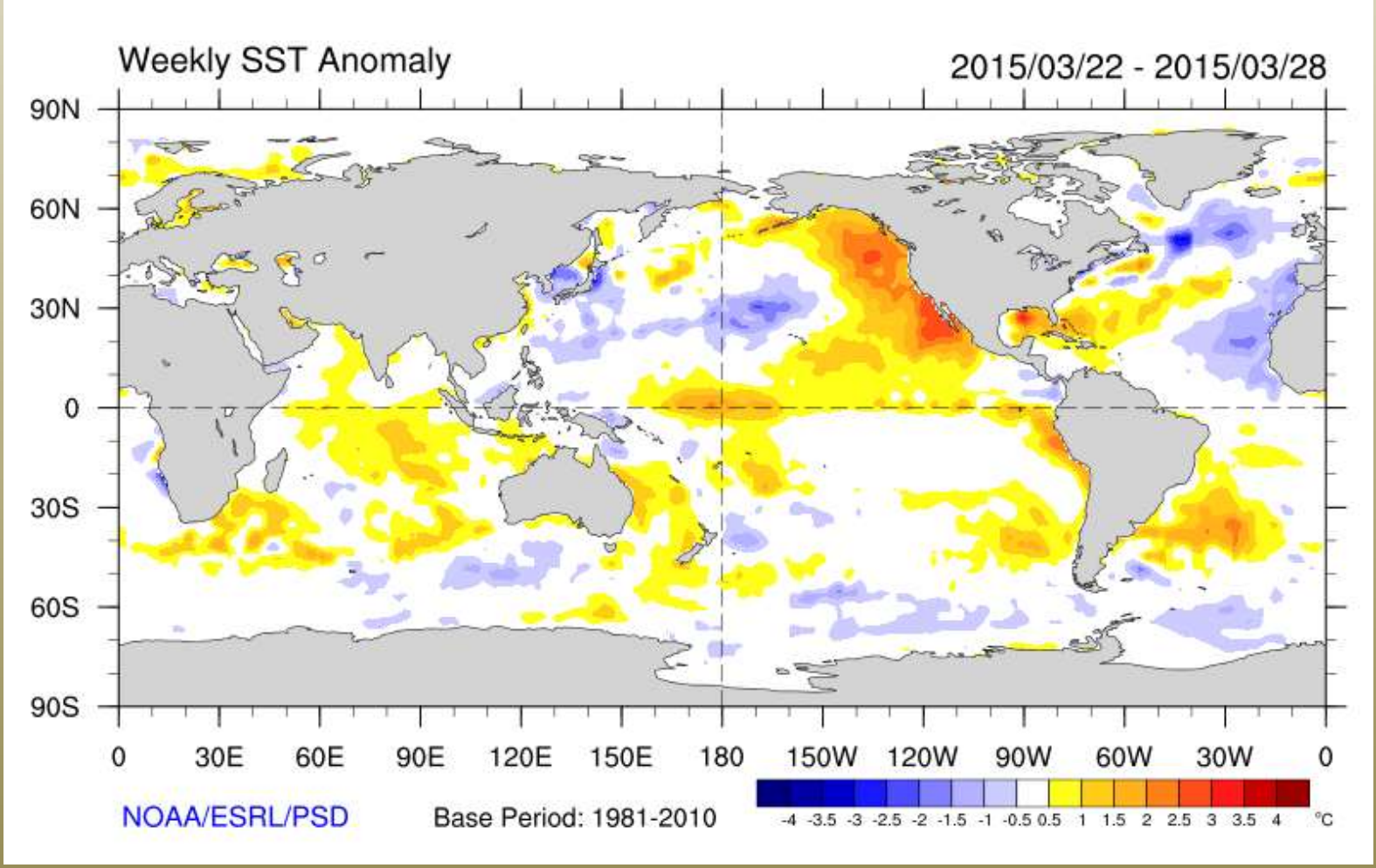
2015 Fire Season Outlook

Tom Rolinski – Predictive Services

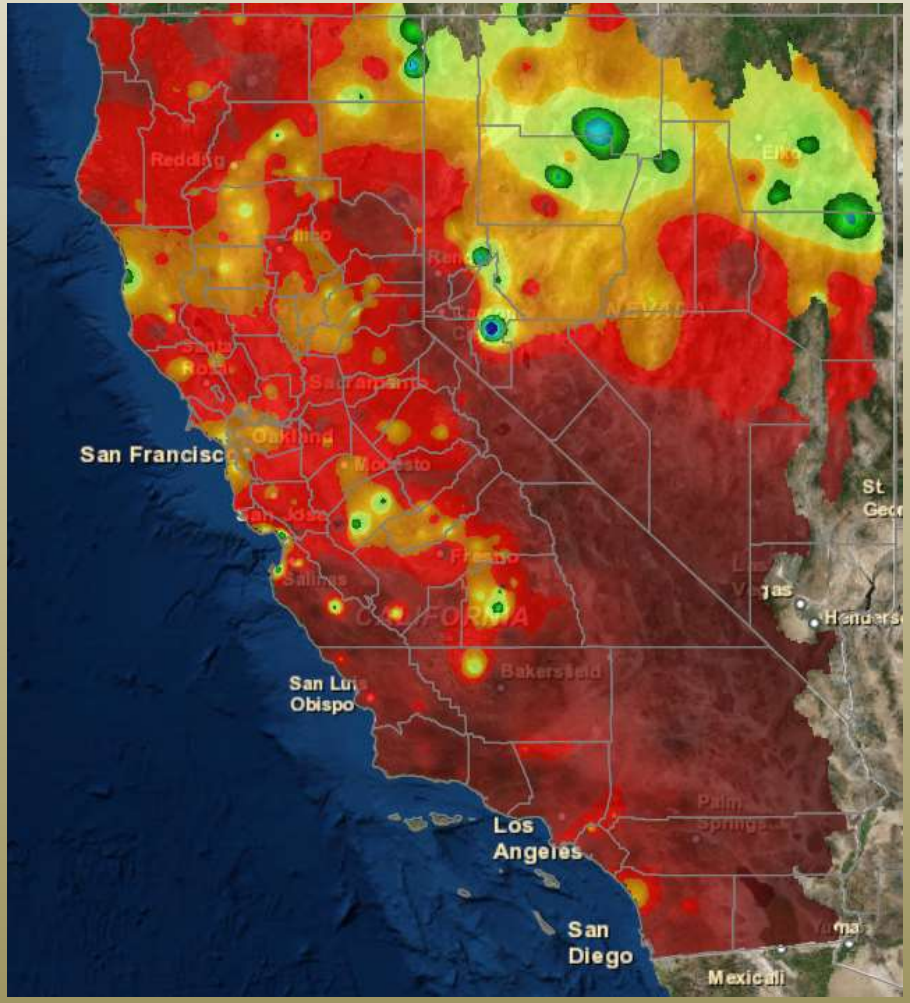
What happened to El Niño?

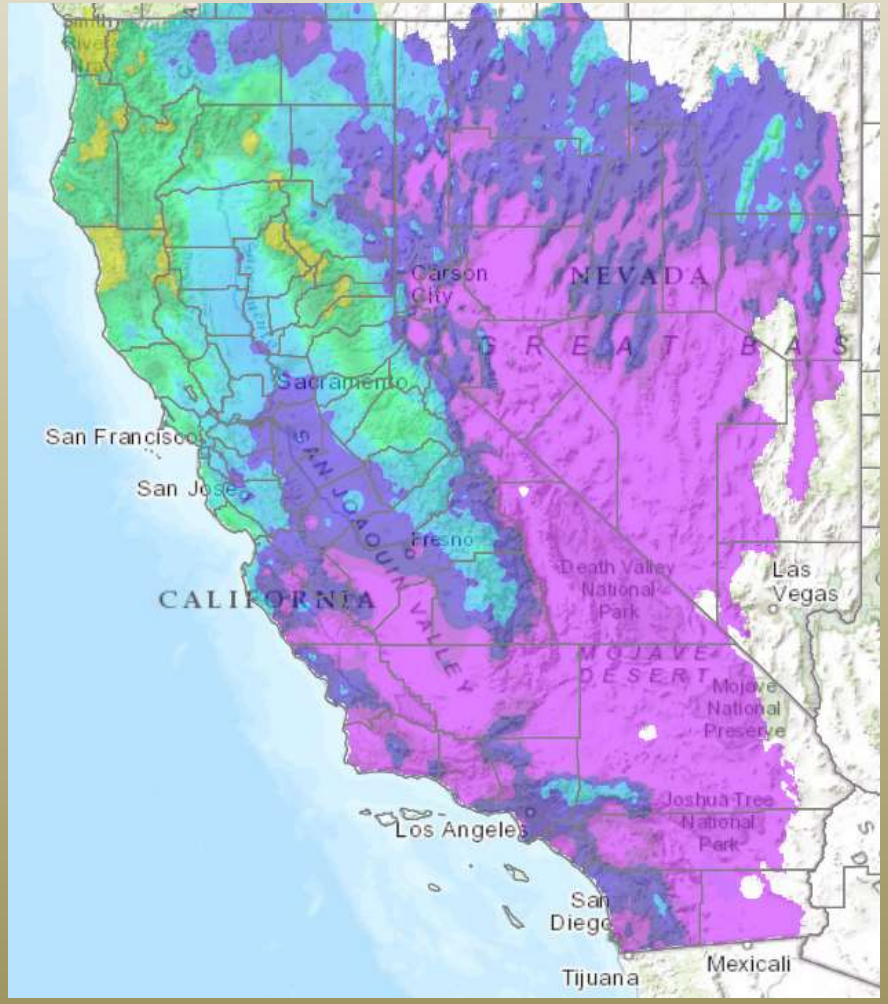
Atmosphere did not respond to changes in sea surface temperatures

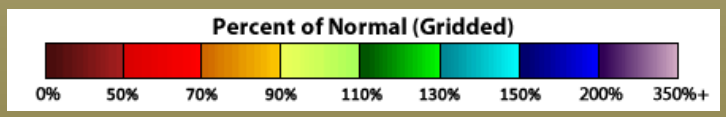


Precipitation Departure from Normal

November 2014

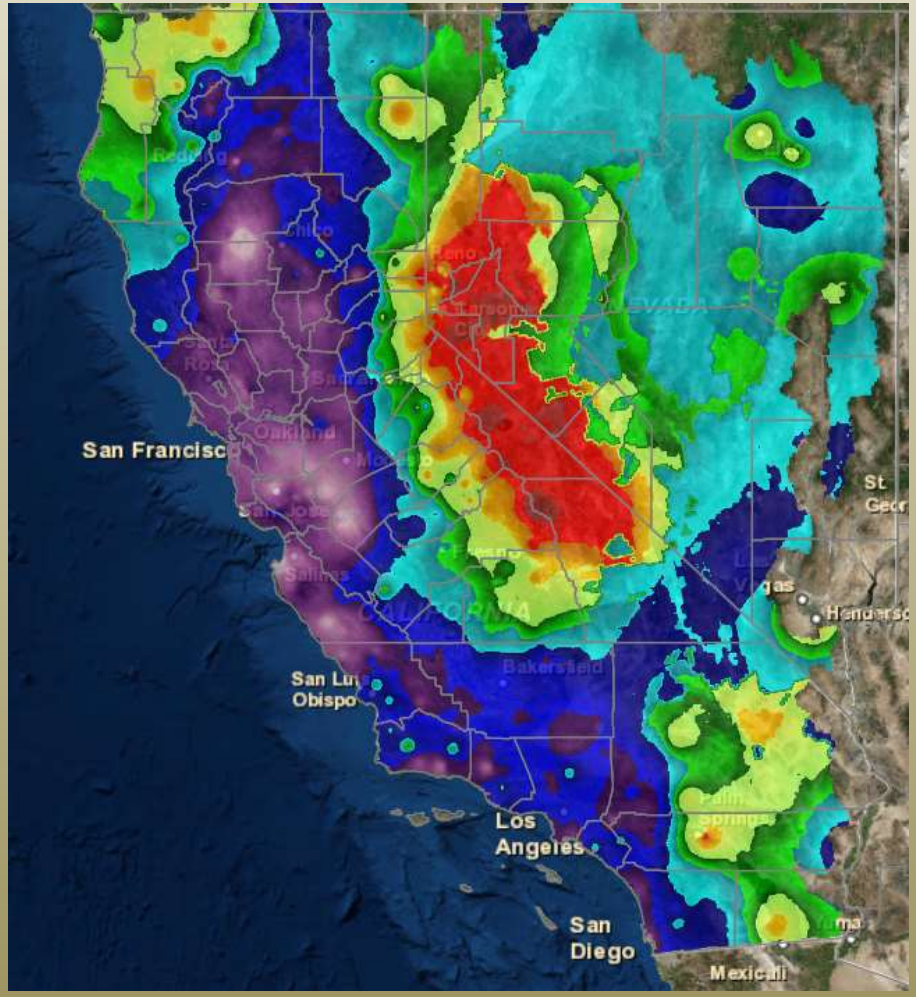


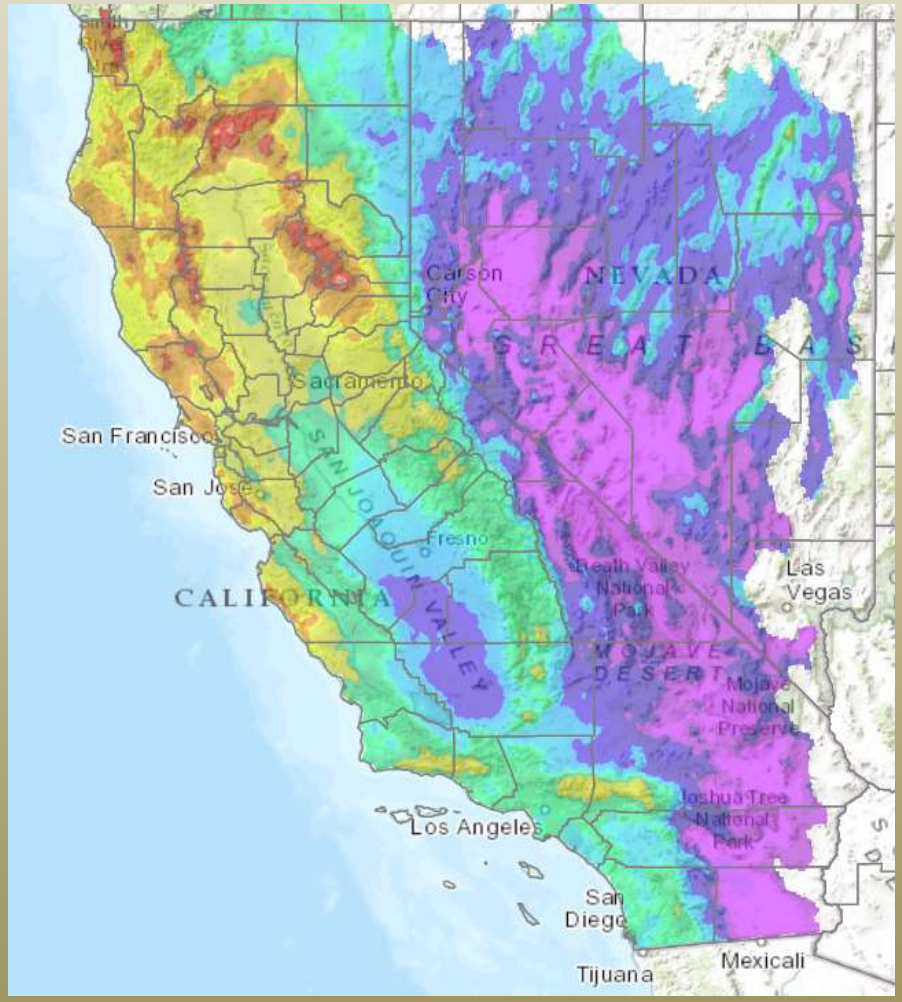


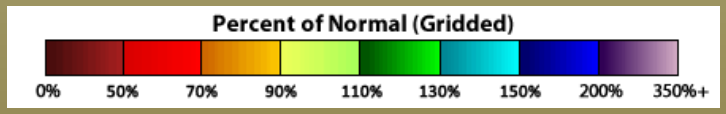


Precipitation Departure from Normal

December 2014

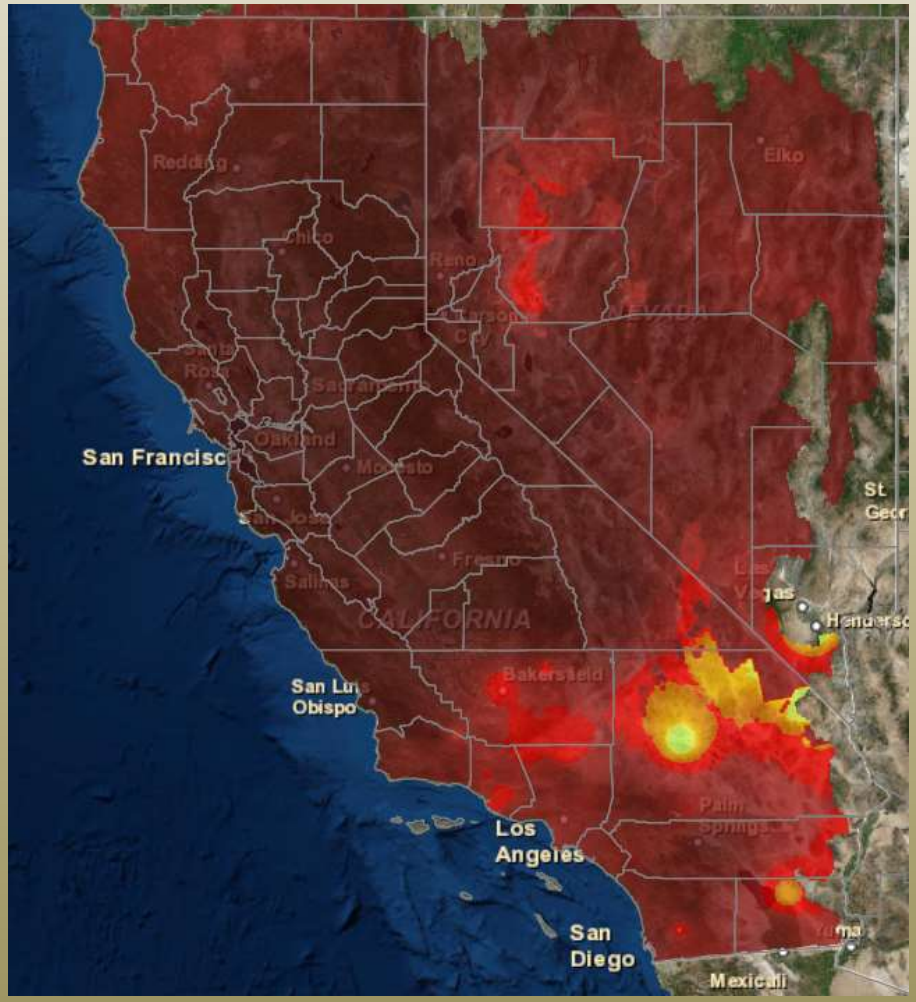


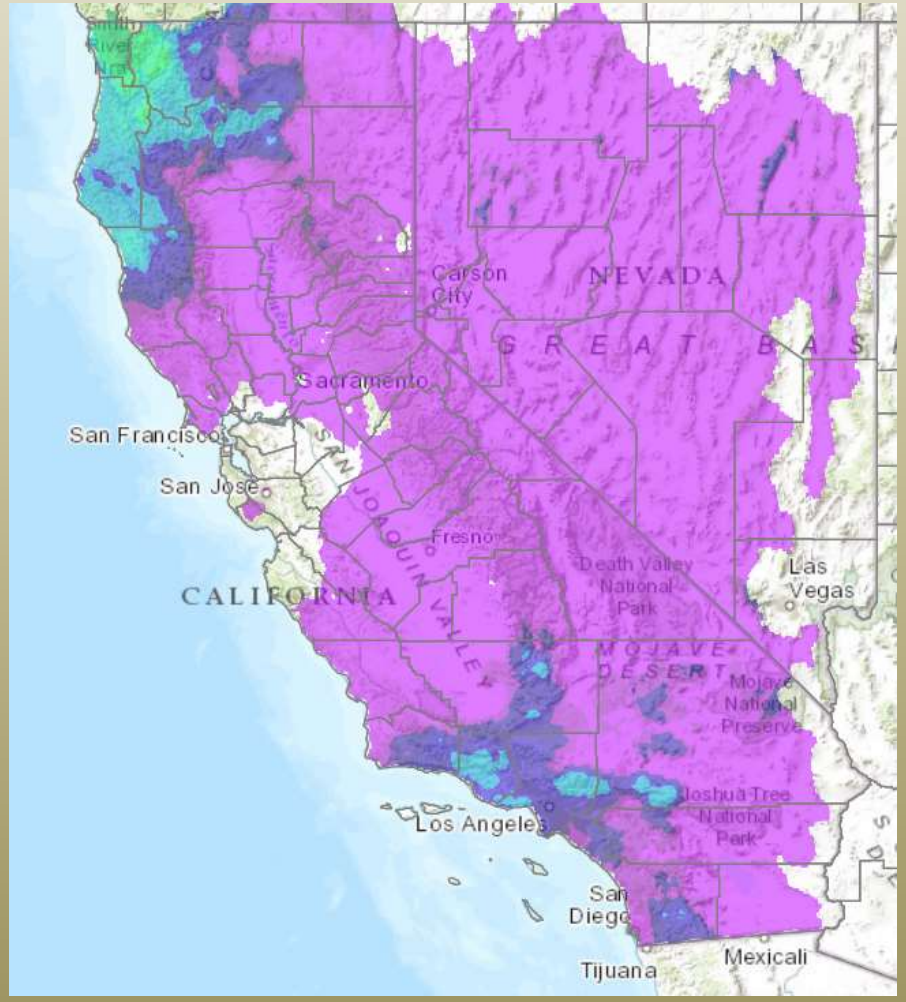


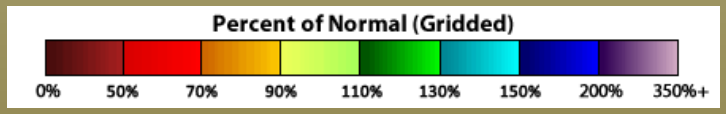


Precipitation Departure from Normal

January 2015

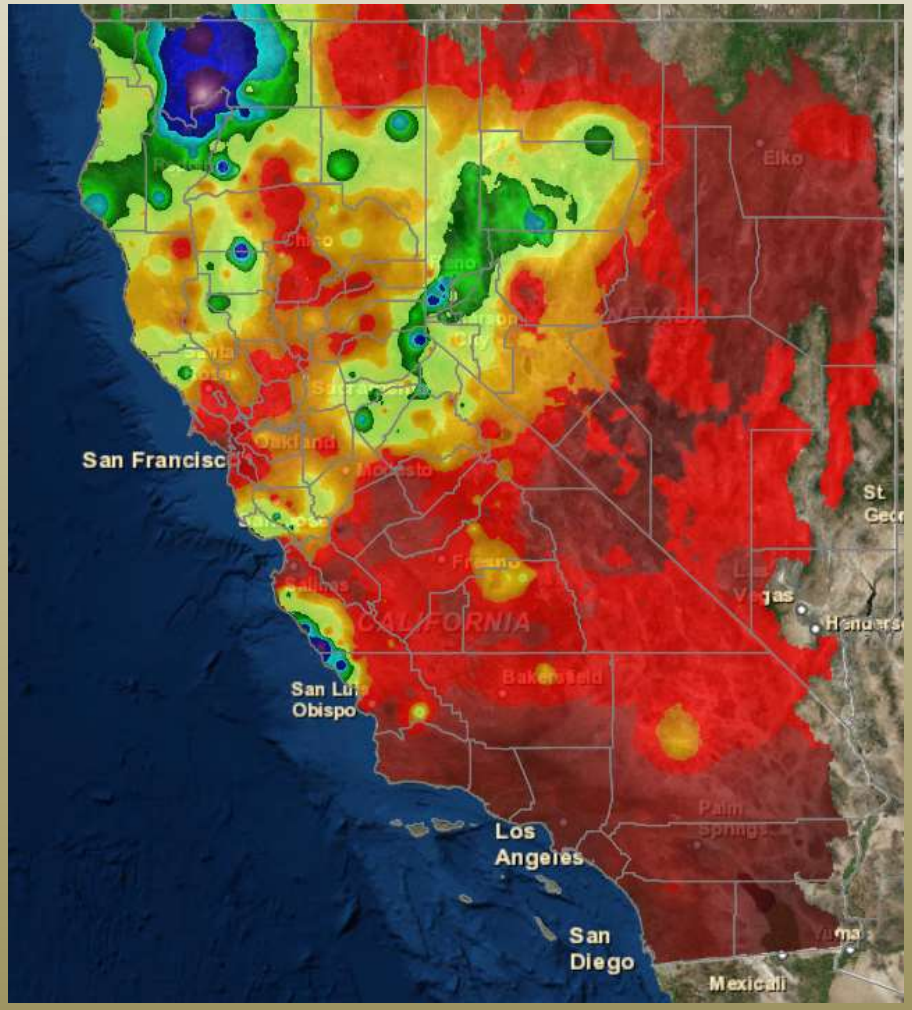


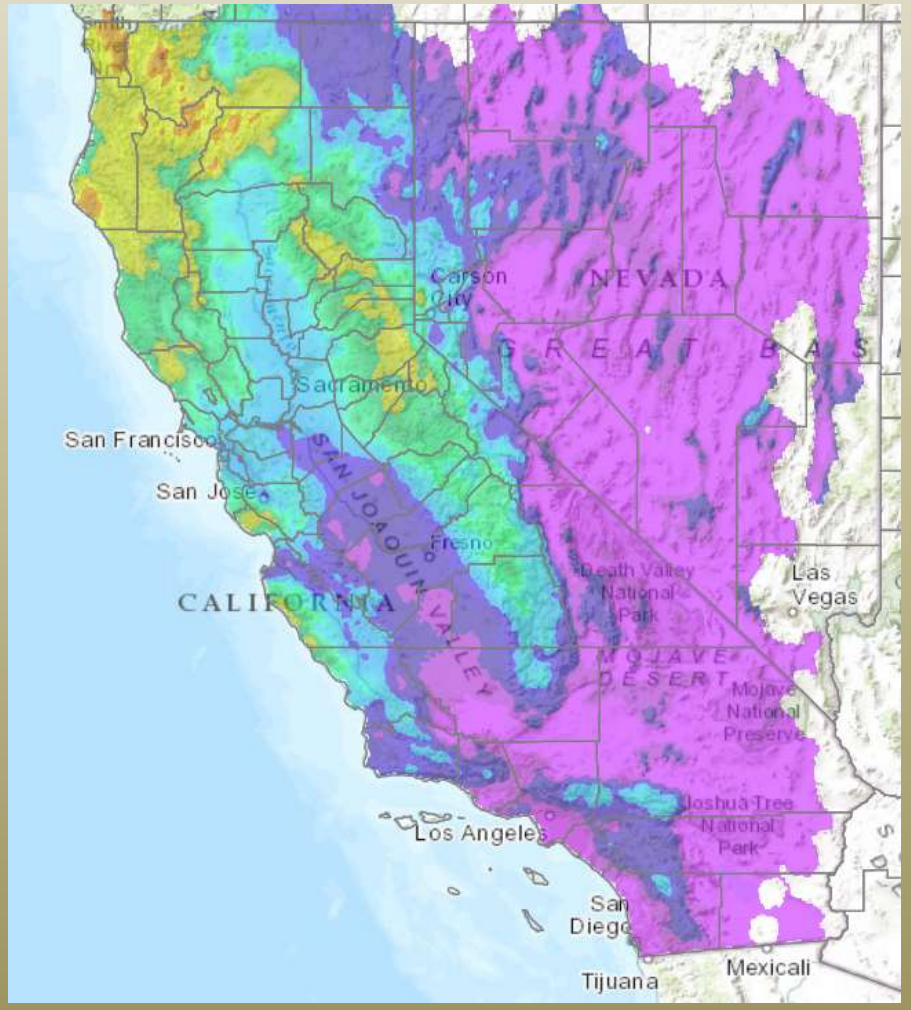


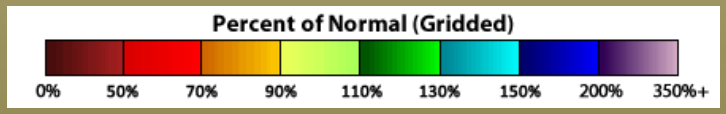


Precipitation Departure from Normal

February 2015

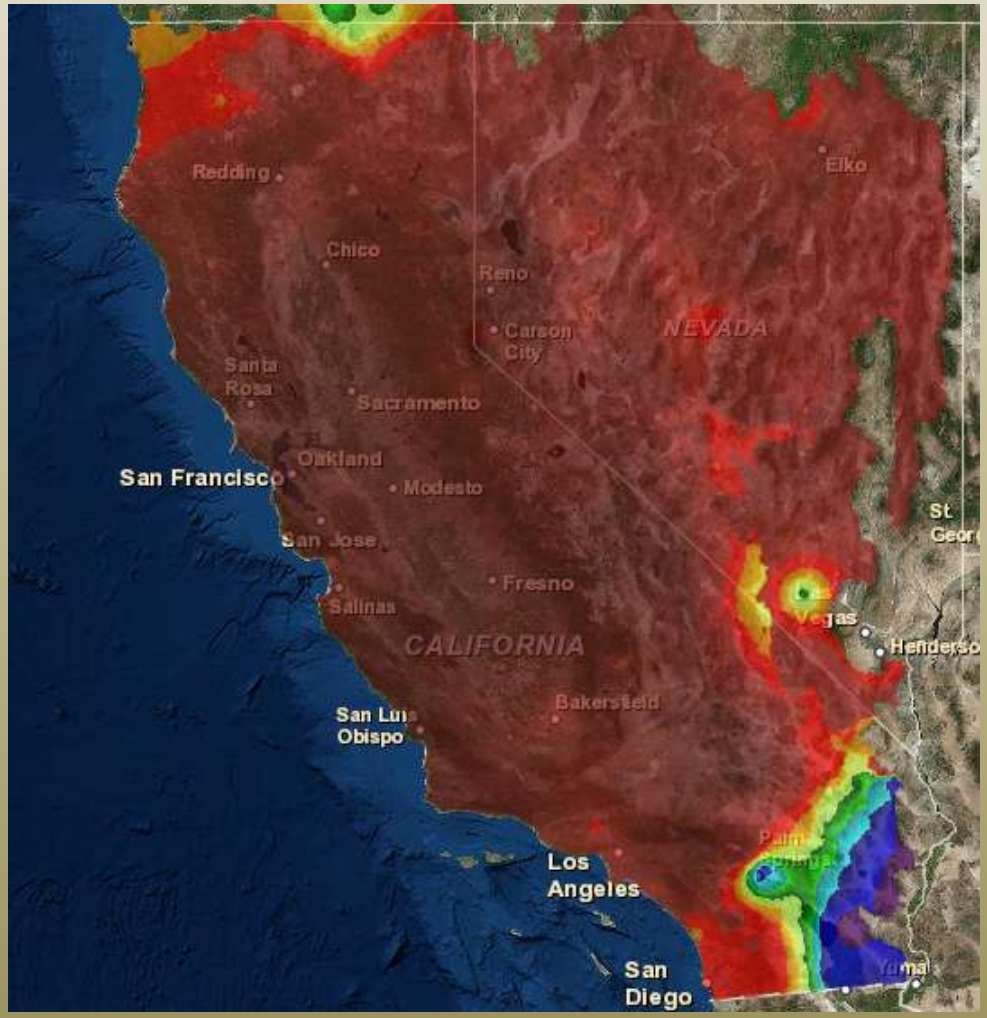


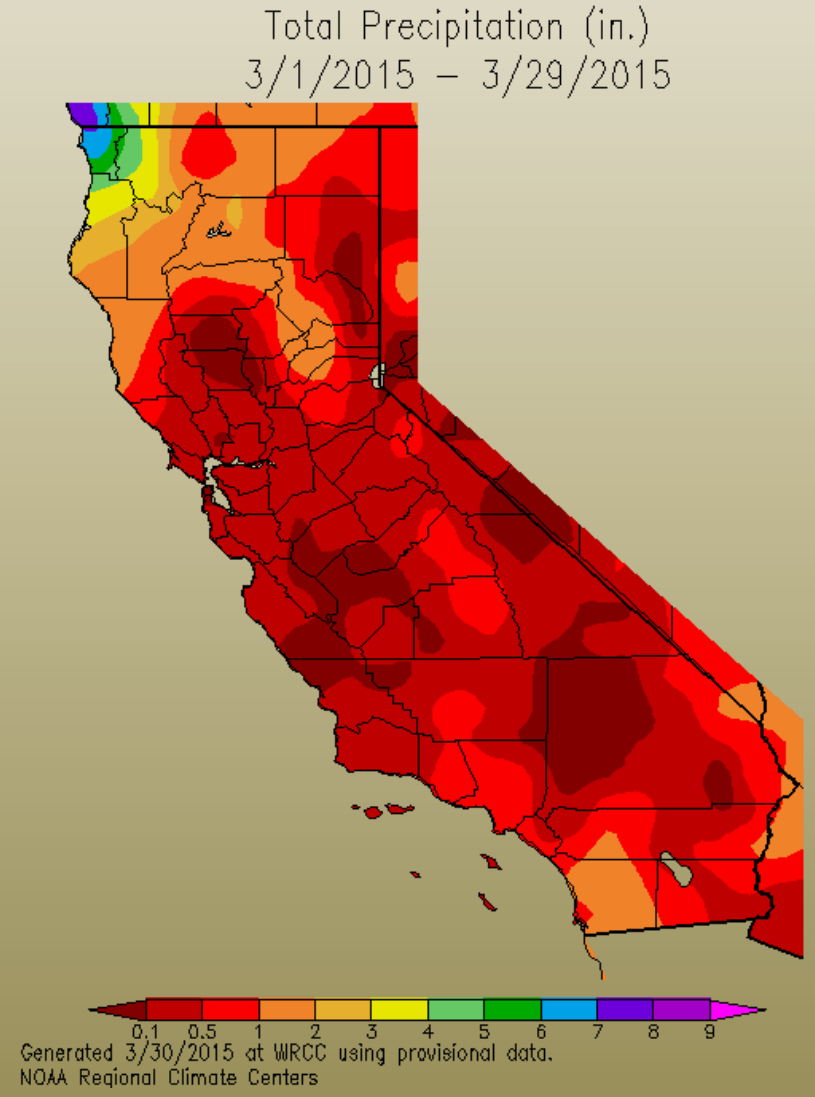




Precipitation Departure from Normal

March 2015



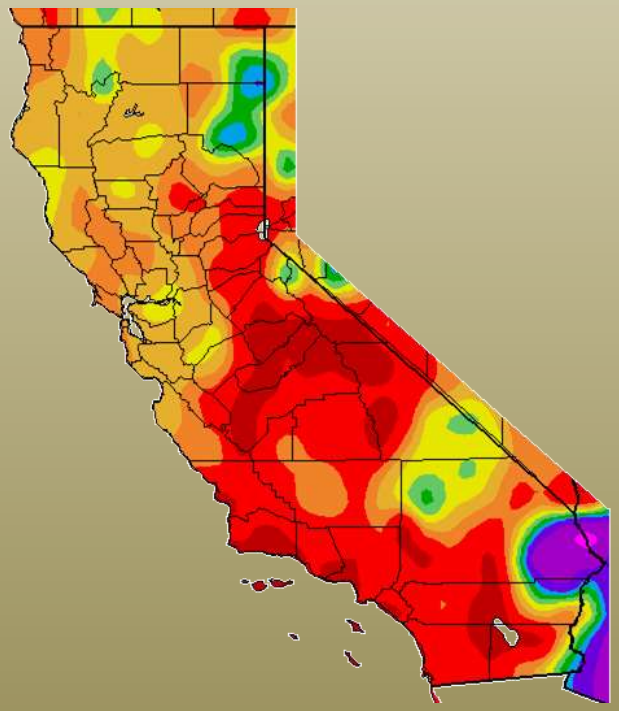


High Resolution Composite Satellite imagery (Feb 1 – March 5) showing snow cover

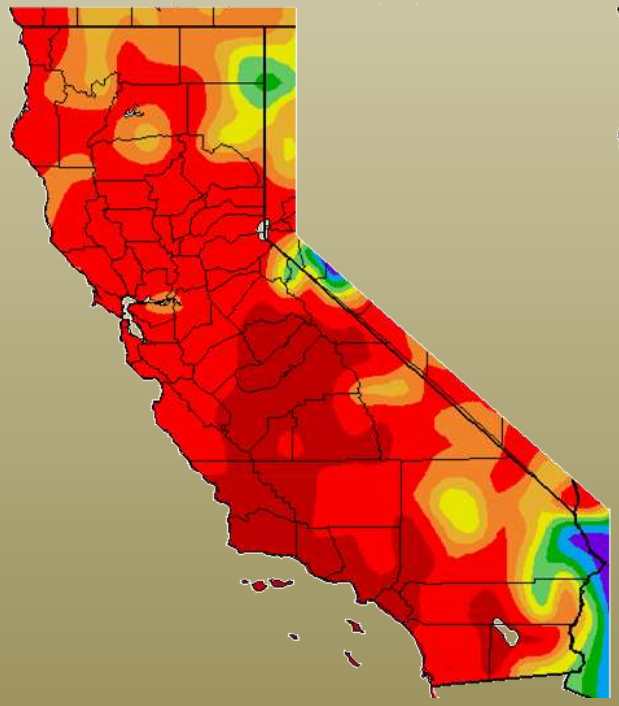
Sierra Snowpack

California's Precipitation

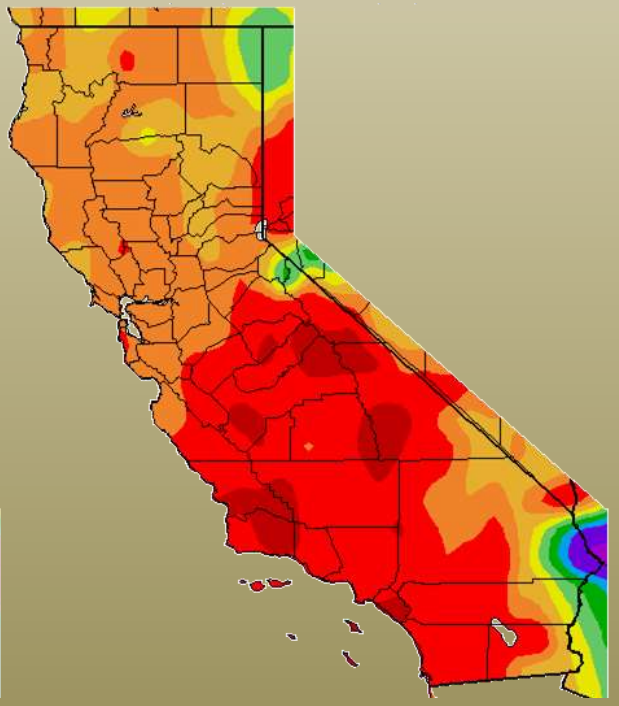
1 Year



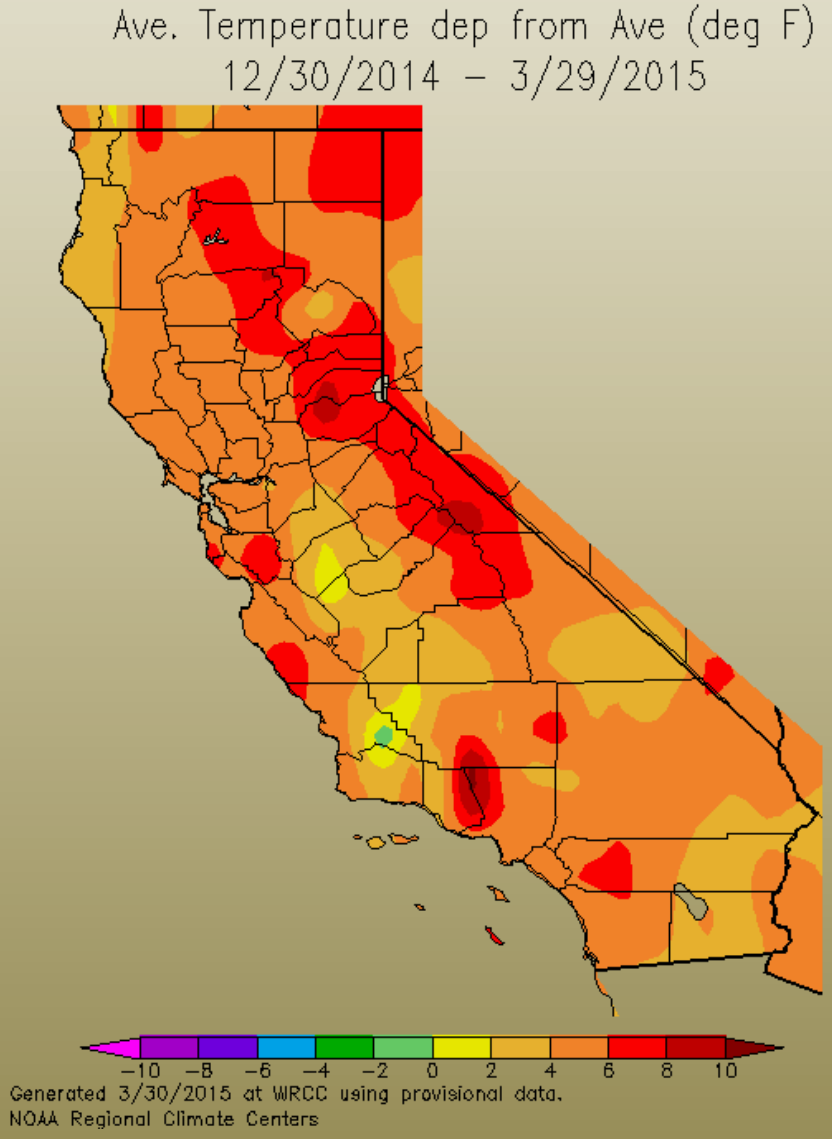
2 Years

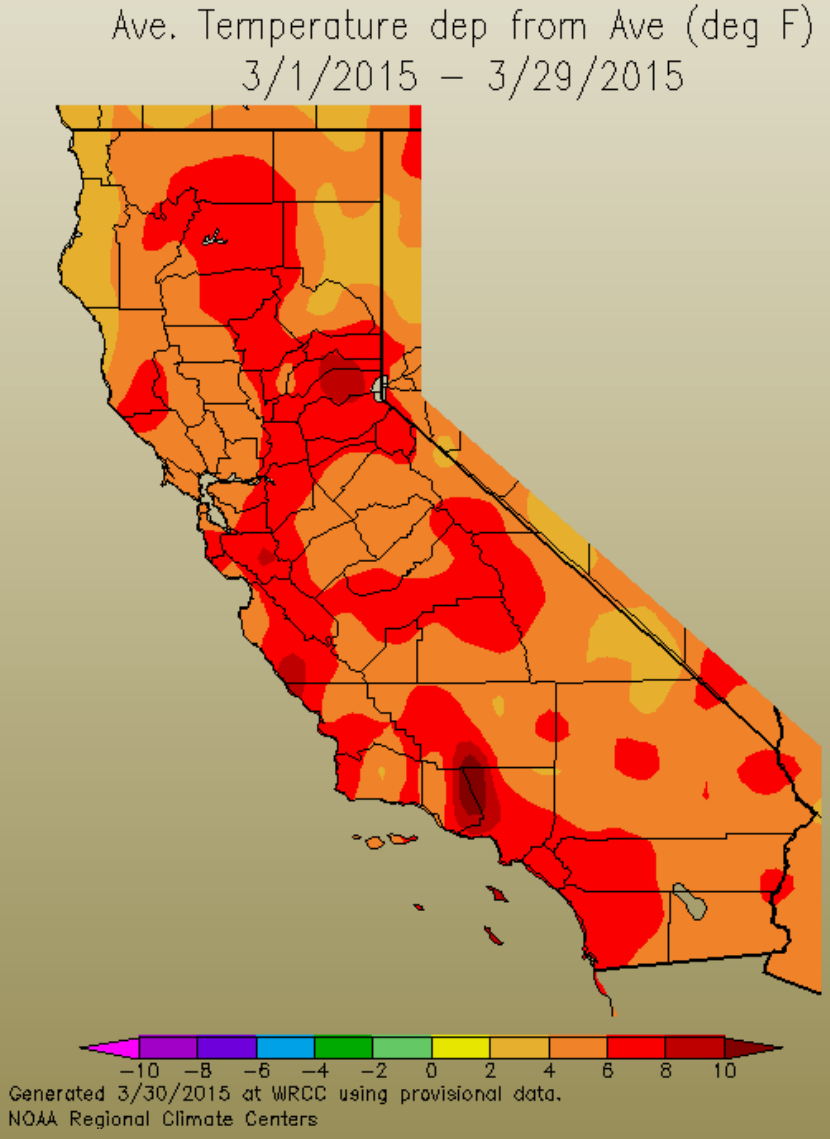


3 Years



A Very Warm Winter



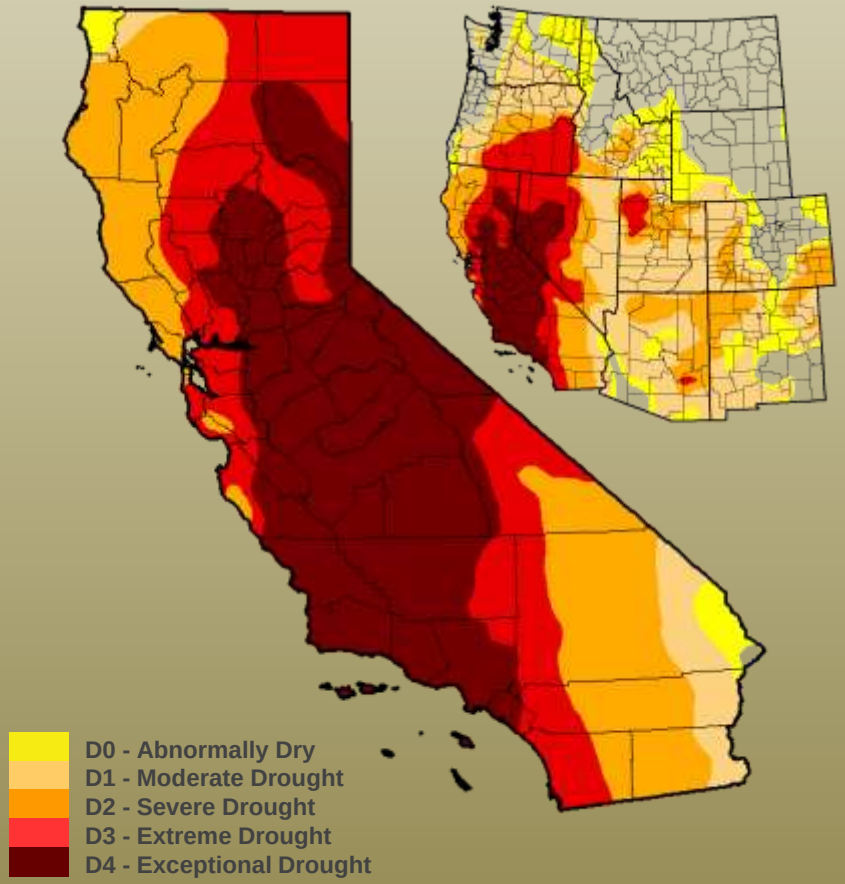


Types of Drought

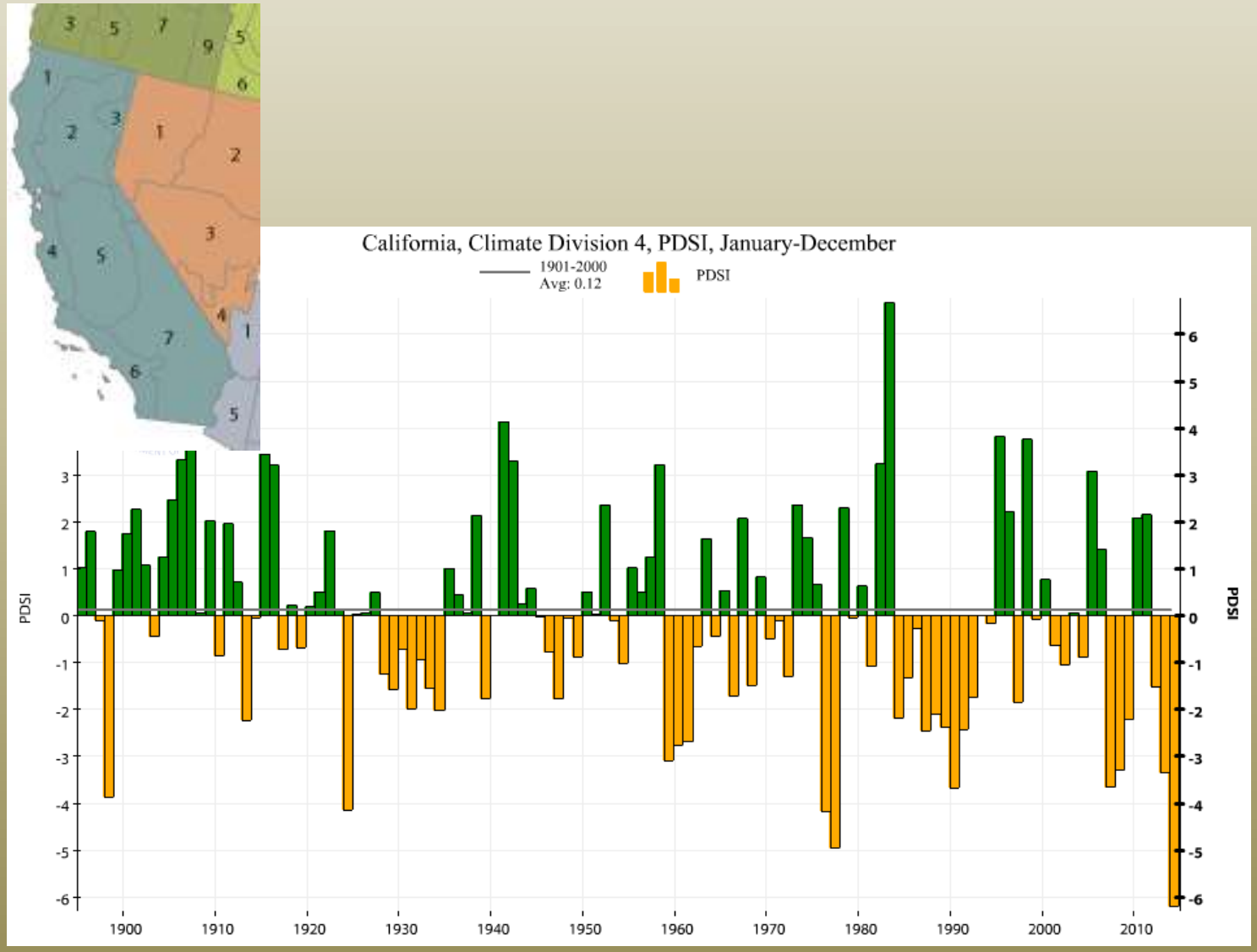
- Meteorological
  - Occurs when precipitation is deficient across an area for a prolonged time period
- Agricultural
  - Results in a loss of crop production.
  - Can occur independently from a meteorological drought when soil erosion restricts water supply to crops
- Hydrological
  - Occurs when water reserves fall below statistical averages
  - Can occur independently if water is diverted to another area

California's Ongoing Drought

Drought Monitor – March 31, 2015

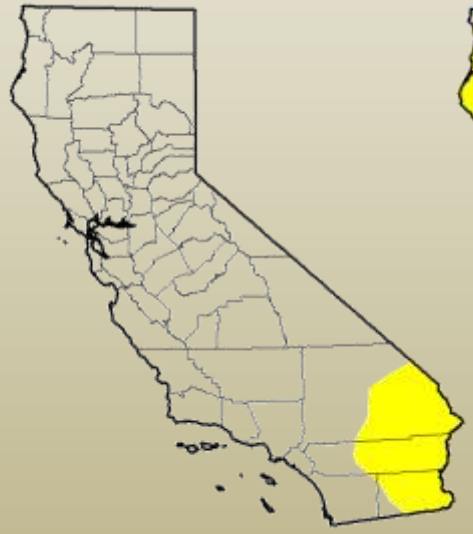


How bad is the drought?



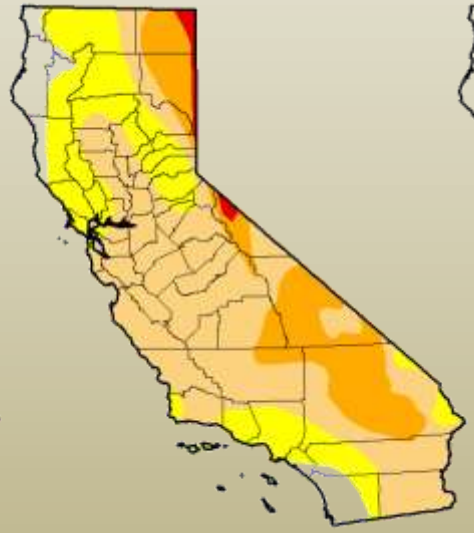
Drought Progression

Fall 2011

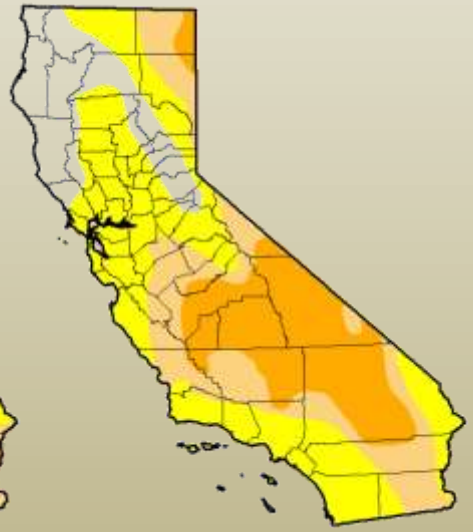


Spring 2012

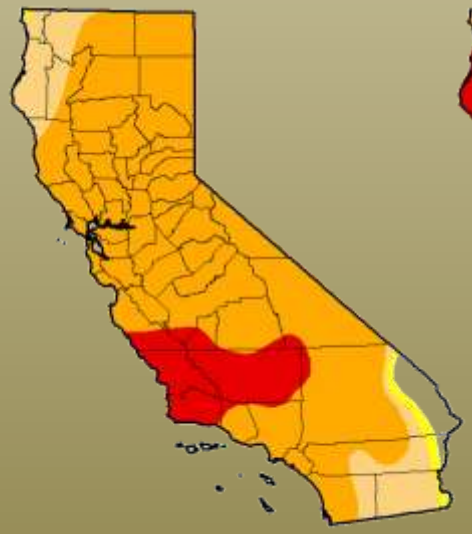
Fall 2012



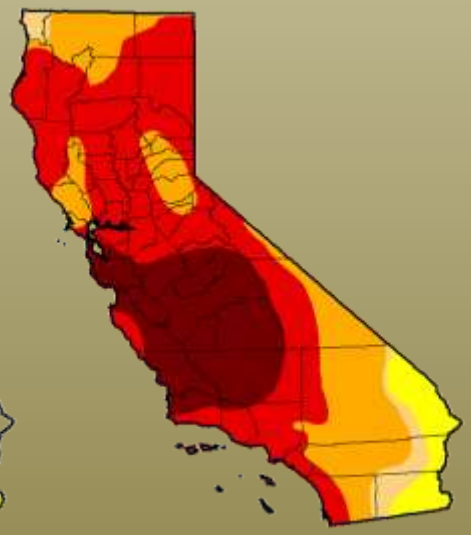
Spring 2013



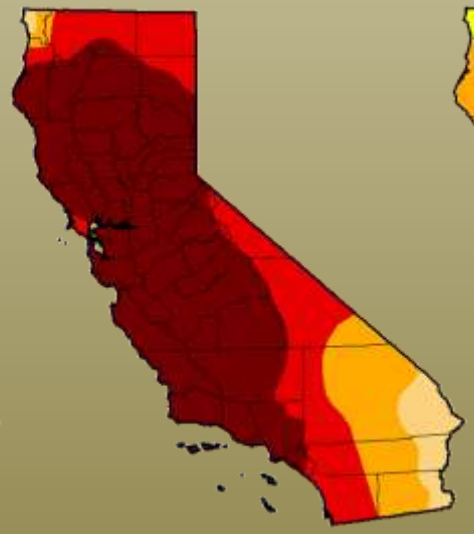
Fall 2013



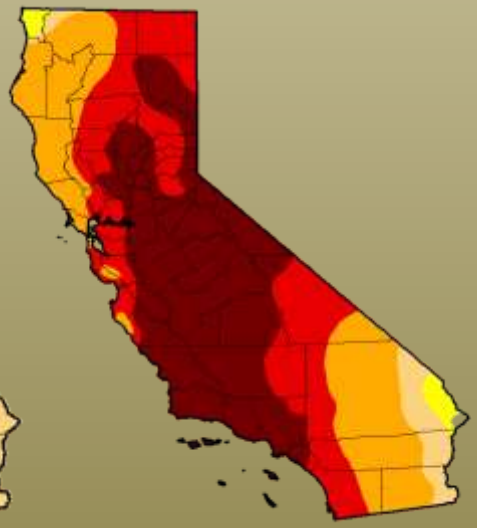
Spring 2014



Fall 2014



Spring 2015



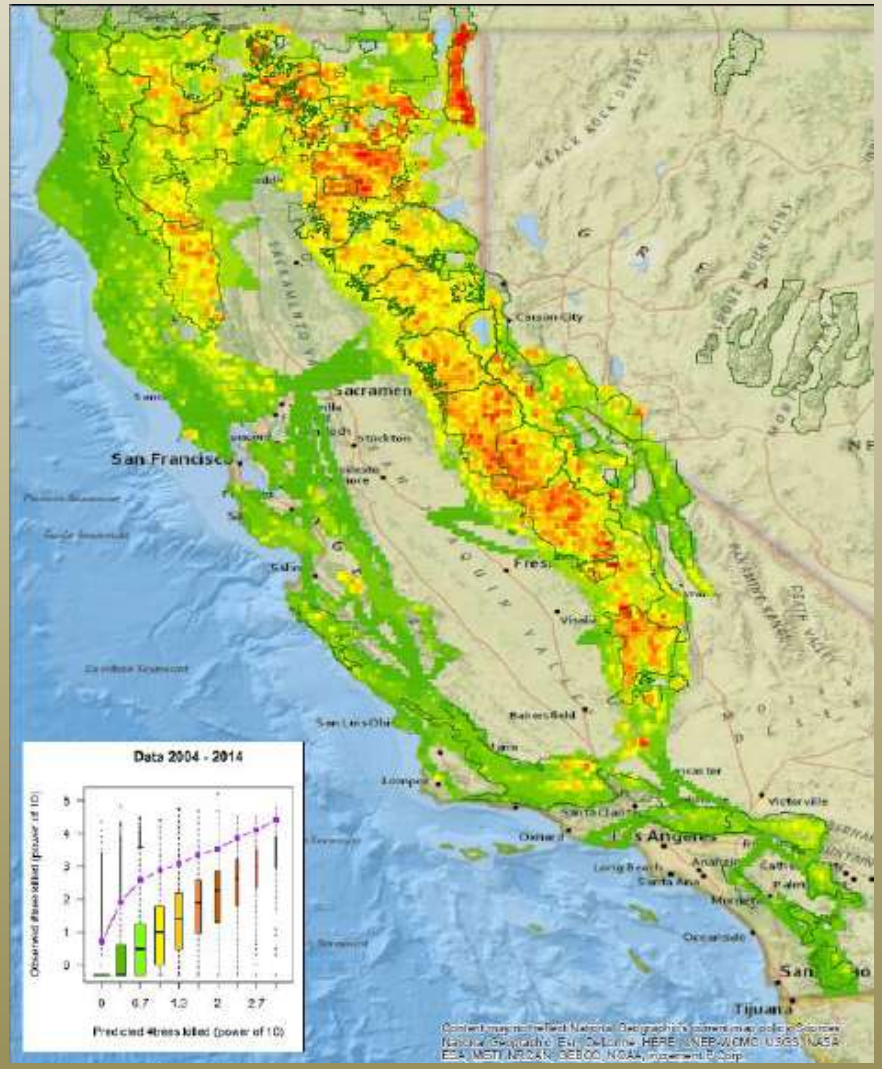
Drought Stress

- Native brush is being stressed due to long term drought conditions
- The amount of dead fuel is increasing throughout the region

Bug kill in the southern Sierra

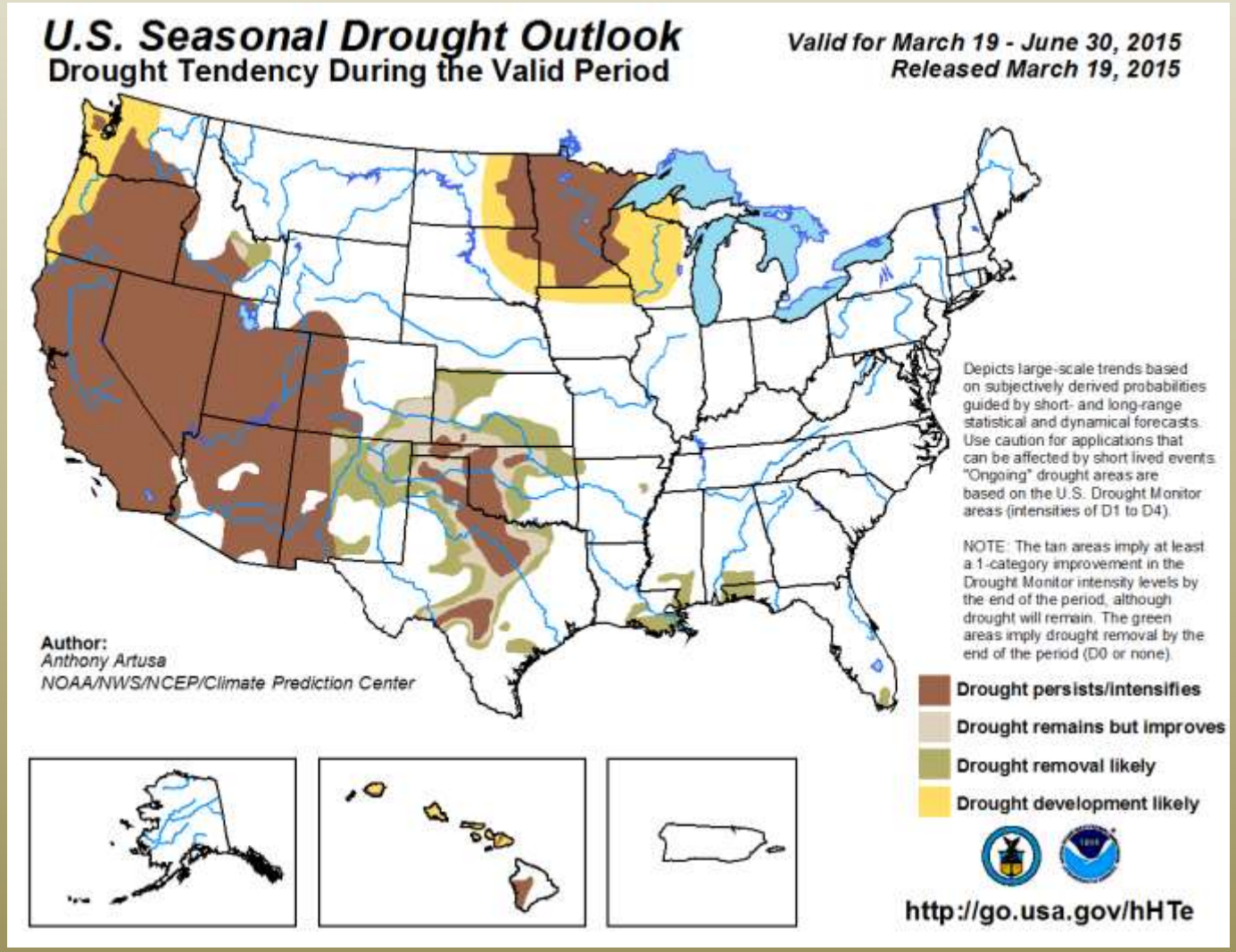
- Tree mortality has been steadily increasing across the Sierra and Sequoia NFs over the last several years
- Large stands of dead trees are becoming more prominent

Predicted Tree Mortality for 2015



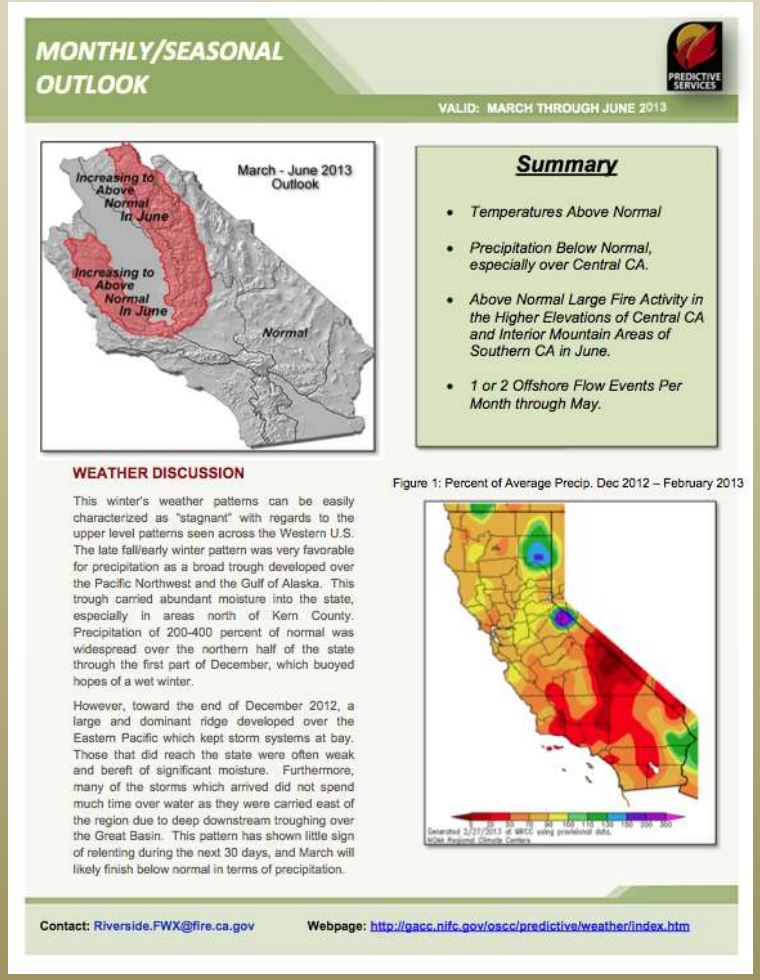
- Over 2 million trees died from bark beetles across 820,000 acres in 2014, which is double the acres with mortality from 2013.
- A dramatic increase in tree mortality is anticipated this year.

Drought Forecast



Monthly/Seasonal Outlook

http://gacc.nifc.gov/oscc/predictive/outlooks/myfiles/assessment.pdf



MONTHLY/SEASONAL OUTLOOK

PREDICTIVE SERVICES

VALID: MARCH THROUGH JUNE 2013

Summary

- *Temperatures Above Normal*
- *Precipitation Below Normal, especially over Central CA.*
- *Above Normal Large Fire Activity in the Higher Elevations of Central CA and Interior Mountain Areas of Southern CA in June.*
- *1 or 2 Offshore Flow Events Per Month through May.*

WEATHER DISCUSSION

This winter's weather patterns can be easily characterized as "stagnant" with regards to the upper level patterns seen across the Western U.S. The late fall/early winter pattern was very favorable for precipitation as a broad trough developed over the Pacific Northwest and the Gulf of Alaska. This trough carried abundant moisture into the state, especially in areas north of Kern County. Precipitation of 200-400 percent of normal was widespread over the northern half of the state through the first part of December, which buoyed hopes of a wet winter.

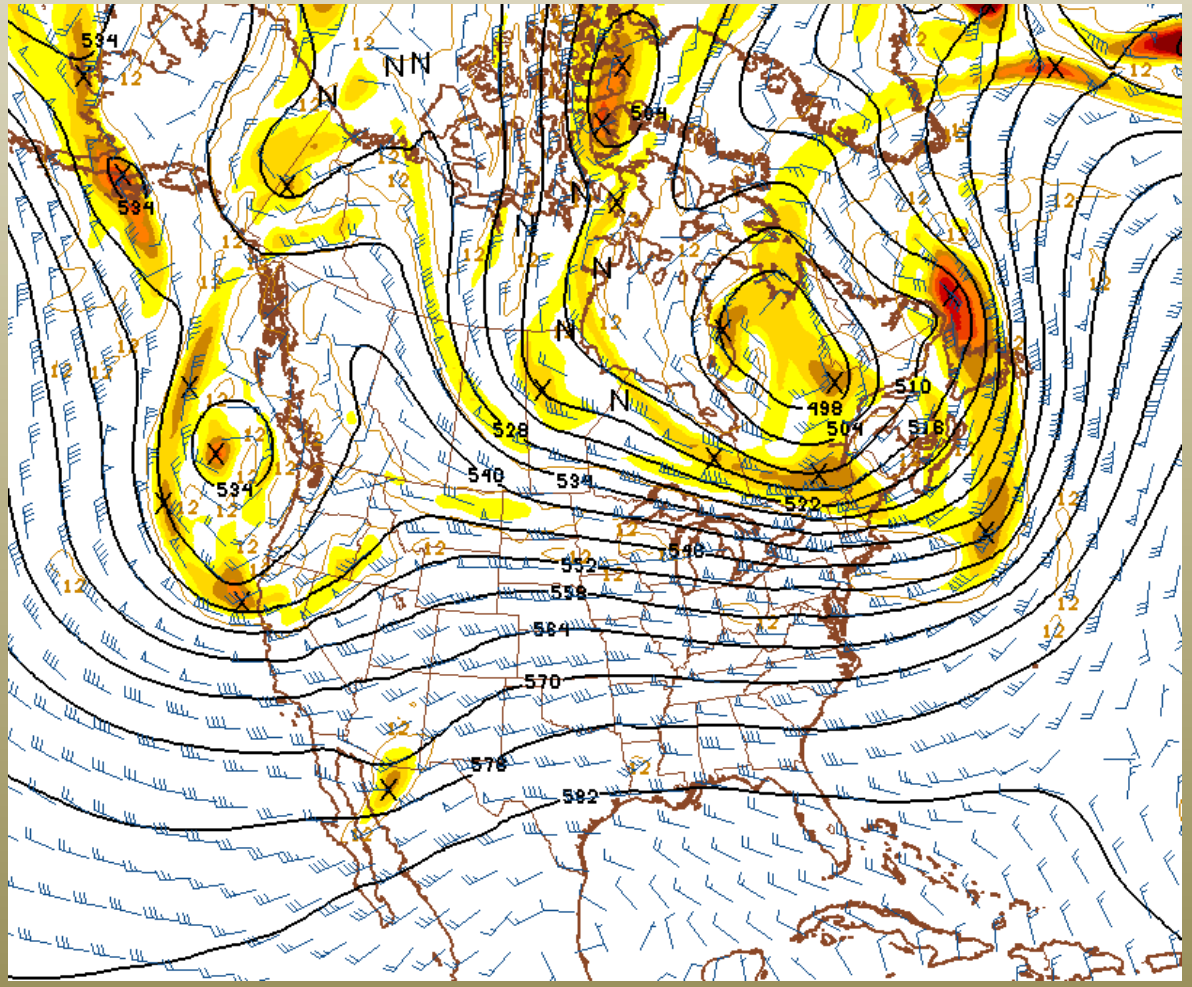
However, toward the end of December 2012, a large and dominant ridge developed over the Eastern Pacific which kept storm systems at bay. Those that did reach the state were often weak and bereft of significant moisture. Furthermore, many of the storms which arrived did not spend much time over water as they were carried east of the region due to deep downstream troughing over the Great Basin. This pattern has shown little sign of relenting during the next 30 days, and March will likely finish below normal in terms of precipitation.

Figure 1: Percent of Average Precip. Dec 2012 – February 2013

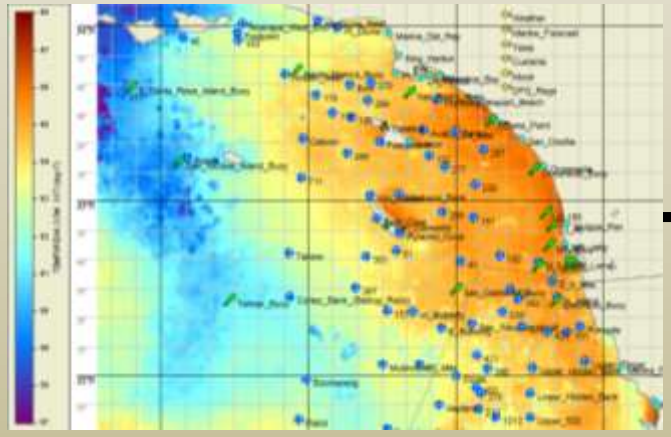
Contact: Riverside.FWX@fire.ca.gov Webpage: http://gacc.nifc.gov/oscc/predictive/weather/index.htm

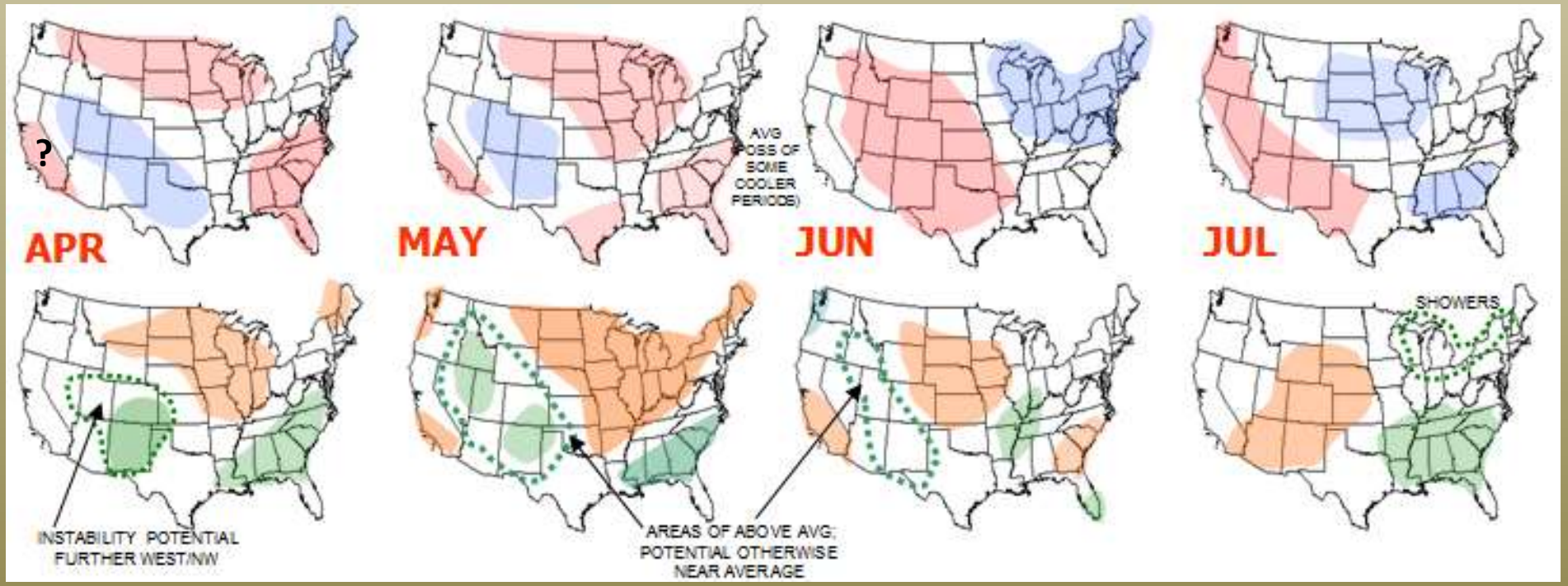
Spring Outlook

- The Eastern Pacific has recently become more active and it should remain active for the next 2 to 3 weeks.
- Temperatures will average near to below normal for the first half of April and precipitation will average near normal.
- Transitioning to a warmer and drier pattern toward the end of April and into May.

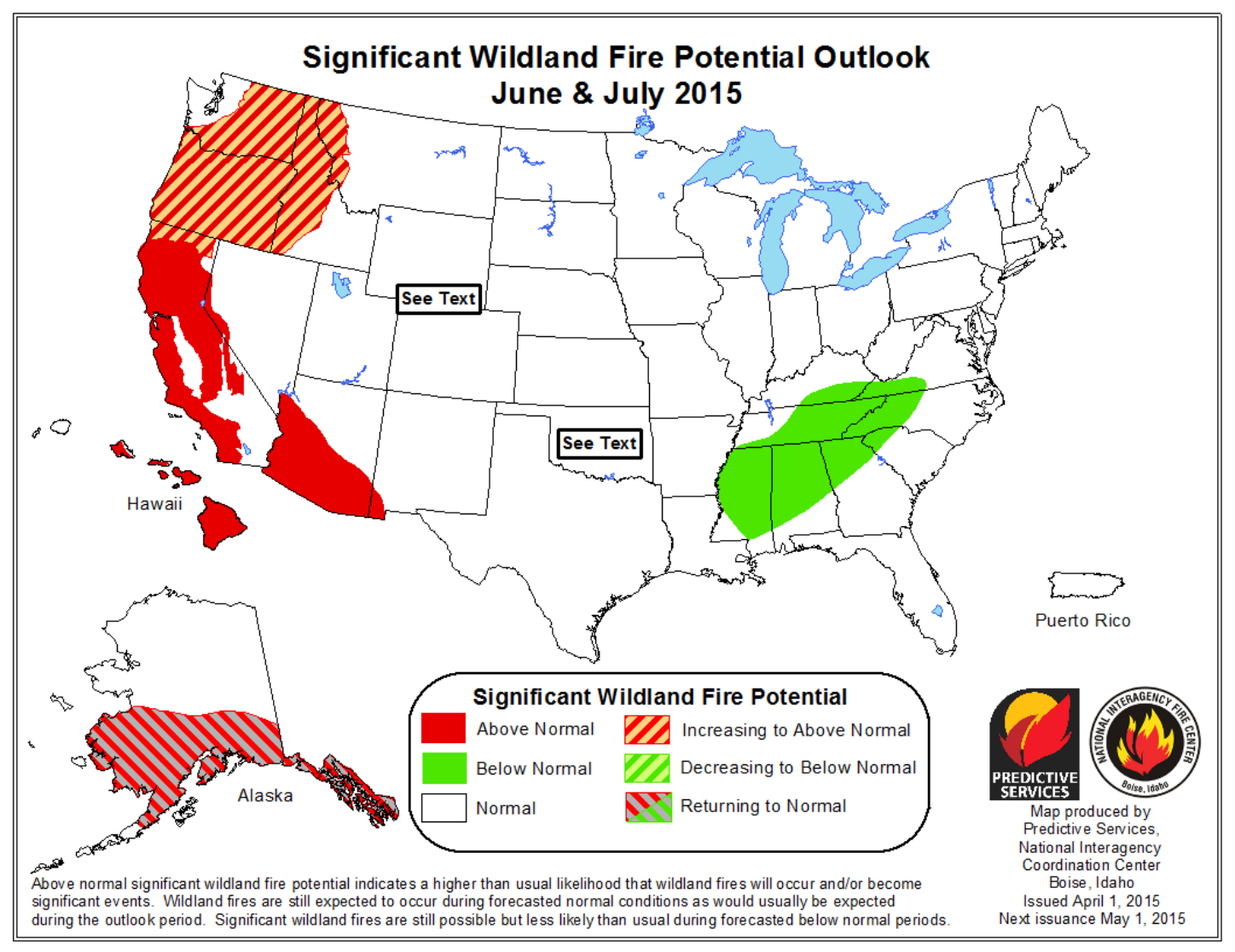


Spring/Summer Outlook





Outlook through July



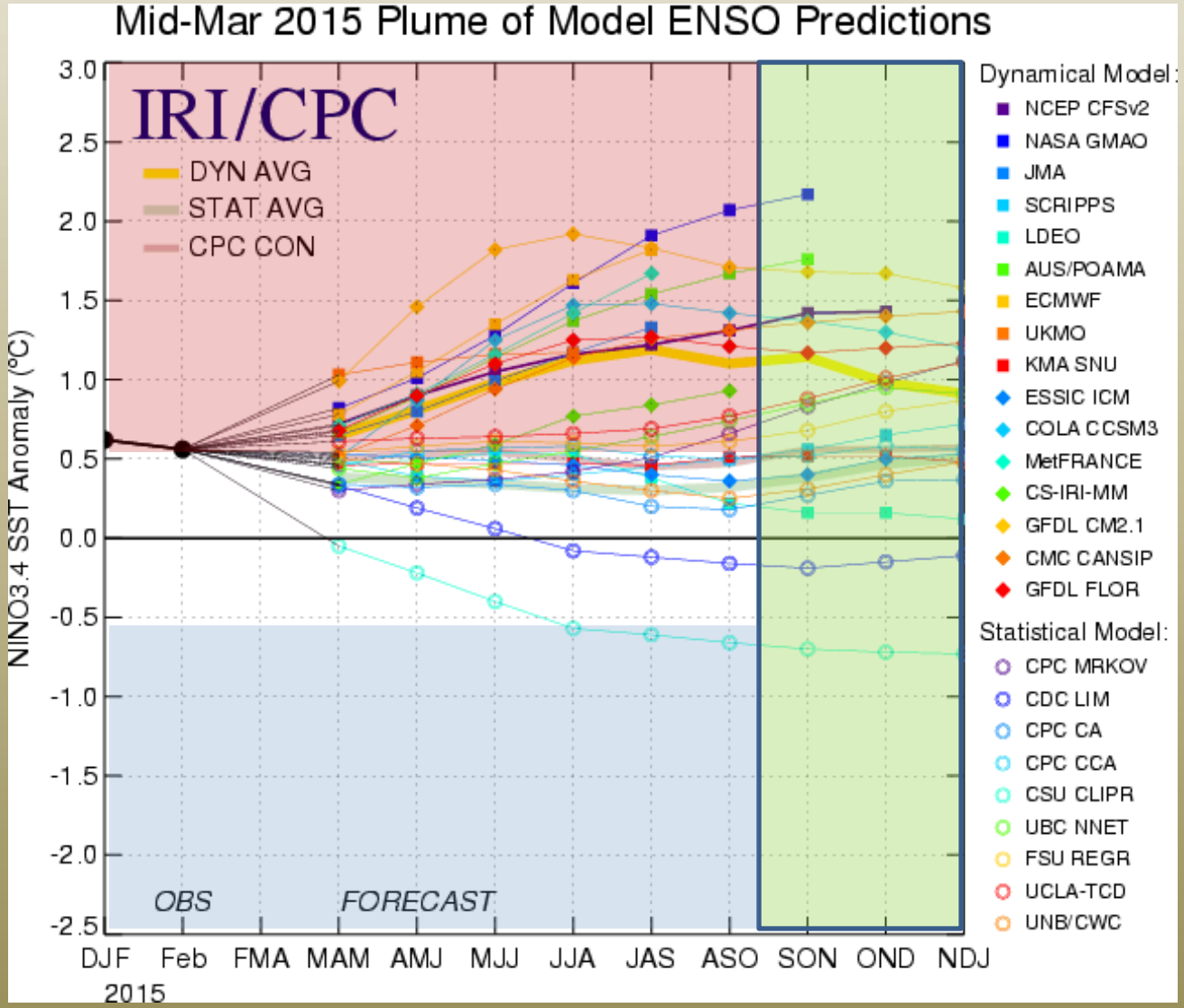
Latest Fuel Conditions

- Grasses are mostly cured on south facing slopes below 3,000 feet.
- Grasses will likely cure across the back country and higher elevations within the next month.

Fire Season Highlights

- Temperatures will average above normal through July
- Precipitation will average below normal through July
- Fire season expected to begin earlier than normal.
- Summer Monsoon could be active again this year across the deserts and the Sierra.
- Pacific tropical season has the potential to be very active
- Greatest fire potential will be across the southern and central Sierra as well as the southern portion of the LP
- If fire suppression efforts remain aggressive and number of ignitions are below normal, then significant fire activity will be at a minimum despite very dry fuel conditions.

A glimmer of hope?



Thank you and be safe!

Tom Rolinski
thomasrolinski@fs.fed.us
951-782-4849
http://gacc.nifc.gov/oscc/predictive/weather/