



# Regional Environmental Conditions & Impacts Coordination

NOAA West  
April 25, 2016

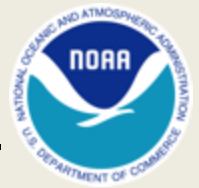
# Call Agenda

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- Welcome
- El Niño and Regional Climate brief (D. McEvoy)
- Climatology Application (NANOOS)
- CeNCOOS update (D. Anderson)
- Environmental conditions and impacts reporting update (T. Vann)
- NOAA West Watch Update (M. Milstein/T. Vann)
- Project Wrap Discussion

# Temperature

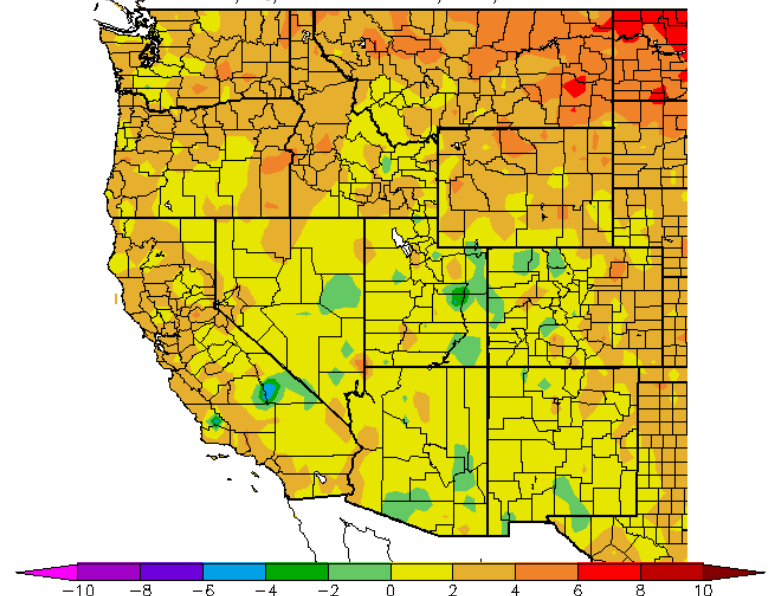
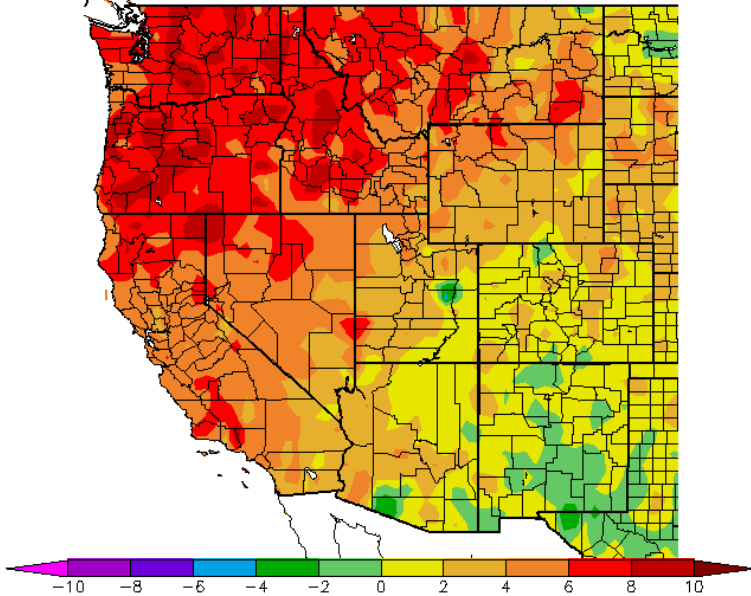


**Apr 1 – Apr 23, 2016**

**Oct 1, 2015 – Apr 23, 2016**

Ave. Temperature dep from Ave (deg F)  
4/1/2016 – 4/23/2016

Ave. Temperature dep from Ave (deg F)  
10/1/2015 – 4/23/2016

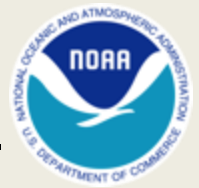


Generated 4/24/2016 at WRCC using provisional data.  
NOAA Regional Climate Centers

Generated 4/24/2016 at WRCC using provisional data.  
NOAA Regional Climate Centers

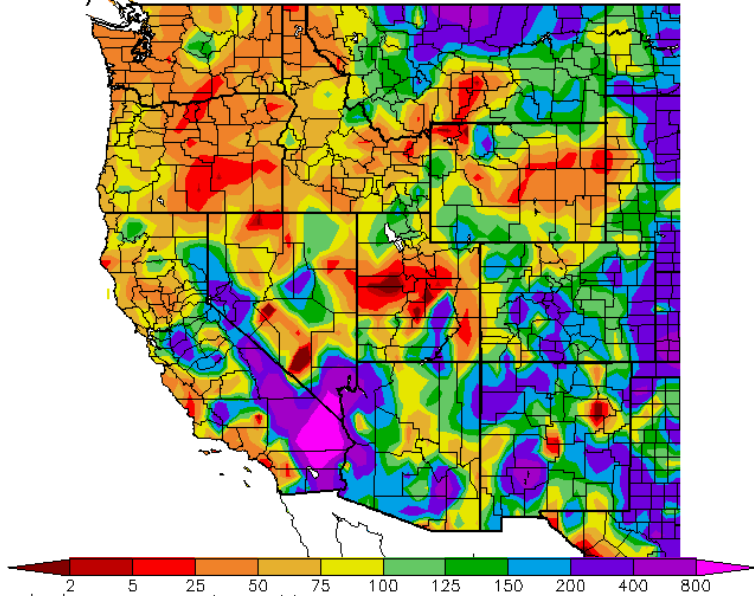
**water year to date**

# Precipitation



## Apr 1 – Apr 23, 2016

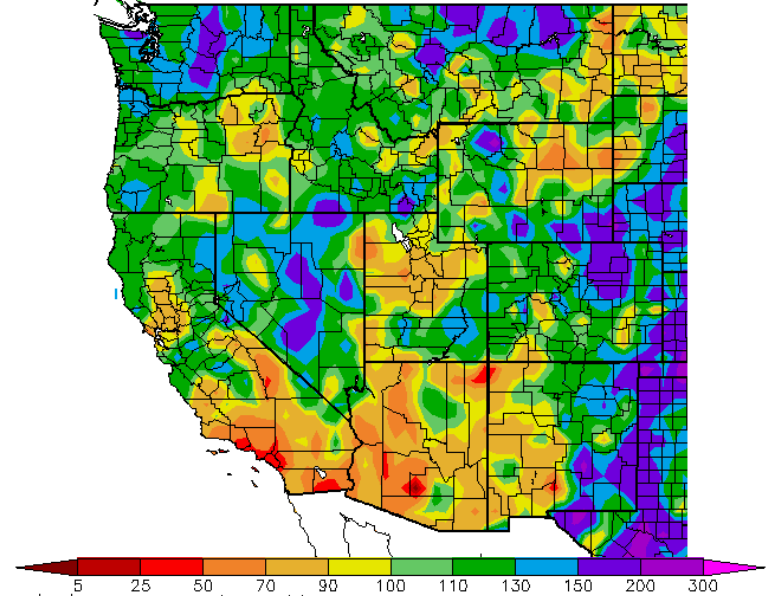
Percent of Average Precipitation (%)  
4/1/2016 – 4/23/2016



Generated 4/24/2016 at WRCC using provisional data.  
NOAA Regional Climate Centers

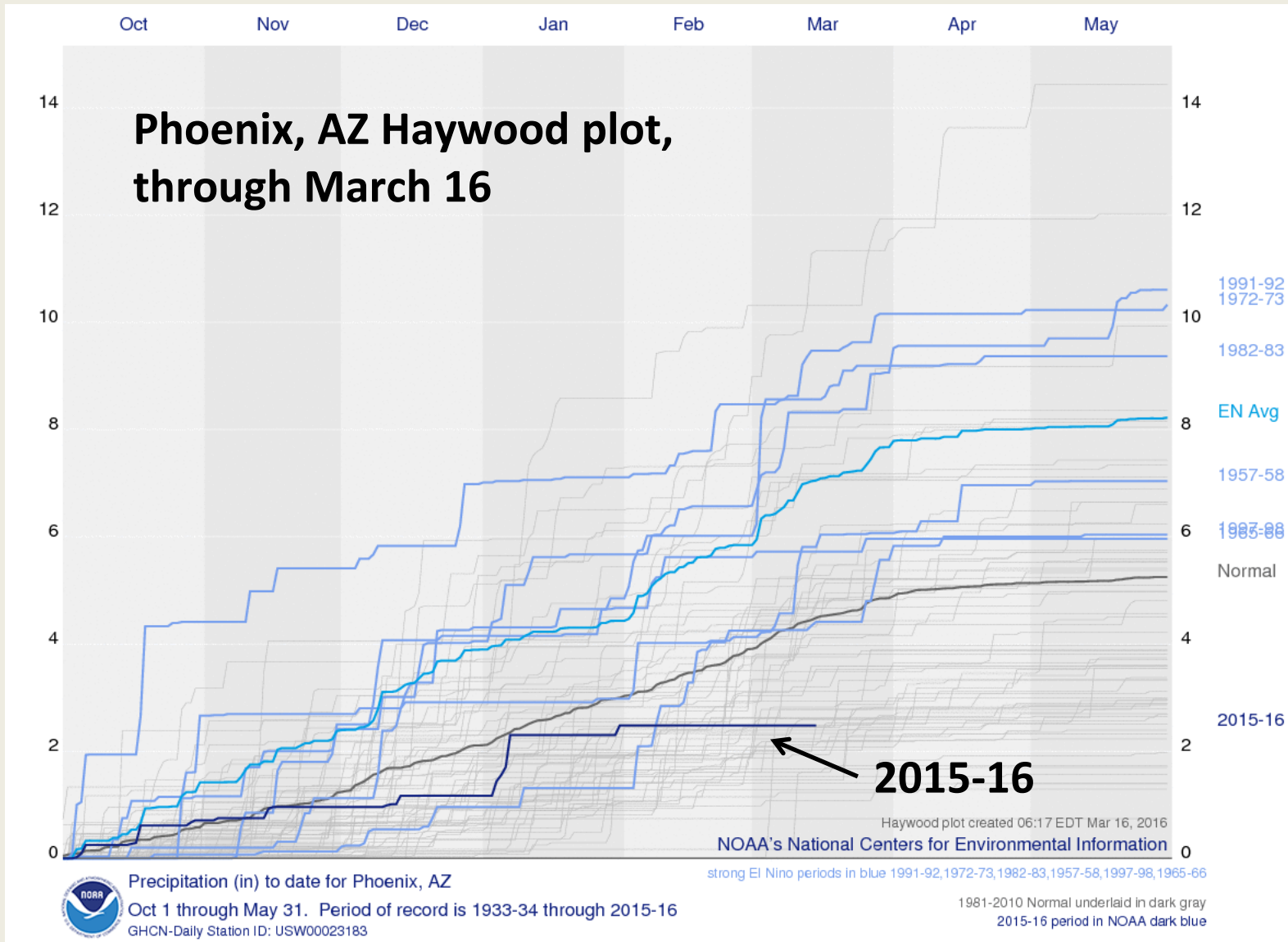
## Oct 1, 2015 – Apr 23, 2016

Percent of Average Precipitation (%)  
10/1/2015 – 4/23/2016

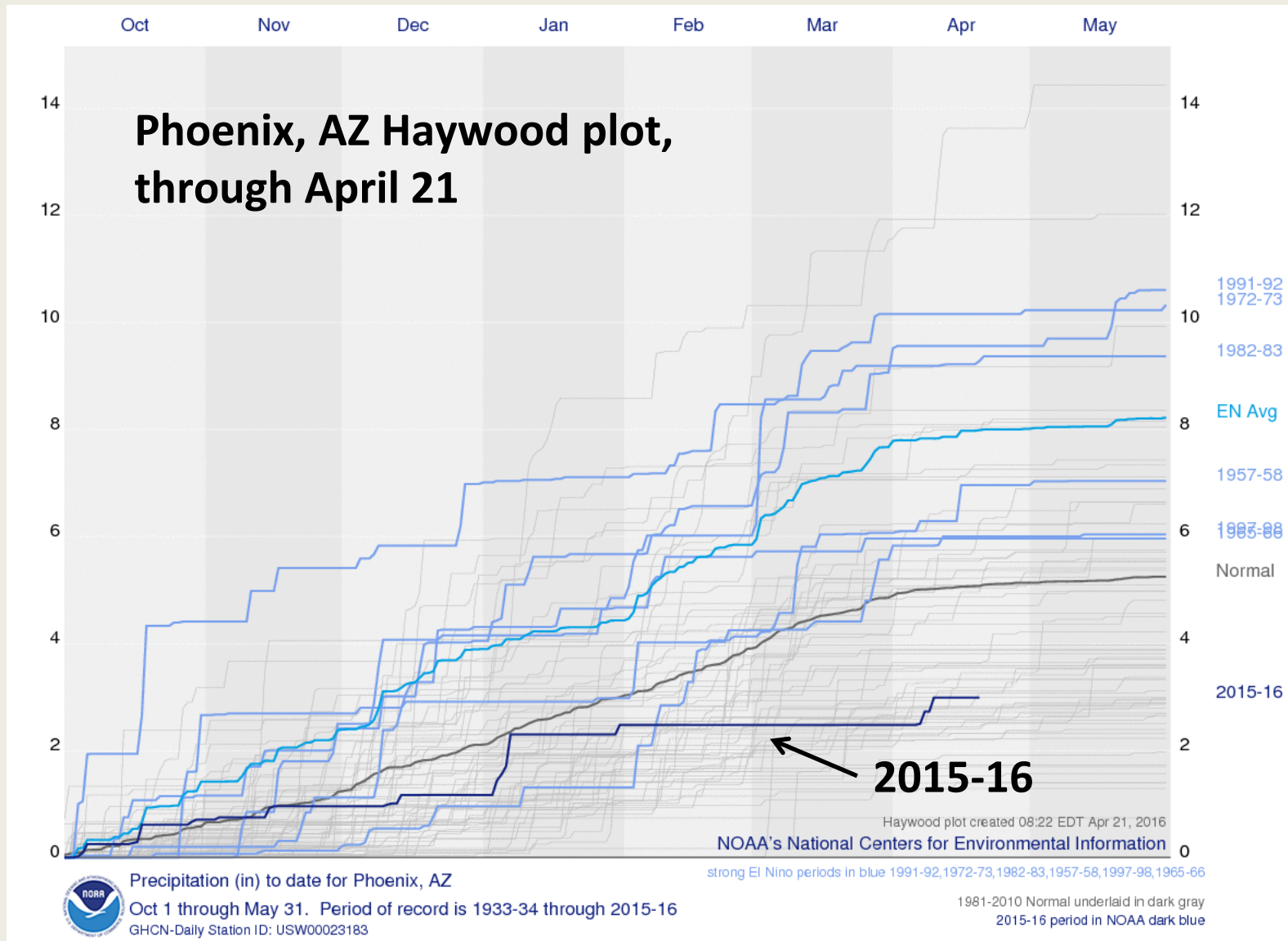


Generated 4/24/2016 at WRCC using provisional data.  
NOAA Regional Climate Centers

# Precipitation



# Precipitation



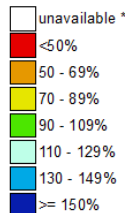
# Snow Water Equivalent



Westwide SNOTEL Current Snow Water Equivalent (SWE) % of Normal

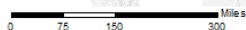
Mar 21, 2016

Current Snow Water Equivalent (SWE) Basin-wide Percent of 1981-2010 Median



\* Data unavailable at time of posting or measurement is not representative at this time of year

Provisional data subject to revision



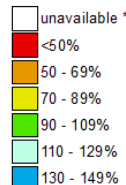
The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL's sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by: USDA/NRCS National Water and Climate Center Portland, Oregon <http://www.wcc.nrcs.usda.gov>

Westwide SNOTEL Current Snow Water Equivalent (SWE) % of Normal

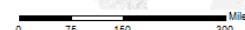
Apr 25, 2016

Current Snow Water Equivalent (SWE) Basin-wide Percent of 1981-2010 Median



\* Data unavailable at time of posting or measurement is not representative at this time of year

Provisional data subject to revision



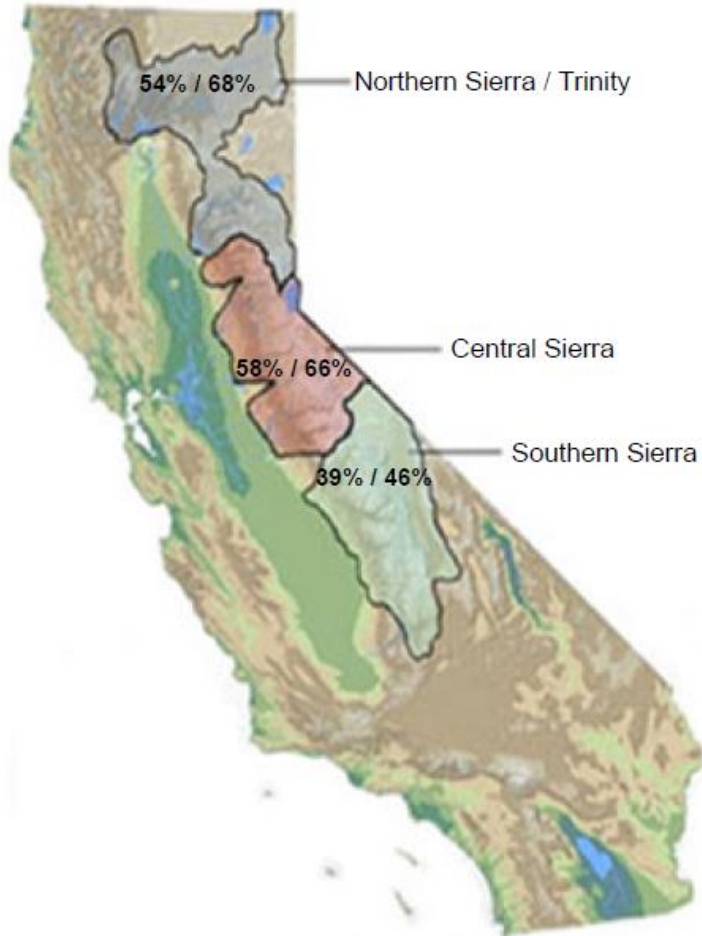
The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL's sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by: USDA/NRCS National Water and Climate Center Portland, Oregon <http://www.wcc.nrcs.usda.gov>

# Snow Water Equivalent



% of April 1 Average / % of Normal for This Date



Statewide Average: 51% / 60%

NORTH	
Data as of April 25, 2016	
Number of Stations Reporting	26
Average snow water equivalent (Inches)	15.2
Percent of April 1 Average (%)	54
Percent of normal for this date (%)	68

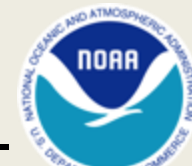
CENTRAL	
Data as of April 25, 2016	
Number of Stations Reporting	40
Average snow water equivalent (Inches)	16.7
Percent of April 1 Average (%)	58
Percent of normal for this date (%)	66

SOUTH	
Data as of April 25, 2016	
Number of Stations Reporting	28
Average snow water equivalent (Inches)	10.5
Percent of April 1 Average (%)	39
Percent of normal for this date (%)	46

STATE	
Data as of April 25, 2016	
Number of Stations Reporting	94
Average snow water equivalent (Inches)	14.5
Percent of April 1 Average (%)	51
Percent of normal for this date (%)	60



# Snow Water Equivalent

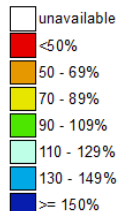


Westwide SNOTEL Water Year (Oct 1) to Date Precipitation % of Normal

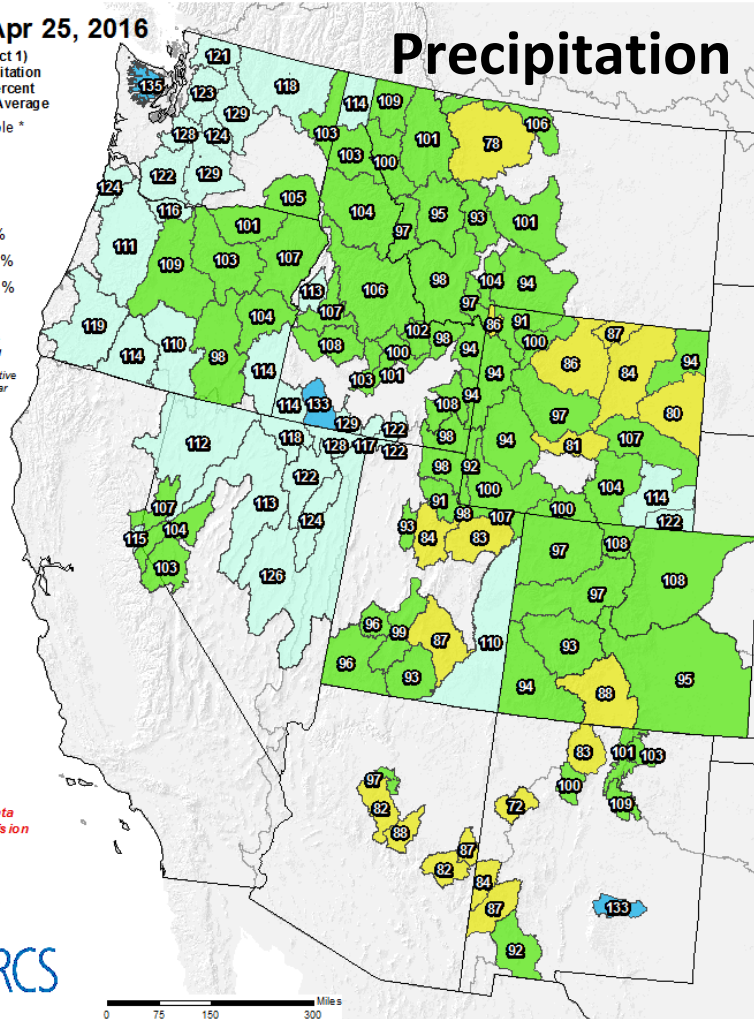
Apr 25, 2016

## Precipitation

Water Year (Oct 1) to Date Precipitation Basin-wide Percent of 1981-2010 Average



\* Data unavailable at time of posting or measurement is not representative at this time of year



Provisional data subject to revision



The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

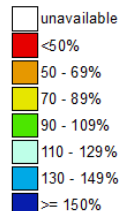
Prepared by:  
USDA/NRCS National Water and Climate Center  
Portland, Oregon  
<http://www.wcc.nrcs.usda.gov>

Westwide SNOTEL Current Snow Water Equivalent (SWE) % of Normal

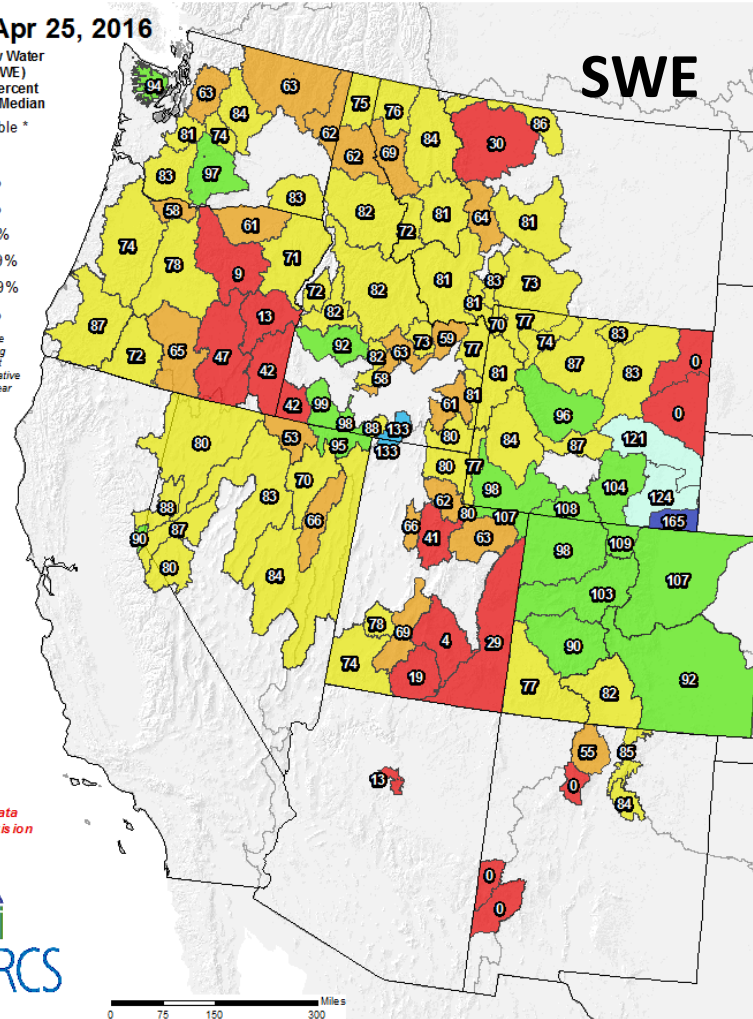
Apr 25, 2016

## SWE

Current Snow Water Equivalent (SWE) Basin-wide Percent of 1981-2010 Median



\* Data unavailable at time of posting or measurement is not representative at this time of year



Provisional data subject to revision



The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by:  
USDA/NRCS National Water and Climate Center  
Portland, Oregon  
<http://www.wcc.nrcs.usda.gov>

# Snow Water Equivalent: April 23



*COLUMBIA ABOVE METHOW Time Series Snowpack Summary  
Based on Provisional SNOTEL data as of Apr 24, 2016*



## Washington: Columbia River Above Methow

**SWE: 74% of normal**

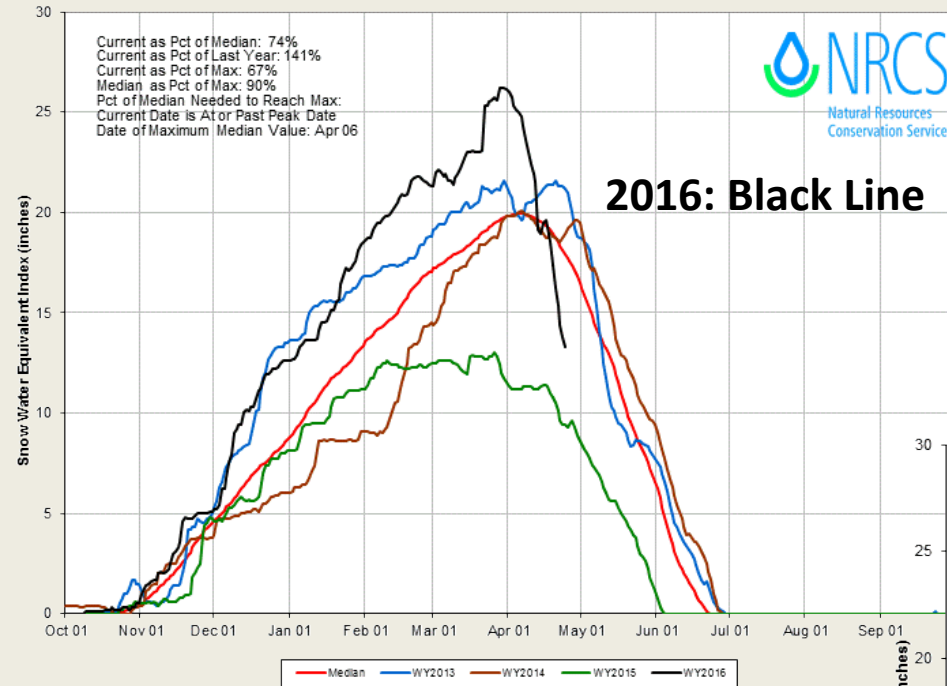
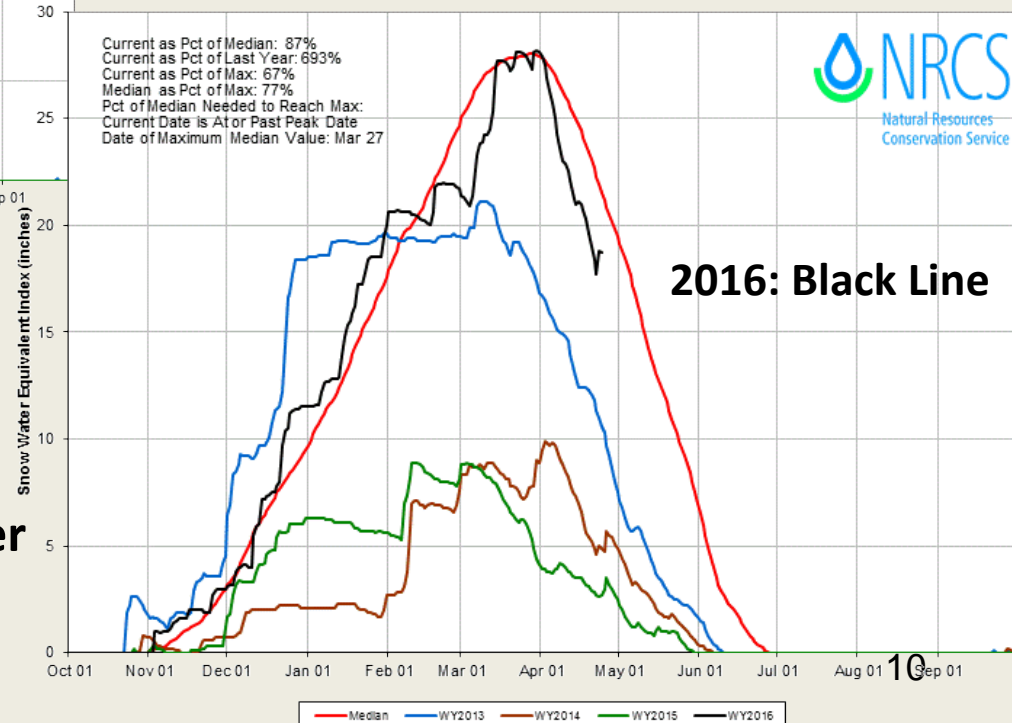
*TRUCKEE RIVER Time Series Snowpack Summary  
Based on Provisional SNOTEL data as of Apr 24, 2016*



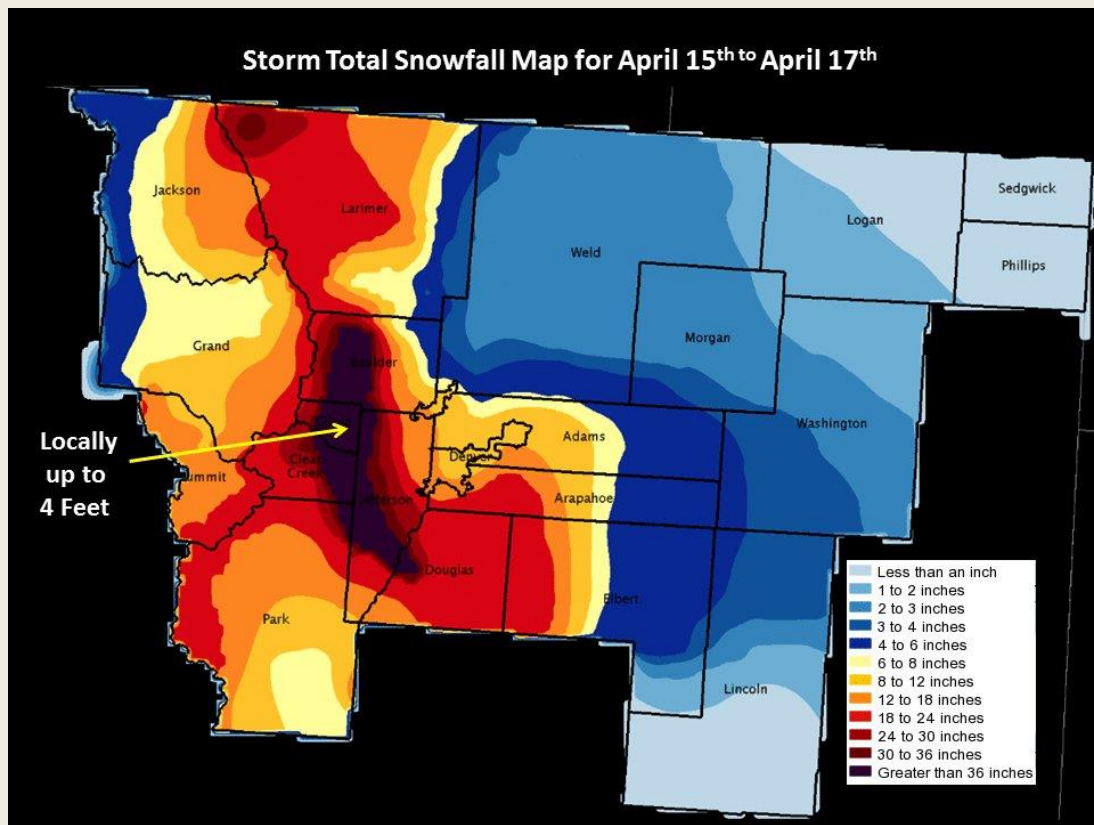
## 2016: Black Line

## California/Nevada: Truckee River

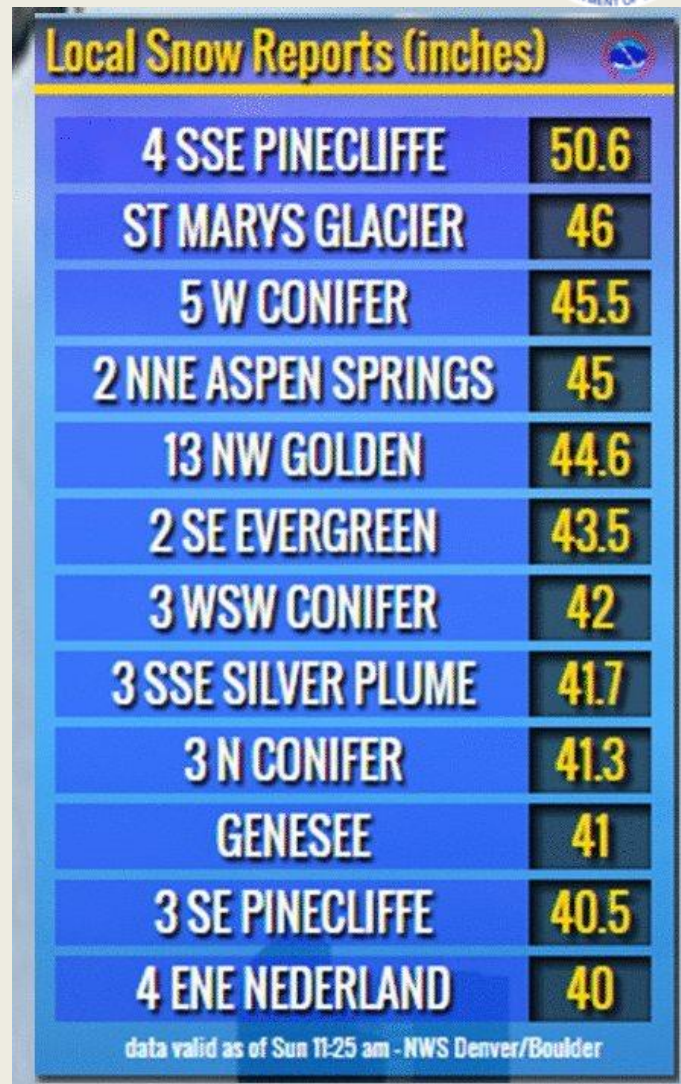
**SWE: 87% of normal**



# Colorado Front Range Snow Storm



Published on: 04/17/2016 at 1:47PM



Published on: 04/17/2016 at 11:40AM

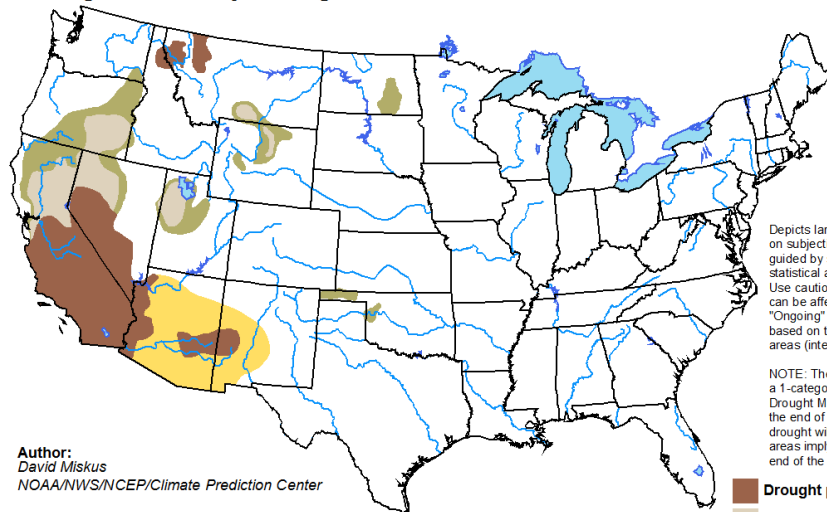
# Seasonal Drought Outlook



## U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

Valid for March 17 - June 30, 2016  
Released March 17, 2016

Issued March 17



Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity by the end of the period, drought will remain. Tan areas imply drought removal by the end of the period (D0).

Author:  
David Miskus  
NOAA/NWS/NCEP/Climate Prediction Center



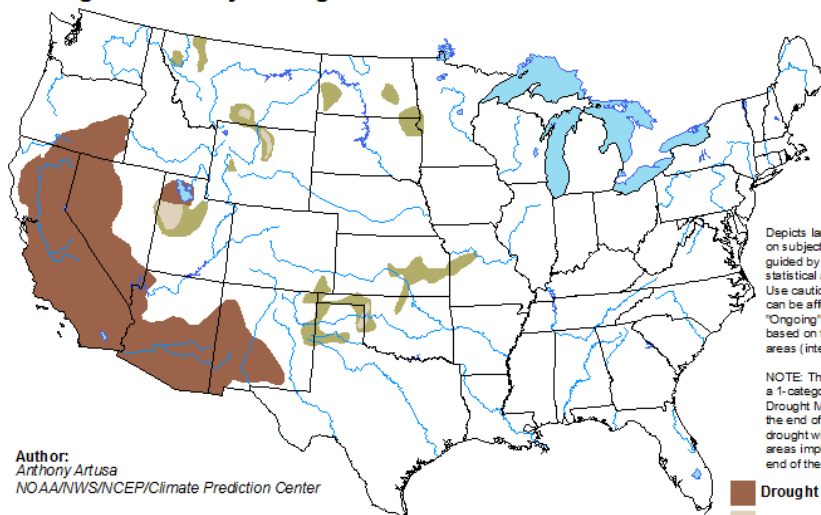
- Drought persists
- Drought remains
- Drought removal
- Drought develop



<http://go.usa.gov>

## U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

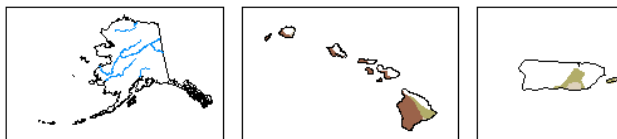
Valid for April 21 - July 31, 2016  
Released April 21, 2016



Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

Author:  
Anthony Artusa  
NOAA/NWS/NCEP/Climate Prediction Center



- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely



<http://go.usa.gov/3eZ73>

## Effects of Drought/Precipitation on Fuels/Fire Season

- Drought
  - Lower fuel moisture in fuels
  - Fuel moisture more “flashy” with response to quick increases/decreases in moisture
  - Drought stress in larger fuels, which become more combustible
  - Dry winter with low snowpack likely to allow carryover fuels
  - Dry spring likely to limit fine fuel growth
- Spring Precipitation During/After Drought
  - Higher live/dead fuel moisture
  - Fuels still in drought will respond quickly to drying/warming
  - New fine fuel growth
- Entering/exiting drought tend to lead to increased severity in fire seasons, depending on summer weather pattern.

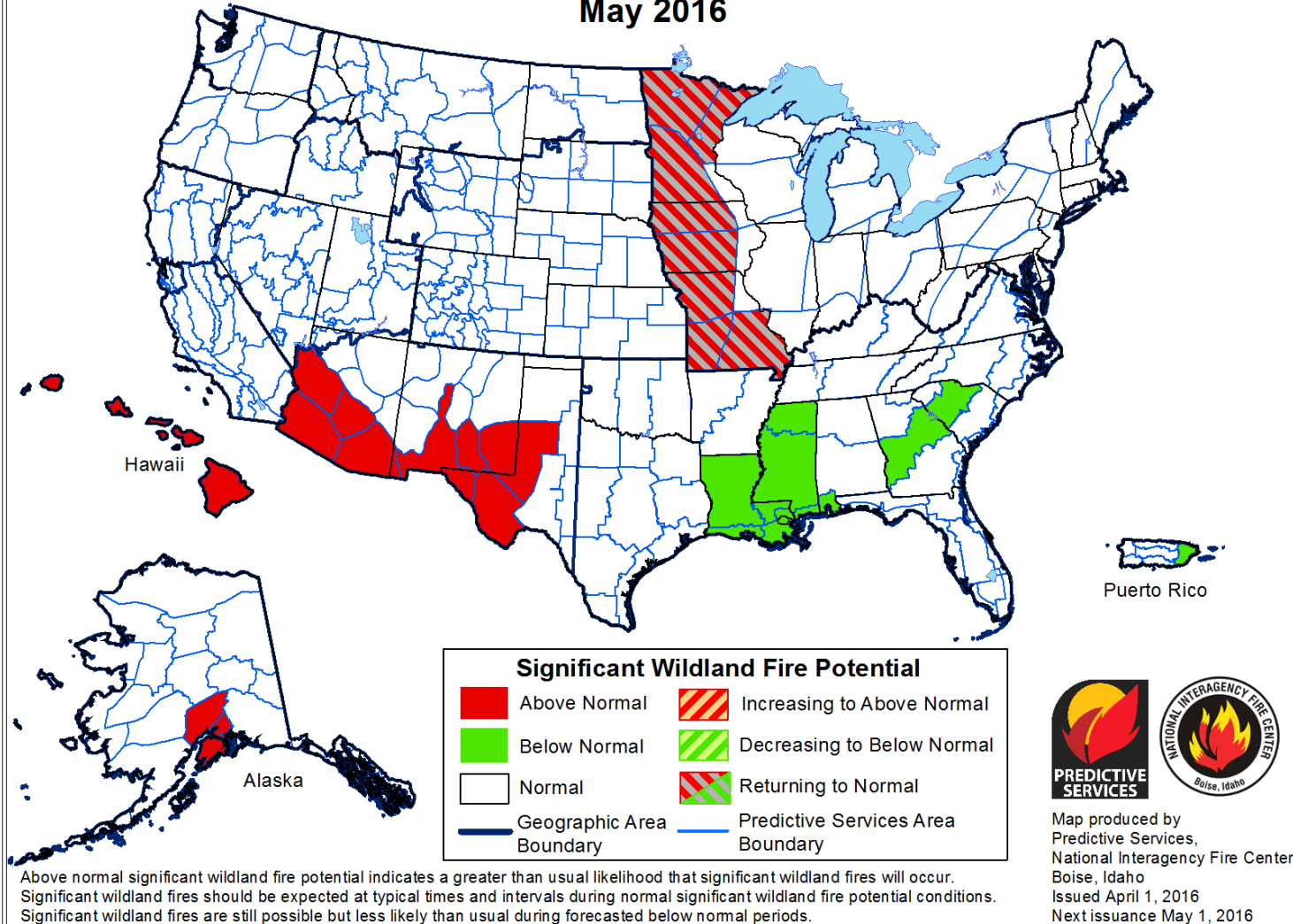
Presented at the  
Great Basin  
Climate Forum,  
April 5, 2016  
By Gina McGuire

Drought not always a bad thing for Great Basin Fire seasons

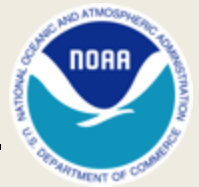
# Significant Wildland Fire Potential Outlook



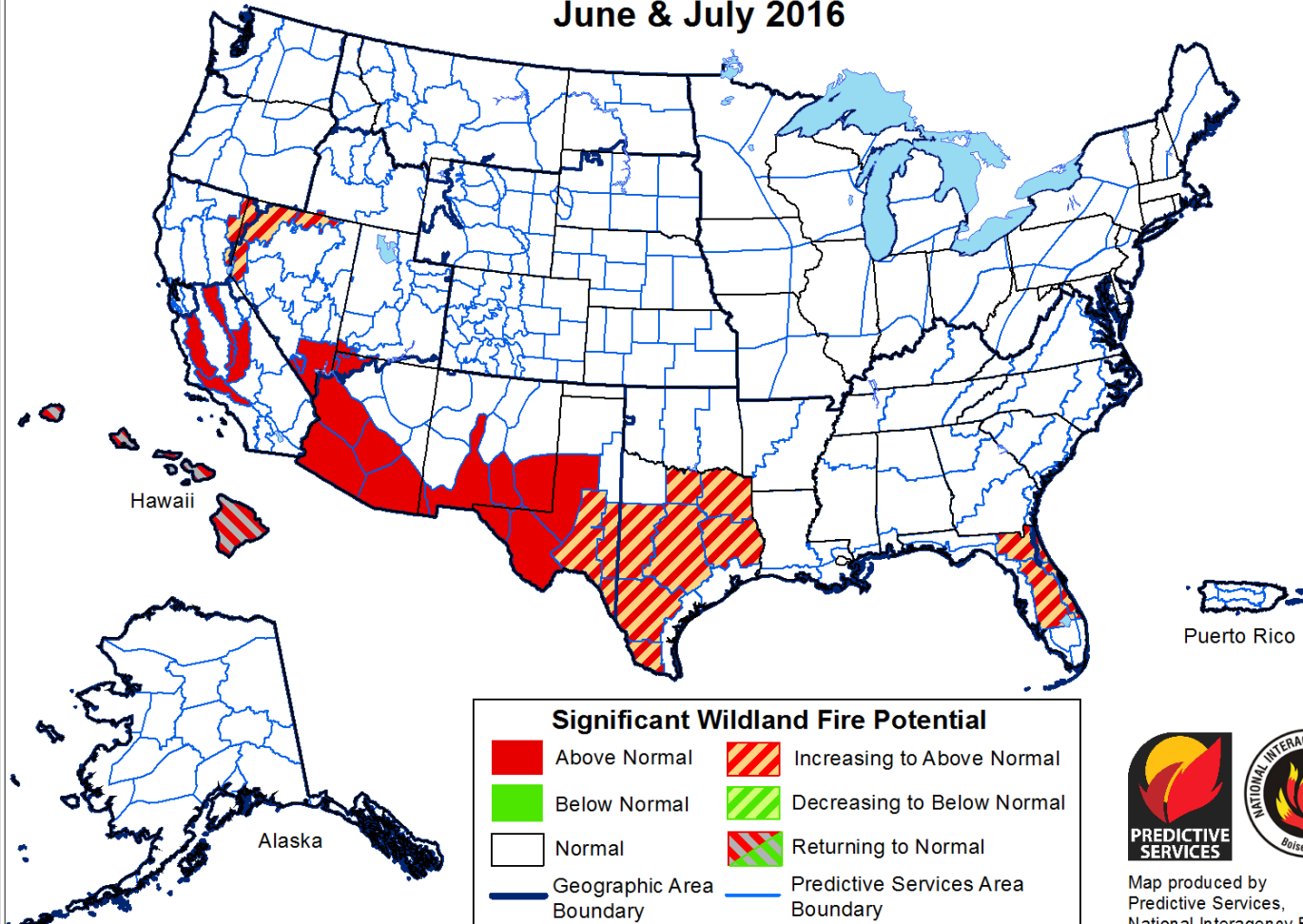
## Significant Wildland Fire Potential Outlook May 2016



# Significant Wildland Fire Potential Outlook



## Significant Wildland Fire Potential Outlook June & July 2016



Above normal significant wildland fire potential indicates a greater than usual likelihood that significant wildland fires will occur. Significant wildland fires should be expected at typical times and intervals during normal significant wildland fire potential conditions. Significant wildland fires are still possible but less likely than usual during forecasted below normal periods.

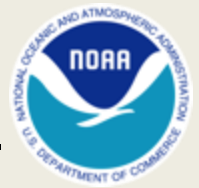


Map produced by  
Predictive Services,  
National Interagency Fire Center  
Boise, Idaho  
Issued April 1, 2016  
Next issuance May 1, 2016

“In Southern California significant tree mortality among the conifers between three and six thousand feet in the Sierra will result in more dead material and will be the focus for this year’s fire season.”  
-Predictive Services

# El Nino Status

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- ENSO Alert System Status: El Niño Advisory/La Niña Watch
- A strong El Niño is present and weakening
- Positive equatorial sea surface temperature (SST) anomalies continue across most of the Pacific Ocean.
- A transition to ENSO-neutral is likely during late Northern Hemisphere spring or early summer 2016, **with an increasing chance of La Niña during the second half of the year.\***

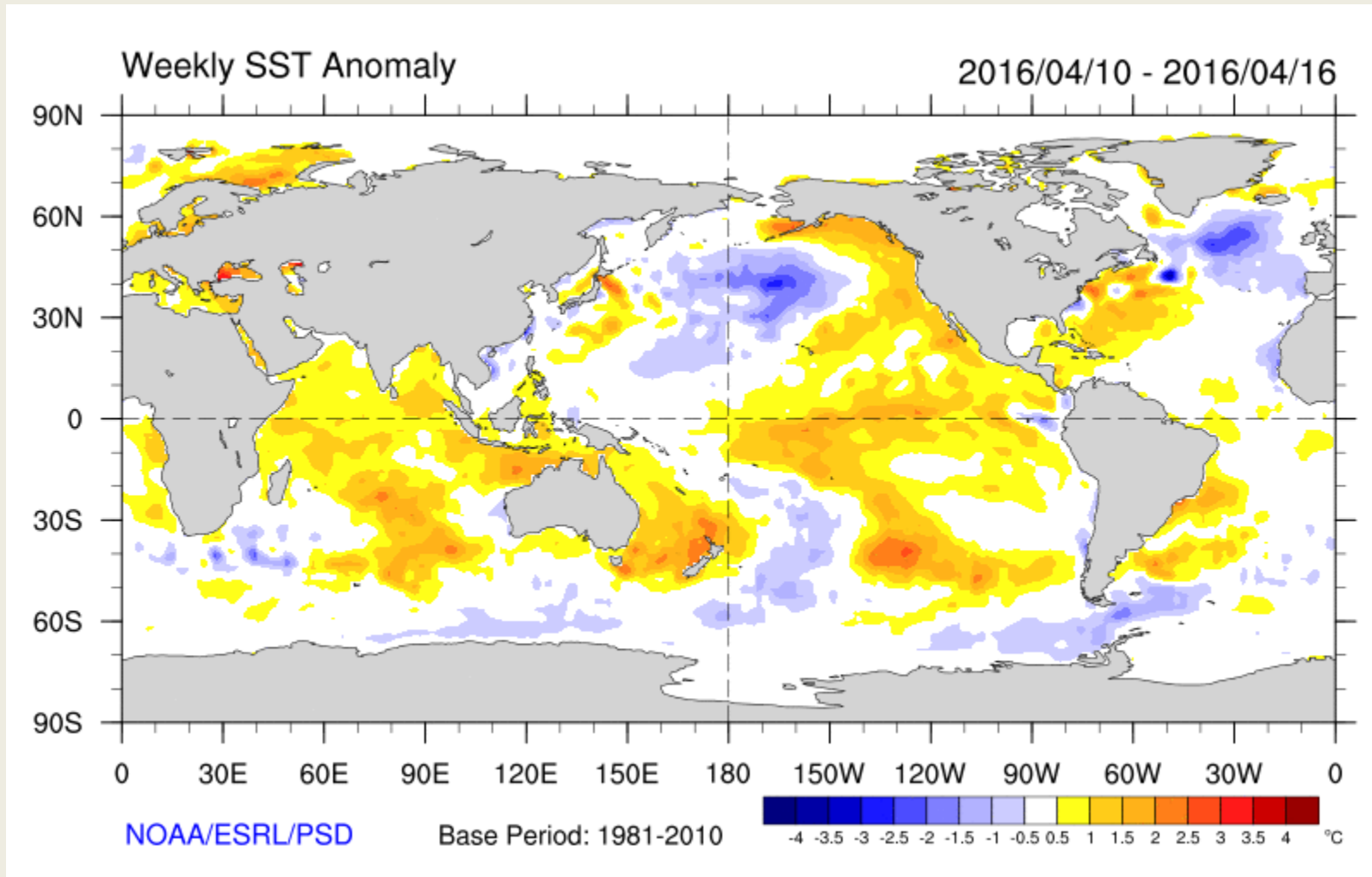
Credit: CPC

\* Note: These statements are updated once a month (2<sup>nd</sup> Thursday) in association with the ENSO Diagnostics Discussion, which can be found here:

[http://www.cpc.ncep.noaa.gov/products/analysis\\_monitoring/enso\\_advisory/](http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/).



# Current Sea Surface Temperatures

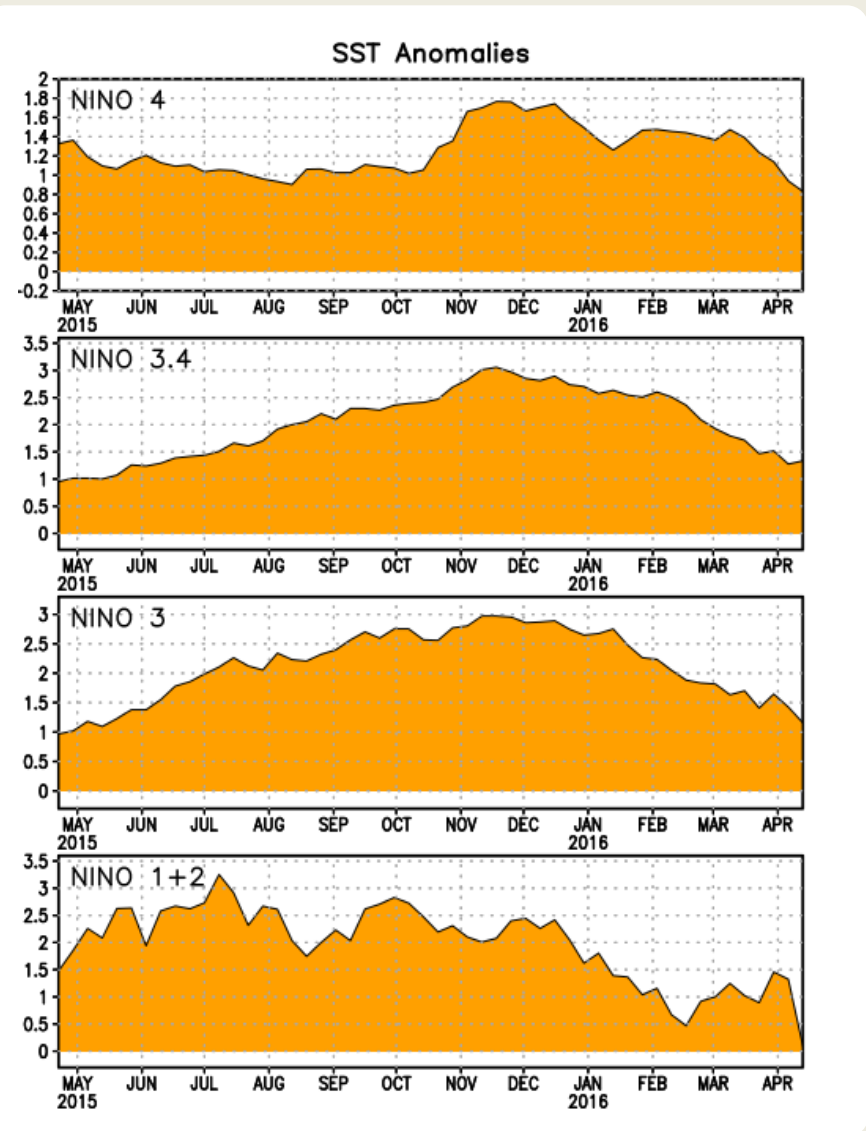
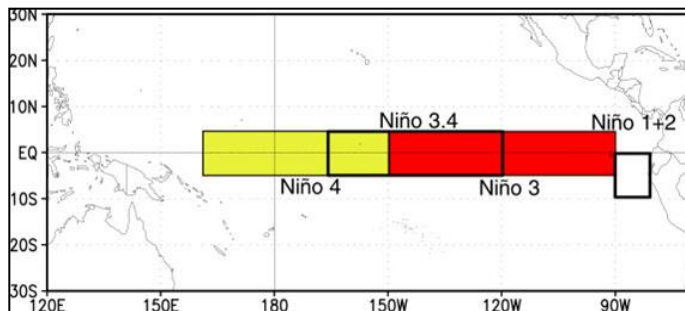


# Niño Region SST Departures (°C) Recent Evolution

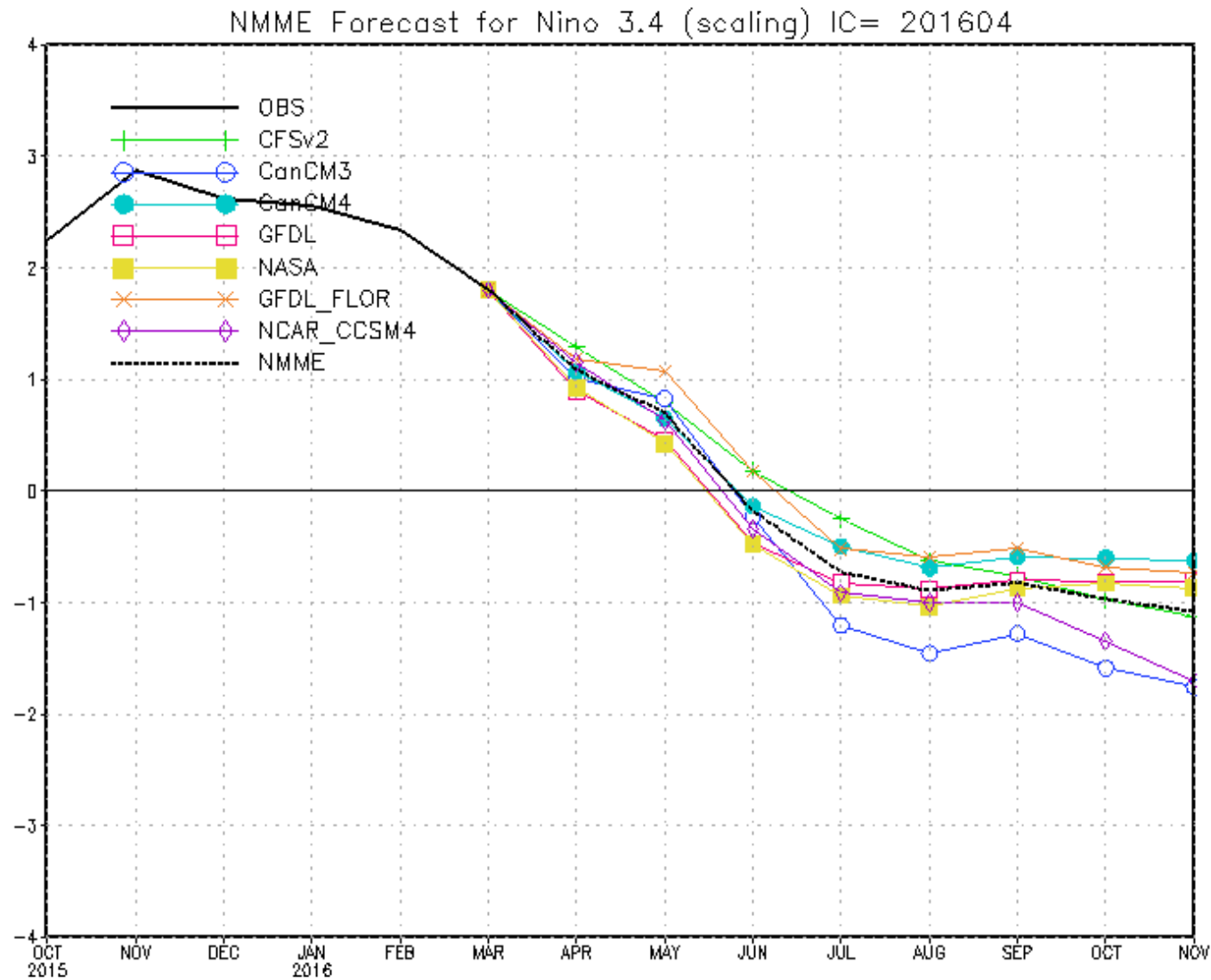
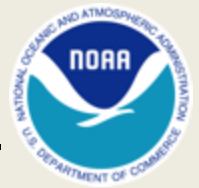


The latest weekly SST departures are:

Niño 4	0.8°C
Niño 3.4	1.3°C
Niño 3	1.2°C
Niño 1+2	0.1°C



# ENSO Forecasts

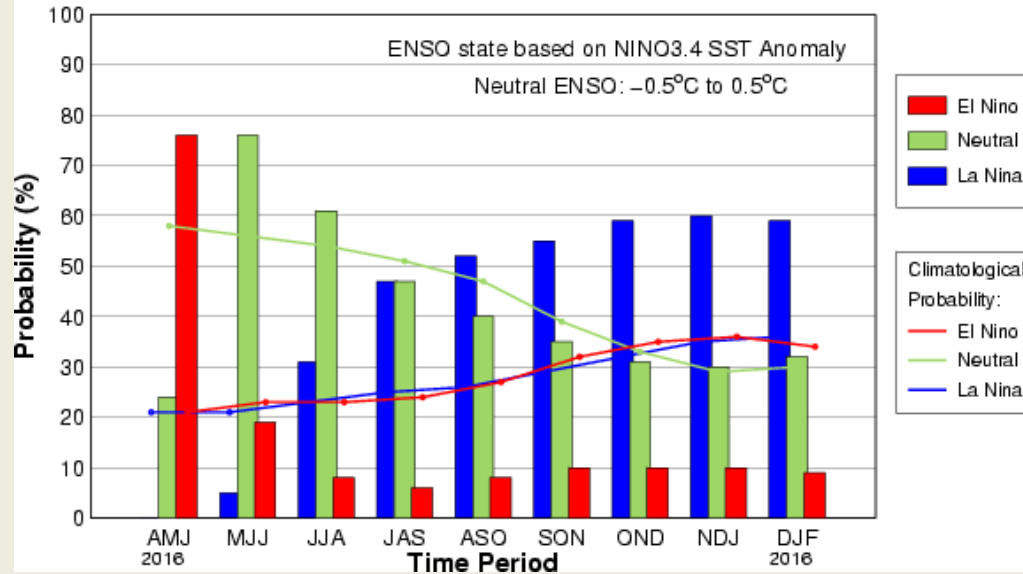


Source: NOAA/CPC

# ENSO Forecasts



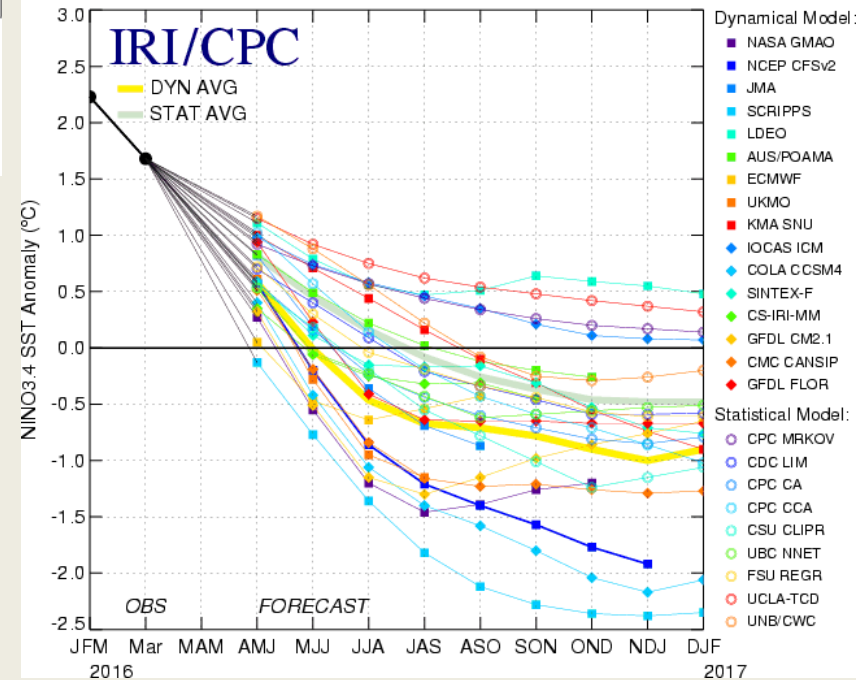
Mid-Apr IRI/CPC Model-Based Probabilistic ENSO Forecast



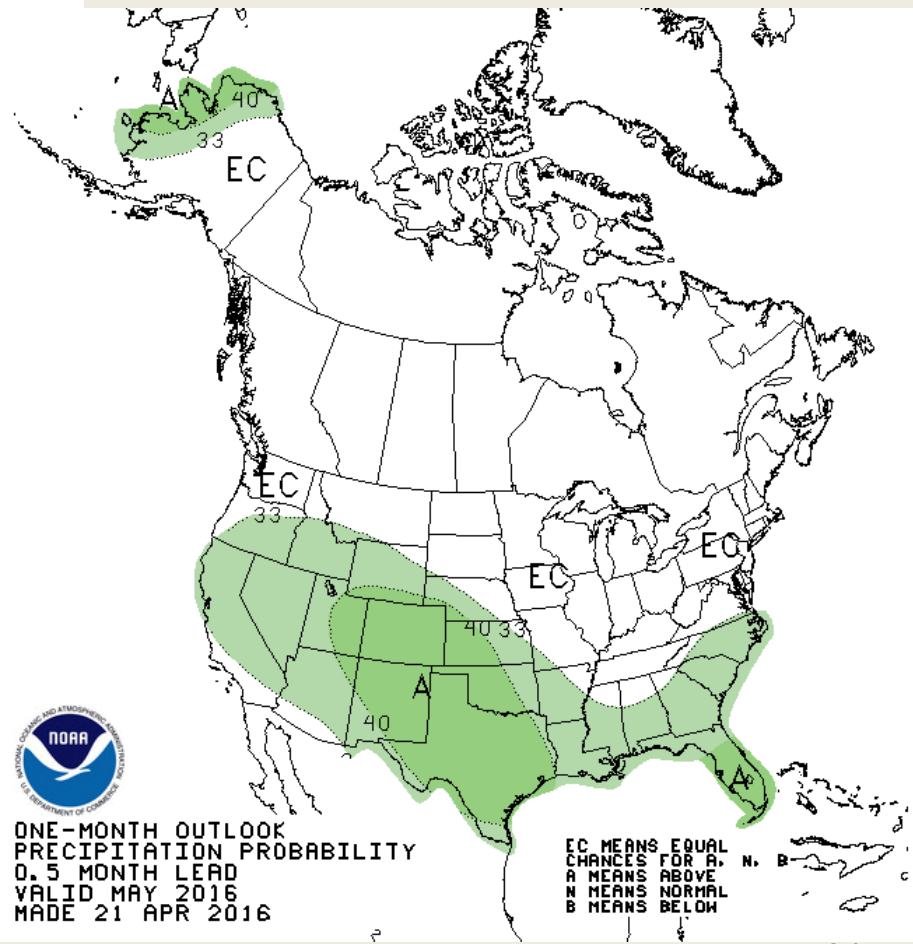
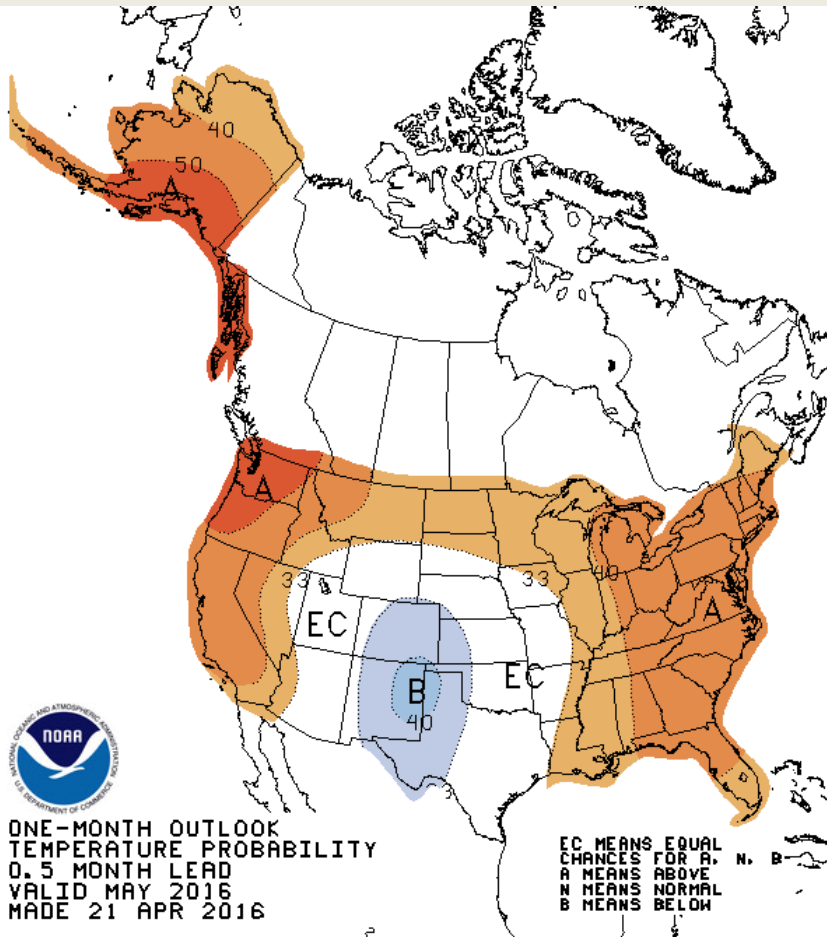
CPC/IRI El Niño forecast:

NMME models + other dynamical models + statistical models

Mid-Apr 2016 Plume of Model ENSO Predictions

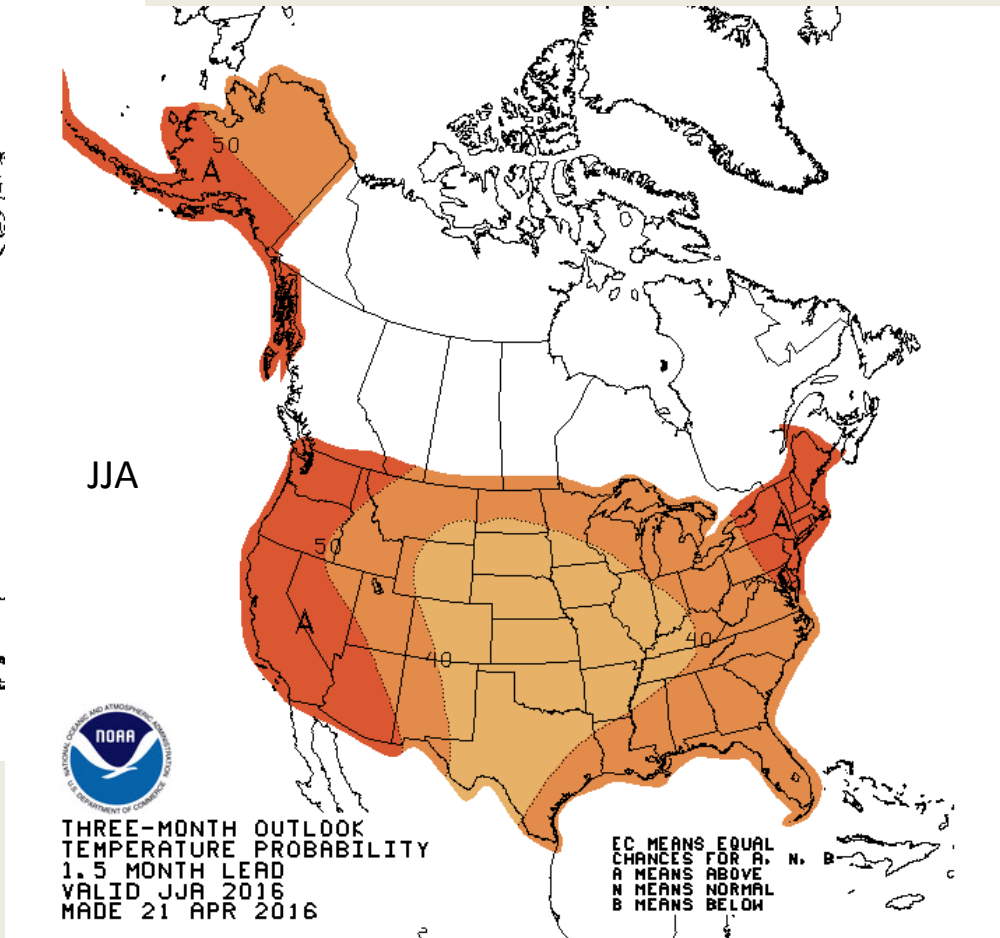
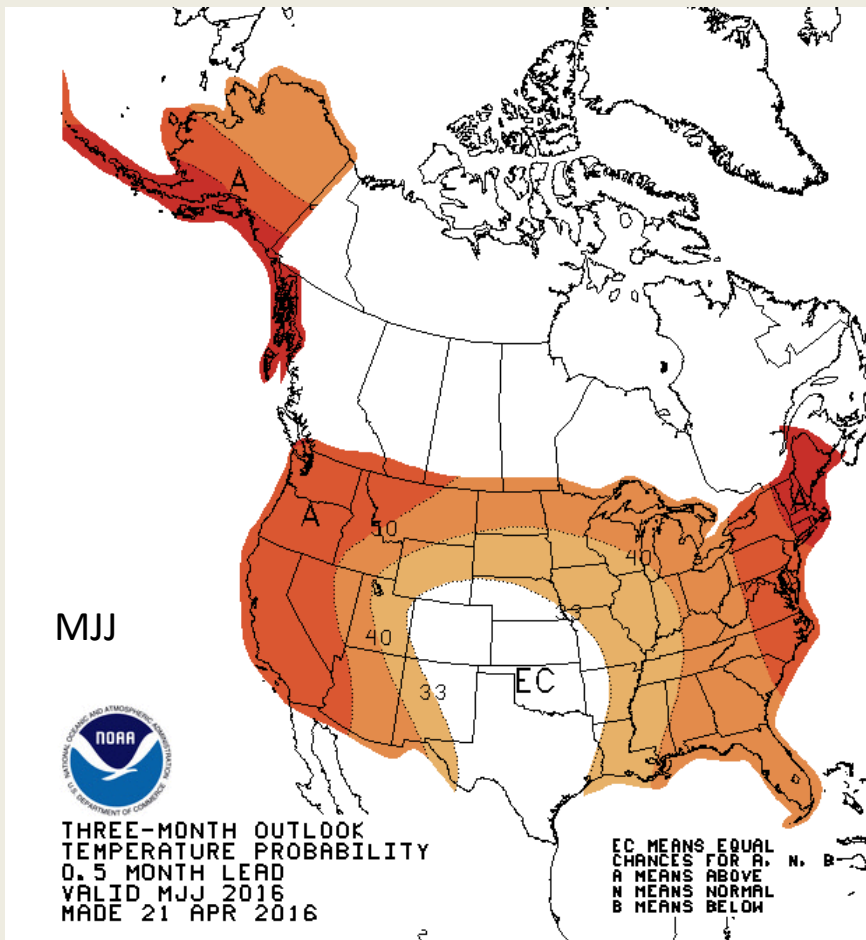


# May U.S. Forecasts

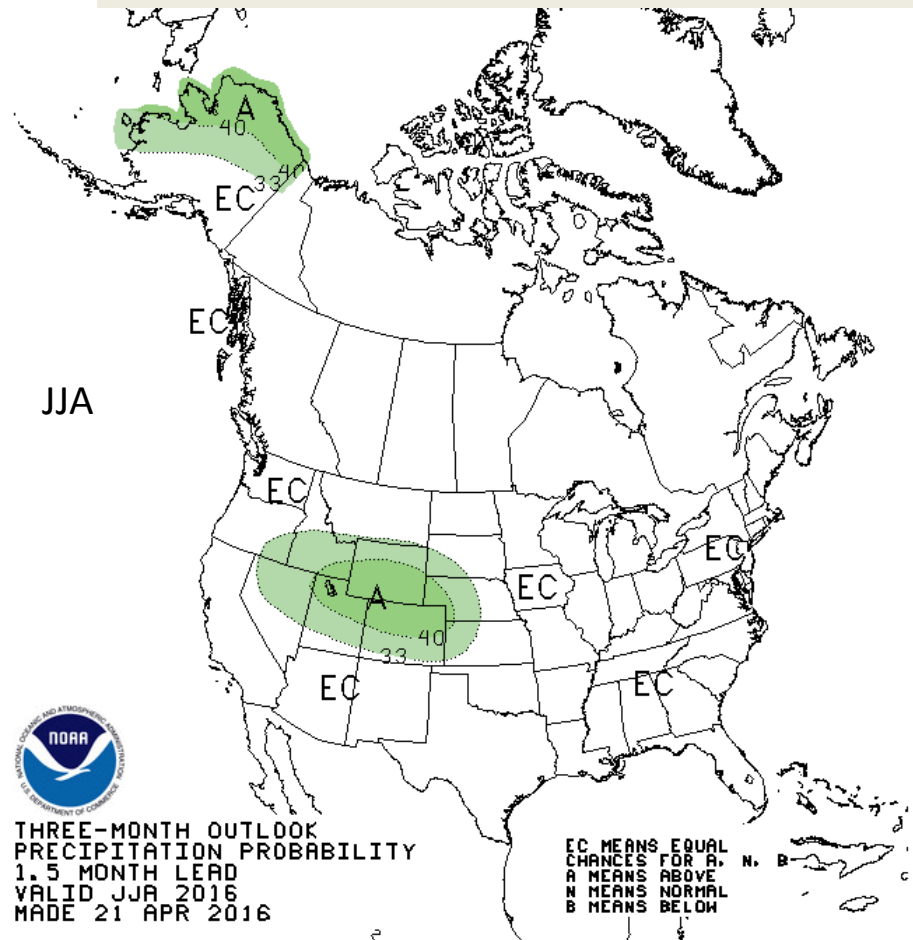
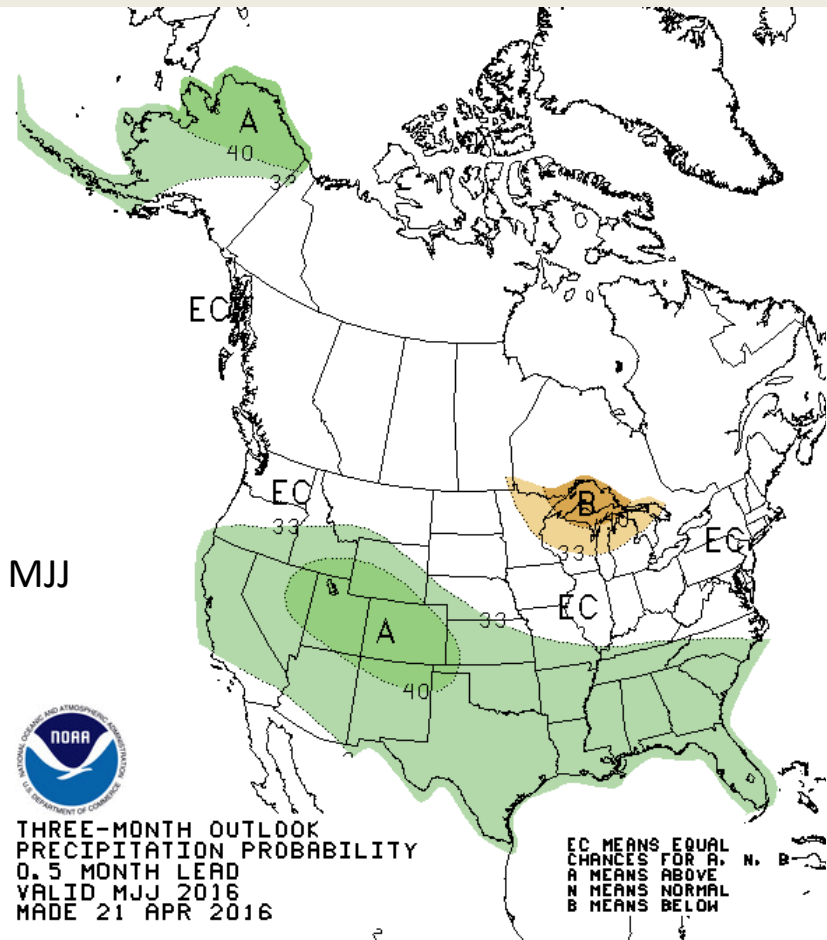


Source: NOAA/CPC

# U.S. Temperature Forecasts



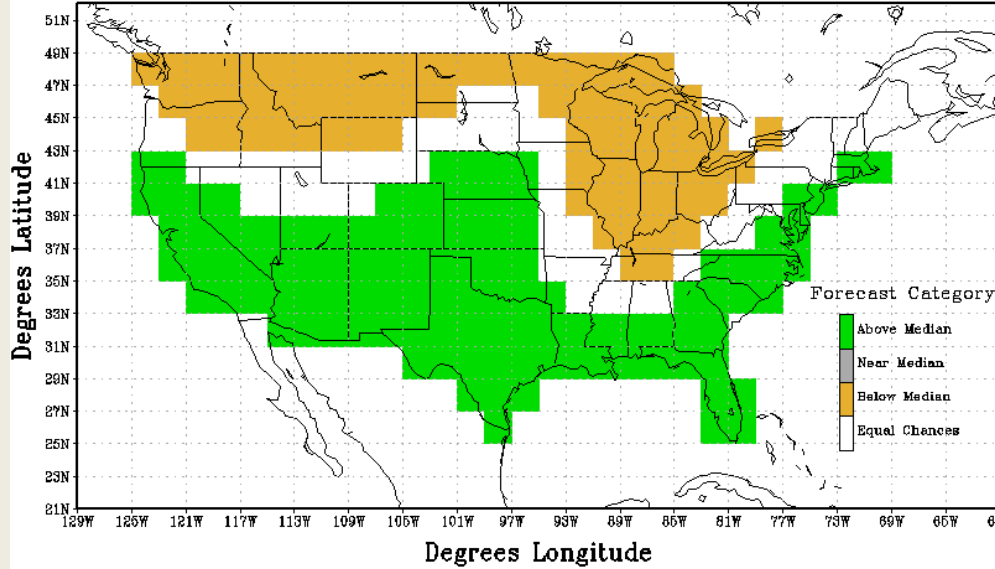
# U.S. Precipitation Forecasts



# CPC JFM Precipitation Forecast Verification



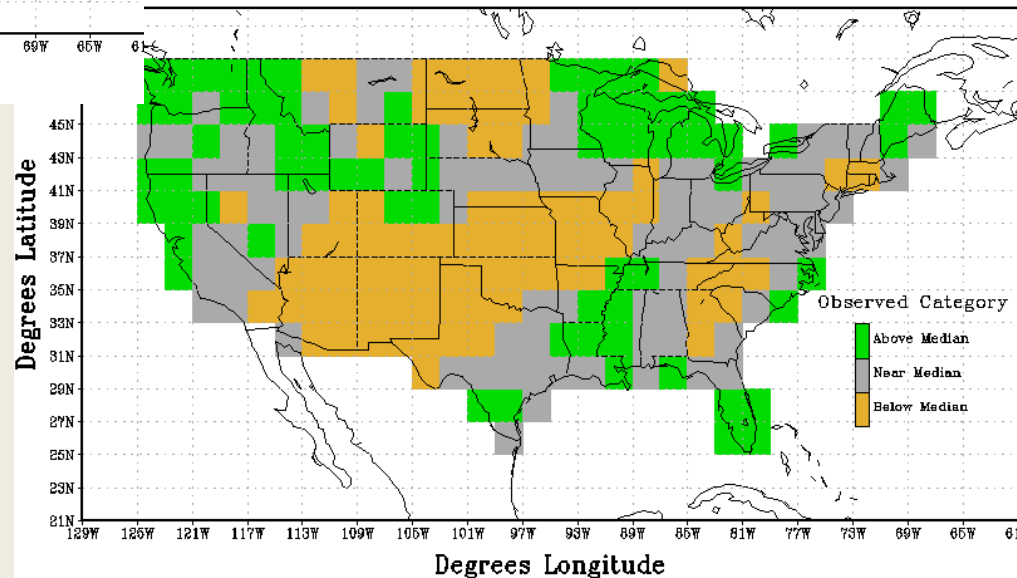
Categorical Precipitation Official Forecast  
 Issued: Dec 2015 Valid: Jan-Feb-Mar 2016



Forecast

Observations

Categorical Precipitation Observations  
 Valid: Jan-Feb-Mar 2016



Heidke Skill Score (HSS) = -12.93

Max = 100 (perfect forecast)

Min = -50

Positive HSS = skillful forecast

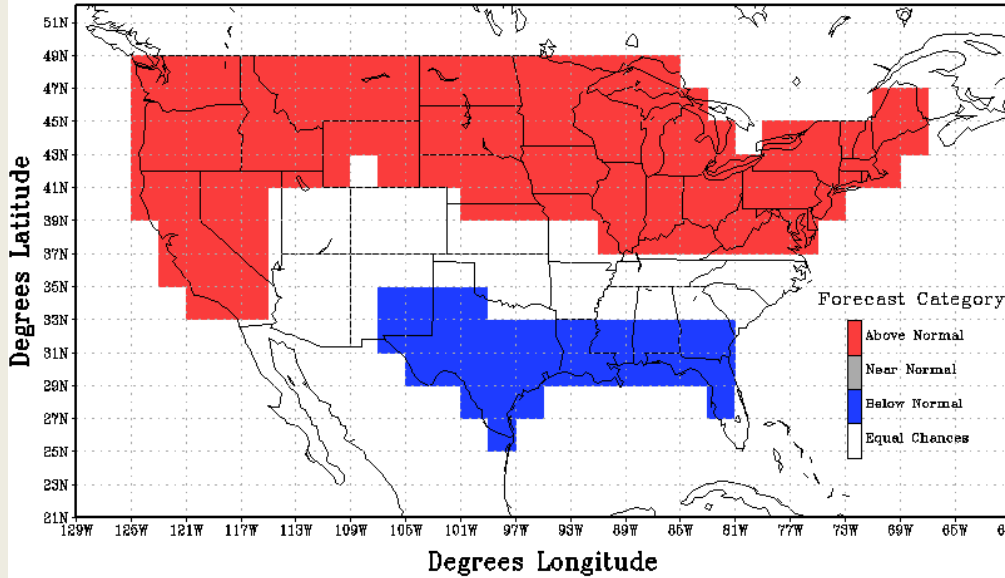
Negative HSS = no skill in forecast



# CPC JFM Temperature Forecast Verification



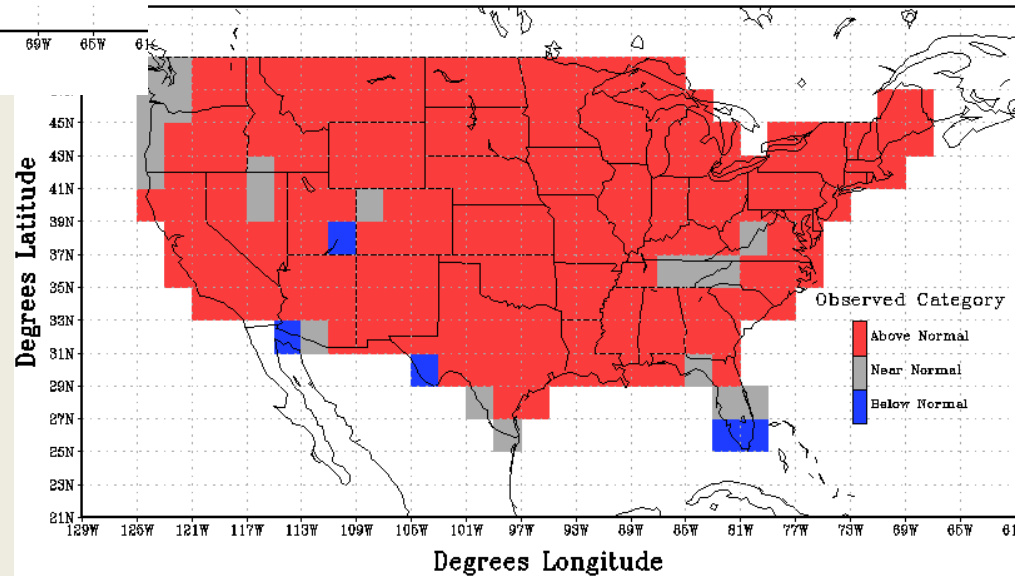
**Categorical Temperature Official Forecast**  
 Issued: Dec 2015 Valid: Jan-Feb-Mar 2016



Forecast

Observations

**Categorical Temperature Observations**  
 Valid: Jan-Feb-Mar 2016



Source: NOAA/CPC

Heidke Skill Score (HSS) = 46.12

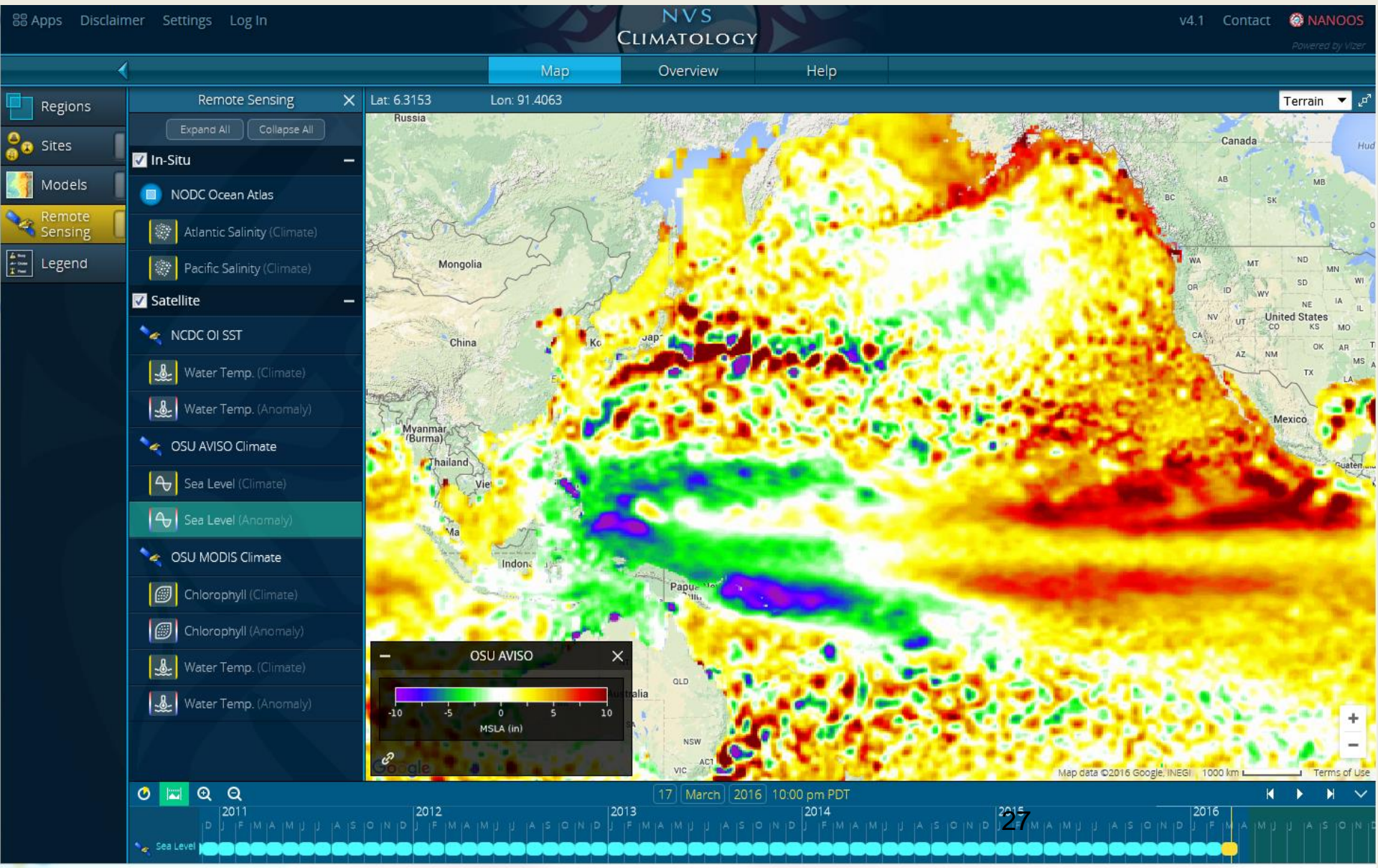
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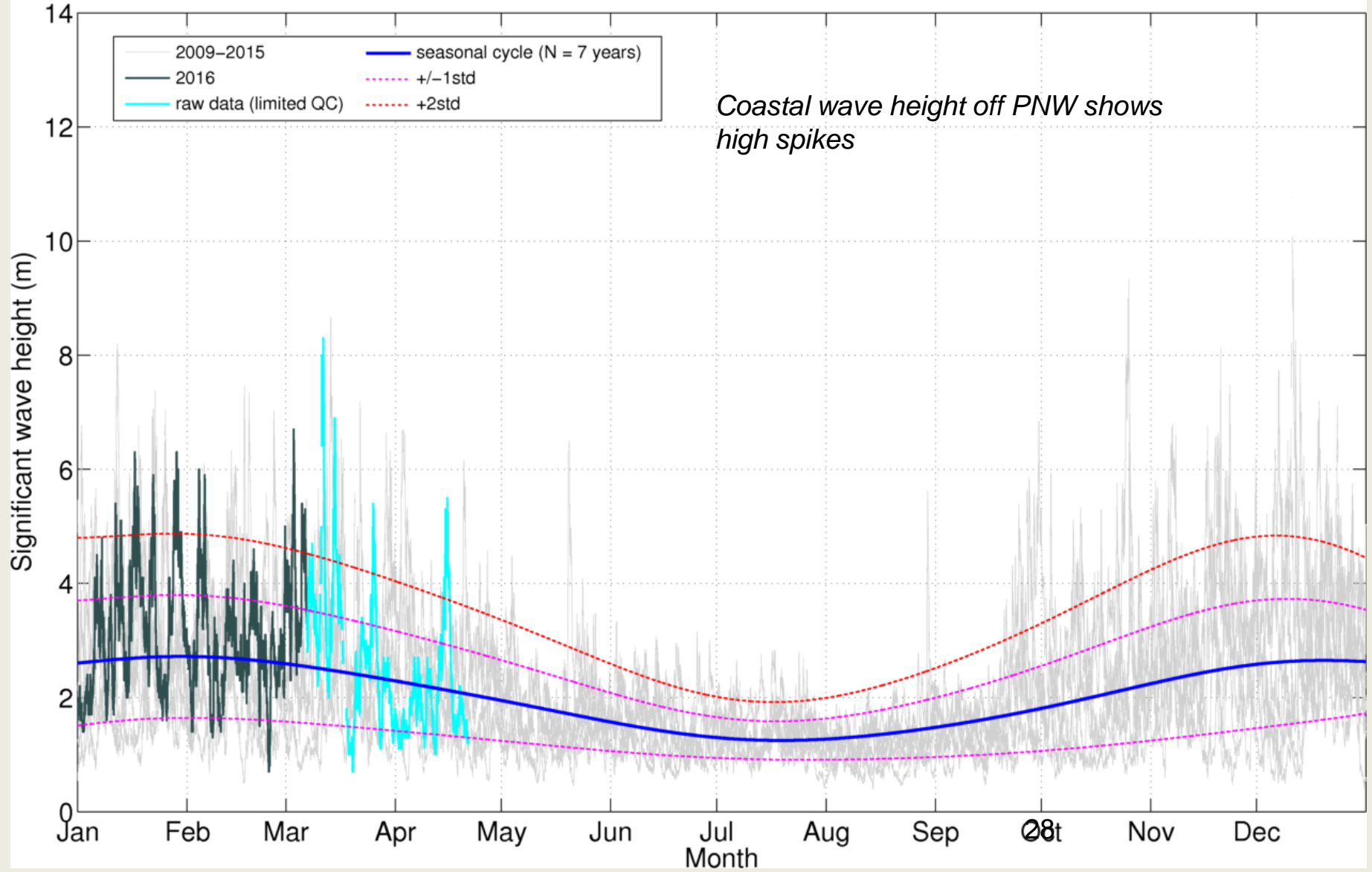
Negative HSS = no skill in forecast





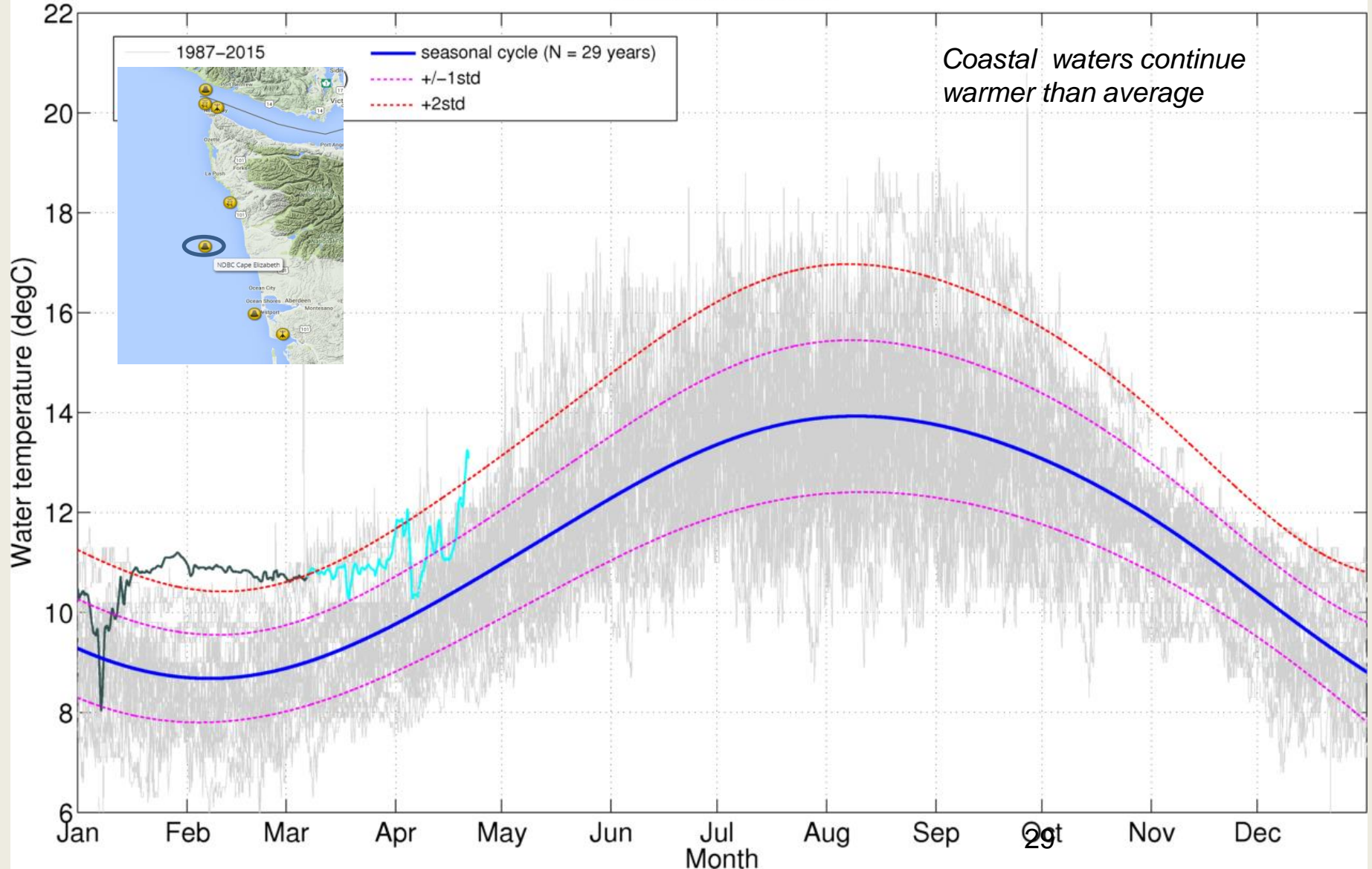


NDBC 46243 / CDIP 162, Clatsop Spit, Or

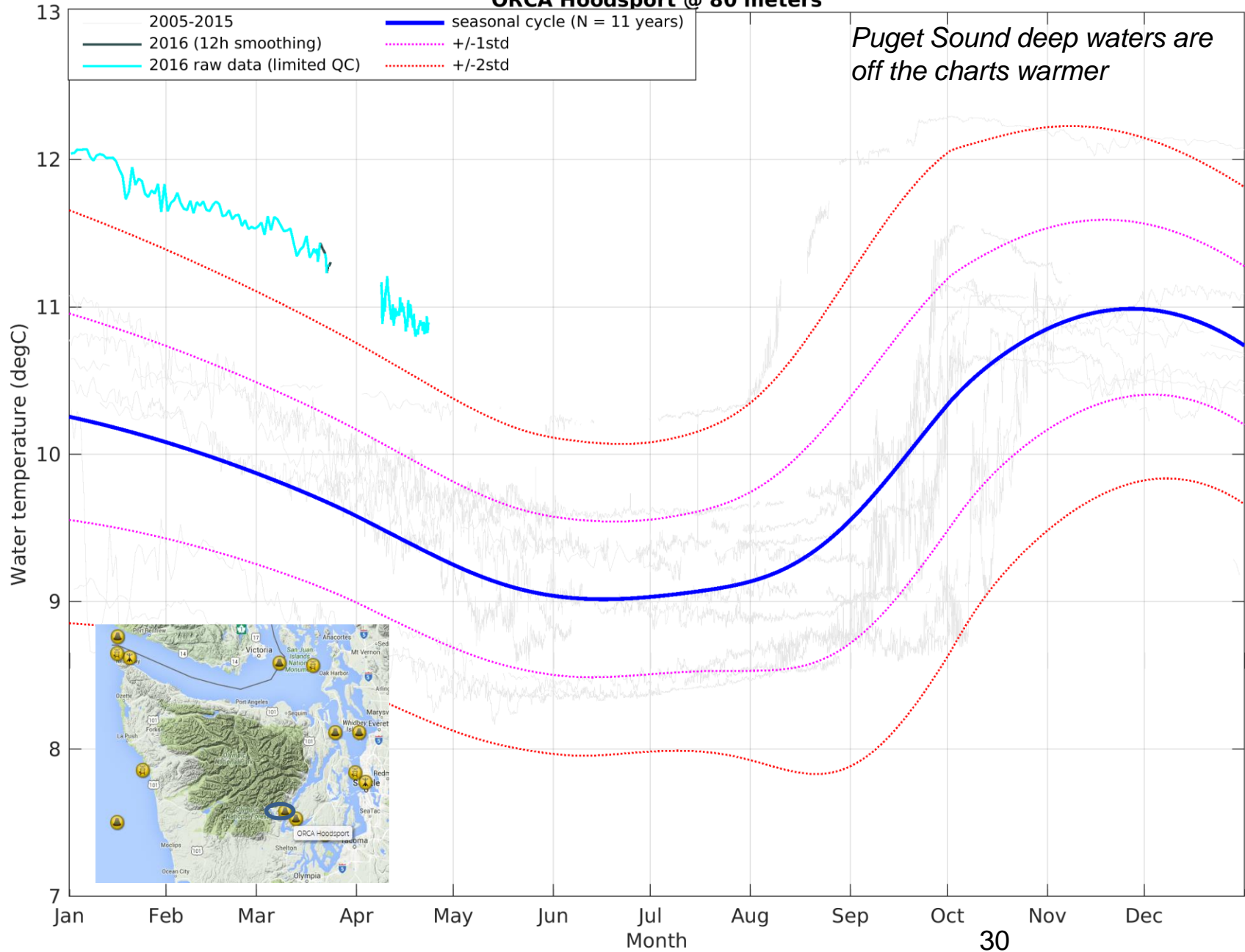


*Coastal wave height off PNW shows high spikes*

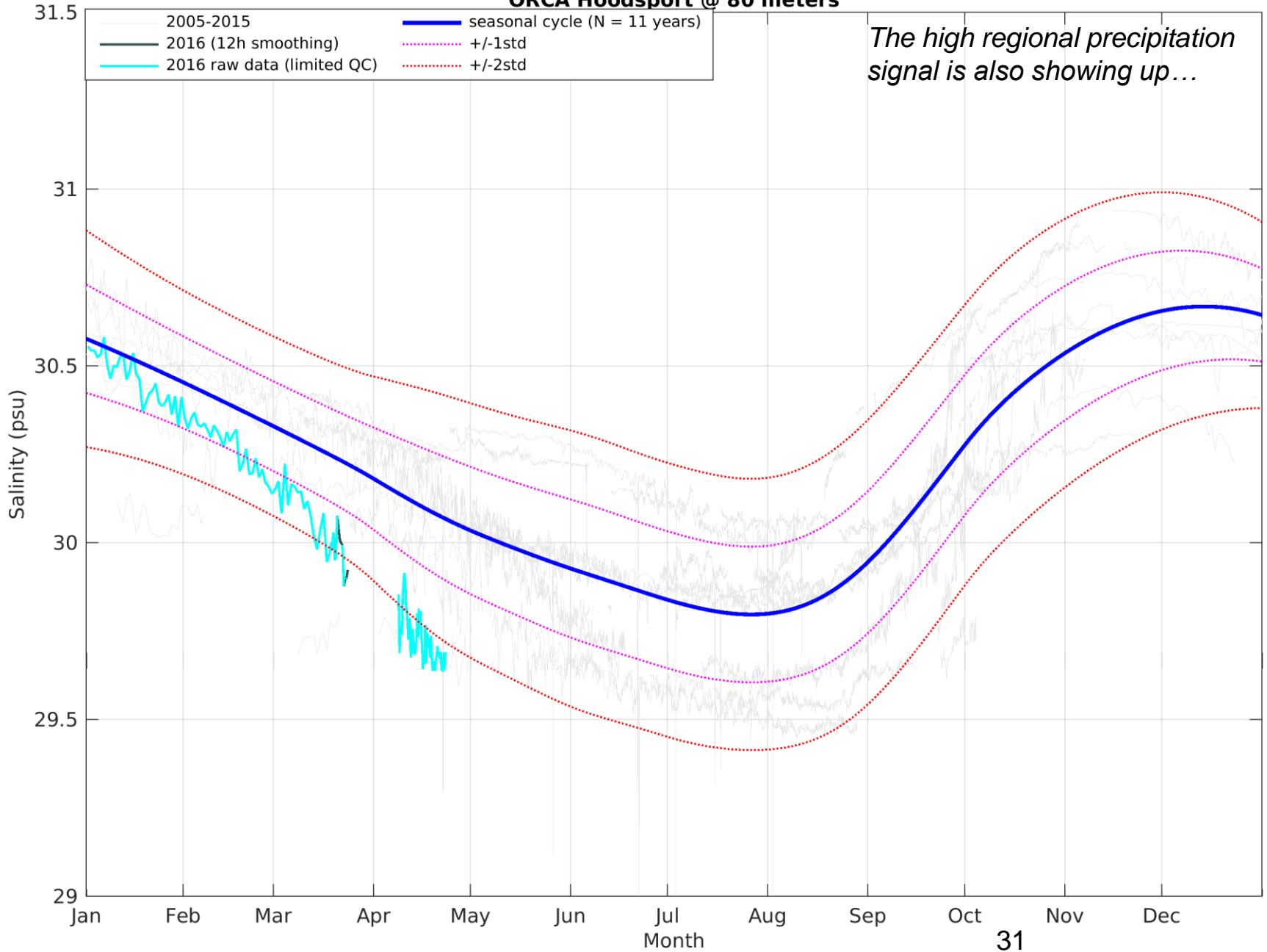
NDBC 46041, Cape Elizabeth, Wa



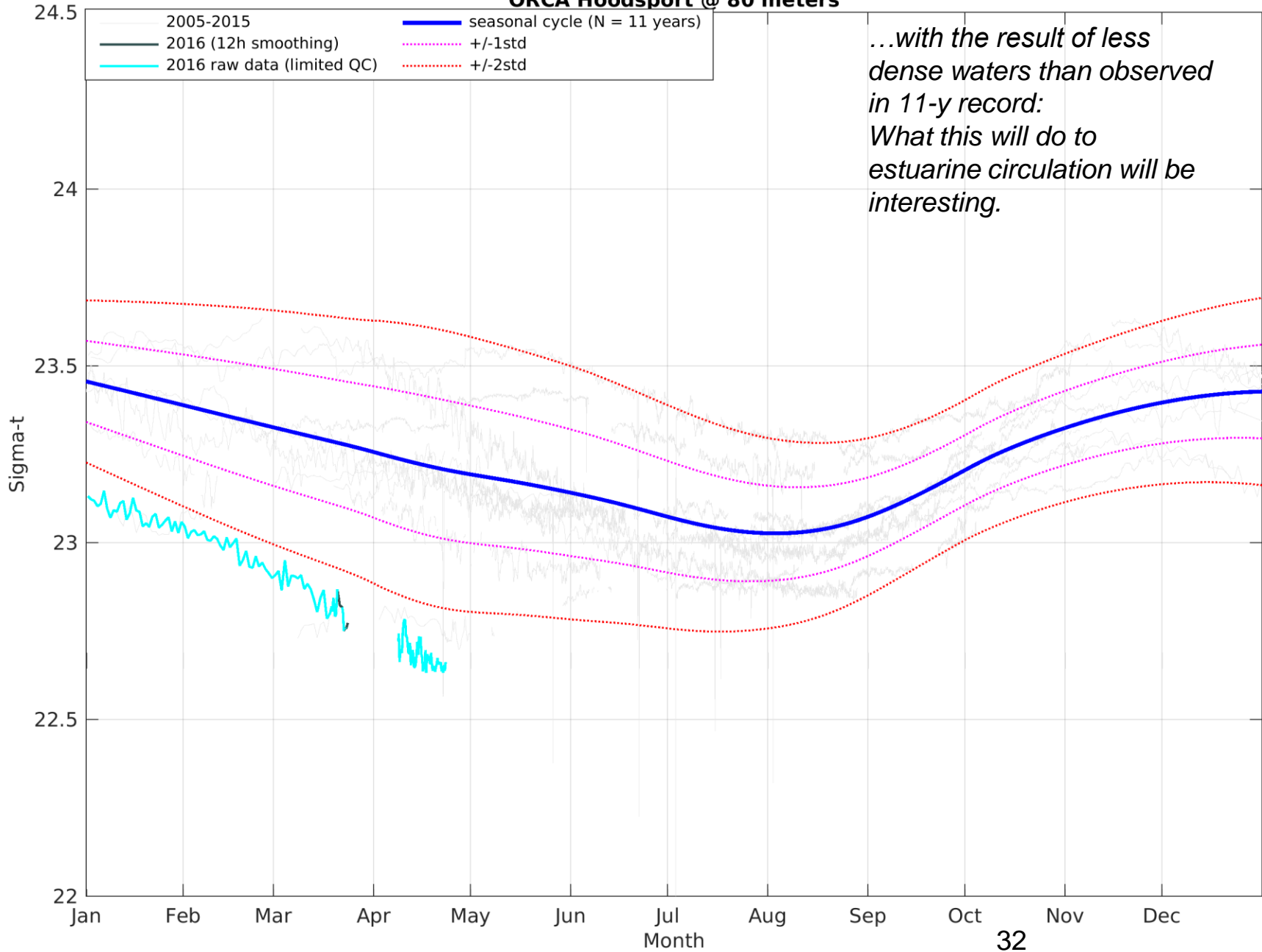
# ORCA Hoodspout @ 80 meters



# ORCA Hoodspout @ 80 meters



### ORCA Hoodspout @ 80 meters

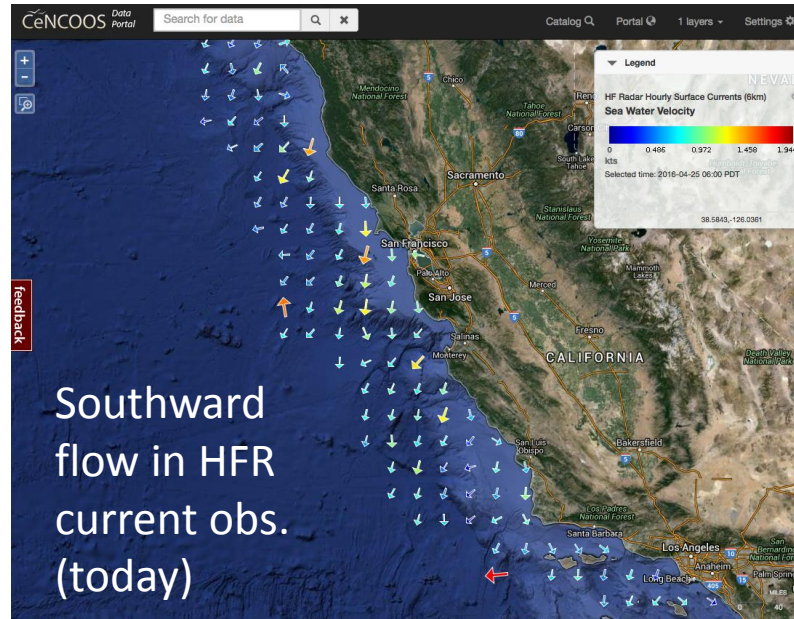
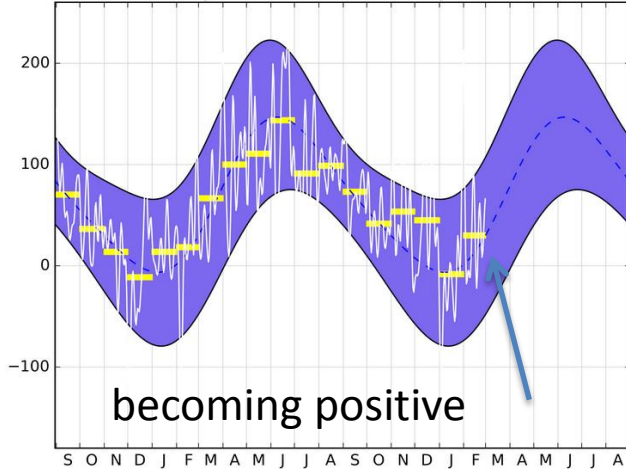


*...with the result of less dense waters than observed in 11-y record: What this will do to estuarine circulation will be interesting.*



# Observing the Spring Transition in the California Current Using data from the Central and Northern California Ocean Observing System

Smoothed Daily UI at 36N 122W from Sep 2014 to Feb 2016



## Spring Transition

Lat °N	Index
48	119 ± 29
45	114 ± 26
42	82 ± 29
39	50 ± 34
36	30 ± 28
33	6 ± 7

Average is April..



'The spring transition marks the beginning of the upwelling season and can occur at any time between March and June. Generally, the earlier in the year that upwelling is initiated, the greater ecosystem productivity will be in that year. In some years the transition is sharp, and the actual day of transition can be identified easily, but in many years transition timing is more obscure. It is not uncommon for northerly winds (favorable to upwelling) to blow for a few days, only to be followed by southwesterly winds and storms.' -Steven Bograd, SWFSC

# Regional Impacts Summary – 03/18 to 04/20

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## Reporting Status:

- 256 entries since July 1, 2015
- Last reporting period: 25 environmental conditions & regional impacts reported

## Environmental Conditions Capture:

- “Warm Blob”/warm ocean temperature
- El Niño
- Drought
- Precipitation
- Heat wave
- Snowpack/snow melt

## Human & Ecosystem Impacts:

- Prey availability
- Marine mammal strandings (seals & sea lions)
- Water releases/flood control
- Increased tensions around water use/allocation
  - ✓ Fisheries
  - ✓ Irrigation supplies
- Commercial fisheries
  - ✓ Salmon (restrictions/closures)
  - ✓ Sardine (closure)
  - ✓ Crab (limited opening)
- Species displacement: Mantis shrimp, red crab, seahorses, moon jellies, false killer whales

# Headlines

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**Bureau increases water releases from Lake Shasta**

**Oroville Dam spillway gates open for first time in years**

**Delta pumping to Southern California restricted despite rainy winter**

**Crab fishermen prepare for Saturday's long overdue season opener**

**'Disastrous' Coho Returns Threaten Western Washington Tribes**

**California salmon season cuts planned to protect struggling fish**

**False killer whales spotted in feeding frenzy off Dana Point Coast – rare for this area**

**California Snowpack Nearly Average But Won't End Drought**

*Sierra Nevada Snow Won't End California's Thirst*

**Mountain Snowpack In Northwest Melting Fast This Spring**

**California drought: Water allocation has winners, losers**

**Crab fishermen wait to hear if season can start in earnest**

**It's official: West Coast sardine fishery shutdown continues for 2nd year**

**Red crabs, seahorses, moon jellies and more: The ocean is giving us 'gifts of El Niño'**

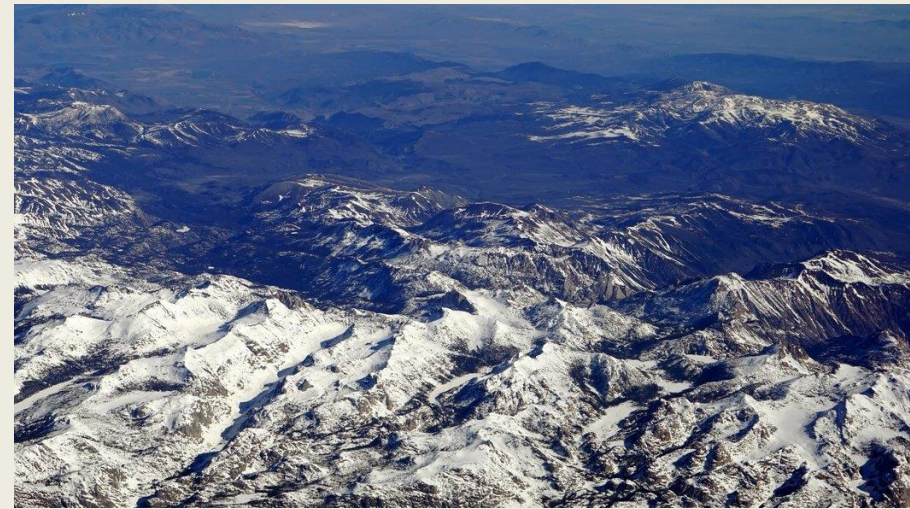
**Marin's Marine Mammal Center coping with relentless influx of ailing sea lions**

**Low Salmon Projections 'Punch In The Face' For Fishermen**

# Impacts in Pictures

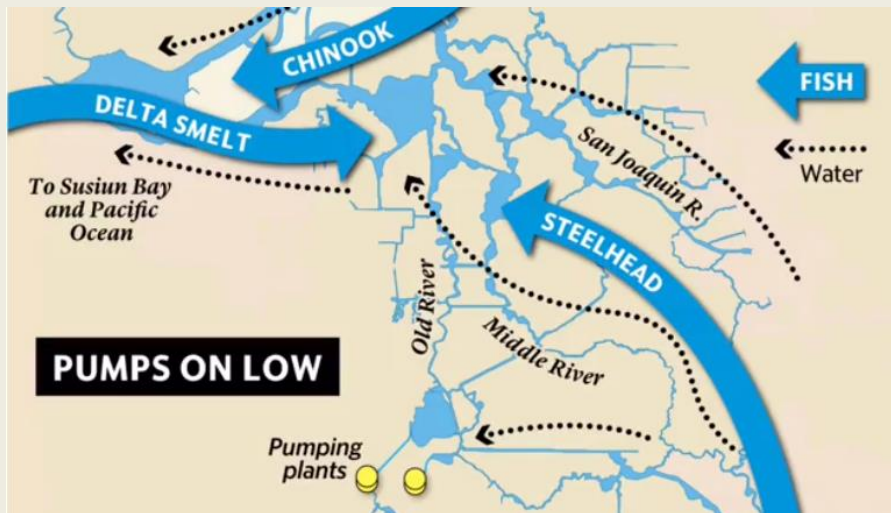


March, 24. People watch as the Oroville Dam controlled spillway flows with water for the first time in 5 years to maintain storage space in Lake Oroville for flood control. ChicoER News.



April 11: Snow partially covered the Sierra Nevada in central California. Officials said that the pack peaked two weeks ago at 87 percent of the long-term average. Credit Henry Fountain/The New York Times.

# Impacts in Pictures



# Impacts in Pictures



March, 23. After a 5 month delay the commercial crab fishery opened south of Sonoma-Mendocino county line.



April 14. Commercial salmon out of San Francisco will be limited.



April 20: Laguna Beach Pacific Marine Mammal Center. Sick and malnourished sea lions are arriving older and later in the season due to disappearing cold water food sources.



April 18: False killer whales off Dana Point, CA.

# Telling Regional Stories – NOAA West Watch #2

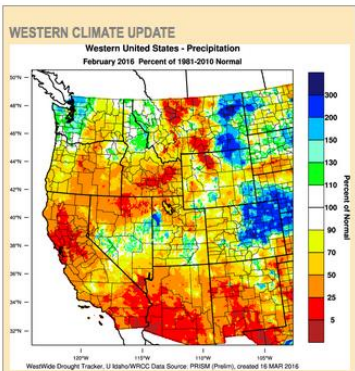


## Second issue

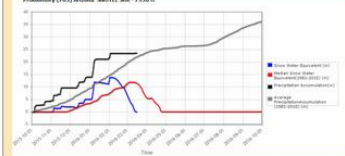
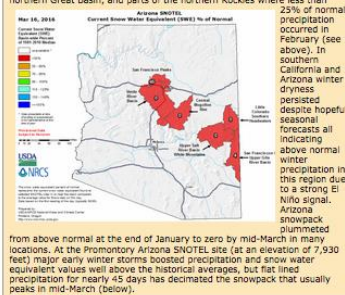
This is the second edition of NOAA West Watch, a periodic collection of stories documenting how environmental change is affecting people and places in the western United States. If you have a story suggestion, please contact Michael Milstein (michael.milstein@noaa.gov) or Tim Vann (tim.vann@noaa.gov).

### In this issue:

- Western Climate Update
- El Niño storms boost California ski areas
- Record waves batter West Coast shorelines
- Rough conditions slow Columbia ship traffic
- Distant algae bloom drives up salmon prices



An abrupt transition from active, wet weather in December and January to mild and dry in February was found over much of the western United States. This change was most dramatic over central and northern California, the northern Great Basin, and parts of the northern Rockies where less than 25% of normal precipitation occurred in February (see above).



## El Niño storms boost California ski areas

Western ski areas are cheering the last ski season they have recorded in three to four years, with crowds early on boosted by the buzz of El Niño-fueled snowpack and subsequently by some of the greatest snowfall totals for this point in the season in several years. California's Mammoth Mountain recorded more than eight feet of snow in less than a week in early March, and has already attracted more skiers than it did in all of last season. Skiing is expected to last into the June or even July.

The nine largest ski resorts in the Lake Tahoe area contribute \$504 million to the economy in a good year, according to a 2014 assessment, and California ski areas together generate more than \$1.3 billion in economic activity each year, a statewide assessment found. A good snow year boosts California ski area business by more than \$100 million, according to a 2012 study.



Heavy snow falls at Mount Rose, at 8,260 feet near Lake Tahoe. Photo courtesy Mount Rose Ski Tahoe.

Industry Association. Higher elevation resorts such as Mount Bachelor in Oregon, Mount Rose in the Lake Tahoe area and mountain resorts in Colorado have had some of the most reliable snow because they experience cold temperatures more frequently. Many resorts at lower elevations have aggressively diversified their recreational facilities and invested in sophisticated snowmaking so they are less dependent on snowfall to attract visitors throughout the winter, ski industry officials said.

December snowfall started out very strong with a series of strong winter storms and very low snow levels, most ski areas reported. Snow continued in January, though with slightly warmer temperatures. February was unseasonably warm and dry in California but skier visits remained strong. March and April typically are some of the biggest snow months of the winter because they can bring heavy precipitation along with freezing temperatures. For some resorts spring temperatures will determine how long the season lasts, while others will look to stay open well into spring.

## Record waves batter West Coast shorelines

Some of the largest waves recorded on the West Coast have battered and flooded shorelines, including some populated areas and homes, and eroded beaches in the last few months. The waves are riding on elevated sea levels that remain heat from the "warm blob" combined with El Niño temperatures already pushed roughly a third to a half-foot higher than normal, with the sea level increase especially pronounced off California.

That has translated into approximately 45 percent more wave energy than normal hitting West Coast beaches, with about 40 percent more erosion than the average for the similar winter time frame, said Patrick Barnard, a U.S. Geological Survey researcher who tracks erosion on the West Coast. "Everything is in line with what we expect during strong El Niño conditions like we're experiencing," he said. In a few anecdotal cases a few beaches have largely been swept clean of much of their sand.

Barnard is leading an interagency effort to survey the entire Pacific Coast from the Mexican border north to Canada with Lidar, a precision mapping system that uses airborne lasers to very accurately measure elevations. NOAA, USGS and the U.S. Army Corps of Engineers are helping to fund the effort. The goal is to document the topography of West Coast beaches when they are at or near minimum levels because of El Niño-driven erosion, so scientists can then track subsequent changes.

In February NOAA's National Oceanic Survey deployed a NOAA aircraft to collect more than 3,000 geo-referenced oblique images of the West Coast from the Mexican border to Cape Flattery, Wash. The imagery will help assess impacts of El Niño through comparison with earlier baseline images collected in September 2015. Oblique imagery provides views of a wider area and improves the visibility of vertical structures, such as the sides of buildings. The oblique imagery is publicly available online, and will support assessments and decisions by NOAA agencies and mission partners such as the U.S. Geological Survey, U.S. Army Corps of Engineers, Federal Emergency Management Agency and other state, local and academic interests.

## Weblink:

<http://campaign.r20.constantcontact.com/render?m=1113800373012&ca=8b476ef2-9b94-4107-98de-437421865cd2>

## Rough conditions slow Columbia ship traffic

Strong December storms powered by El Niño repeatedly shut down commercial shipping traffic into and out of the Columbia River west of Portland, according to the pilots that guide ships across the treacherous Columbia River Bar where the river meets the sea near Astoria, Oregon.

"The frequency of the fronts through December was really something," said Dan Jordan of the Columbia River Bar Pilots and a pilot himself. "They just kept coming day after day. It seemed like every other day we'd have to suspend service because the bar was so rough." He said the pilots suspended shipping traffic across the Columbia River Bar nearly 10 times in the month of December, among the most closures in a single month that most pilots could remember. Conditions were not nearly as rough in January and February, with only a few scattered closures.

According to the Merchants Exchange of Portland, the bar has been closed 15 times so far this winter, compared to nine closures in the winter of 2014-15, nine in 2013-14, six in 2012-2013 and 14 times in 2011-12.



A cargo ship crosses the Columbia River Bar at high seas. Photo courtesy Columbia River Bar Pilots.

All large commercial ships crossing into or out of the Columbia River must be guided between the open sea and Astoria by a Columbia River Bar pilot, and pilots may suspend service when conditions become too rough for a safe transit across the Columbia Bar. At times when the weather forced closures in December, as many as eight large ships remained in a holding pattern offshore while they waited for a pilot to guide them inland, Jordan said. About \$24 billion worth of cargo transits the Columbia each year, and past estimates have put the cost of river closures at about \$10 million for three days.

Ships traveling down the river from Portland may take close to eight hours to reach Astoria, and conditions on the bar can change so quickly that bar pilots sometimes have to close the bar while the ships are still in transit. Jordan said the pilots often consult with National Weather Service forecasters and use NOAA's online weather, real-time buoy data and other forecasting resources to advise departing ships whether they should start the trip downstream or hold back in Portland if threatening conditions are likely to close the bar before they can cover the distance to the river mouth.

## Distant algae bloom drives up U.S. salmon prices

A long-distance impact of the unusually warm ocean conditions associated with El Niño is driving up salmon prices in the United States.

El Niño warmth has fueled an especially severe algae bloom that is wreaking havoc on salmon farms in Chile, killing more than 27 million fish at an estimated cost of close to \$500 million and putting pressure on salmon prices worldwide. A Nordic bank predicted the losses will lead to a "major supply crunch" in salmon, according to Undercurrent News. Chile is by far the largest source of salmon imported to the United States, accounting for more than a third of U.S. salmon imports worth more than \$1 billion last year.

Salmon farming officials in Chile estimate that the bloom will depress salmon production in Chile by 20 percent or more, depending on how long the algae bloom lasts. Seafood wholesalers in the United States said prices for both farmed and wild salmon have risen as much as 20 percent in recent weeks as the impacts of the Chilean algae bloom became increasingly apparent.

## Thanks for reading NOAA-West Watch

This is a project of NOAA's Western Regional Collaboration Team (NOAA West) with contributions from many regional partners. The 10-month project will document changing environmental conditions in the Western U.S. and how they are affecting the public and NOAA mission. We invite suggestions and contributions. These reports will be consolidated into a season-end wrap-up. For submissions, questions or comments, please contact Michael Milstein at michael.milstein@noaa.gov or Tim Vann at tim.vann@noaa.gov.

Western Climate Update graphics provided by West Wide Drought Tracker, North American Freezing Level Tracker, and NCEP Snow Telemetry and Snow Show Data and Products.

# Announcements & Open Discussion



- Next WRECIC call: Wed May 25, 2016 (moved up due to Memorial Day)
  - ✓ Likely to be our last call
- Project phase out:
  - ✓ Participant Survey – please help!
  - ✓ Results presented on next call with discussion of possible next steps
  - ✓ Short pub
- Open Discussion or Parting Comments

<https://www.surveymonkey.com/r/78DZ62Z>

**Western Region Environmental Conditions & Impacts Coordination (WRECIC) Project Survey**

The Western Region Environmental Conditions and Impacts Coordination (WRECIC) effort is a short-term project designed to informally collect and share information on regional environmental conditions (especially departures from normal, and El Niño) and how people, places and NOAA mission interests within the region are experiencing environmental change. The project was initiated in August 2015 and is scheduled to conclude in May 2016. As we consider if, when, and how to sustain this type of communication and coordination in the future, we would like to ask you a few questions about this project in order to better understand what aspects of the project were most helpful to you.

Thank you in advance for your time and input. Results will be presented and discussed on our final webinar (May 2016).

**1. How many monthly WRECIC webinars did you attend?**

1-3  
 4-6  
 7-9

**2. What aspects of the WRECIC webinars are most important to you? (1 most important; 4 least important)**

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**3. Do you have any comments you would like to add about the monthly webinars?**

**4. If the WRECIC webinars were to be continued in the future, how often should they be held?**

Only when there is an El Nino or La Nina Advisory  
 Once a month  
 Once every 3 months  
 Once every 6 months

Additional Comments