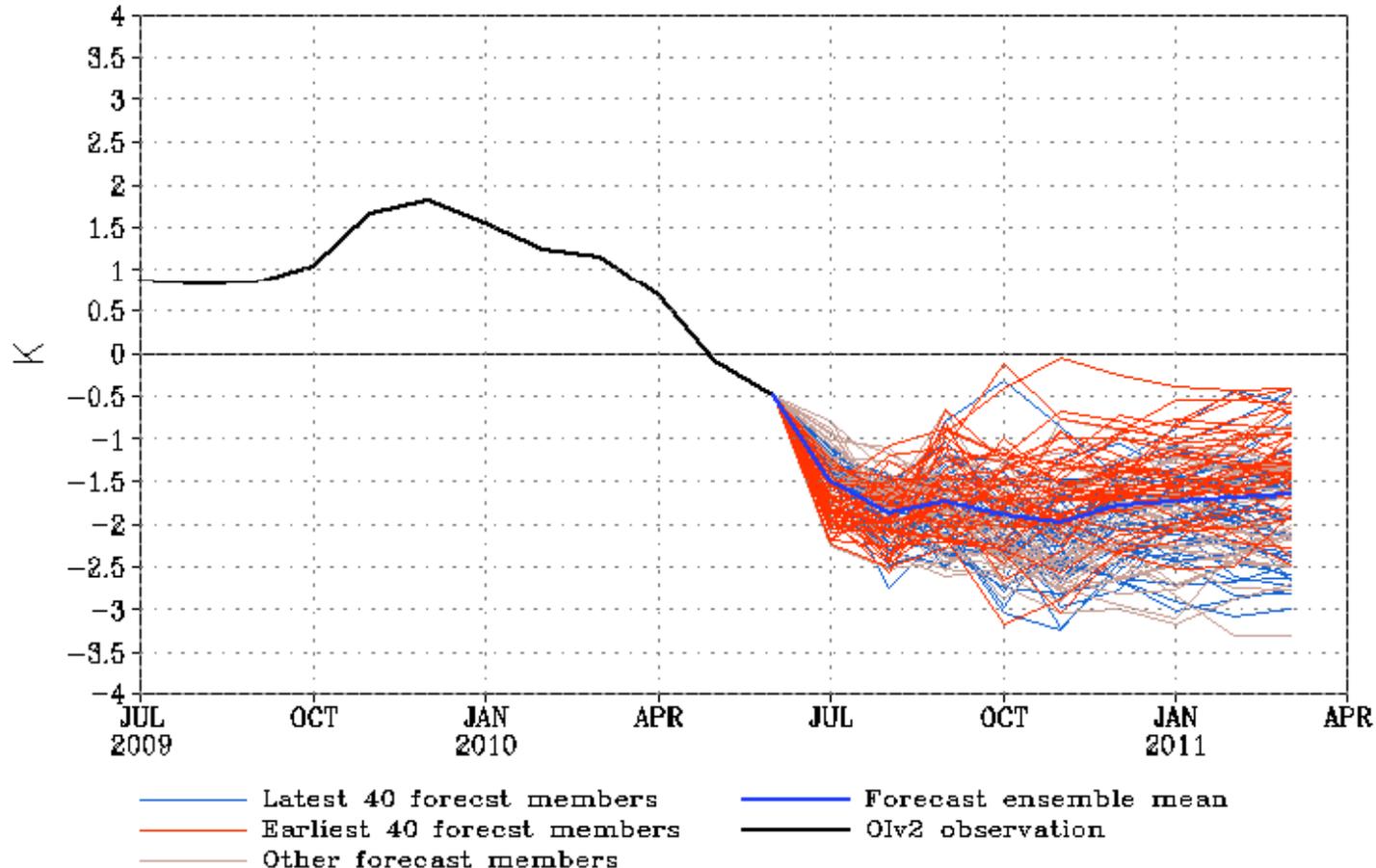
NCEP CFS Niño 3.4 SST Prediction



NWS/NCEP

Last update: Fri Jul 9 2010
Initial conditions: 8Jun2010-7Jul2010

Forecast Niño3.4 SST anomalies from CFS



NCEP Climate Forecast System (CFS) Niño 3.4 SST prediction indicates the onset of La Niña conditions during the Northern Hemisphere summer or fall 2010.

Southern California La Niña

- ▶ The **majority** of past La Niña's have a history of below normal winter rainfall in Southern CA.
 - Likely to still have several winter storms with short-duration high-intensity rainfall that could result in flash flooding and debris flows
- ▶ There have been 19 recorded La Niña's since 1950.
- ▶ There is no clear signal between weak, moderate, and strong events.
- ▶ The 3rd wettest year on record in Los Angeles occurred during a La Niña year - 1889-1890.
- ▶ The last La Niña was 2008-2009 (weak strength reaching -0.8 ENSO index)
- ▶ La Niña's re-occur every 1 to 7 years with an average of every 3.7 years.

