

Drought and El Niño Updates; Impacts for CA

Eric Boldt

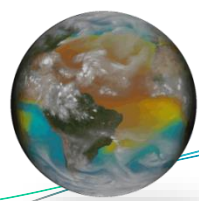
Warning Coordination Meteorologist

National Weather Service Los Angeles/Oxnard CA

Santa Barbara APCD Board

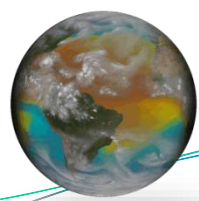
August 20, 2015



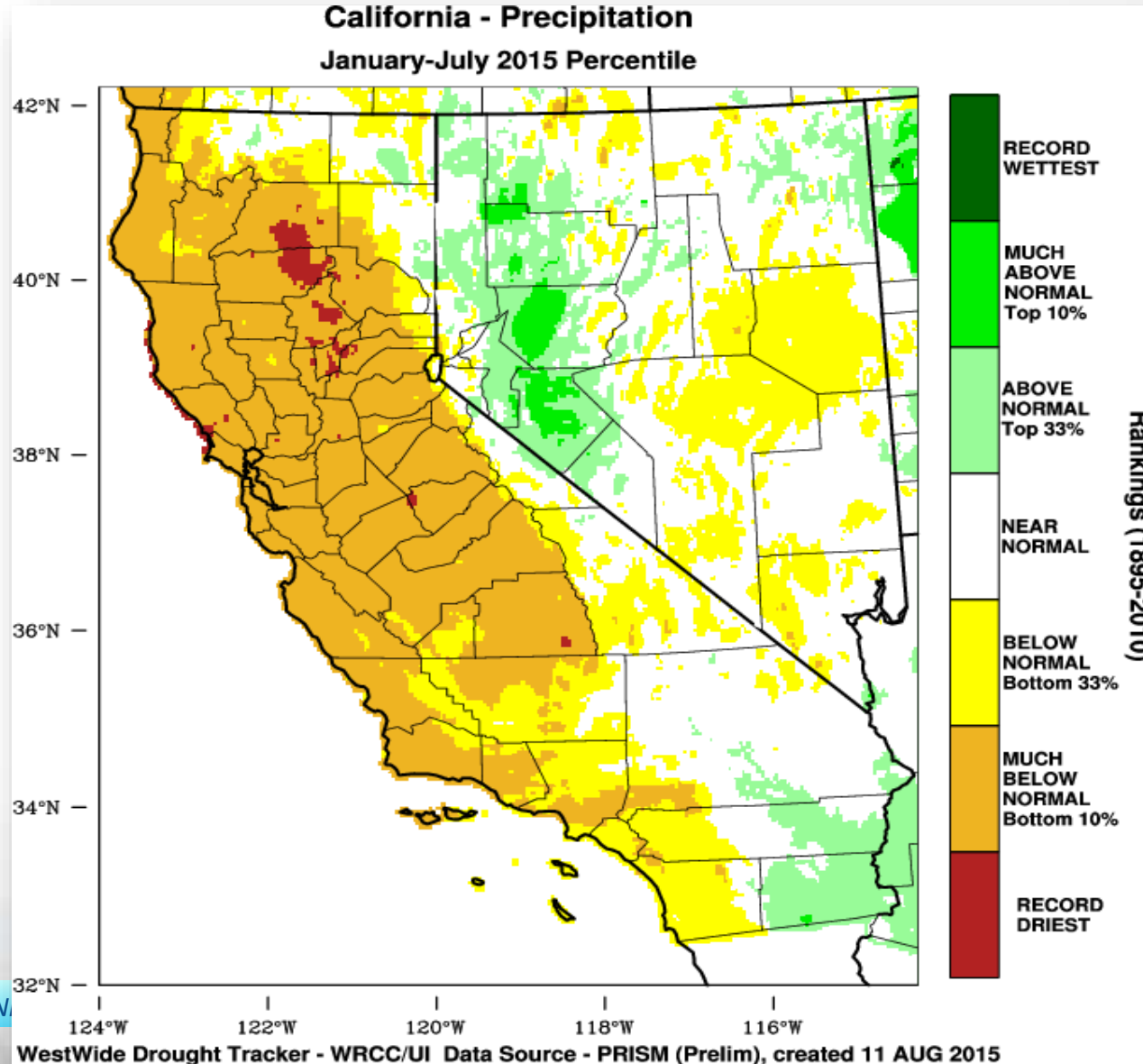


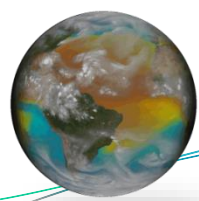
Drought Status





2015 California Precipitation (Bottom 10%)





Lack of Sierra Snowpack

Google "Sierra Snowpack"

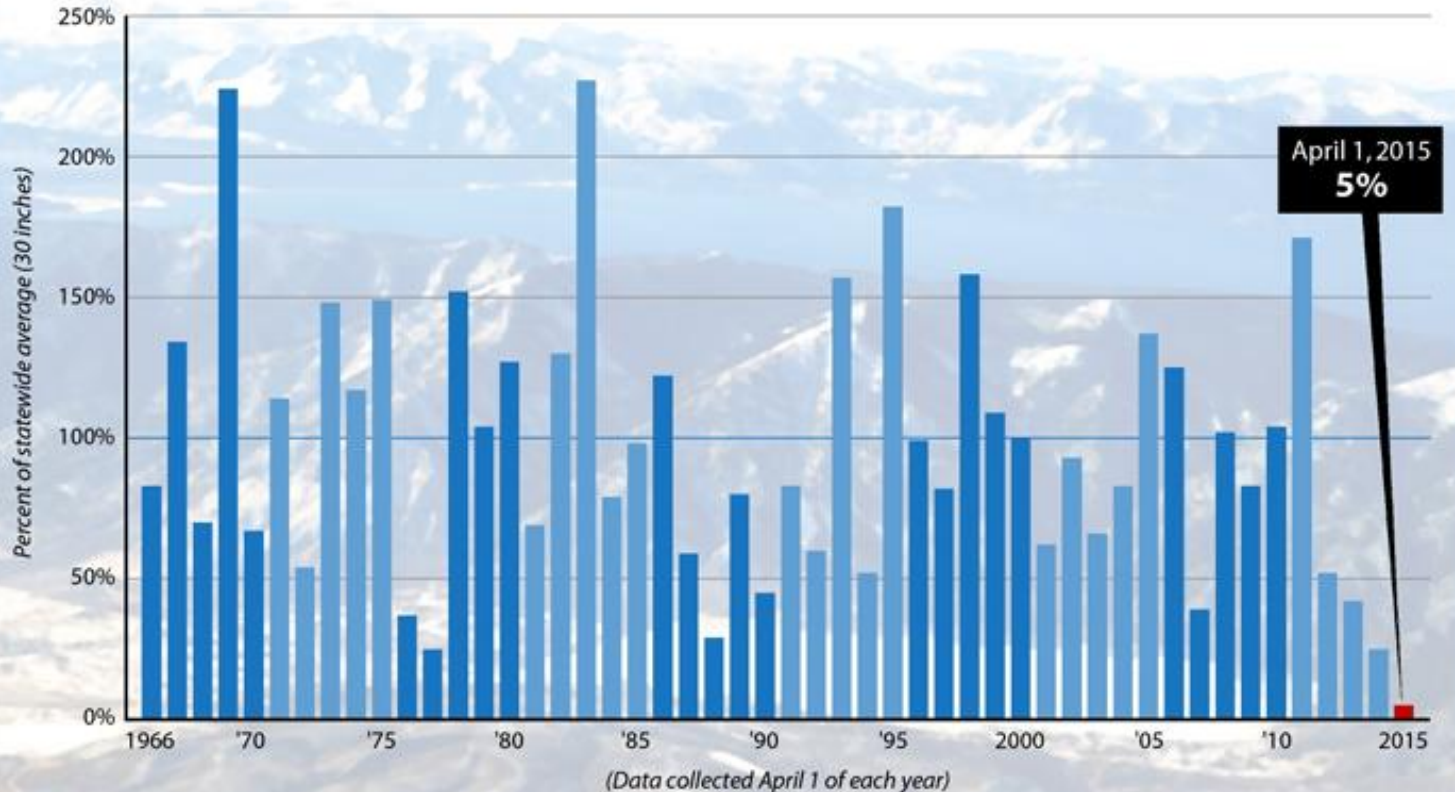
Record-Low California Snowpack Portends a Water Crisis

The water content in the Sierra Nevada snowpack provides as much as one-third of the state's water supply. This year, fueled by a historic drought, the snowpack is at an all-time low, meaning less water will flow into the state's reservoir system.



SIERRA SNOWPACK

percent of statewide average, 1966-2015:

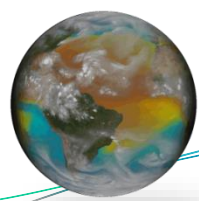


Drought

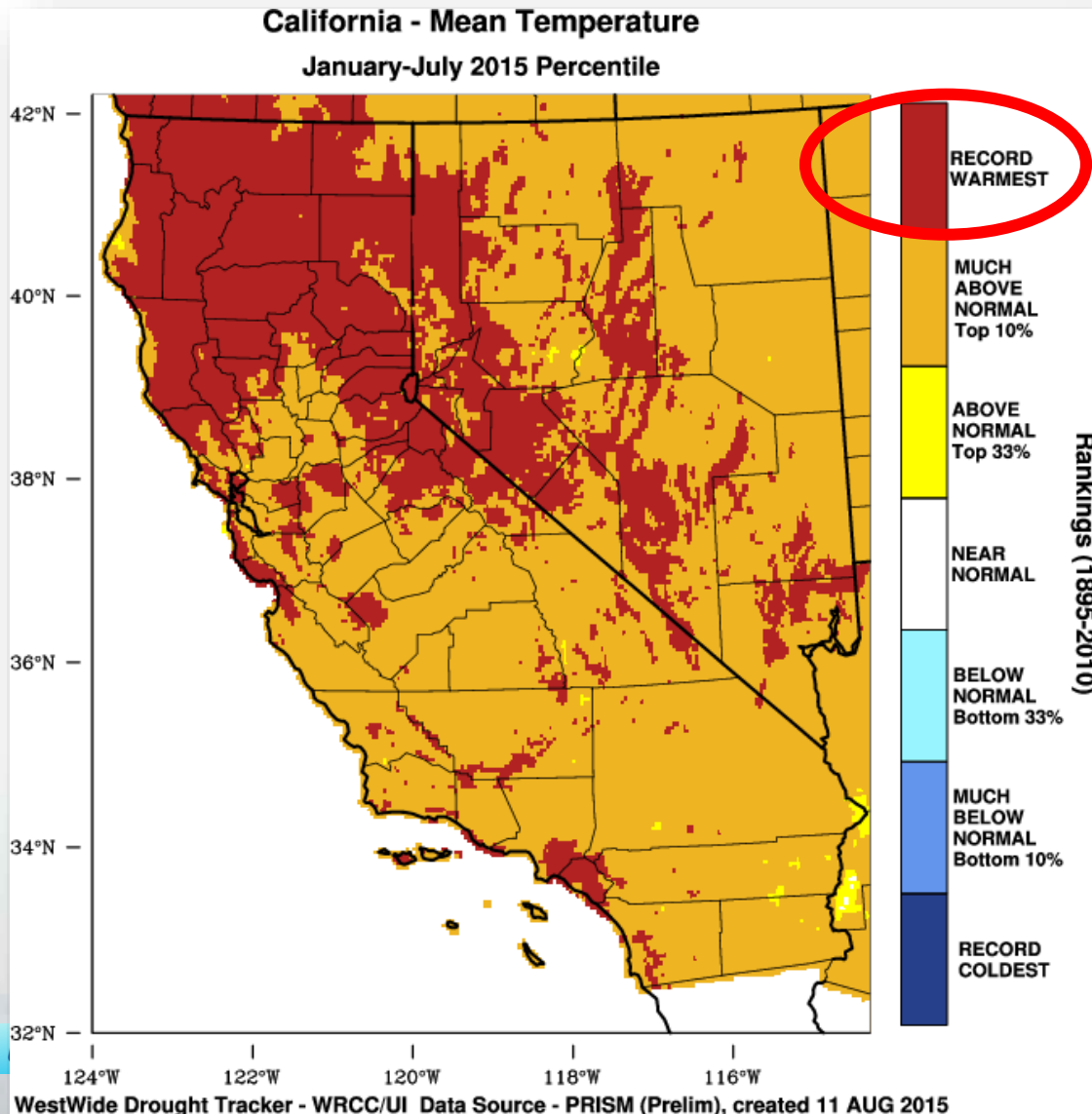
SOURCE: Calif. Dept. of Water Resources

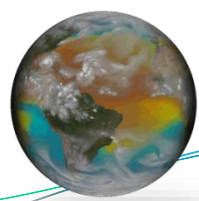
Lake Tahoe photo courtesy Ron Reiring / Flickr Creative Commons

PAUL HORN / InsideClimate News



2015 California Temperatures (Continued Warm)





Drought Monitor

droughtmonitor.unl.edu

Google "Drought Monitor"

U.S. Drought Monitor West

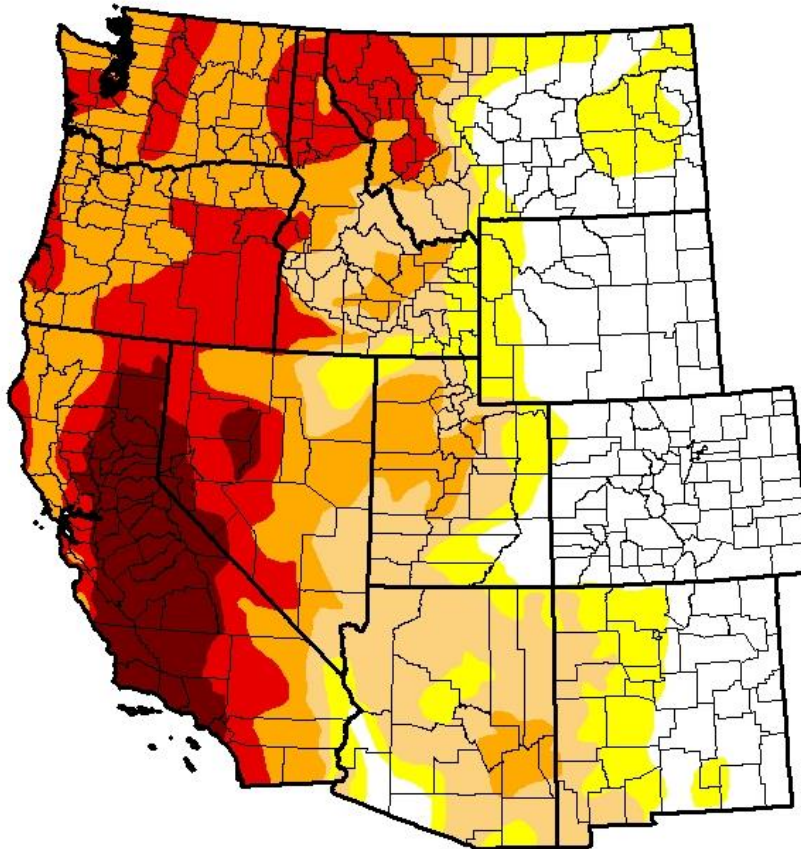
August 4, 2015

(Released Thursday, Aug. 6, 2015)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	26.53	73.47	60.08	42.99	22.24	7.17
Last Week <i>7/28/2015</i>	26.53	73.47	60.08	42.99	22.24	7.17
3 Months Ago <i>5/5/2015</i>	23.35	76.65	63.22	39.05	17.54	7.95
Start of Calendar Year <i>12/31/2014</i>	34.76	65.24	54.48	33.50	18.68	5.40
Start of Water Year <i>9/30/2014</i>	31.48	68.52	55.57	35.65	19.95	8.90
One Year Ago <i>8/5/2014</i>	27.71	72.29	60.17	43.74	21.35	8.94



Intensity:

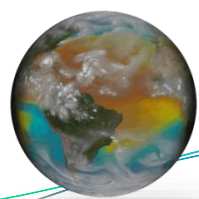
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

Mark Svoboda
National Drought Mitigation Center





Dead Fuels in Los Padres NF (May 2015)

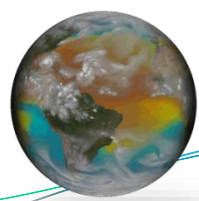


**Dead oak & cured grass
(3 ft tall) near Lake Cachuma**



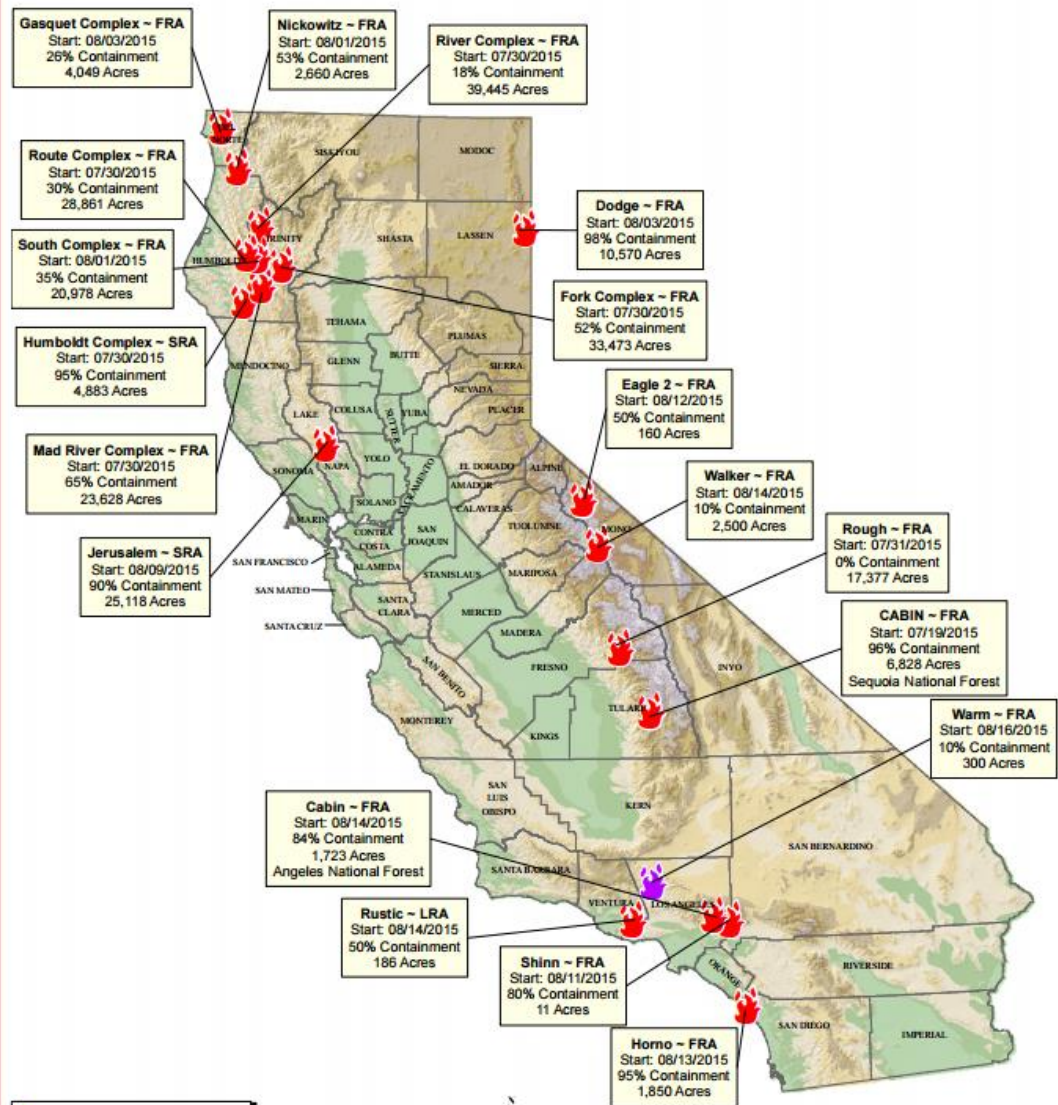
**Pine grove – Painted
Cave**



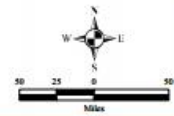


Current Wildland Fires

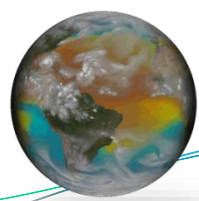
as of 08/17/2015 0800 Hours



New Active Incident (1)
 Active Incidents (18)
 Total of 19 incidents identified on map



August 17, 2015 0800 hrs
 Source: CALFIRE, FIRMWEB 2005
 Active_Incidents071708150800hrs081708150800hrs
 ProjectSourceId_Fire_20150817_0800hrs



El Niño 2015-16



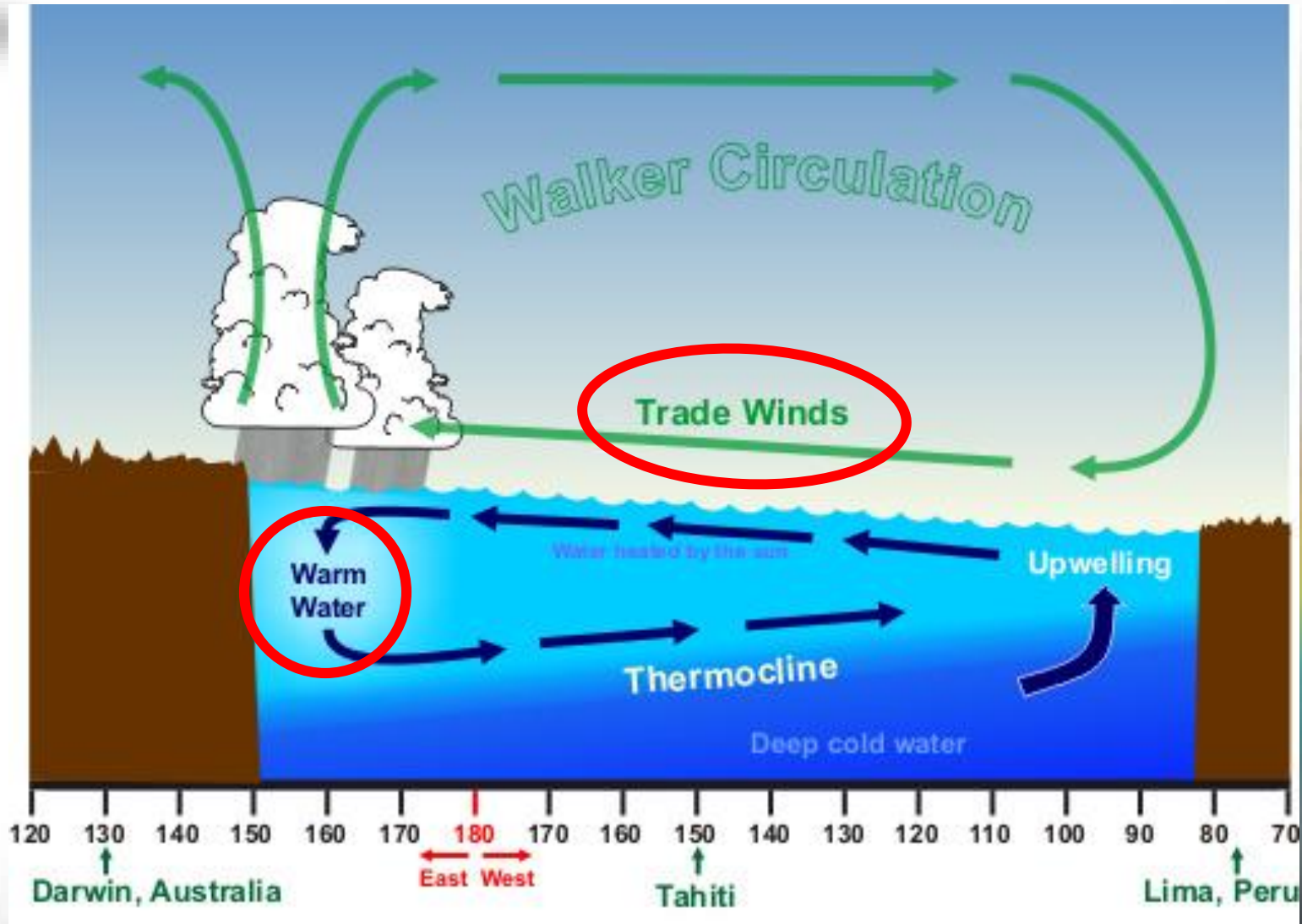
Latest ENSO* Information

August 2015
El Niño Advisory in effect

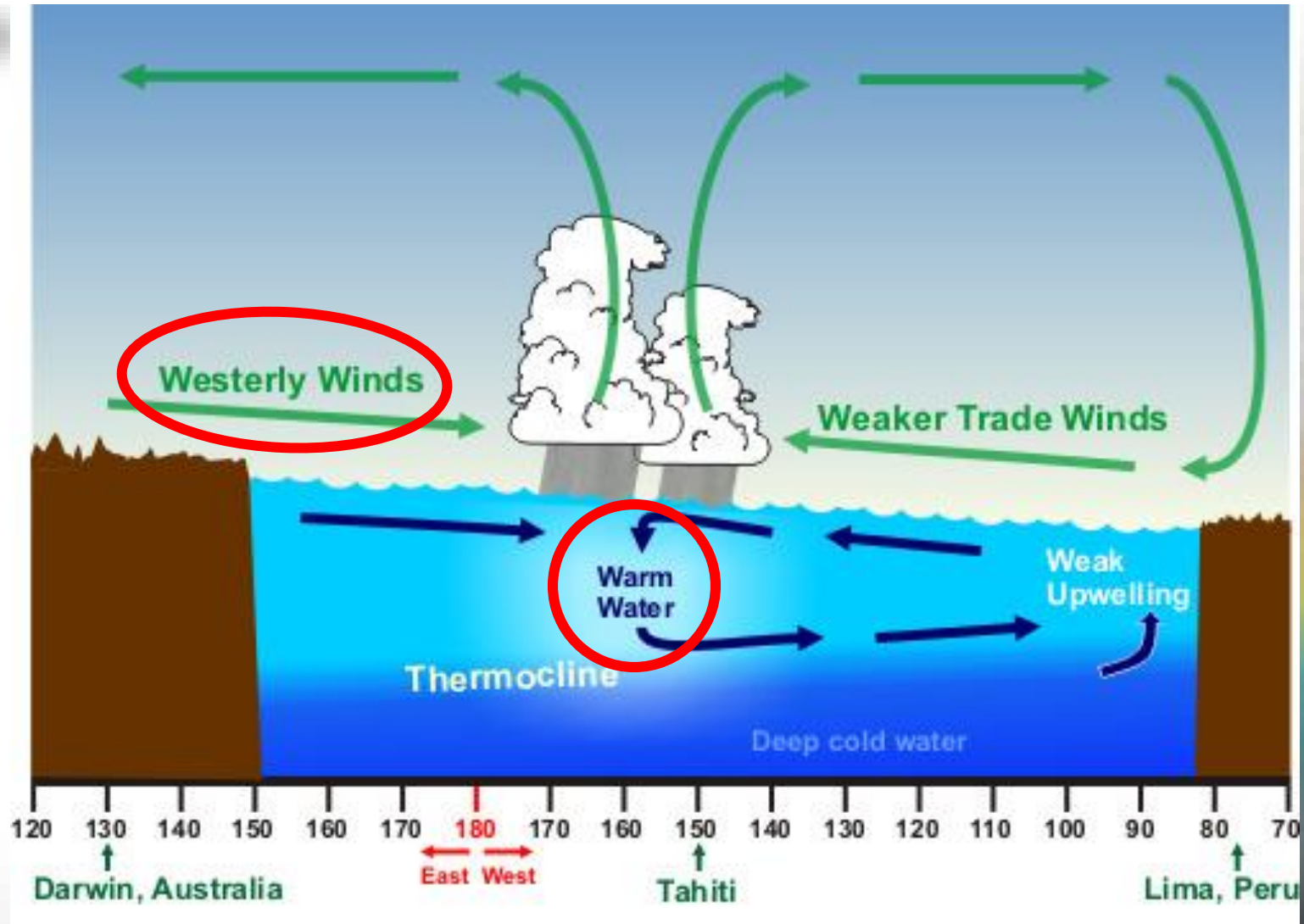
- Ocean continues to reflect sustained and strengthening El Niño conditions
- 90% chance of an El Niño this winter
- Likely to be in a “strong” category

* ENSO stands for El Niño Southern Oscillation

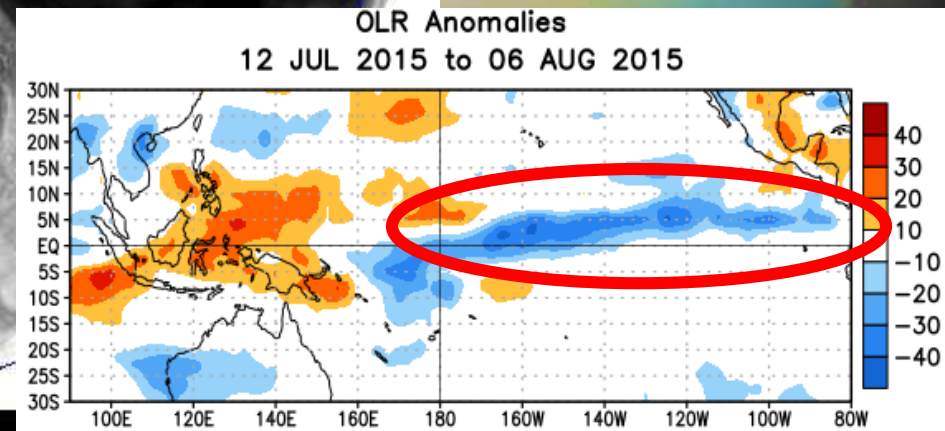
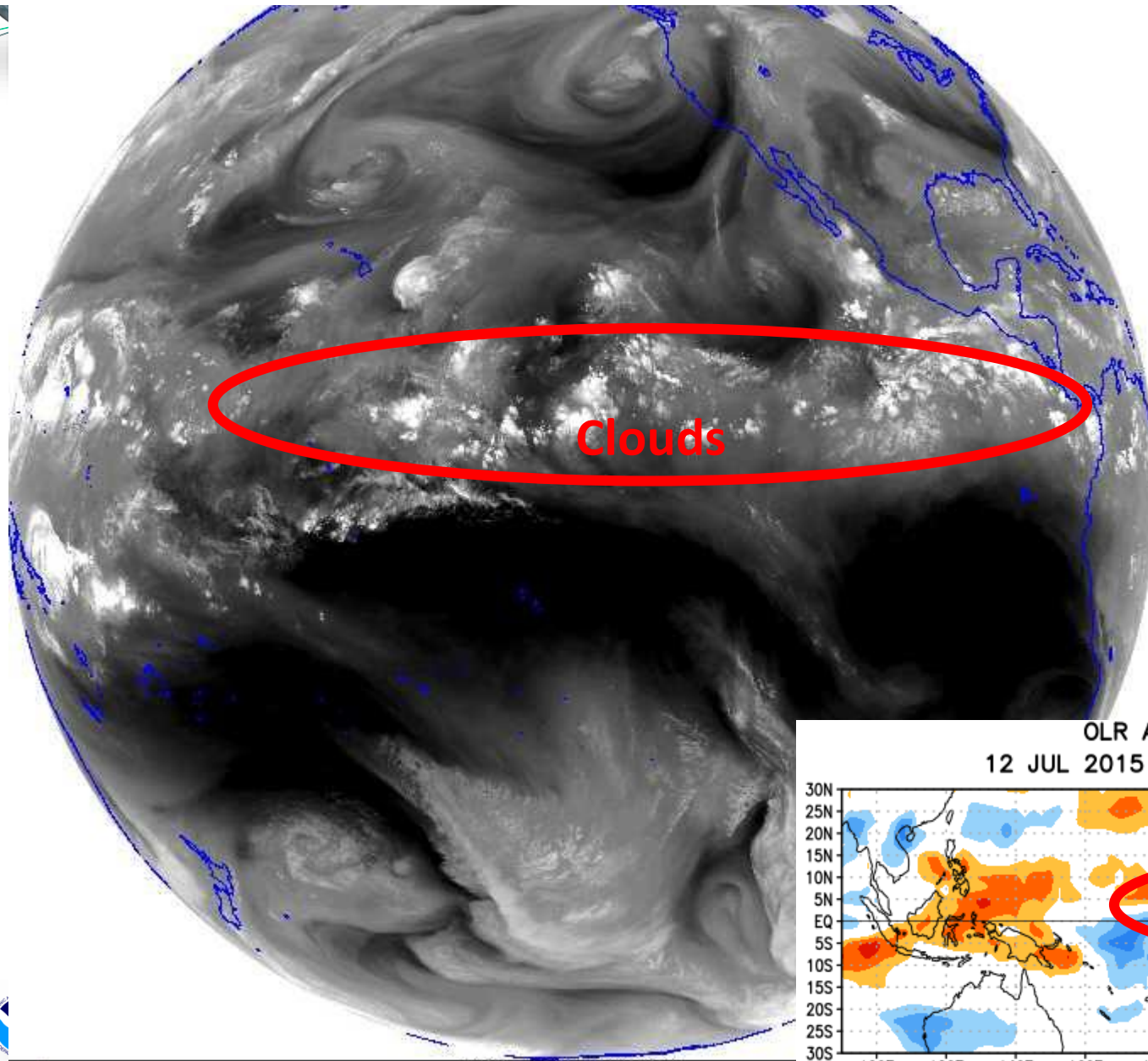
Normal Pacific Pattern



El Niño Pattern

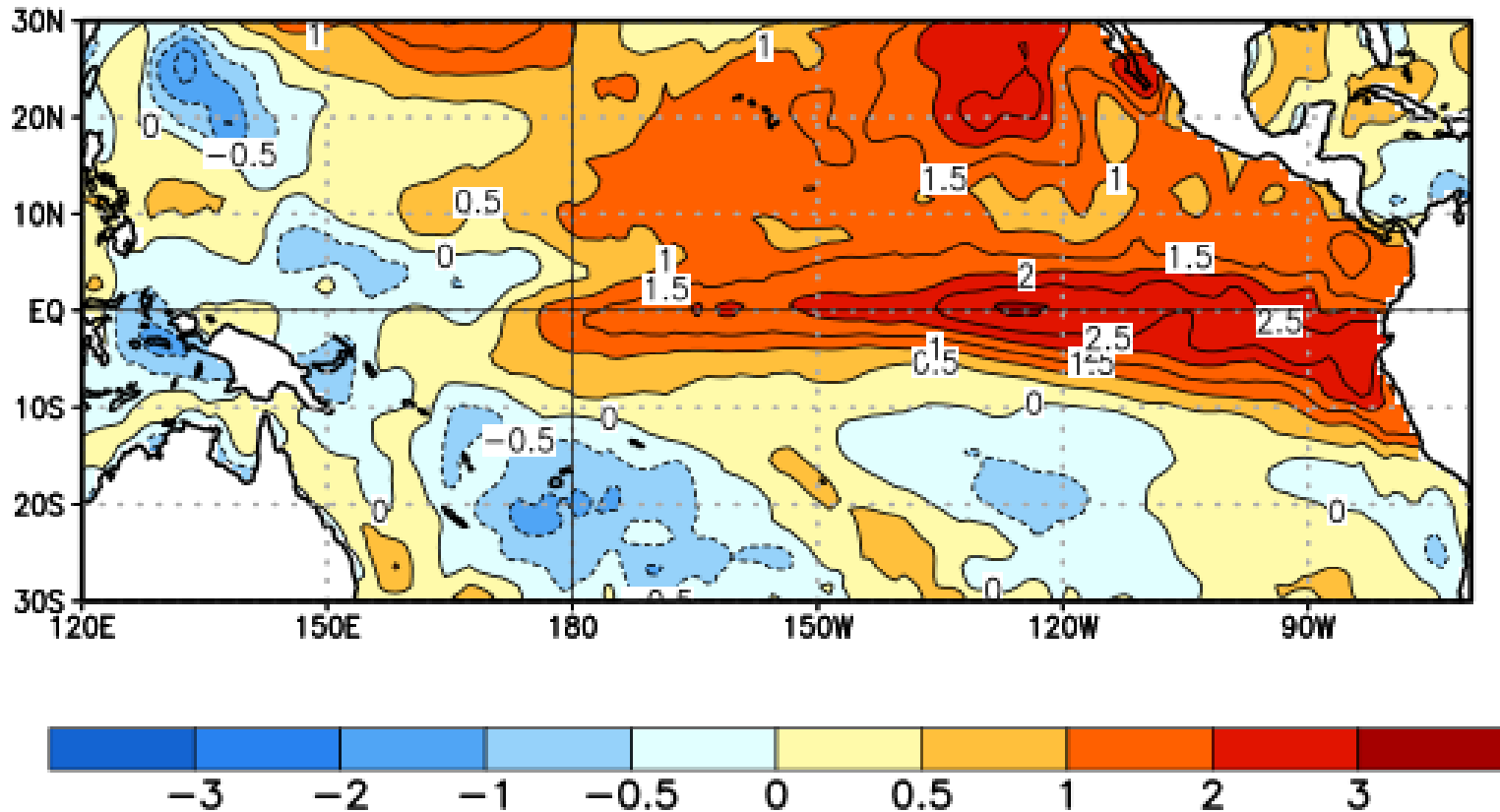


Global Satellite on August 12, 2015

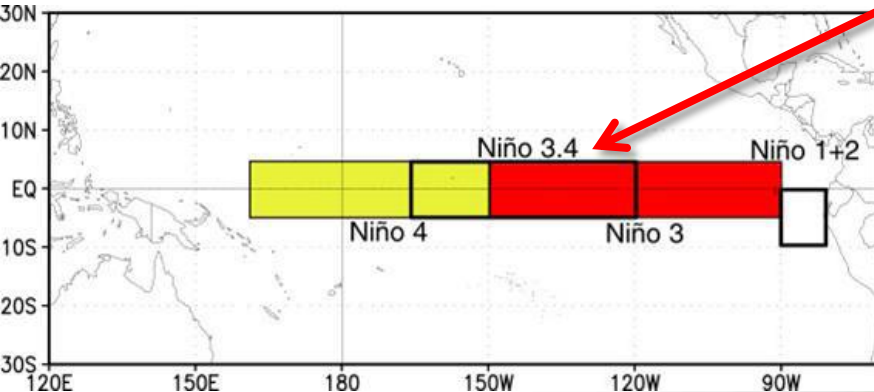


Sea Surface Temperature Anomalies Last Four Weeks

Average SST Anomalies
19 JUL 2015 – 15 AUG 2015

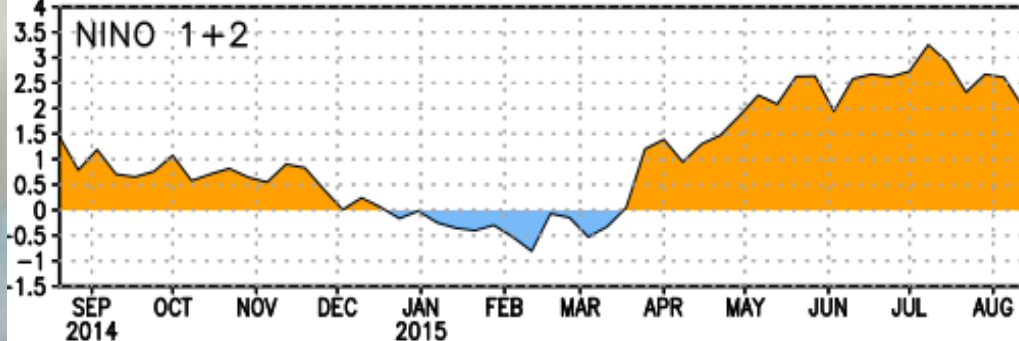
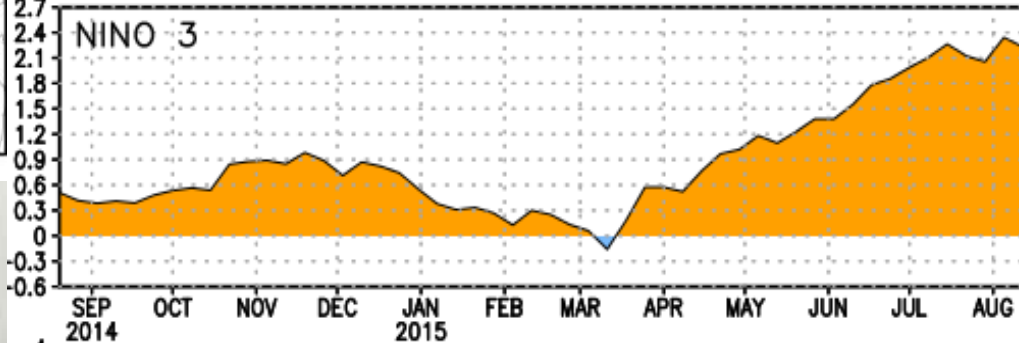
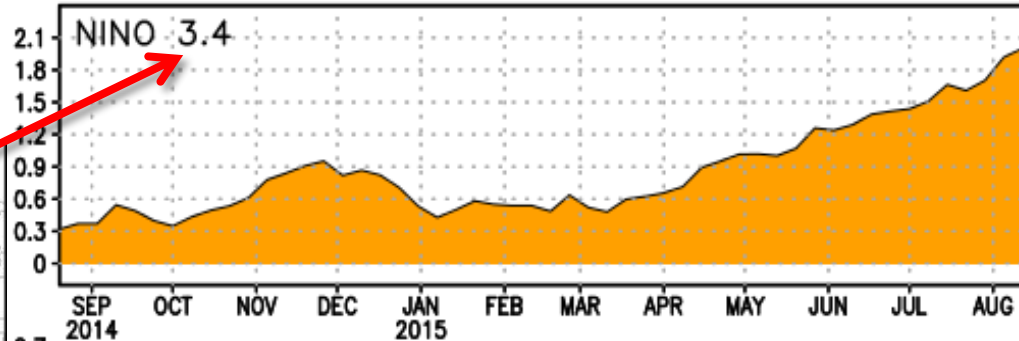
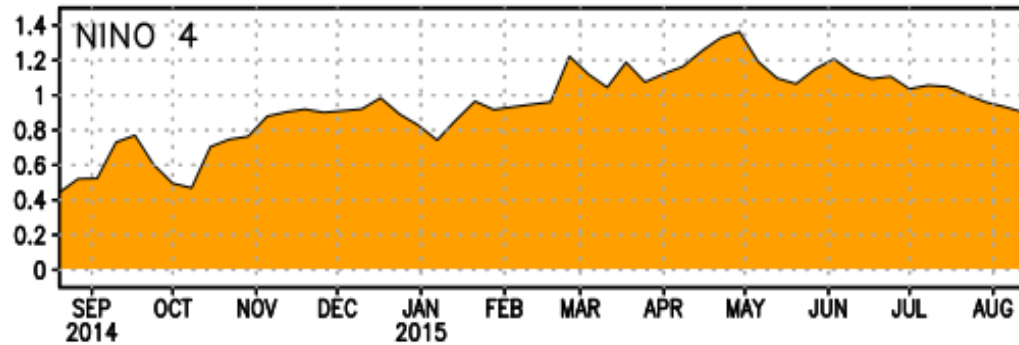


Sea Surface Temperature (SST) Anomalies – One Year



Latest weekly (Aug. 17)
value of Niño 3.4
region
is **+2.0° C**

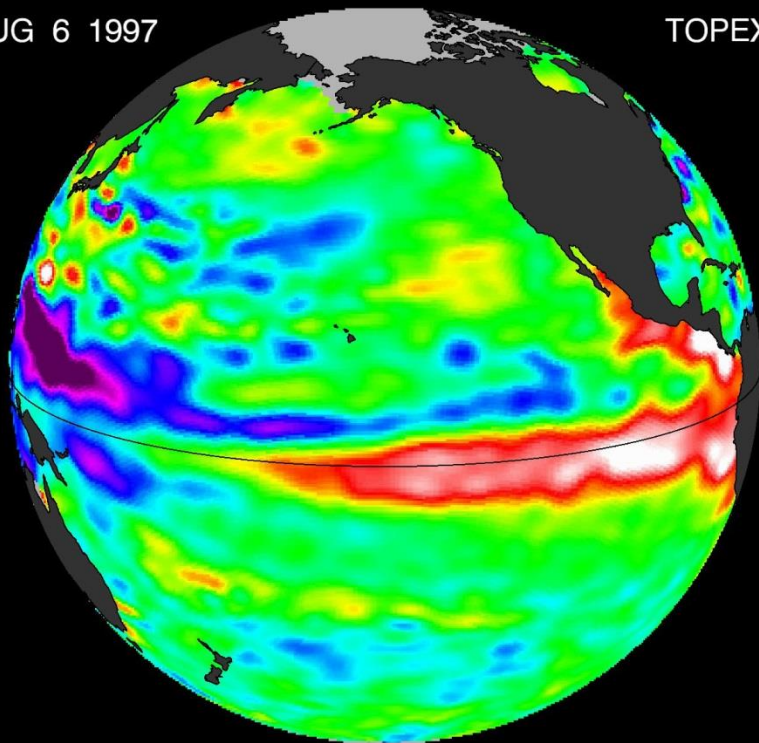
SST Anomalies



Comparison of SSH - 1997, 2015

AUG 6 1997

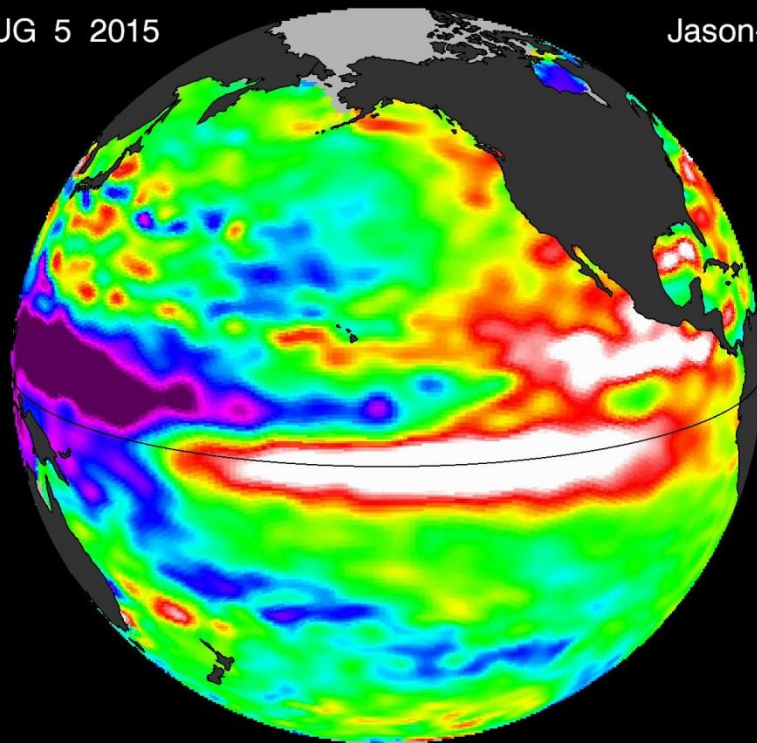
TOPEX/POS



TOPEX/Poseidon 1997

AUG 5 2015

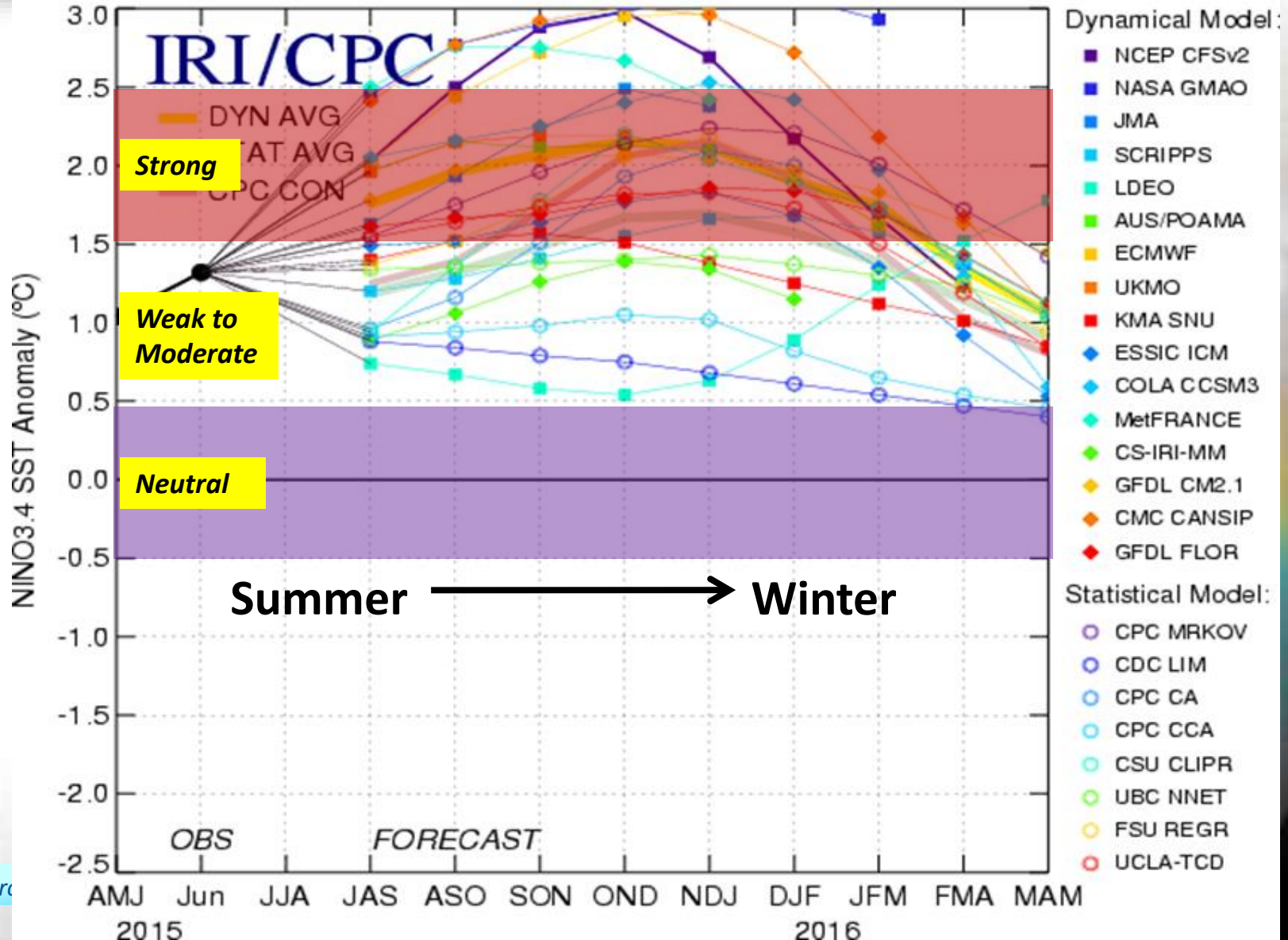
Jason-2



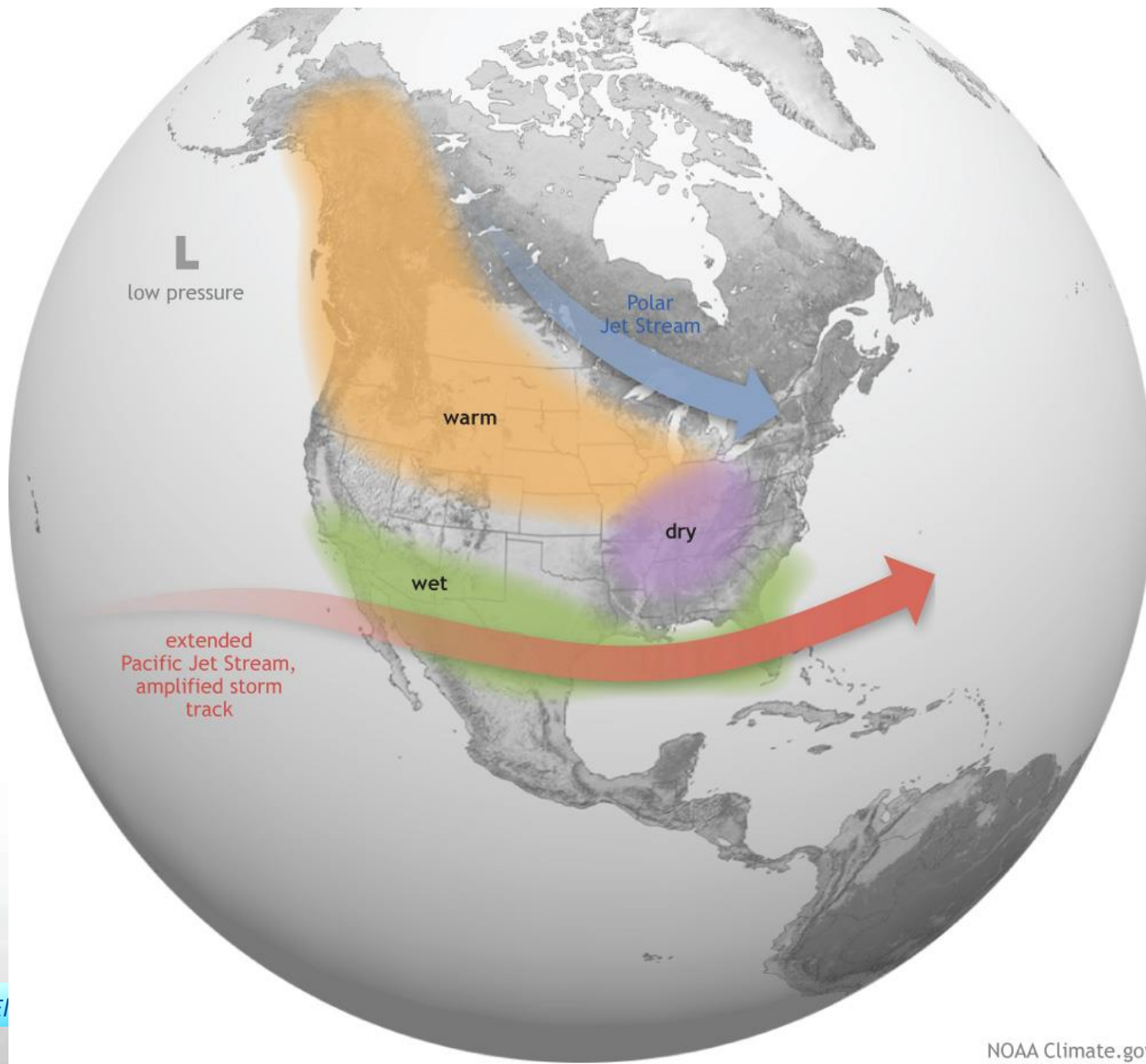
Jason-2 2015

ENSO Model Predictions

Mid-Jul 2015 Plume of Model ENSO Predictions

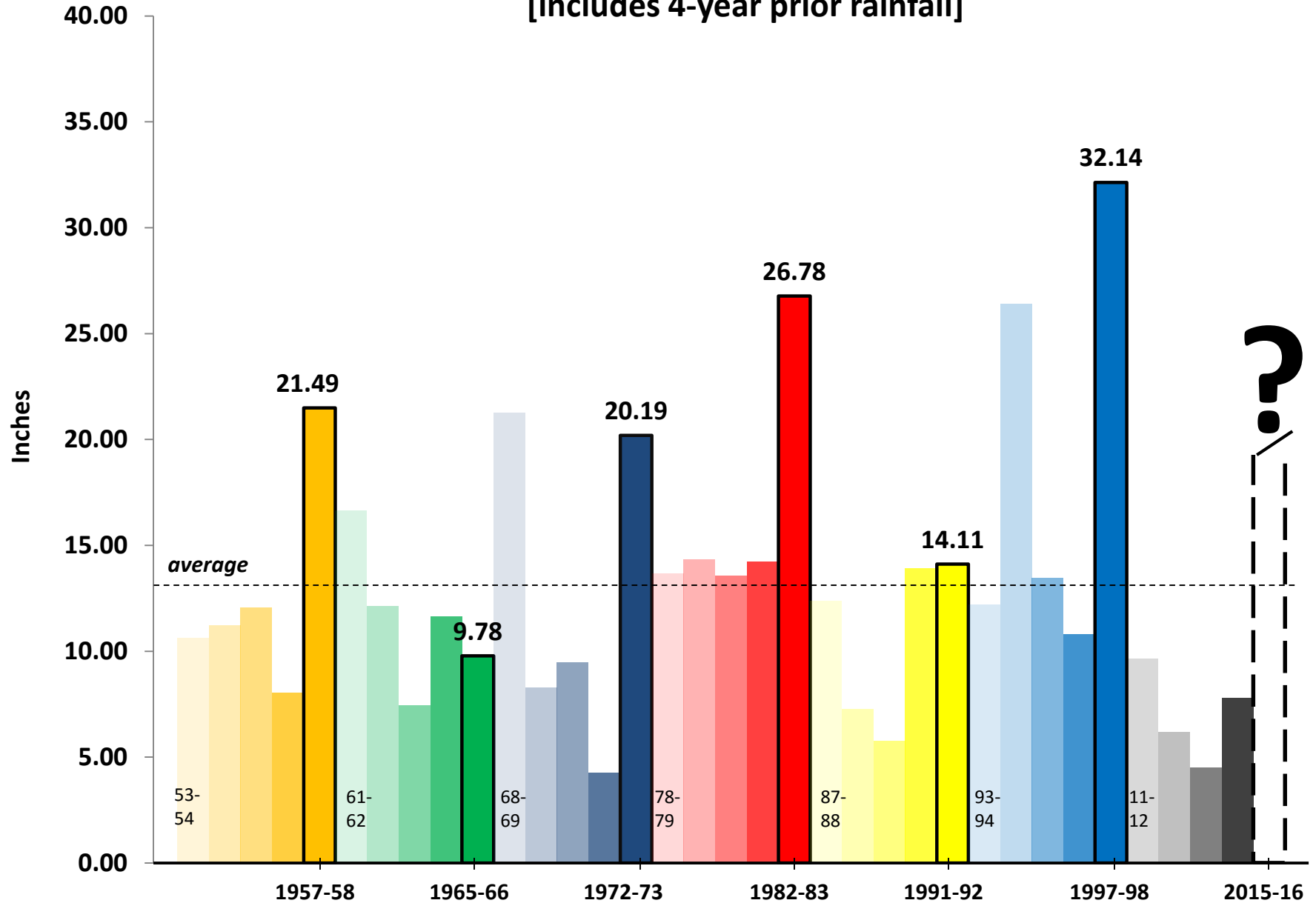


Classic El Niño Winter Impacts



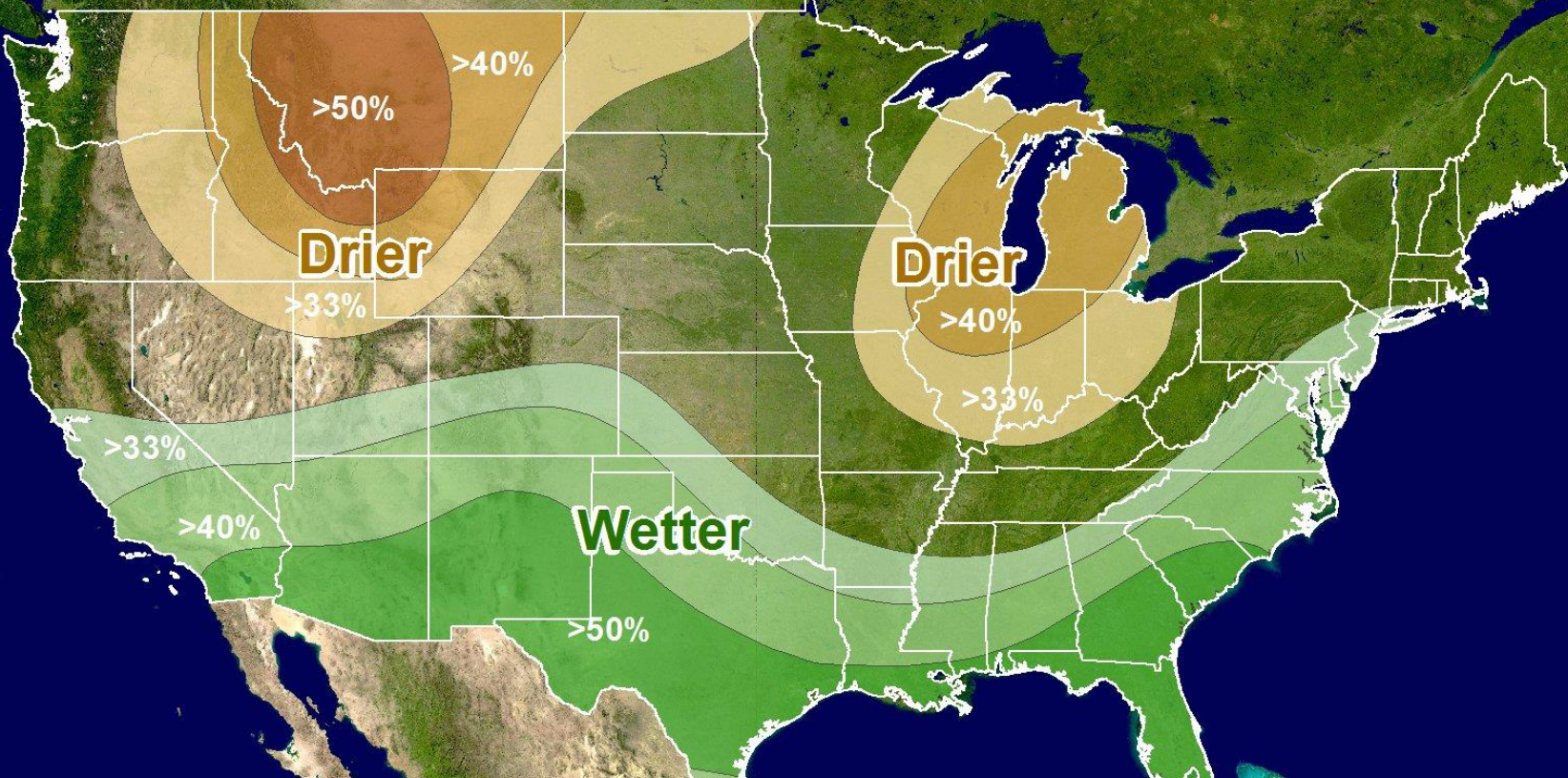
Past Strong (6) El Nino Rainfall in Santa Maria CA

[includes 4-year prior rainfall]



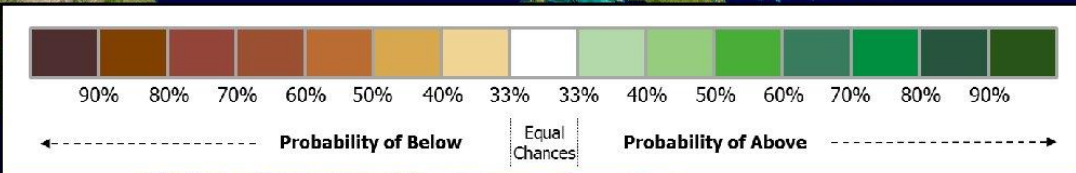
Seasonal Precipitation Outlook

Dec-Jan-Feb 2015-2016



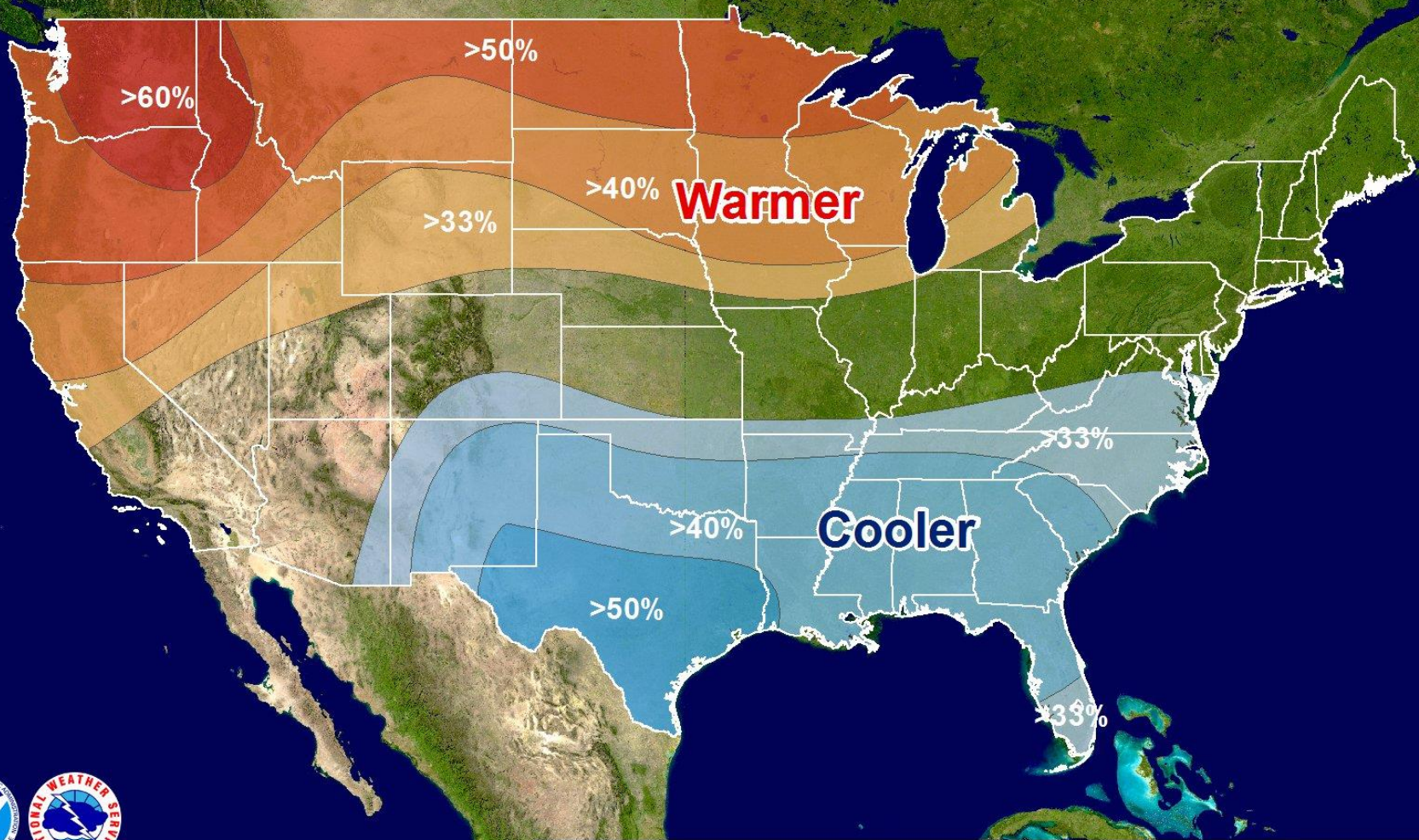
Climate Prediction Center

Issued: 07/16/15



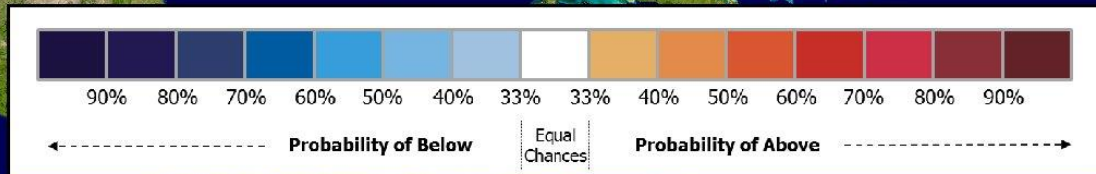
Seasonal Temperature Outlook

Dec-Jan-Feb 2015-2016



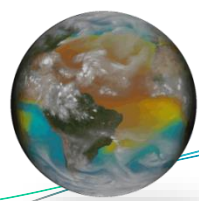
Climate Prediction Center

Issued: 07/16/15



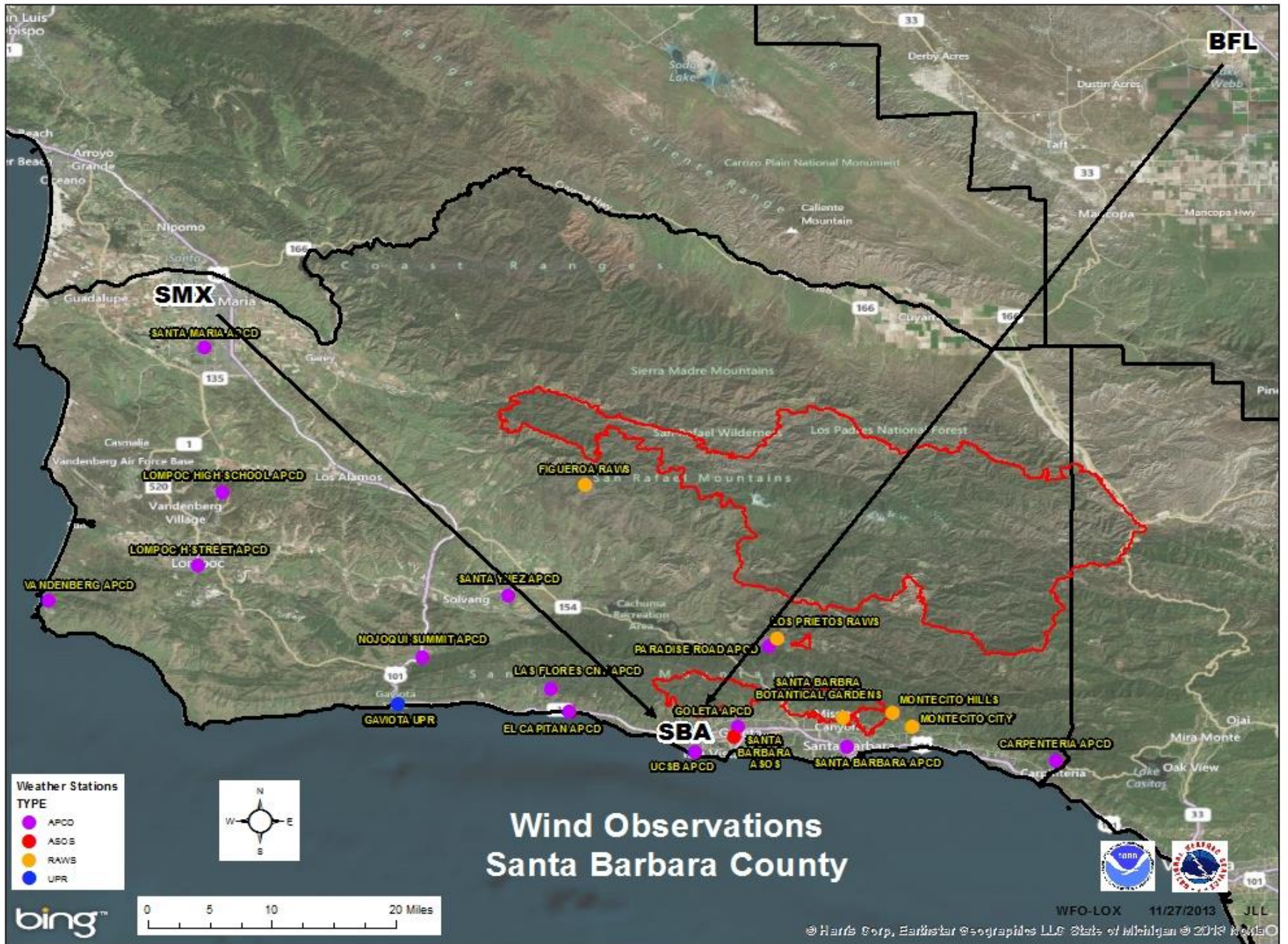
El Niño Conclusions

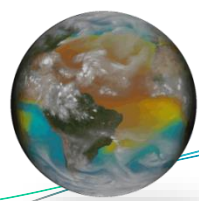
- El Niño tilts the odds of above normal rainfall for southwest California this winter
- The strength of this El Niño is the most difficult prediction; favors a strong event
- One El Niño winter season will not end the drought (over 30" rainfall deficit in 4-years)
- Prior to the rainy season, we should be prepared for a dangerous wildfire season



Sundowner Winds

- **Warm and Dry Downslope Winds**
 - Impacting Santa Ynez Range and SBA South Coast
- **Typically Strongest in the Evening**
- **Can Produce Damaging Winds & Hot/Dry Conditions**
 - Associated with Several Large Historical Fires (Jesusita, Tea, Gap)
- **Peak Events from April through early July**
 - Secondary peak in Fall





Thank You!

Questions?

Eric Boldt

805-988-6623

eric.boldt@noaa.gov

www.weather.gov/losangeles

