



NOAA West Watch

*Reporting Regional Environmental
Conditions & Impacts in the West*

August 22, 2017

Call Agenda



- **Project Recap & Updates (Ruth Howell)**
- El Niño and Regional Climate brief (Dan McEvoy)
- Guest Speaker: Western US wildfire season update (Tim Brown)
- IOOS Nearshore Conditions brief (Clarissa Anderson, Aric Bickel, Jan Newton)
- Environmental conditions and impacts reporting and discussion (Ruth Howell)
- Discussion

Project Recap and Updates



- NOAA West Watch bi-monthly webinars are a project of the NOAA West Regional Coordination Team
- Goals of the project:
 - **Document and share** environmental conditions information and impacts on human systems and NOAA mission at the regional scale
 - **Improve awareness** of environmental observations and human system impacts across NOAA mission lines
 - **Improve regional communication and coordination**
 - **Improve external communication** of regional impacts
- Next webinar: October 24, 1-2PM PDT/ 2-3PM MDT

Call Agenda



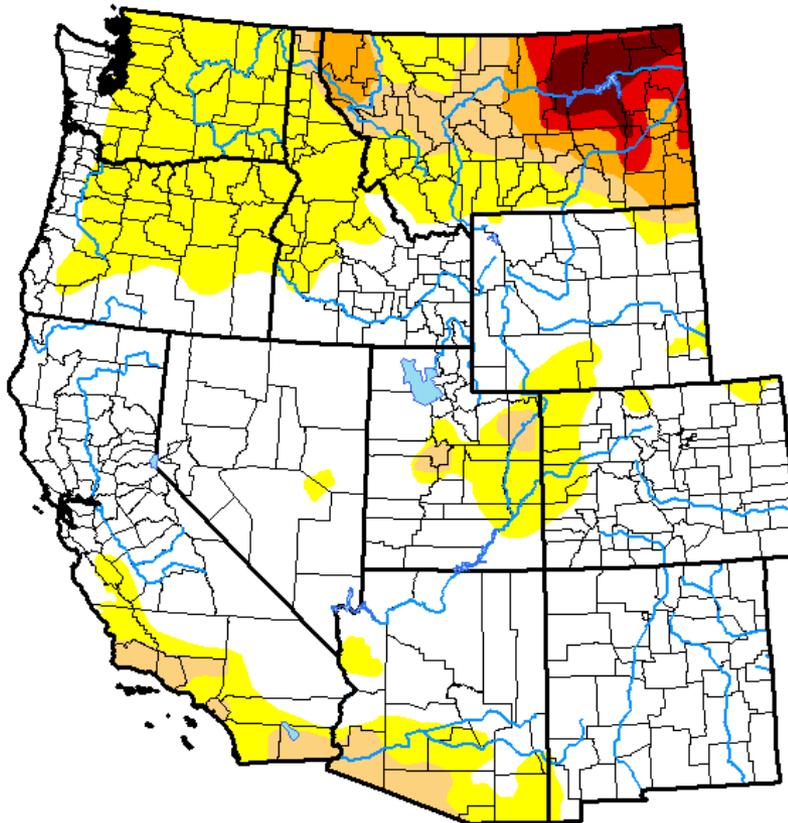
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Montana Drought



U.S. Drought Monitor West

August 15, 2017
(Released Thursday, Aug. 17, 2017)
Valid 8 a.m. EDT



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:

Jessica Blunden
NCEI/NOAA



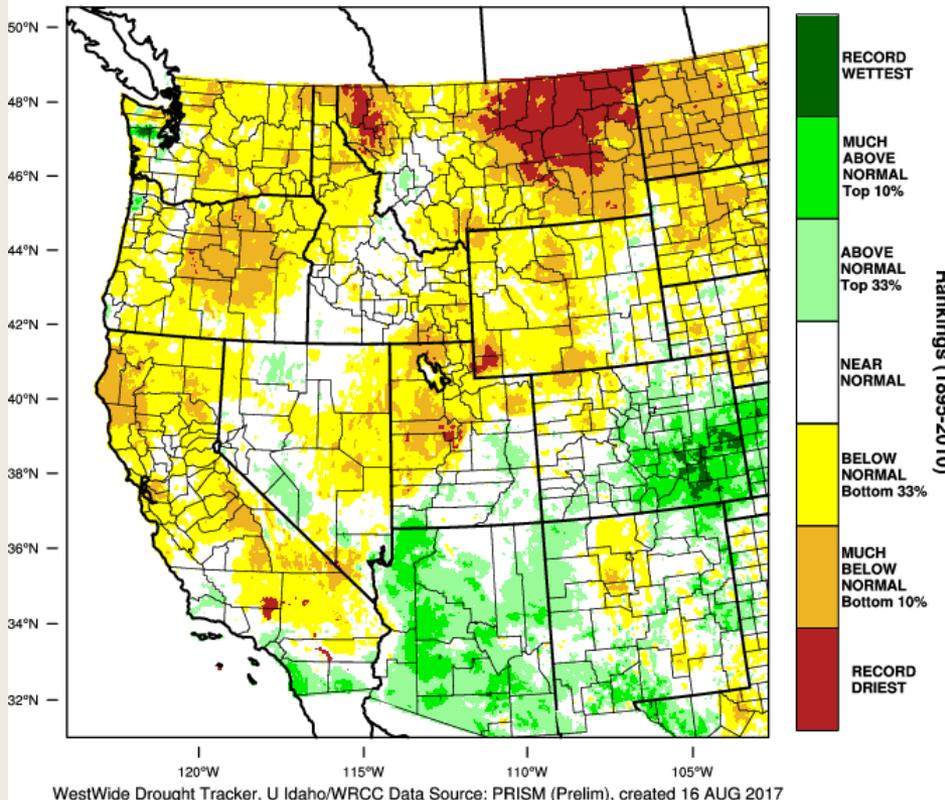
<http://droughtmonitor.unl.edu/>

Precipitation and Temperature



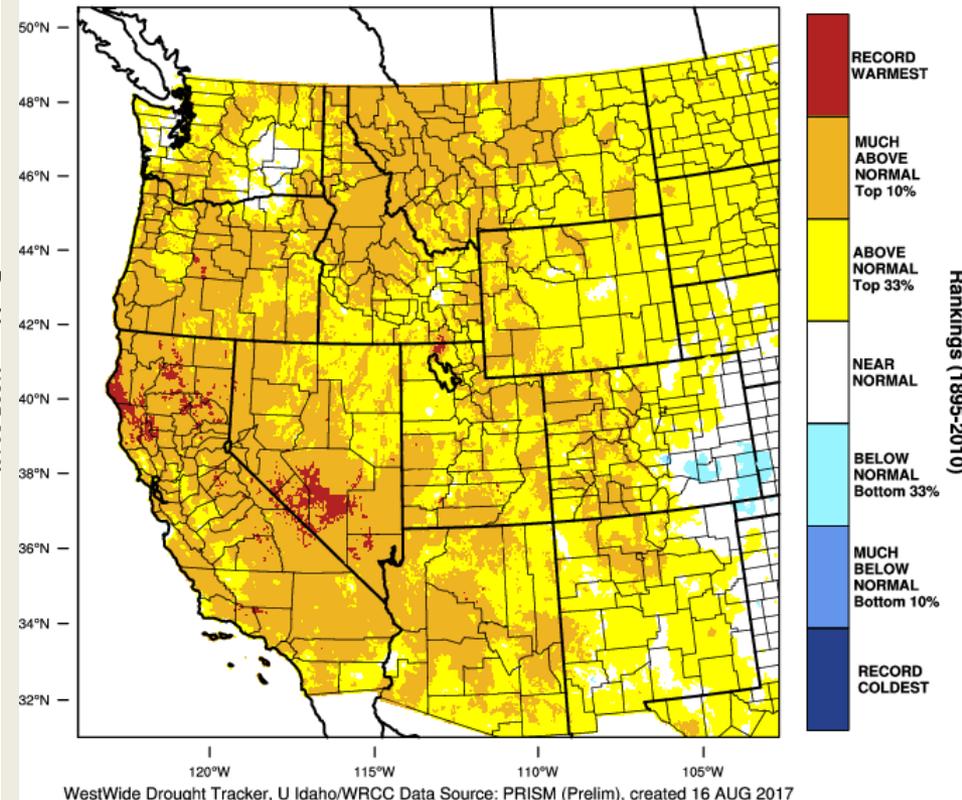
May-July Precipitation Percentiles

Western United States - Precipitation
May-July 2017 Percentile



May-July Temperature Percentiles

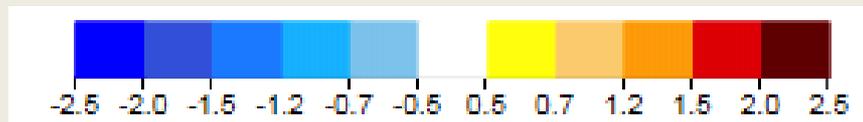
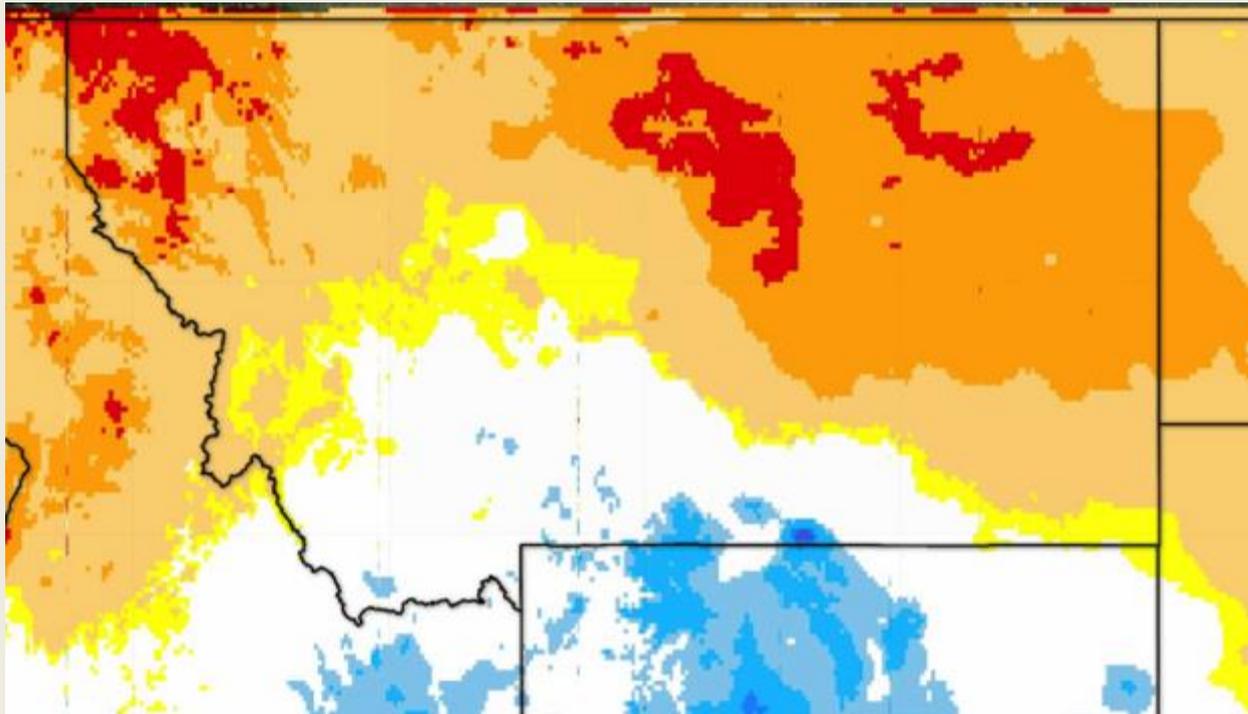
Western United States - Mean Temperature
May-July 2017 Percentile



Evaporative Demand



90-day Evaporative Demand Drought Index (EDDI) May 18 – August 17, 2017

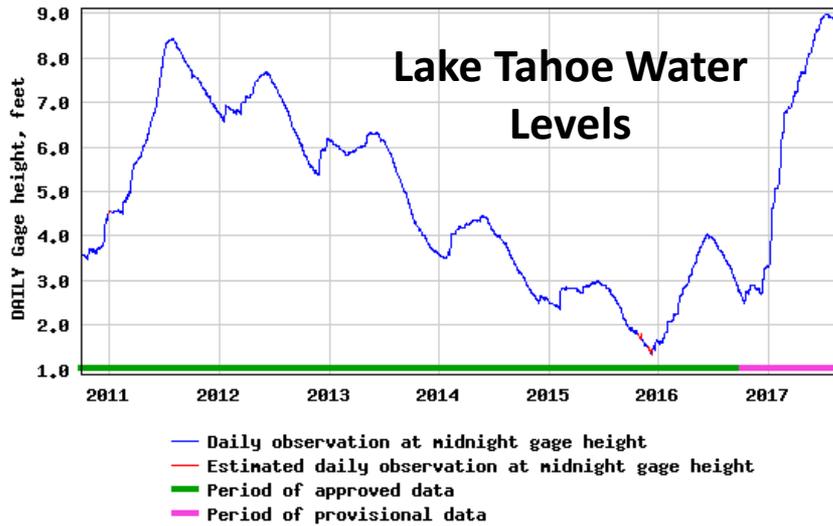


- EDDI inputs: temperature, humidity, wind speed, and solar radiation
- Reflects the atmospheric thirst
- High temperatures and wind speed, low humidity, and few clouds caused high EDDI over Montana

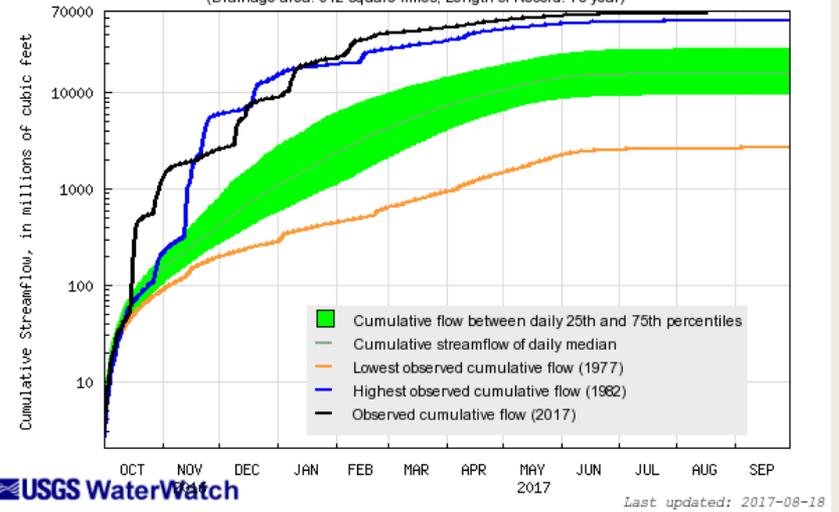
California Drought Recovery



USGS 10337000 LAKE TAHOE A TAHOE CITY CA

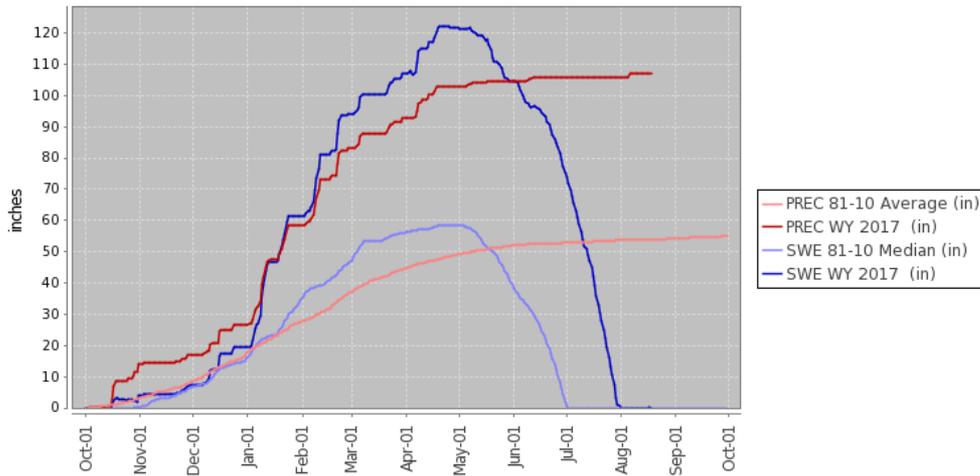


USGS 11427000 NF AMERICAN R A NORTH FORK DAM CA
(Drainage area: 342 square miles, Length of Record: 75 year)



**North Fork American River,
Greatest cumulative water year
streamflow in 75 year record**

Station (574) WATERYEAR=2017 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision Fri Aug 18 10:18:39 GMT-08:00 2017



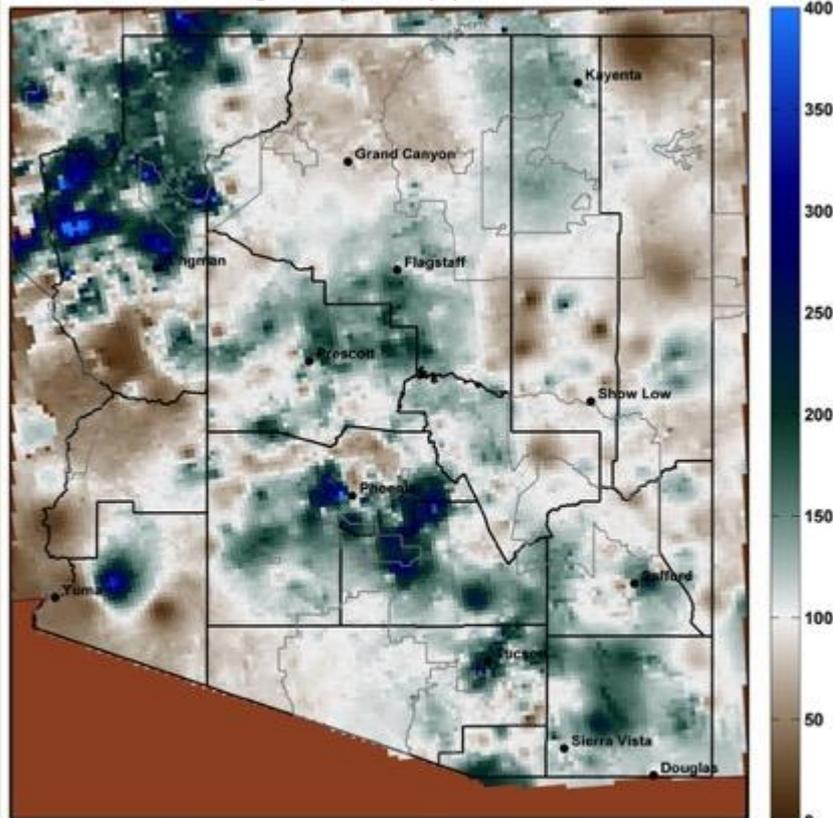
**Leavitt Lake SNOTEL
Melt out date: July 29, 2017**

Southwest Monsoon



Arizona % of Average Precipitation

Percent of Average Precipitation (%): 06/15/17 to 08/16/17

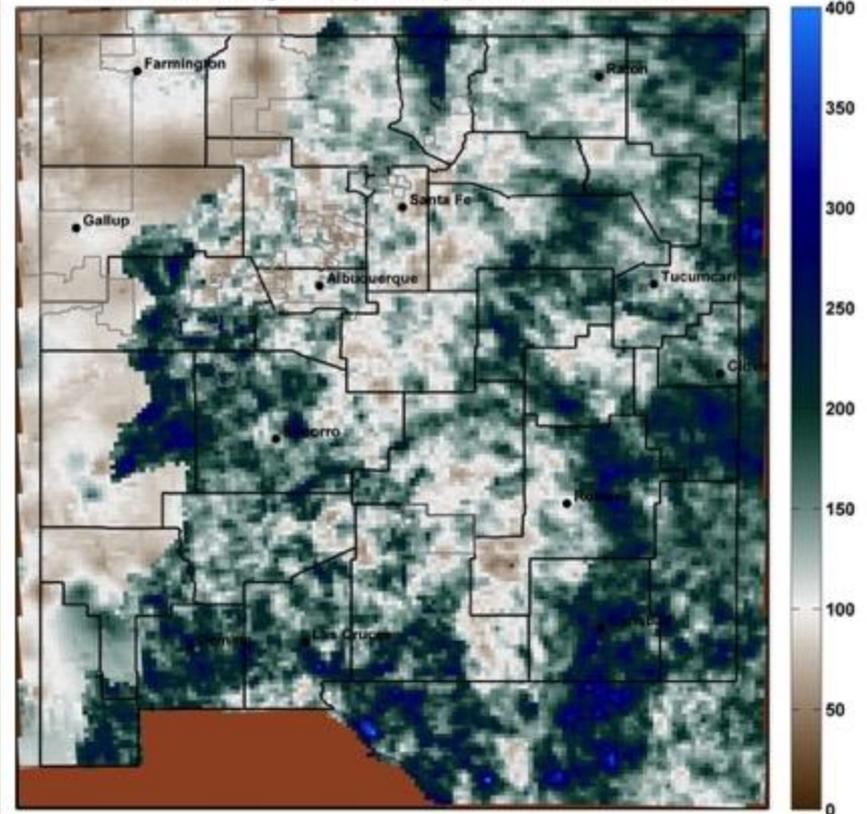


Map produced using daily total precipitation estimates from the NOAA National Weather Service Advanced Hydrologic Prediction Service (AHPS). Data information available at <http://water.weather.gov/precip/about.php>. Date created: 17-Aug-2017
University of Arizona - <http://cals.arizona.edu/climate/>



New Mexico % of Average Precipitation

Percent of Average Precipitation (%): 06/15/17 to 08/16/17



Map produced using daily total precipitation estimates from the NOAA National Weather Service Advanced Hydrologic Prediction Service (AHPS). Data information available at <http://water.weather.gov/precip/about.php>. Date created: 17-Aug-2017
University of Arizona - <http://cals.arizona.edu/climate/>



ENSO Status



- ENSO Alert System Status: Not Active
- ENSO-neutral conditions are present
- Equatorial sea surface temperatures (SSTs) are near average across most of the Pacific Ocean.
- ENSO-Neutral is favored (~85% chance during Jul-Sep, decreasing to ~55% during Dec-Feb) through the Northern Hemisphere winter 2017-18.*

Credit: CPC

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

http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/.

Niño Region SST Departures (°C) Recent Evolution



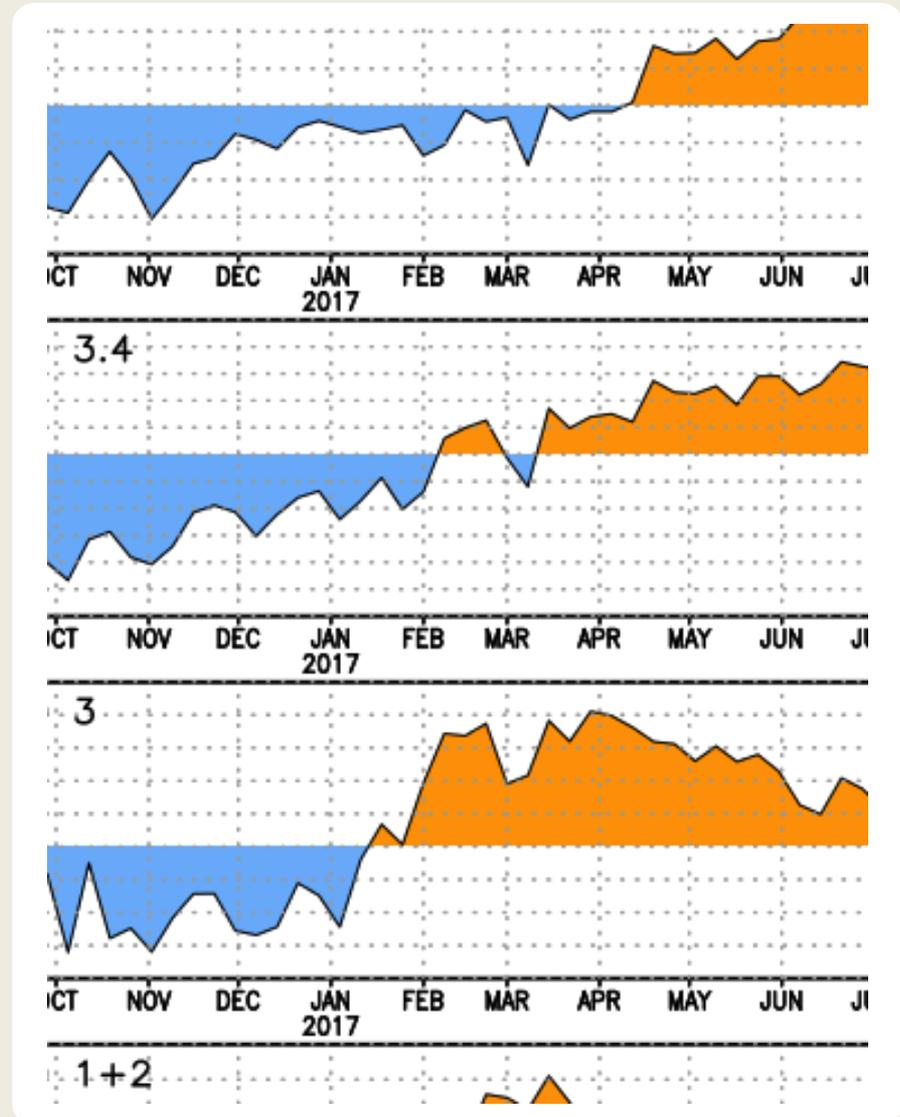
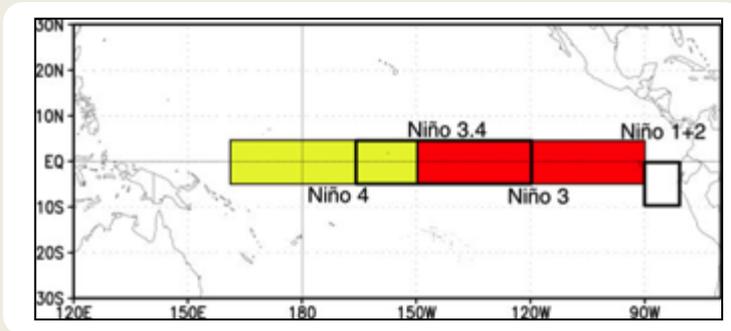
The latest weekly SST departures are:

Niño 4 0.1°C

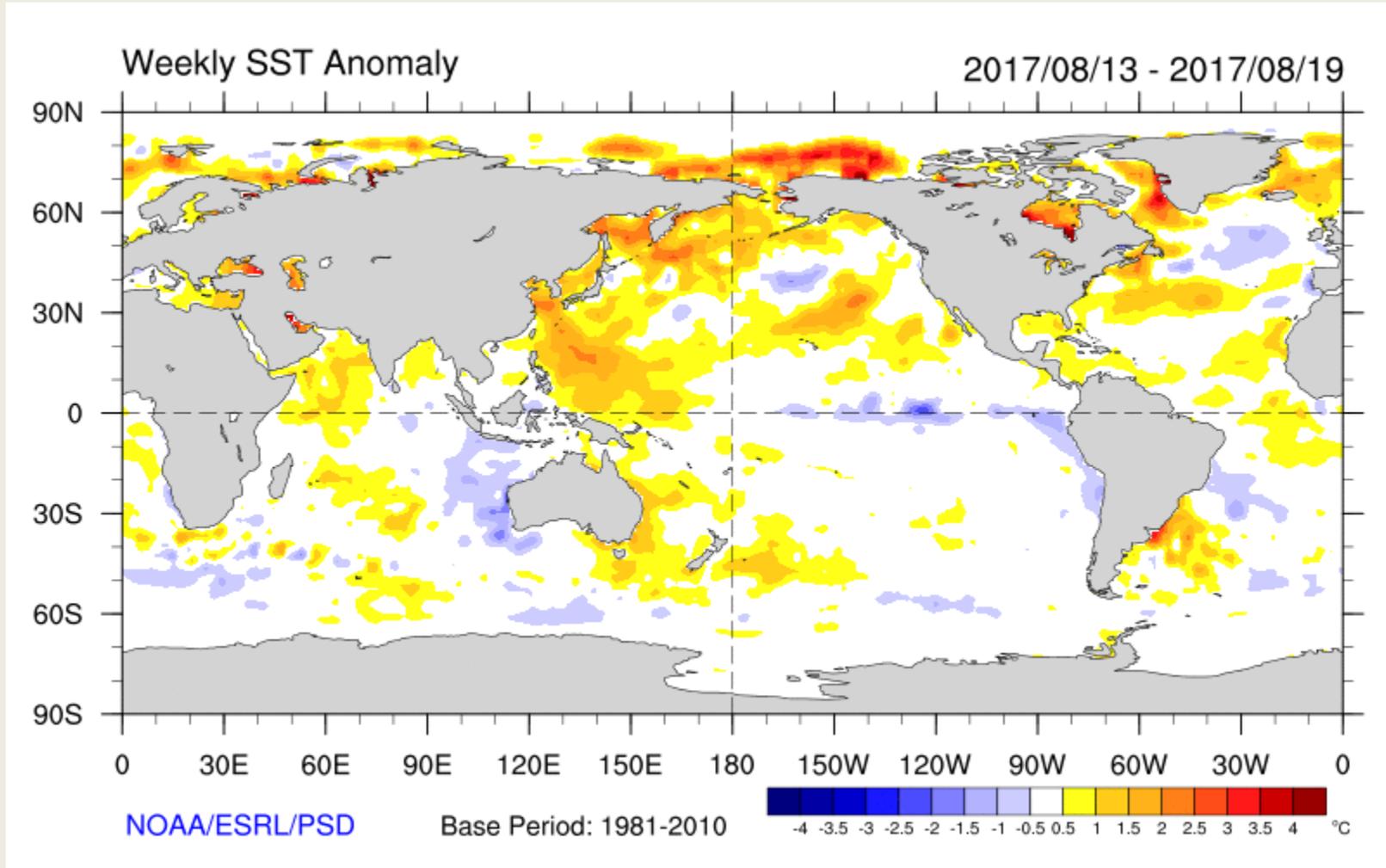
Niño 3.4 -0.5°C

Niño 3 -0.5°C

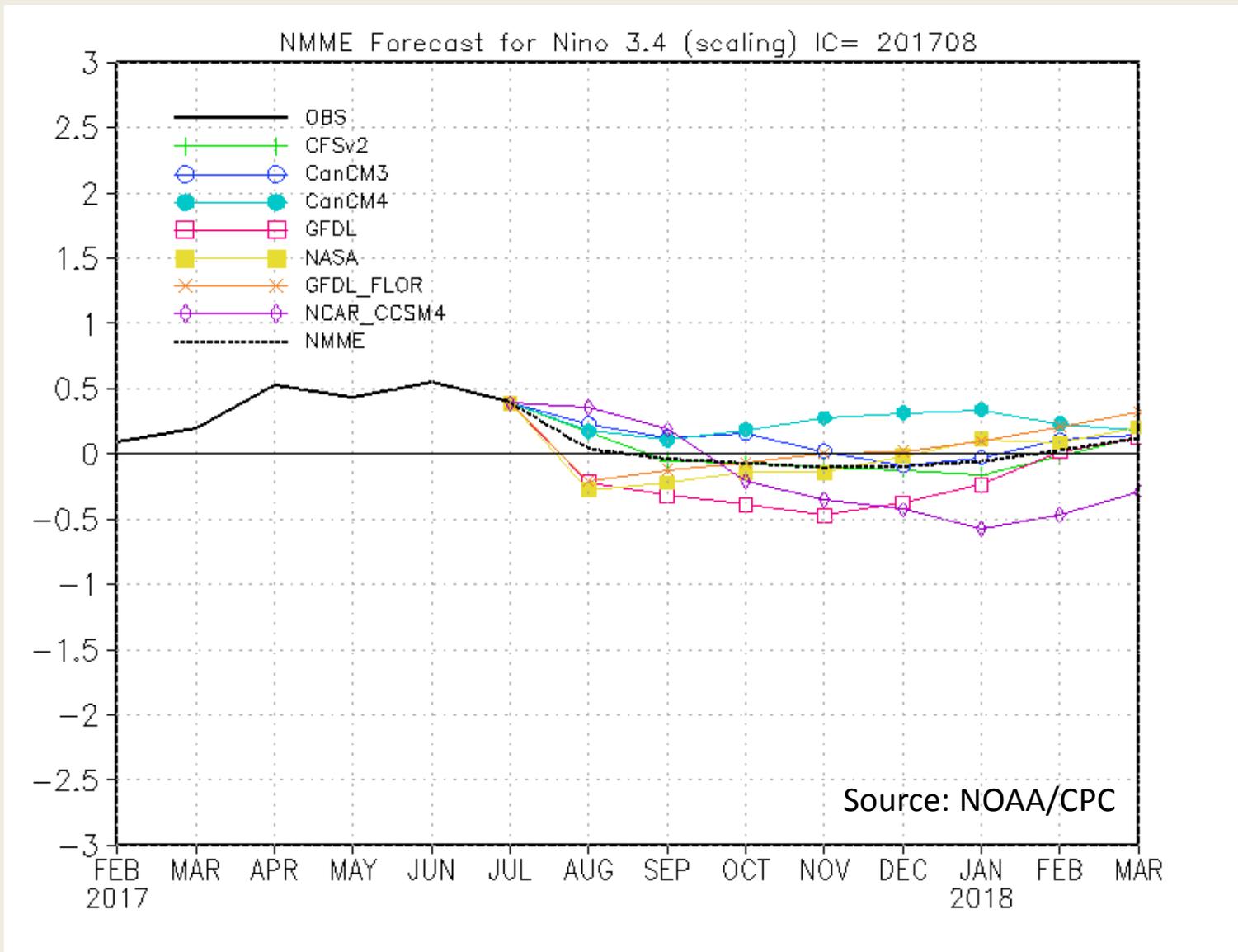
Niño 1+2 -0.7°C



Current Sea Surface Temperatures



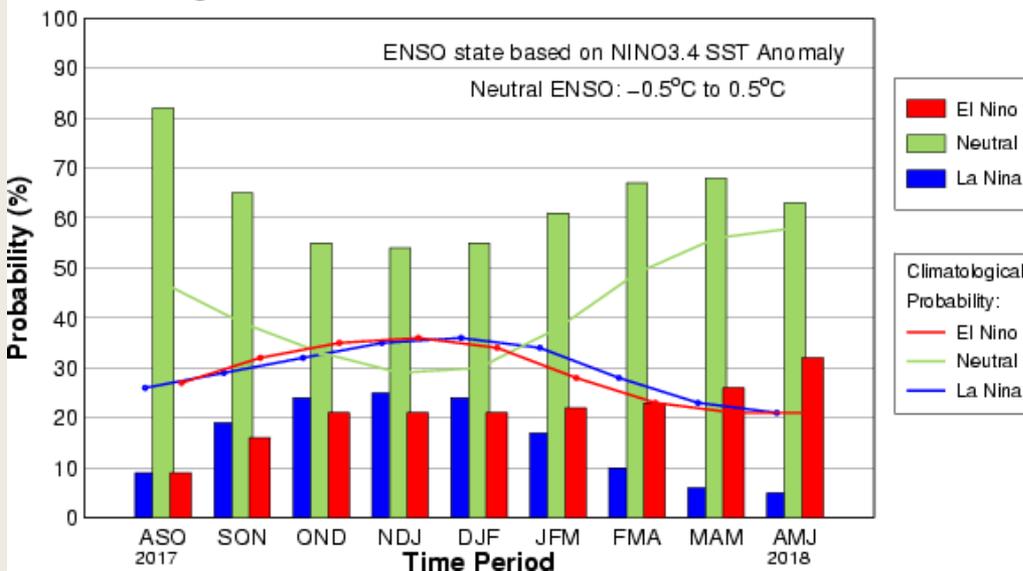
ENSO Forecasts



ENSO Forecasts

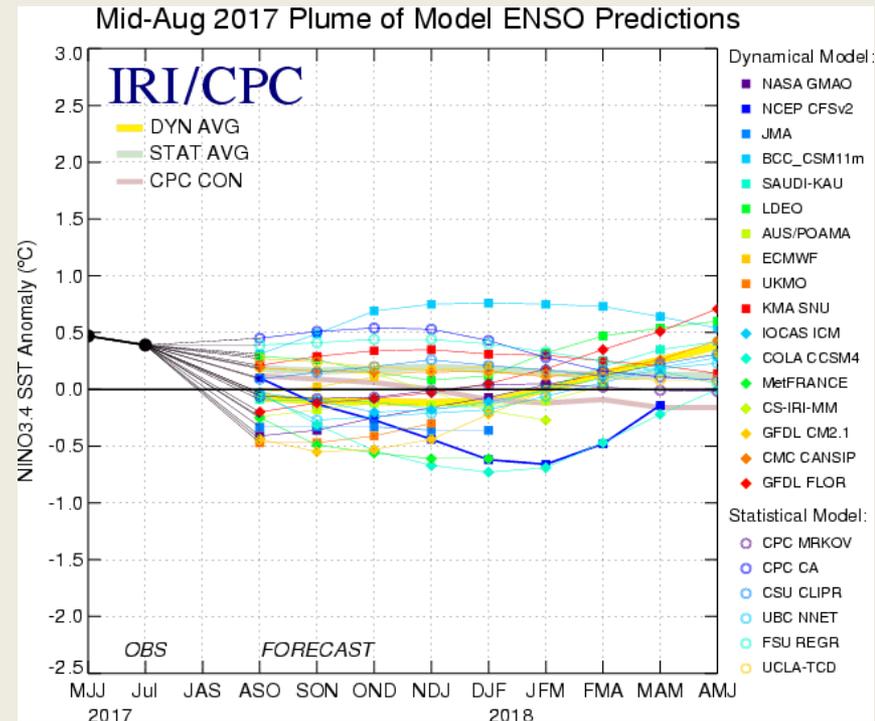


Mid-Aug IRI/CPC Model-Based Probabilistic ENSO Forecast

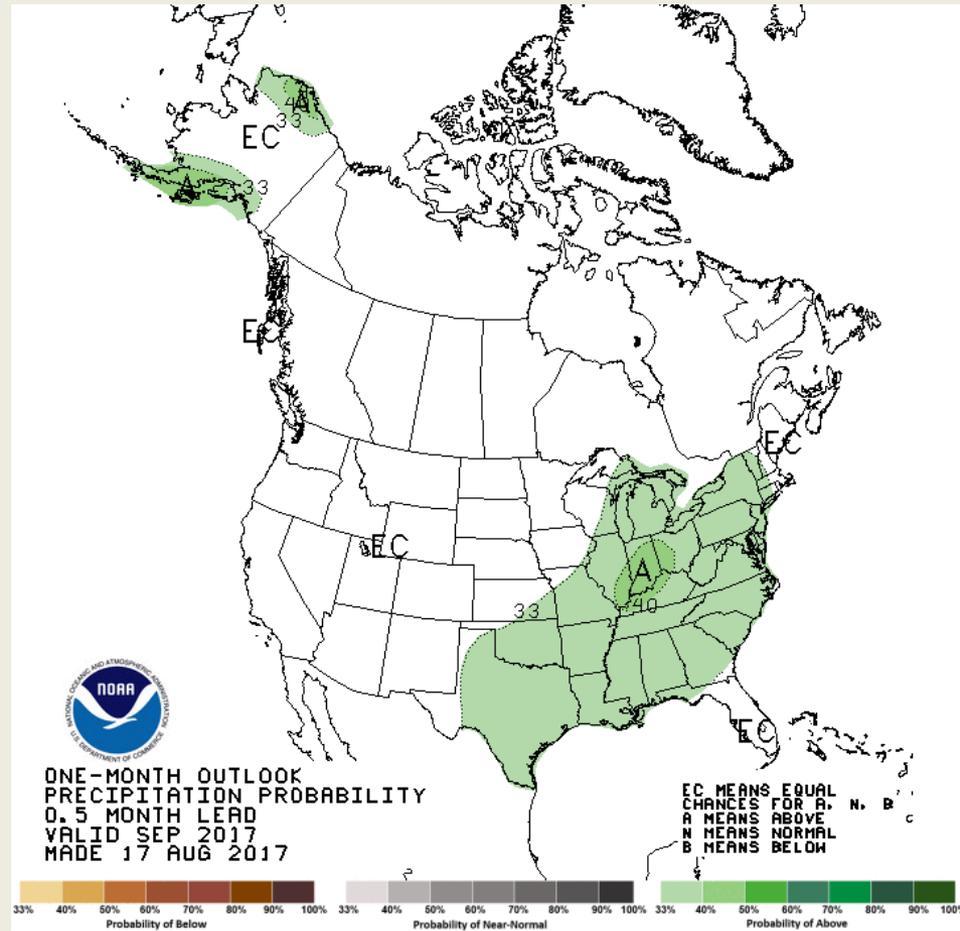
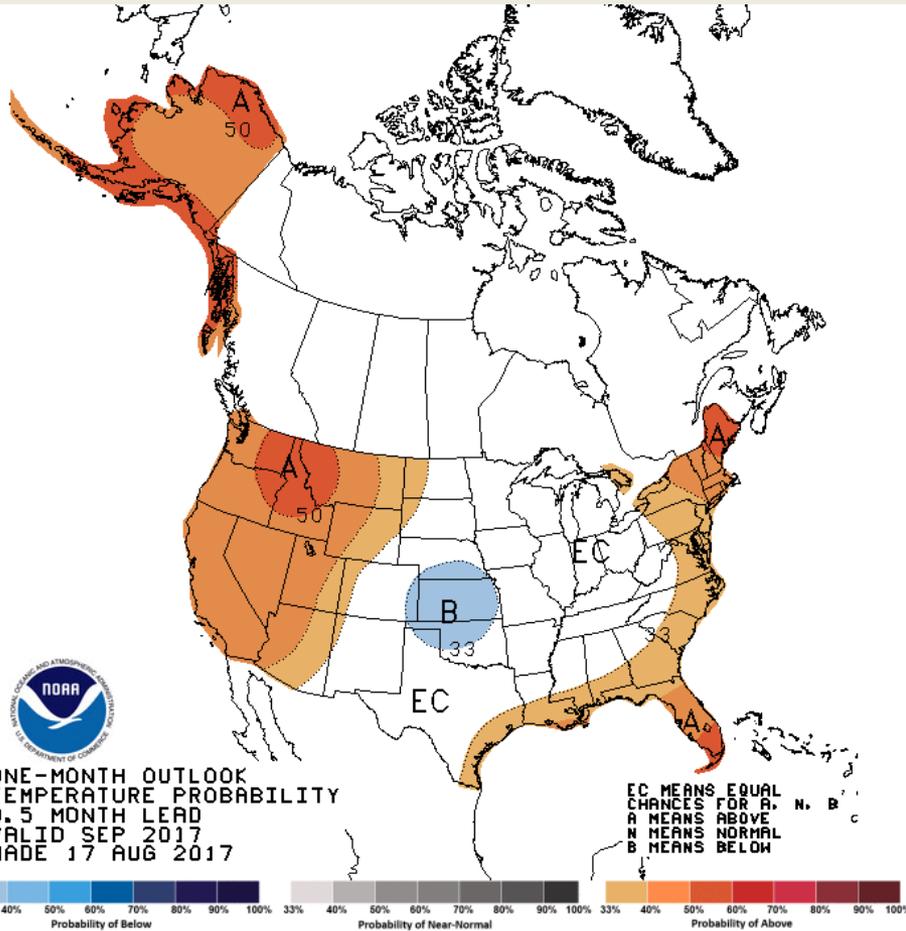


CPC/IRI El Niño forecast:

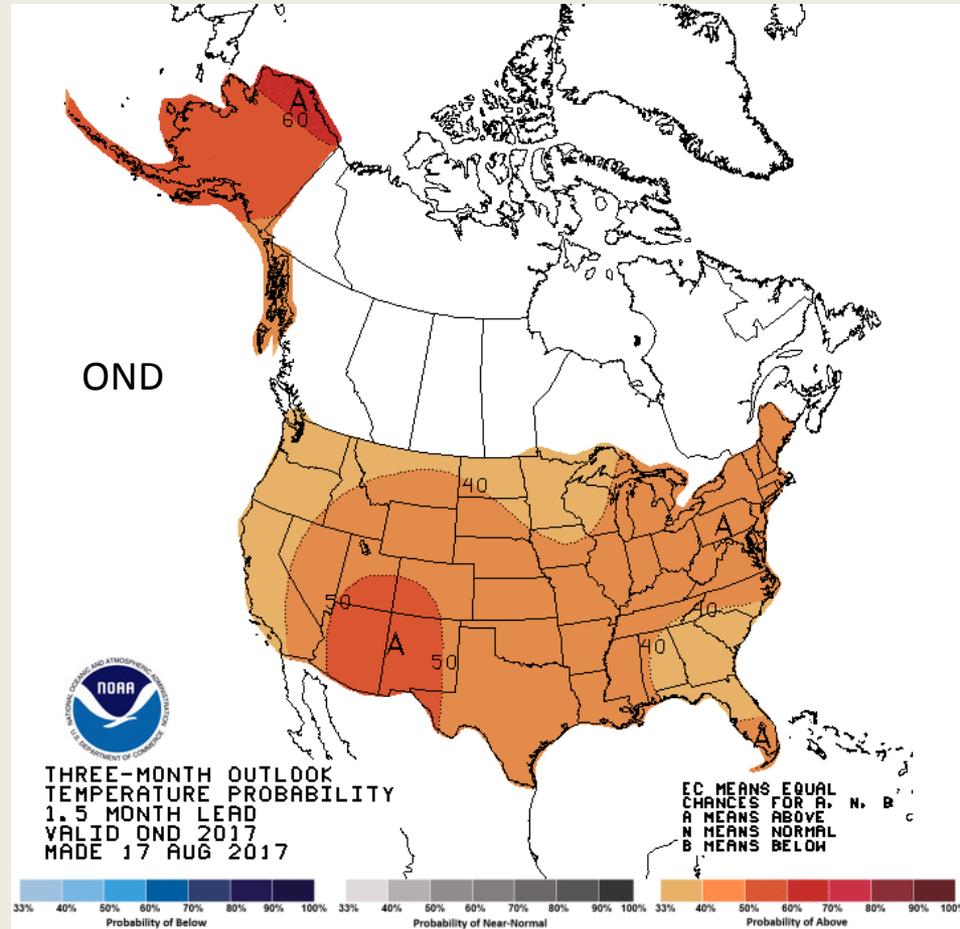
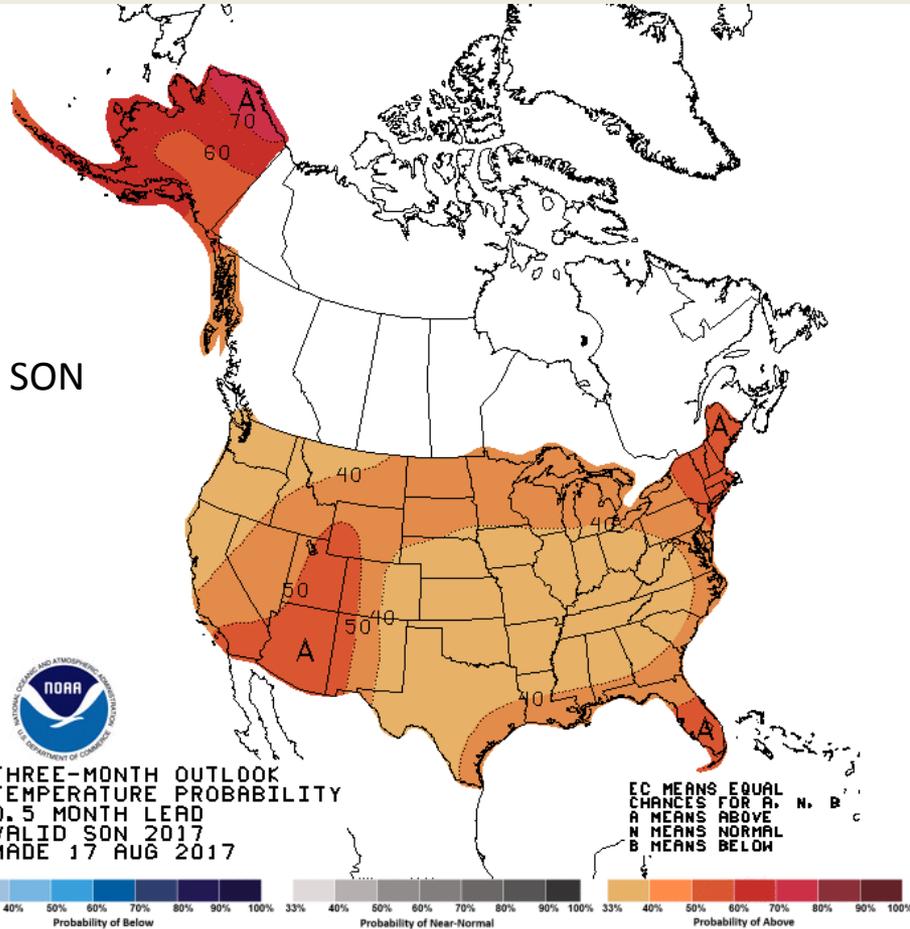
NMME models + other dynamical models + statistical models



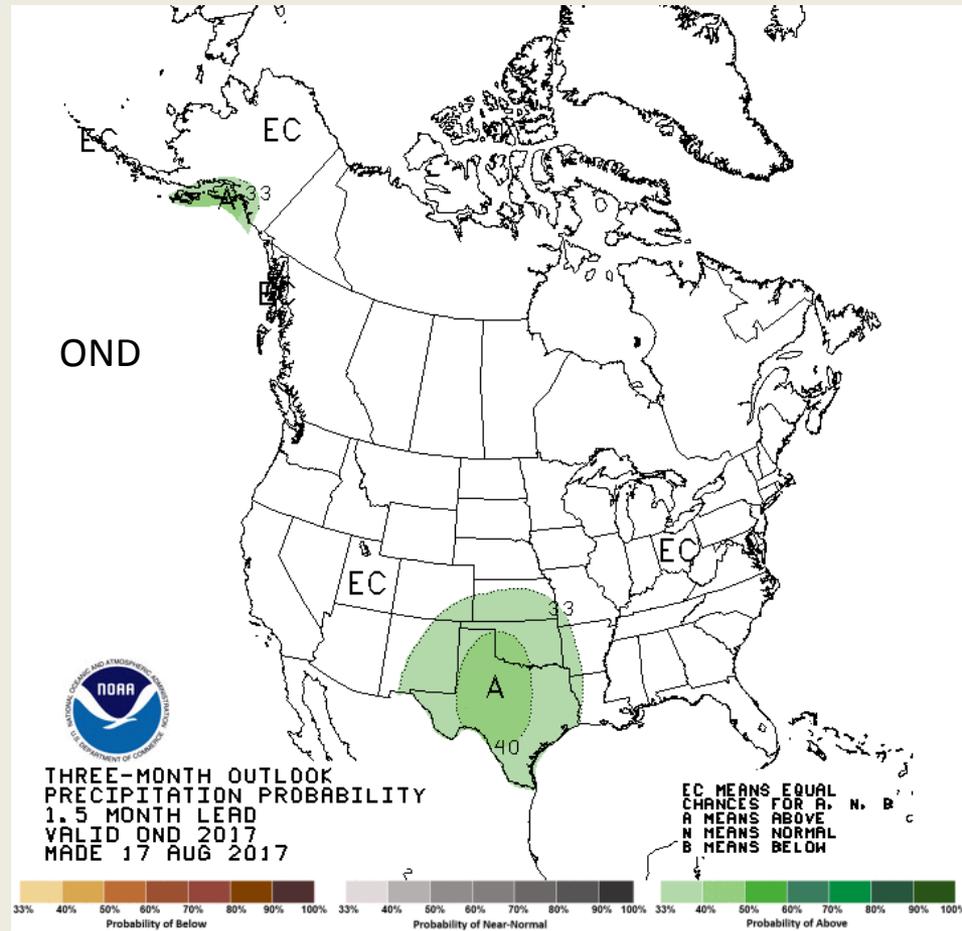
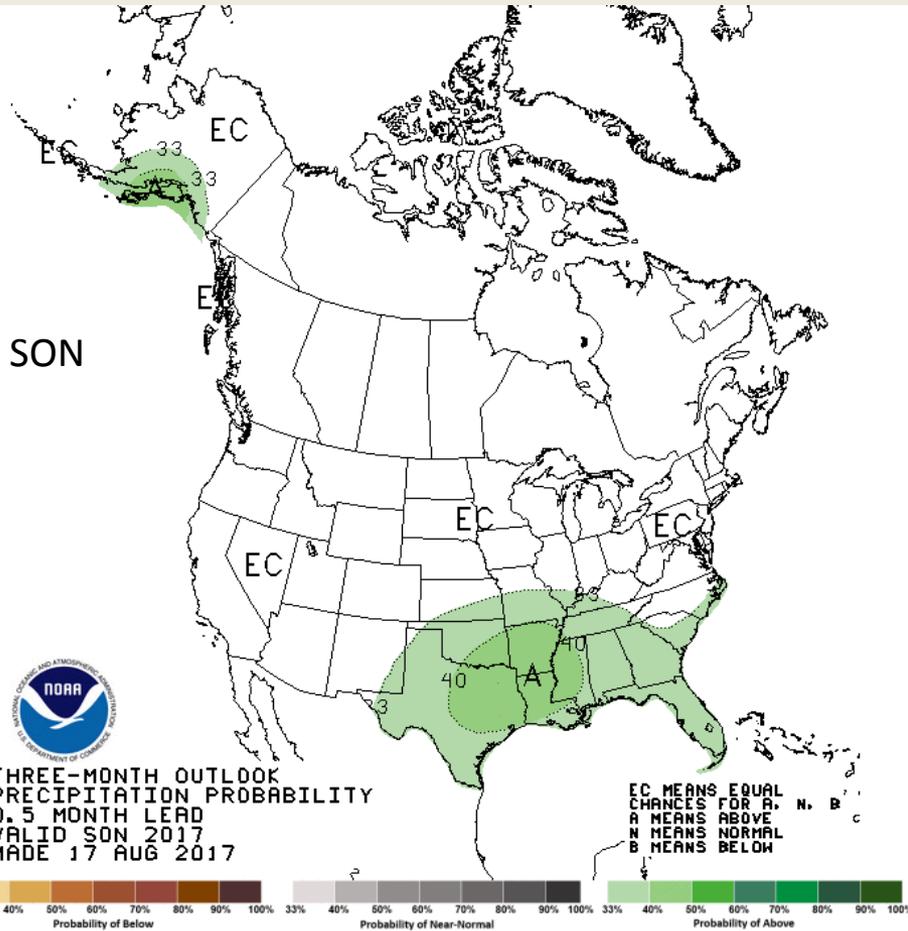
September U.S. Forecasts



U.S. Seasonal Temperature Forecasts



U.S. Seasonal Precipitation Forecasts



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NOAA West Watch Wildfire Update: 420,002,017th year of biomass burning on Earth

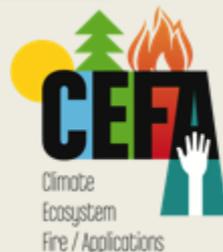
Timothy Brown

Desert Research Institute, Reno, Nevada
Program for Climate, Ecosystem and Fire Applications
Western Regional Climate Center

22 Aug 2017



**Western Regional
Climate Center**
PROVIDING CLIMATE SERVICES SINCE 1986



Wildfire smoke not expected to ruin eclipse

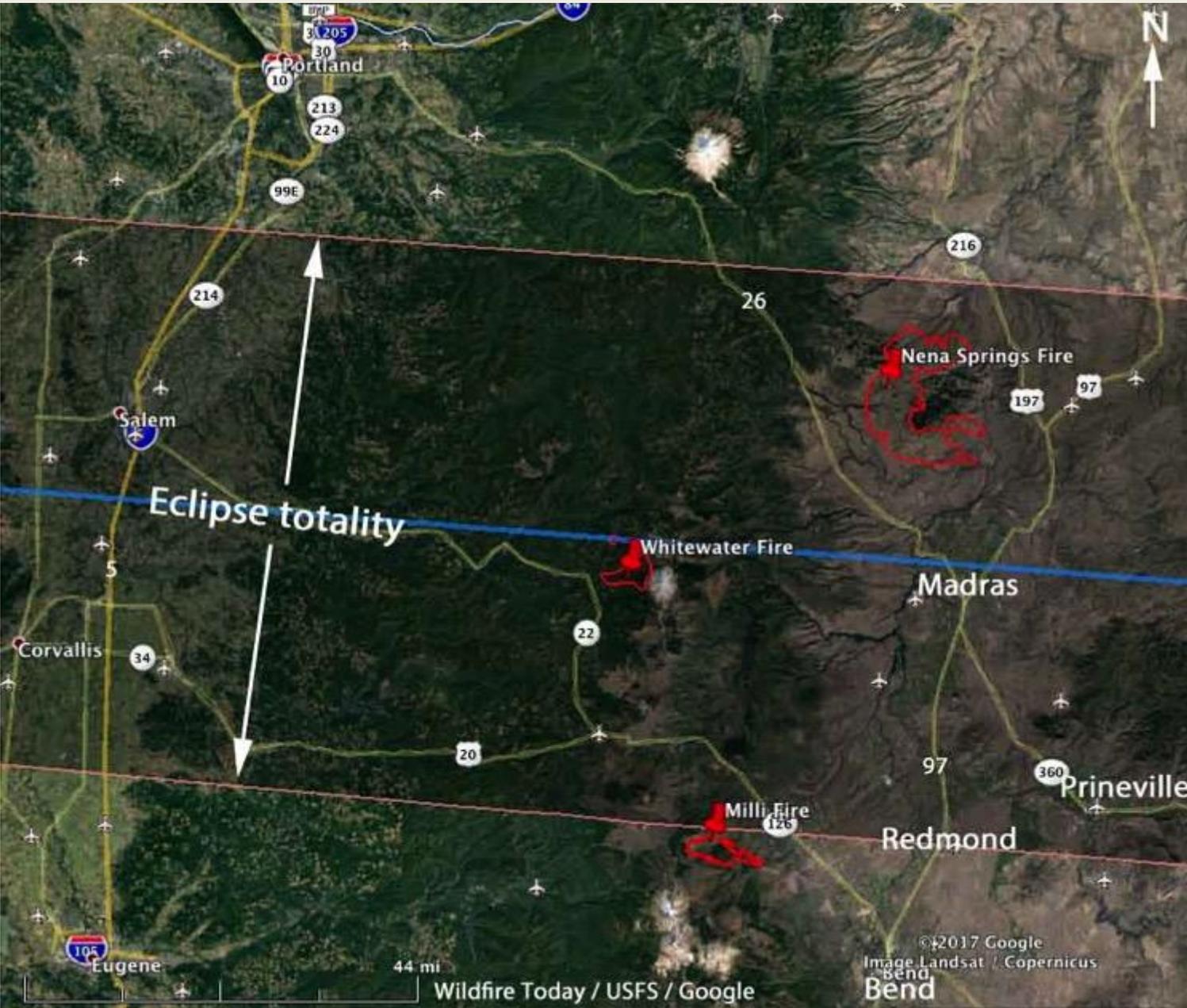
Comment

Updated on August 20, 2017 at 2:11 PM, Posted on August 20, 2017 at 2:08 PM



Smoke from wildfires in Oregon, including the Staley fire in the Umpqua National Forest, could cloud the skies a bit on Monday. But meteorologists said eclipse viewing should be fine. (Inciweb)

Headlines



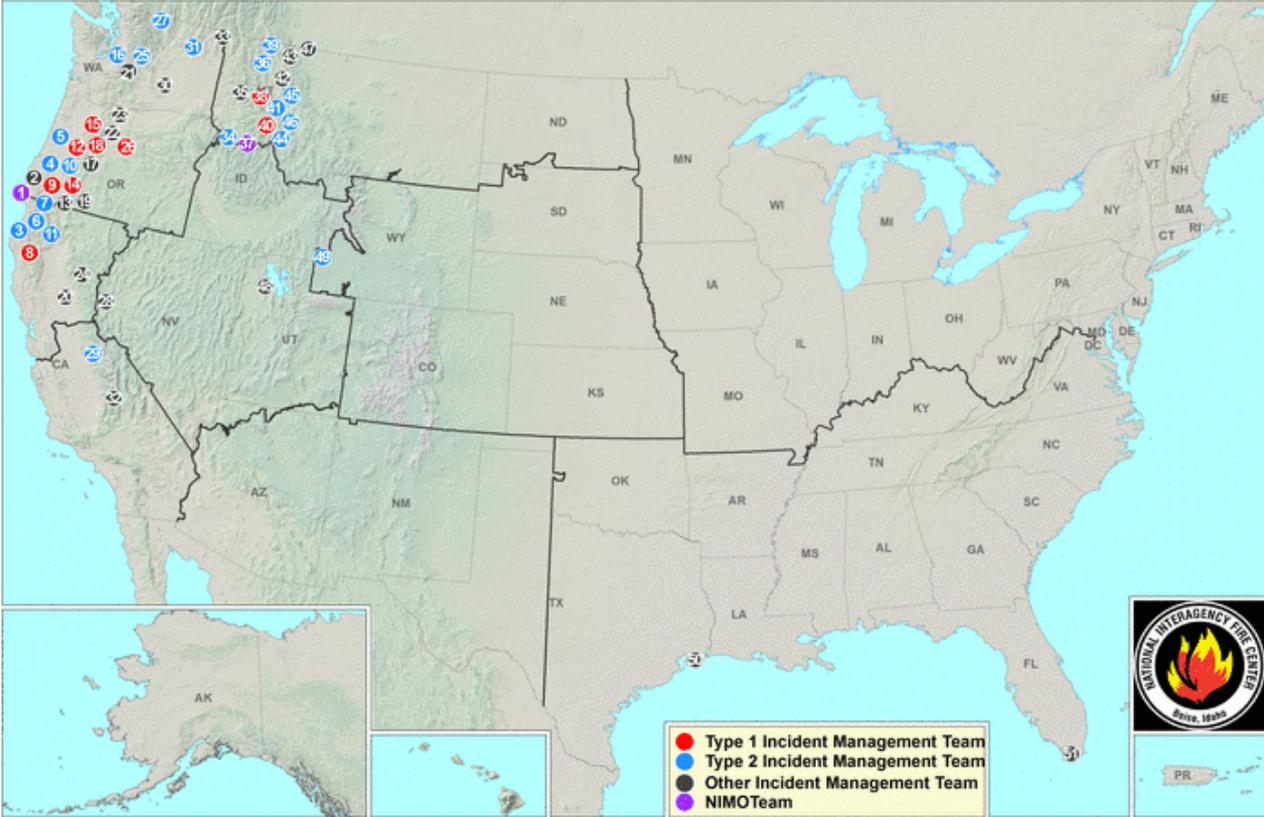
And now...a fire photo



Whitewater Fire, 6 miles east of Idanha, Oregon. August 19, 2017.

Current large incidents

Current Large Incidents August 21, 2017



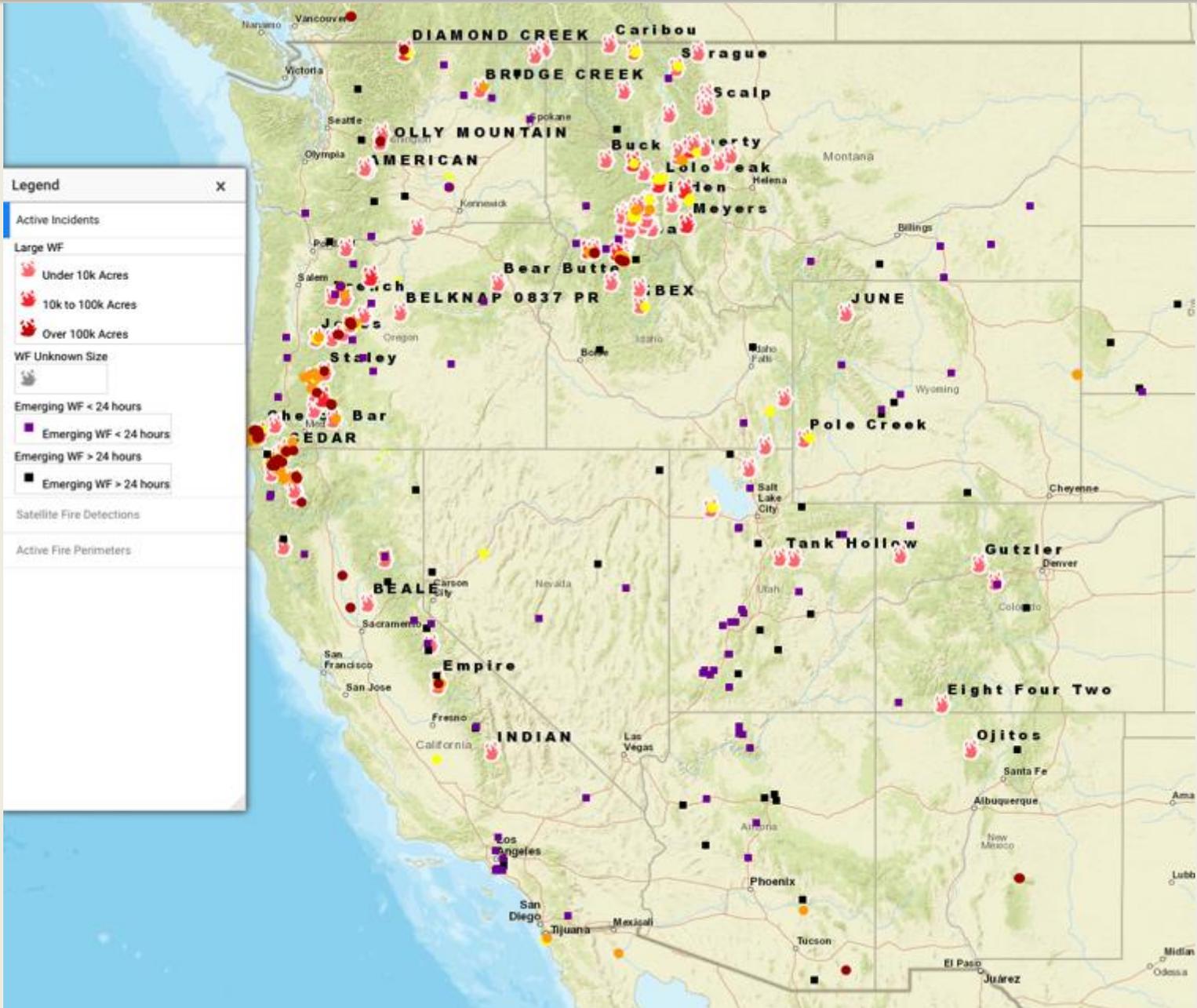
- 1 CHETCO BAR
- 2 SHAN CREEK
- 3 ORLEANS COMPLEX
- 4 FALCON COMPLEX
- 5 JONES
- 6 CA-KNF-006098 COMPLEX
- 7 MILLER COMPLEX
- 8 RUTH COMPLEX
- 9 UMPQUA NORTH COMPLEX
- 10 STALEY
- 11 SALMON AUGUST COMPLEX
- 12 REBEL
- 13 FLOUNCE

- 14 HIGH CASCADES COMPLEX
- 15 WHITewater
- 16 NORSE PEAK
- 17 SEPARATION
- 18 MILLI 0843 CS
- 19 NORTH PELICAN
- 20 BEALE
- 21 AMERICAN
- 22 WHYCHUS 0814 CS
- 23 NENA SPRINGS
- 24 TOLL
- 25 JOLLY MOUNTAIN
- 26 BELKNAP

- 27 DIAMOND CREEK
- 28 SIX MILE
- 29 SOUTH FORK
- 30 EAST SADDLE
- 31 BRIDGE CREEK
- 32 INDIAN
- 33 NOISY CREEK
- 34 HANOVER
- 35 BUCK
- 36 TAMARACK
- 37 HIGHLINE
- 38 SUNRISE
- 39 GIBRALTER RIDGE

- 40 LOLO PEAK
- 41 LIBERTY
- 42 BLUE BAY
- 43 SPRAGUE
- 44 MEYERS
- 45 RICE RIDGE
- 46 SAPPHIRE COMPLEX
- 47 WOLVERINE FIRE
- 48 PUDDLE
- 49 POLE CREEK
- 50 WHITES EASEMENT
- 51 KEYHOLE HAMMOCK

Western fires 8/20

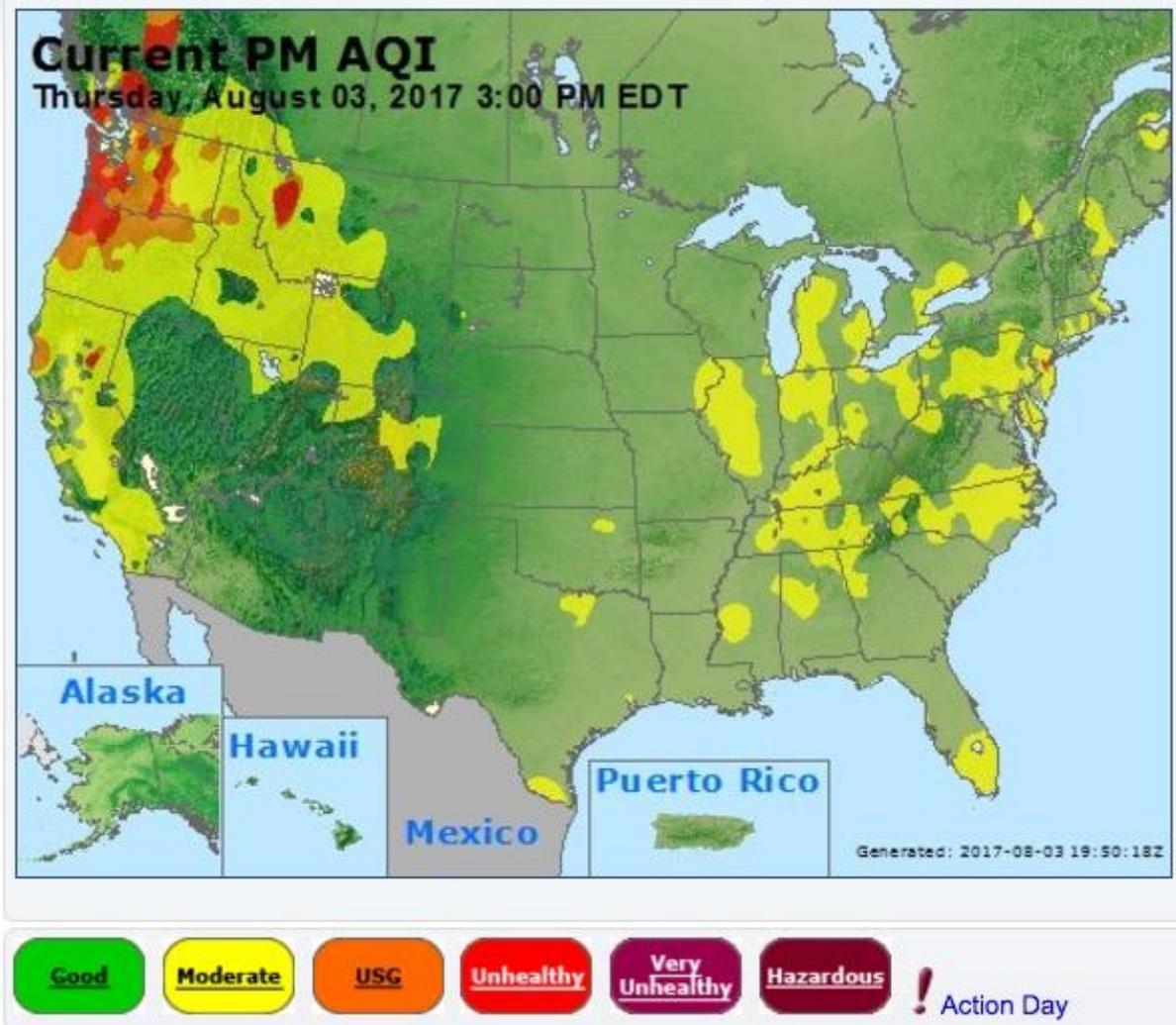


Fuel energy 8/21/17

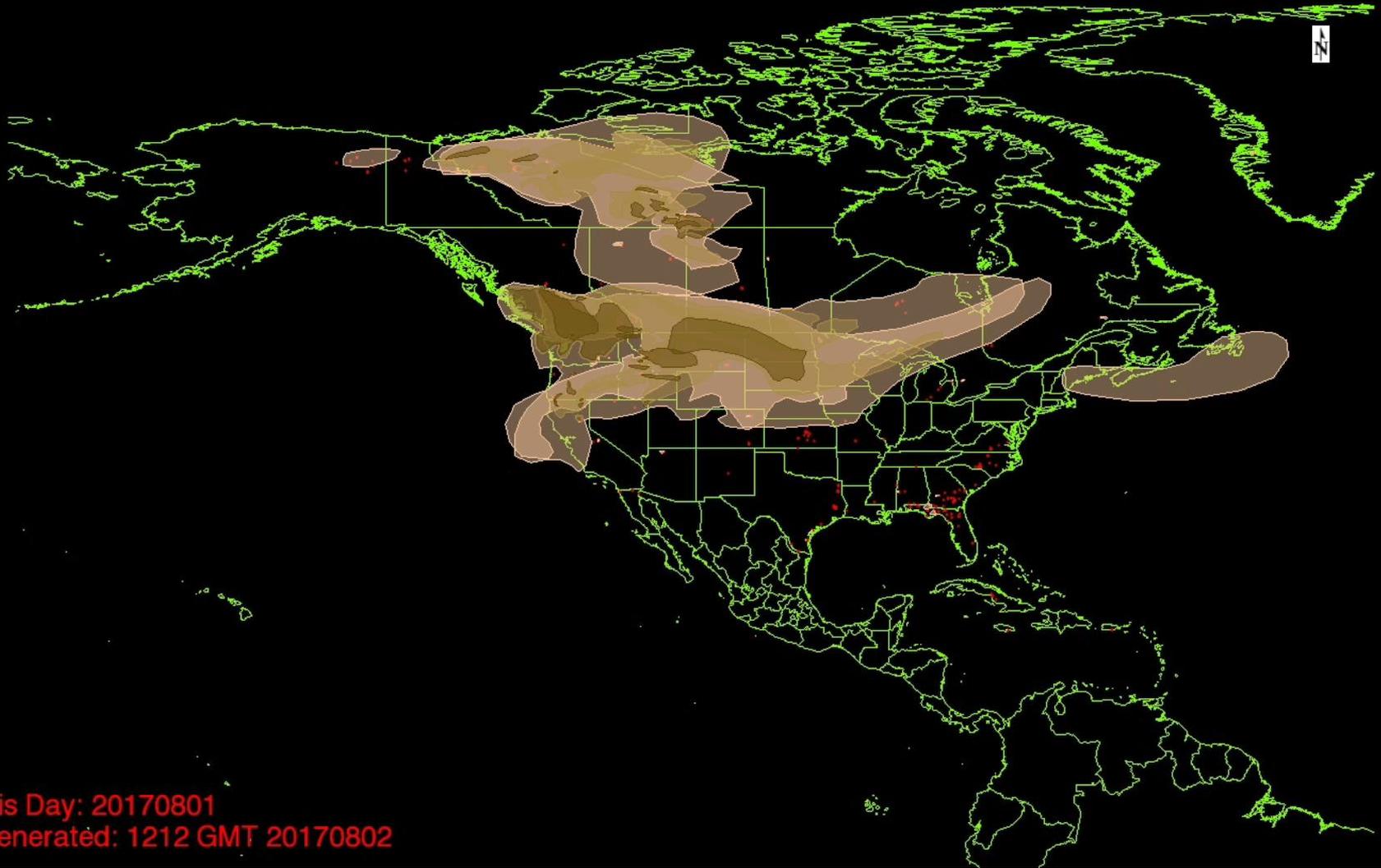


Lolo Fire at 6:25 p.m. MDT August 18, 2017 as seen from the Missoula area. Photo by Dick Mangan

Smoke impacts

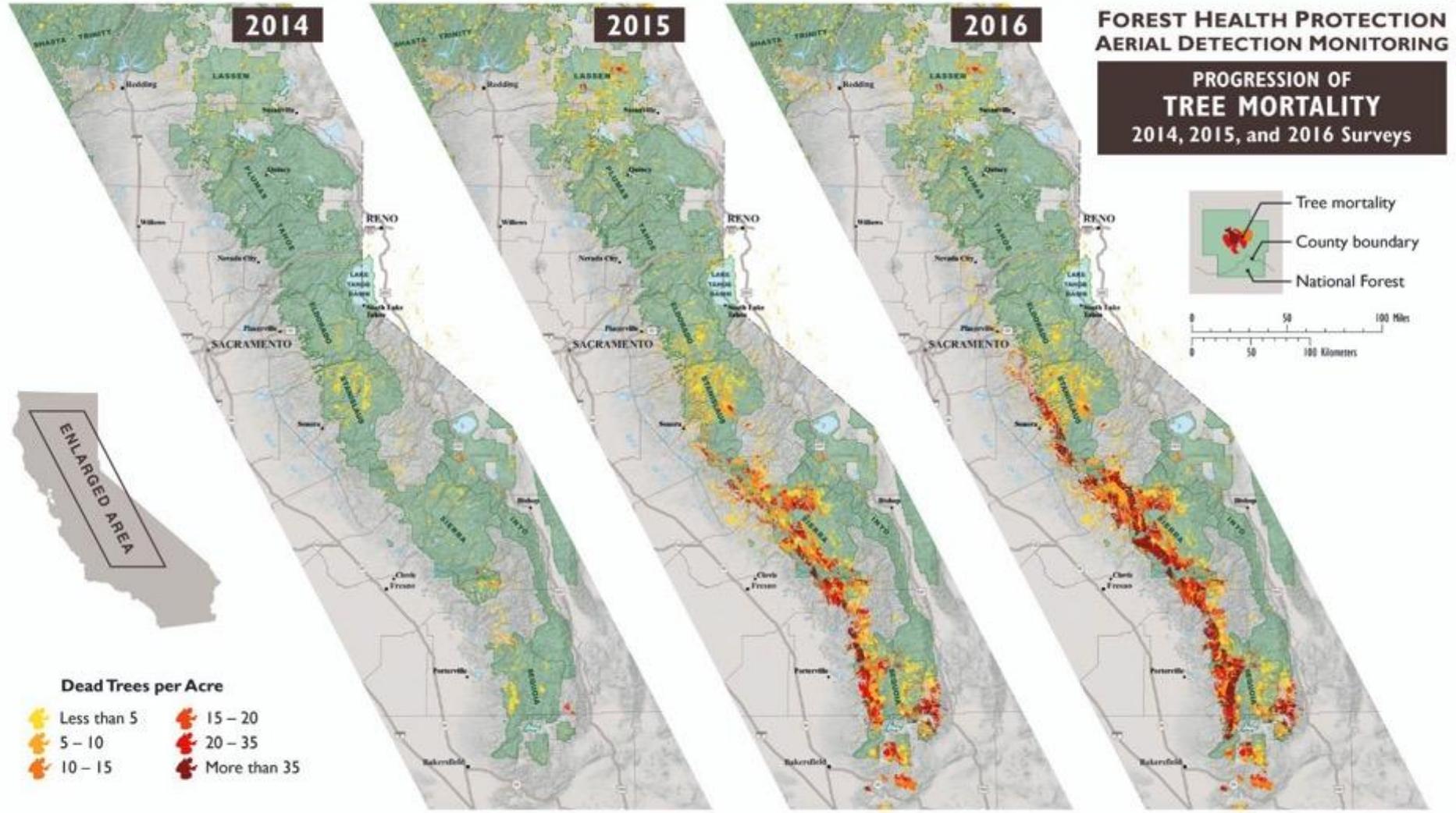


Smoke impacts

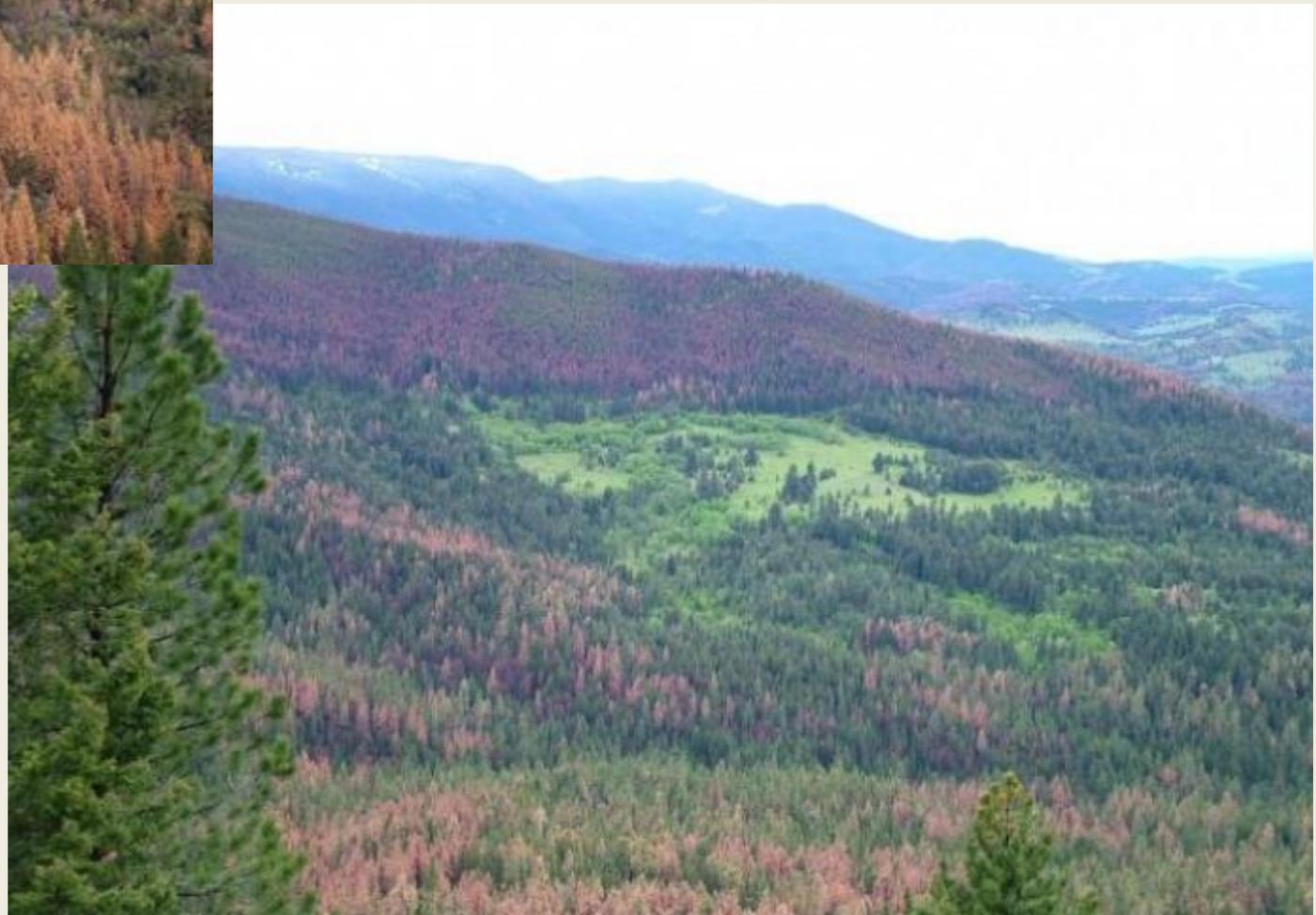


Analysis Day: 20170801
Map Generated: 1212 GMT 20170802

Tree mortality



Tree mortality



California

Name	County	Acres	Start Date	Containment Date	Status	Notes	Ref
Jayne	Fresno	5,738	April 20, 2017	April 21, 2017	Contained		[3]
Opera	Riverside	1,350	April 30, 2017	May 2, 2017	Contained		[4]
Elm	Fresno	10,345	May 18, 2017	May 21, 2017	Contained		[5]
Gate	San Diego	2,056	May 20, 2017	May 23, 2017	Contained		[6]
Oakwood	Madera	1,431	June 10, 2017	June 13, 2017	Contained		[7]
Highway	Kern	1,522	June 18, 2017	June 28, 2017	Contained		[8]
Holcomb	San Bernardino	1,503	June 19, 2017	June 29, 2017	Contained		[9]
Schaeffer	Tulare	16,031	June 24, 2017		94% contained		[10]
Manzanita	Riverside	6,309	June 26, 2017	June 30, 2017	Contained		[11]
Hill	San Luis Obispo	1,598	June 26, 2017	June 30, 2017	Contained	4 homes destroyed	[12]
Winters	Yolo	2,269	July 6, 2017	July 12, 2017	Contained		[13]
Alamo	San Luis Obispo	28,687	July 6, 2017	July 19, 2017	Contained	1 home destroyed, 1 damaged	[14]
Wall	Butte	6,033	July 7, 2017	July 17, 2017	Contained	41 homes, 48 outbuildings destroyed, 10 damaged	[15]
Whittier	Santa Barbara	18,430	July 8, 2017		87% contained	16 homes, 30 outbuildings destroyed, 7 damaged	[16]
Parkfield	Monterey	1,816	July 8, 2017	July 11, 2017	Contained		[17]
Garza	Fresno	48,889	July 9, 2017	July 21, 2017	Contained	1 structure destroyed	[18]
Long Valley	Lassen	83,733	July 11, 2017	July 21, 2017	Contained		[19]
Detwiler	Mariposa	81,826	July 16, 2017		95% contained	63 homes, 68 structures destroyed (131 total), 21 damaged	[20]
Modoc July Complex	Modoc	80,365	July 24, 2017		40% contained		[21]

Strategies



NW Fires Utilizing Monitor, Confine, Point Zone Protection Suppression Strategies (YTD)

Lists fires (of any size) that singly utilize Monitor, Confine, or Point Zone Protection suppression strategies, or use Multiple Suppression Strategies (which may also include Full Suppression). Fires that singly utilize a Full Suppression strategy are not listed.

Source: ICS-209. Based on strategy(ies) listed on most recent ICS-209. Management strategy(ies) may change over the duration of the fire.

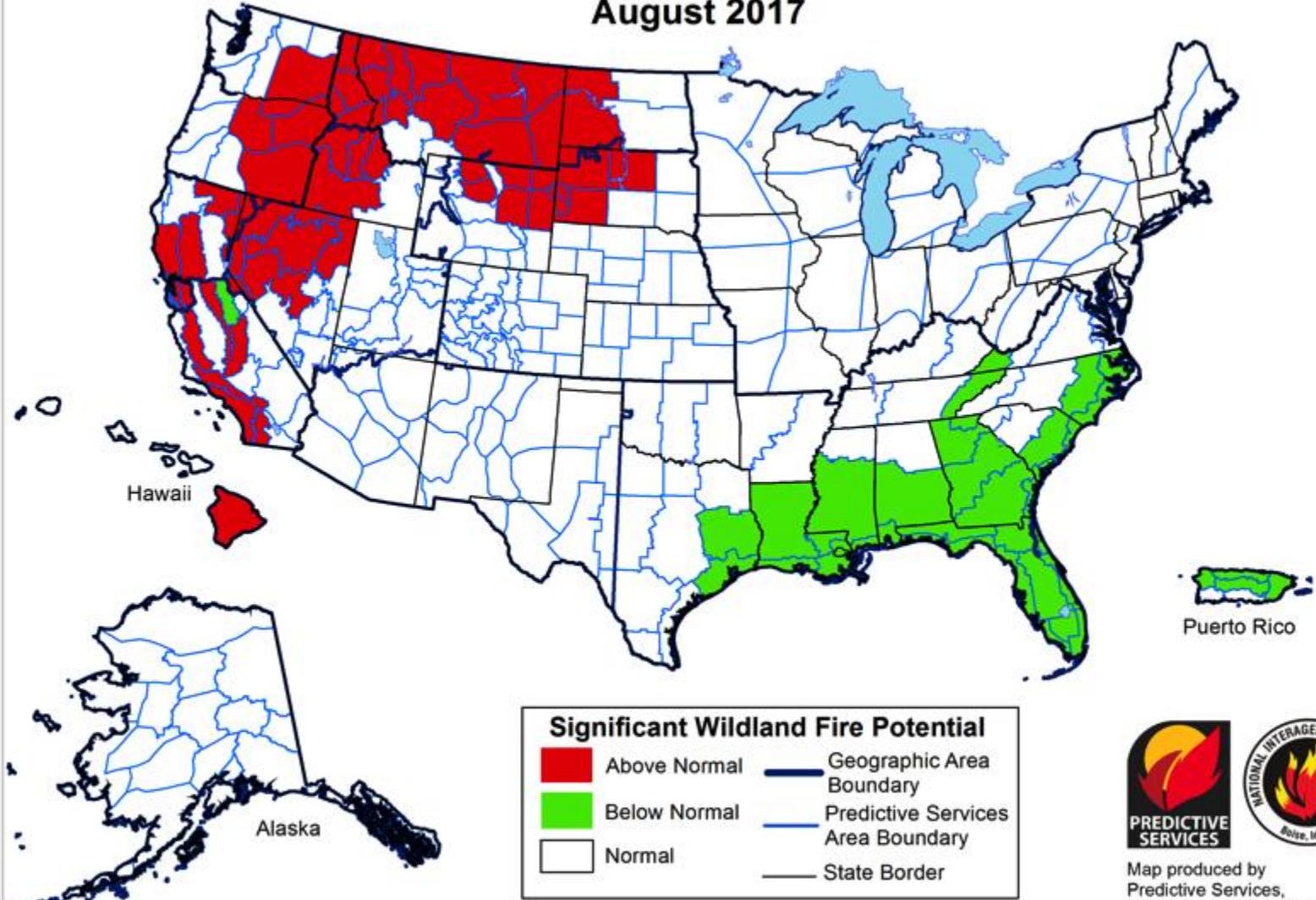


Date/Time Stamp: 8/21/2017 1:57:10 PM

Strategy	Owner	Name	Start Date	Current IMT	Acres	Tot Pers	Est Cost	Last 209	Completion/Cont Date	Comments	
Multiple Strategies (Monitor, Full Suppression)											
	OR-FWF	North Pelican	8/10/2017	3	1,100	120	\$225,000	8/20/2017			
Multiple Strategies (Monitor, Confine, Point Zone Protection, Full Suppression)											
	WA-OWF	Diamond Creek	7/23/2017	2	30,581	367	\$6,205,094	8/20/2017			
Multiple Strategies (Monitor, Confine, Point Zone Protection)											
	OR-RSF	Chetco Bar	7/12/2017	1	91,551	362	\$3,300,000	8/20/2017			
Multiple Strategies (Monitor, Confine, Full Suppression)											
	OR-EUD	Whitewater	7/23/2017	1	8,271	607	\$17,063,000	8/20/2017			
Multiple Strategies (Confine, Full Suppression)											
	OR-OCF	Wildcat 0284 PR	6/13/2017	4	130	63	\$15,000	6/20/2017	6/20/2017		
	OR-WIF	French	8/10/2017	1	2	36	\$222,000	8/20/2017			
	OR-WIF	Rebel	8/4/2017	1	2,507	303	\$2,387,000	8/20/2017			
Monitor											
	OR-MAF	141 OR-MAF-17141	7/26/2017	5	0	1	\$1,200	8/8/2017	8/8/2017		
	OR-WIF	Separation	8/10/2017	1	303	0	\$0	8/20/2017			
	WA-OWF	Jack Creek	8/11/2017	5	6	0	\$1,000	8/18/2017			
Confine											
	OR-MHF	Indian Creek	7/4/2017	3	83	43	\$2,500,000	8/20/2017		Not a LF.	
	WA-OWF	Norse Peak	8/11/2017	2	1,539	269	\$702,839	8/20/2017			
					Acres	Tot Pers	Est Cost				
Grand Total					136,073	2,171	\$32,622,133	Uncontained/ Uncontrolled/ Active			

Outlook

Significant Wildland Fire Potential Outlook August 2017

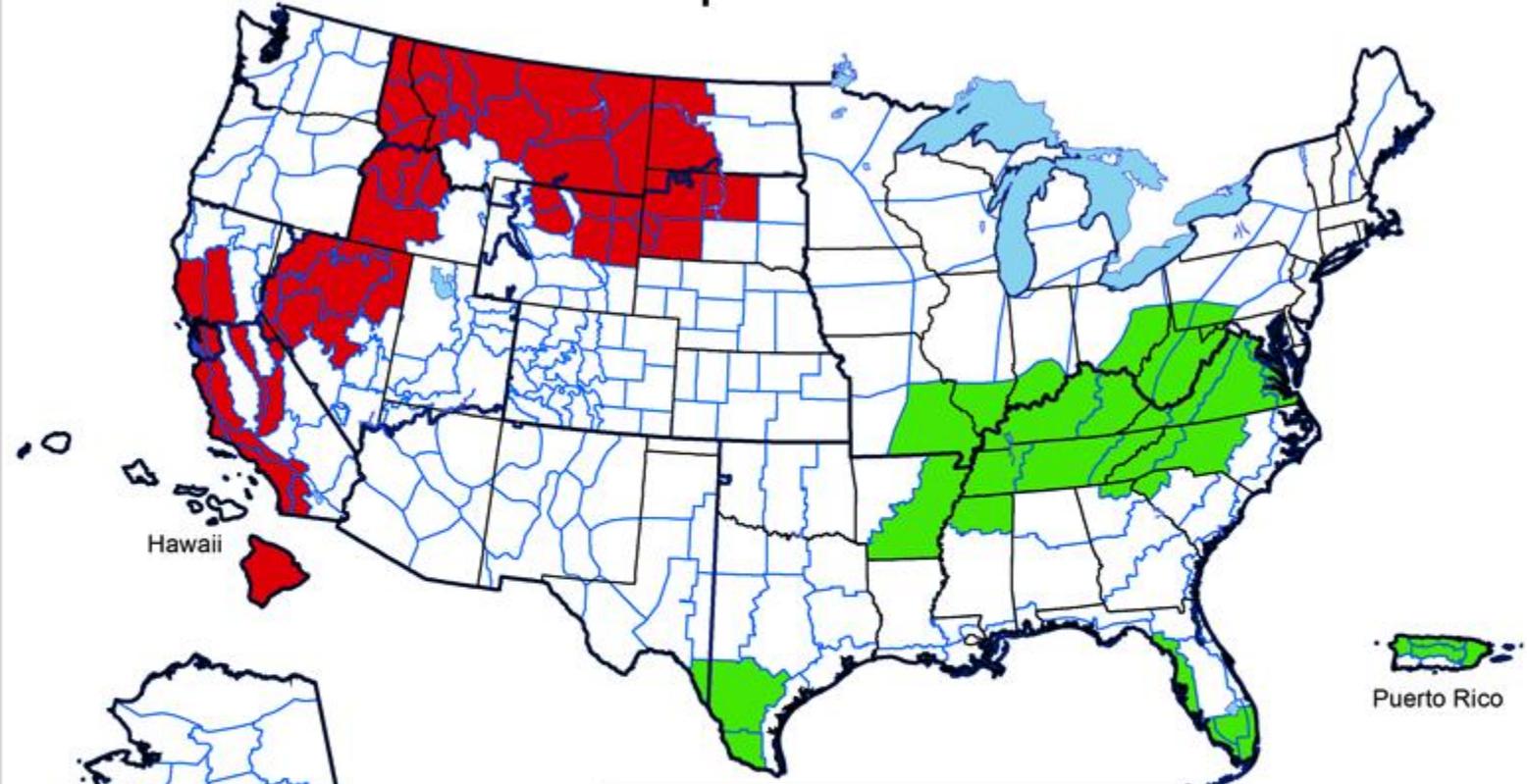


Map produced by
Predictive Services,
National Interagency Fire Center
Boise, Idaho
Issued August 1, 2017
Next issuance September 1, 2017

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.

Outlook

Significant Wildland Fire Potential Outlook September 2017



Significant Wildland Fire Potential

	Above Normal		Geographic Area Boundary
	Below Normal		Predictive Services Area Boundary
	Normal		State Border

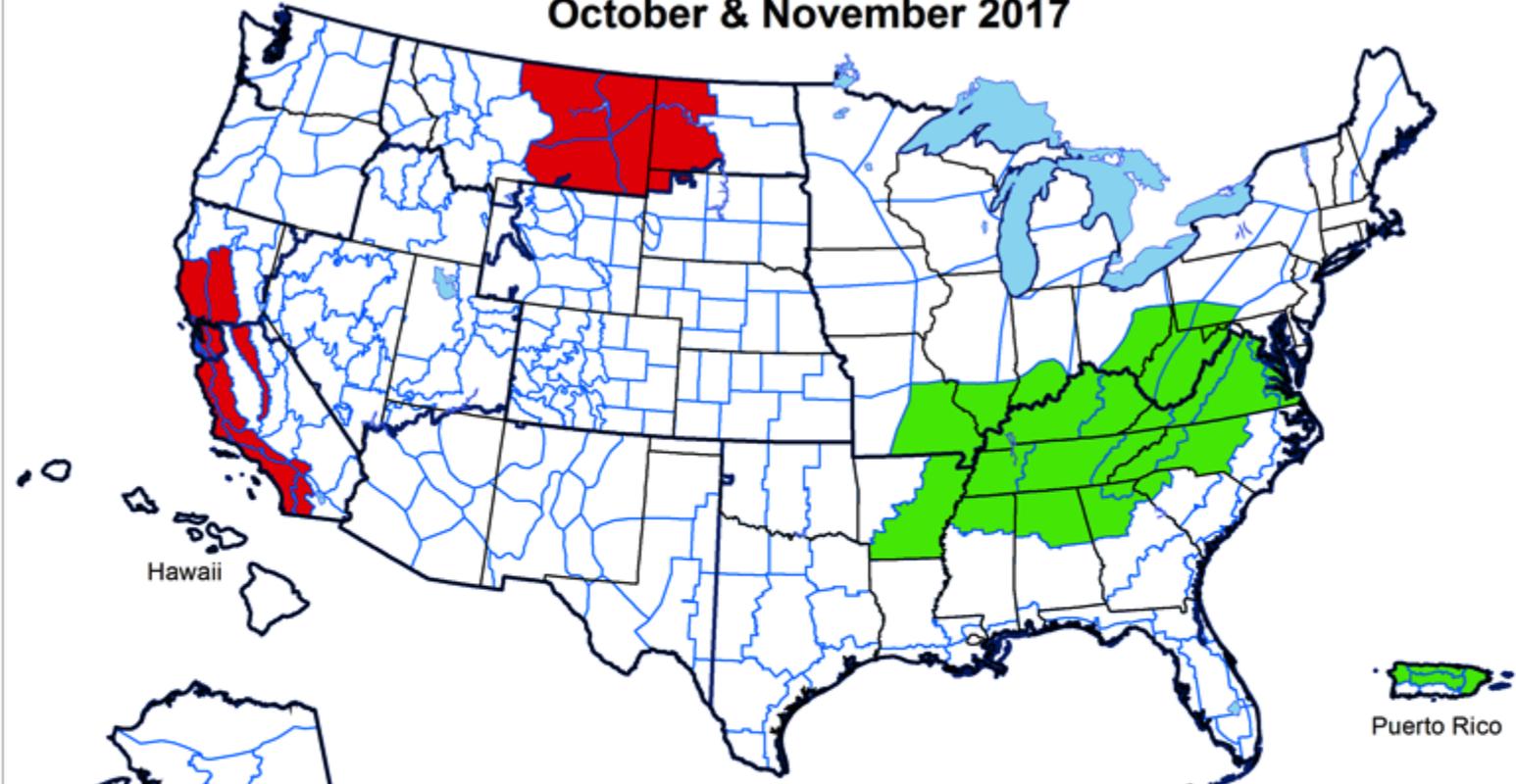


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Outlook

Significant Wildland Fire Potential Outlook October & November 2017



Significant Wildland Fire Potential			
	Above Normal		Geographic Area Boundary
	Below Normal		Predictive Services Area Boundary
	Normal		State Border



Map produced by
Predictive Services,
National Interagency Fire Center
Boise, Idaho
Issued August 1, 2017
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Greetings From Reno!

Fire near Tim's house



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Nearshore Conditions Briefing – West Coast IOOS Programs



SCCOOS Update: Spring 2017 –Harmful Algal Bloom in S. CA



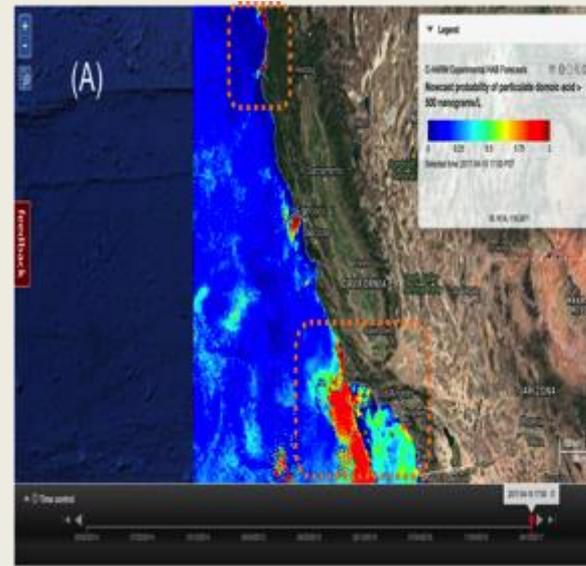
The bloom lasted **April – June** and spanned the entire Bight (Santa Barbara Channel to Baja)



Justin Sullivan @sullyfoto
 .@TMMC is dealing with surge of abandoned, sick and injured elephant #seals. Over 110 are currently being cared for.
 @GettyimagesNews
 5:50 PM - Apr 20, 2017

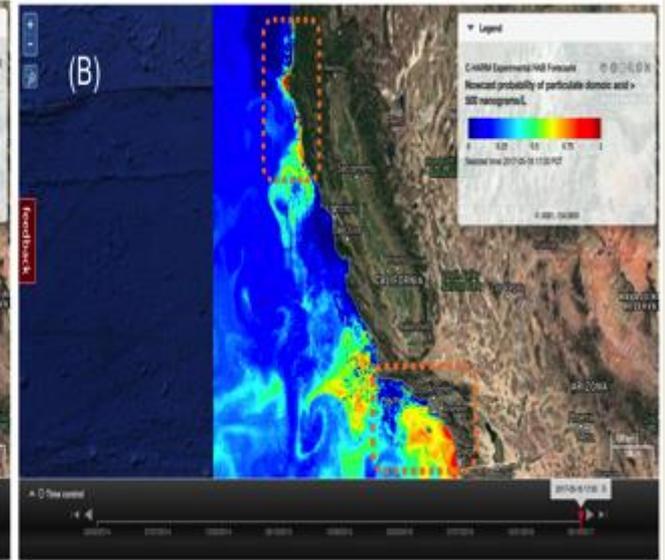
Sea lions, elephant seals, dolphins, sea birds stranded and/or died

in the Bight, potentially reaching a thousand animals (even whale deaths may have been linked)



~April 1 = Onset of DA Event

- Large Upwelling Event
- Animals start stranding
- Toxins at Newport Pier spike on 4/3



May 17 = HAB moves South & North

- More Impacts felt near San Diego
- HAB persists in Santa Barbara Channel
- Rock Crab fishery closed in Nor Cal

Summary of Particulate Domoic Acid Levels (ng/mL) March-May from SCCOOS HAB Monitoring

3/6-5/1/17	Scripps Pier	Surface	bd
3/1-5/8/17	Newport Pier	Surface	bd-0.33
3/13-5/1/17	Santa Monica Pier	Surface	bd-14.4
3/7-5/8/17	Stearn's Wharf (SB)	Surface	bd-7.56
3/7-5/15/17	CalPoly Pier	Surface	bd-0.40

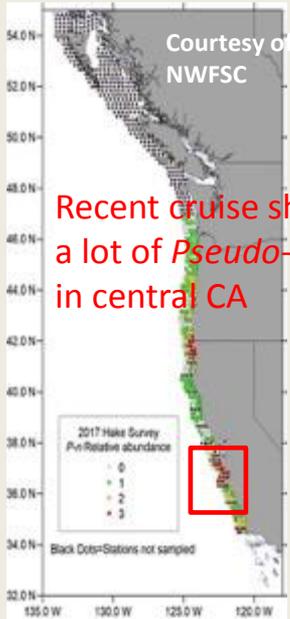
bd = below detection
0.5 ng/mL = toxic event threshold

*Offshore samples collected on the San Pedro Shelf were as high as **9.67 ng/mL**

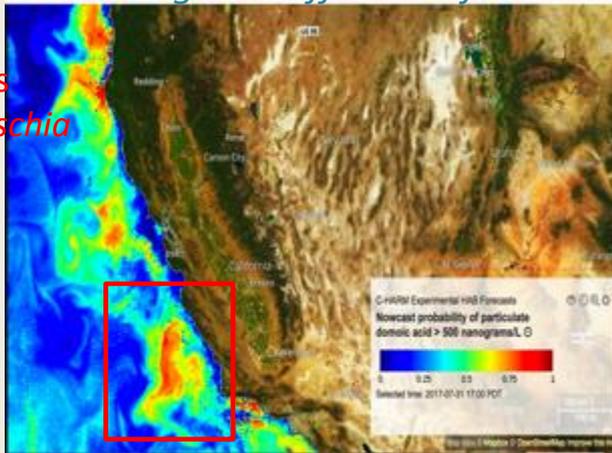
SCCOOS Update: Summer 2017 –Harmful Algal Bloom in S. CA



What's happening offshore? Domoic Acid causing sick sea lions again

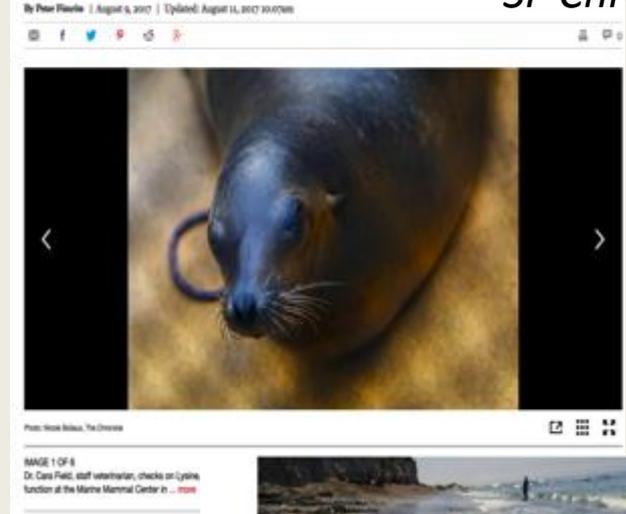


Prediction Map of Domoic Acid Risk shows high DA offshore of SLO County

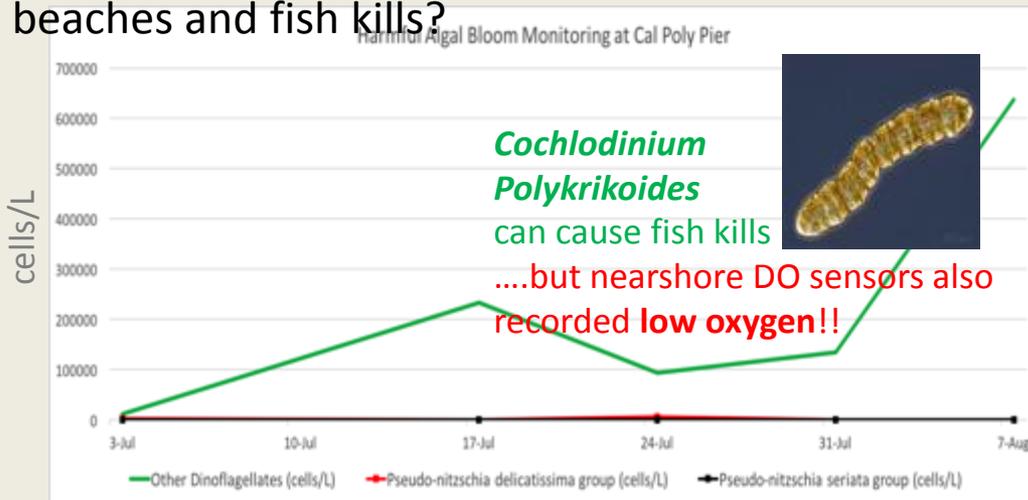


Sea lions wash ashore in California amid return of toxic blooms

SF Chronicle



What's happening nearshore? Dinoflagellate bloom =stinky beaches and fish kills?



SLO Tribune

This is what's making sea lions sick — and causing quite a stench in Pismo Beach

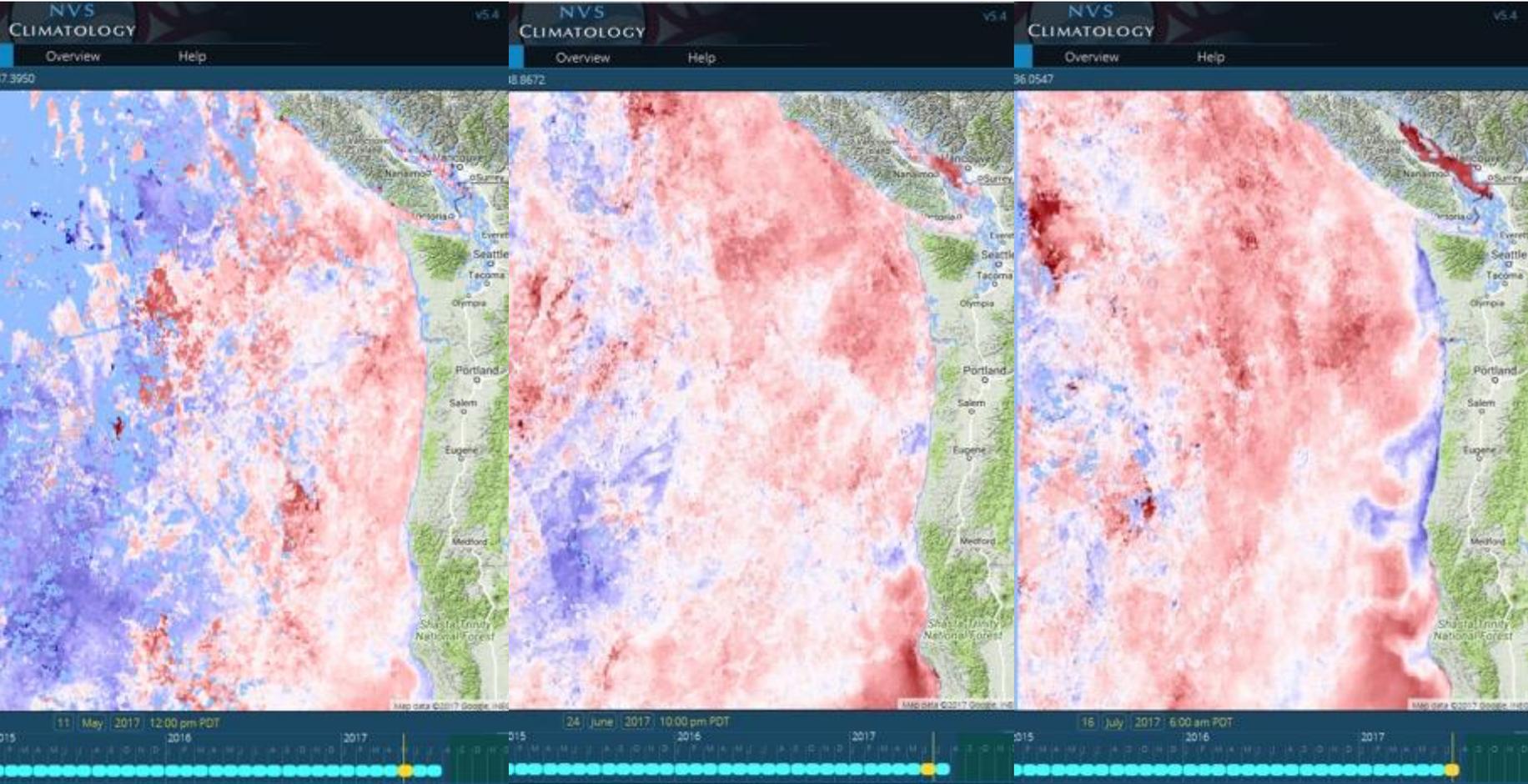
NANOOS Update

www.nanoos.org Climatology app

May 2017

June 2017

Sea Surface Temperature Anomaly
July 2017

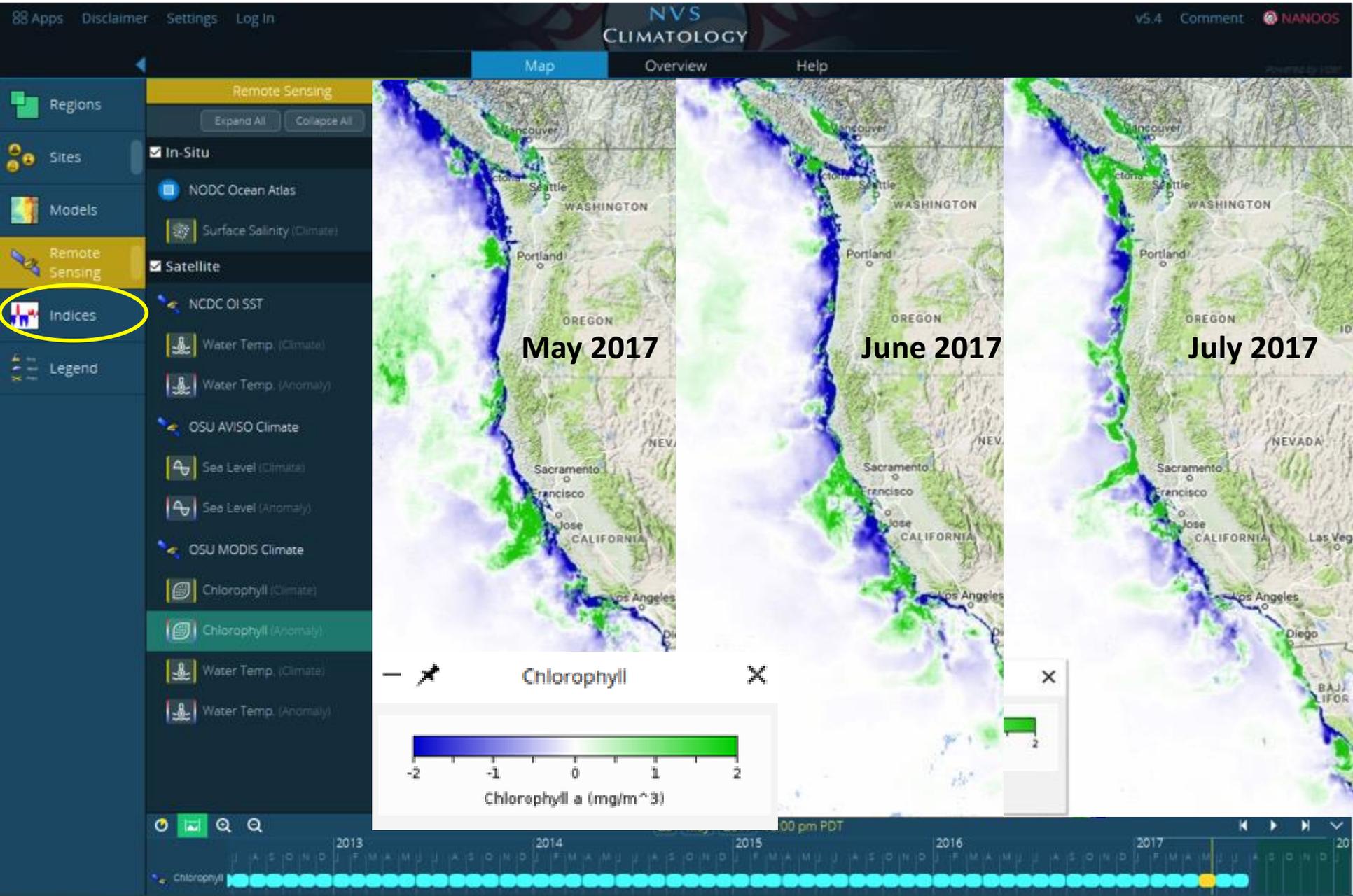


NANOOS Update: Sea Surface Temperature Anomaly

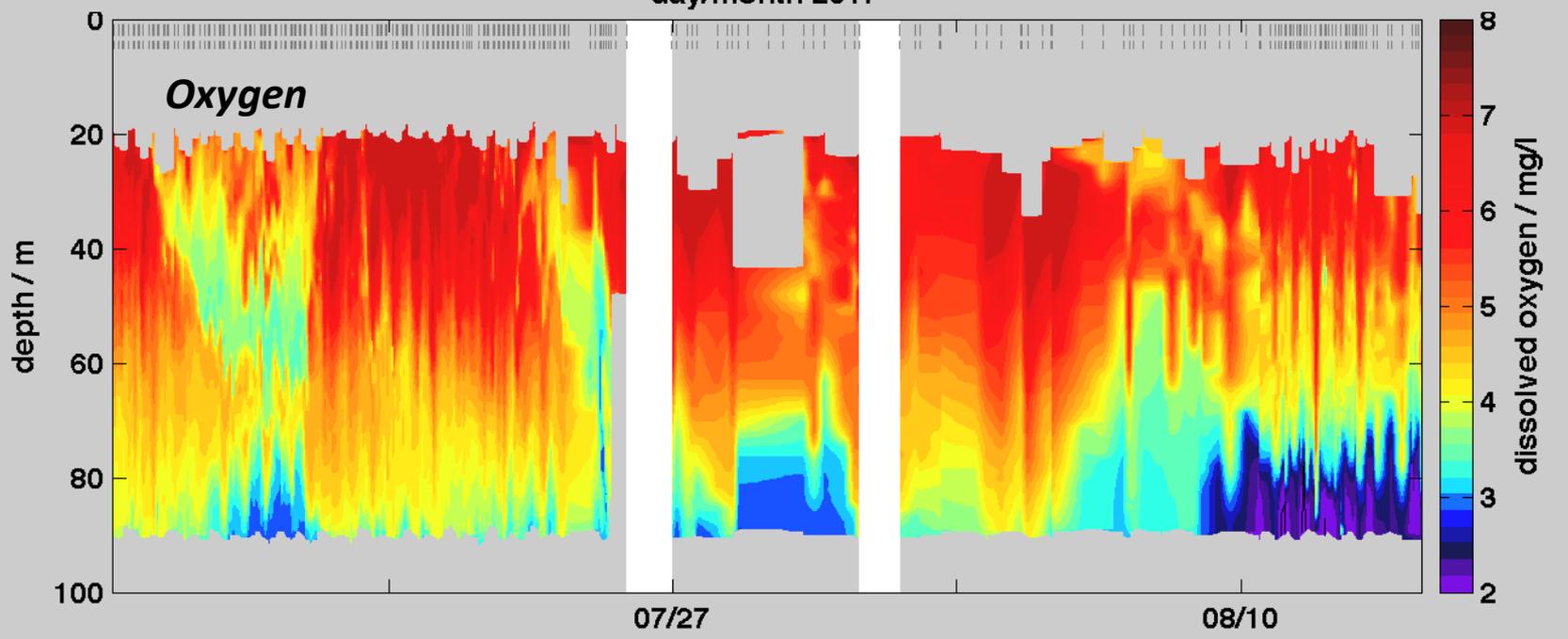
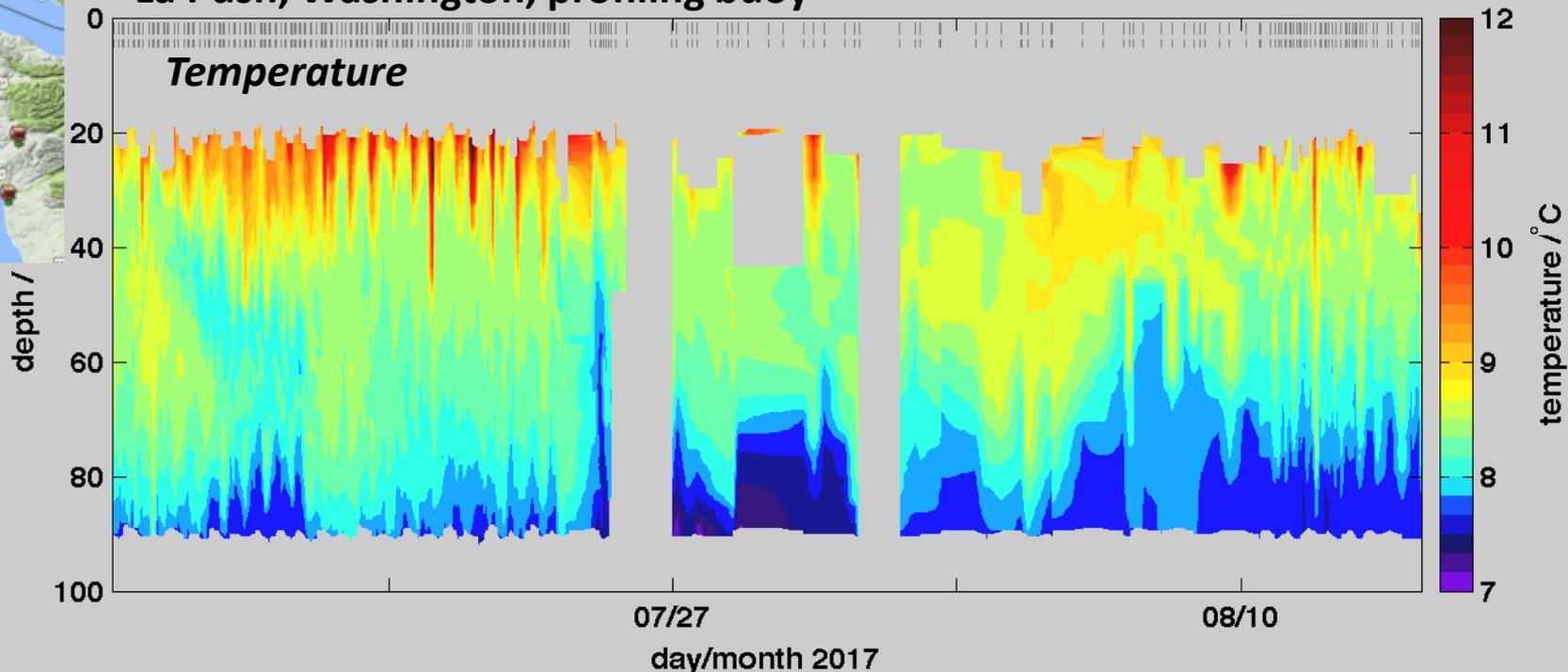
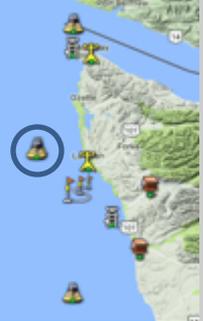
NANOOS Update

NANOOS: www.nanoos.org Climatology app

Chlorophyll Anomaly

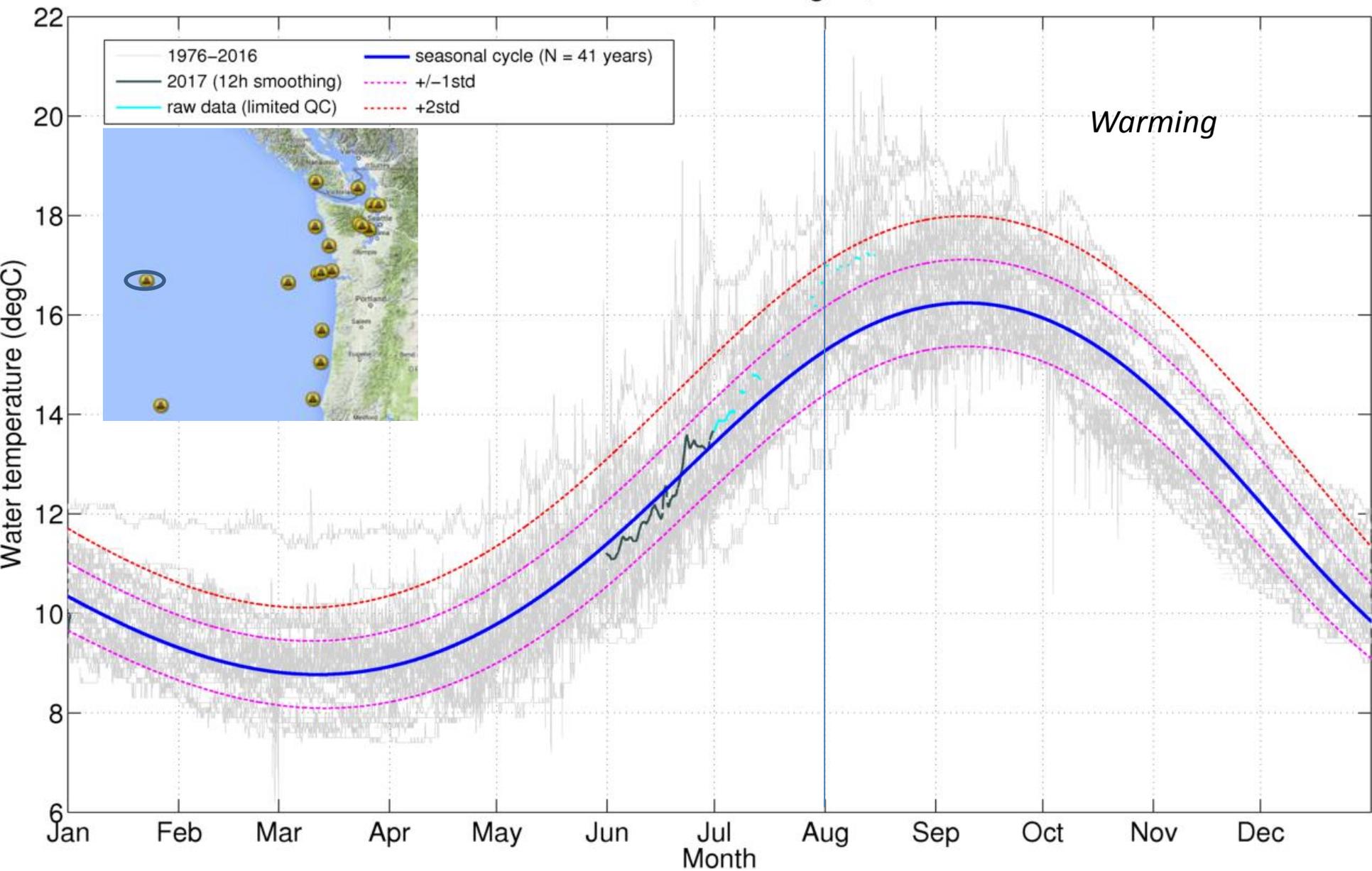


La Push, Washington, profiling buoy



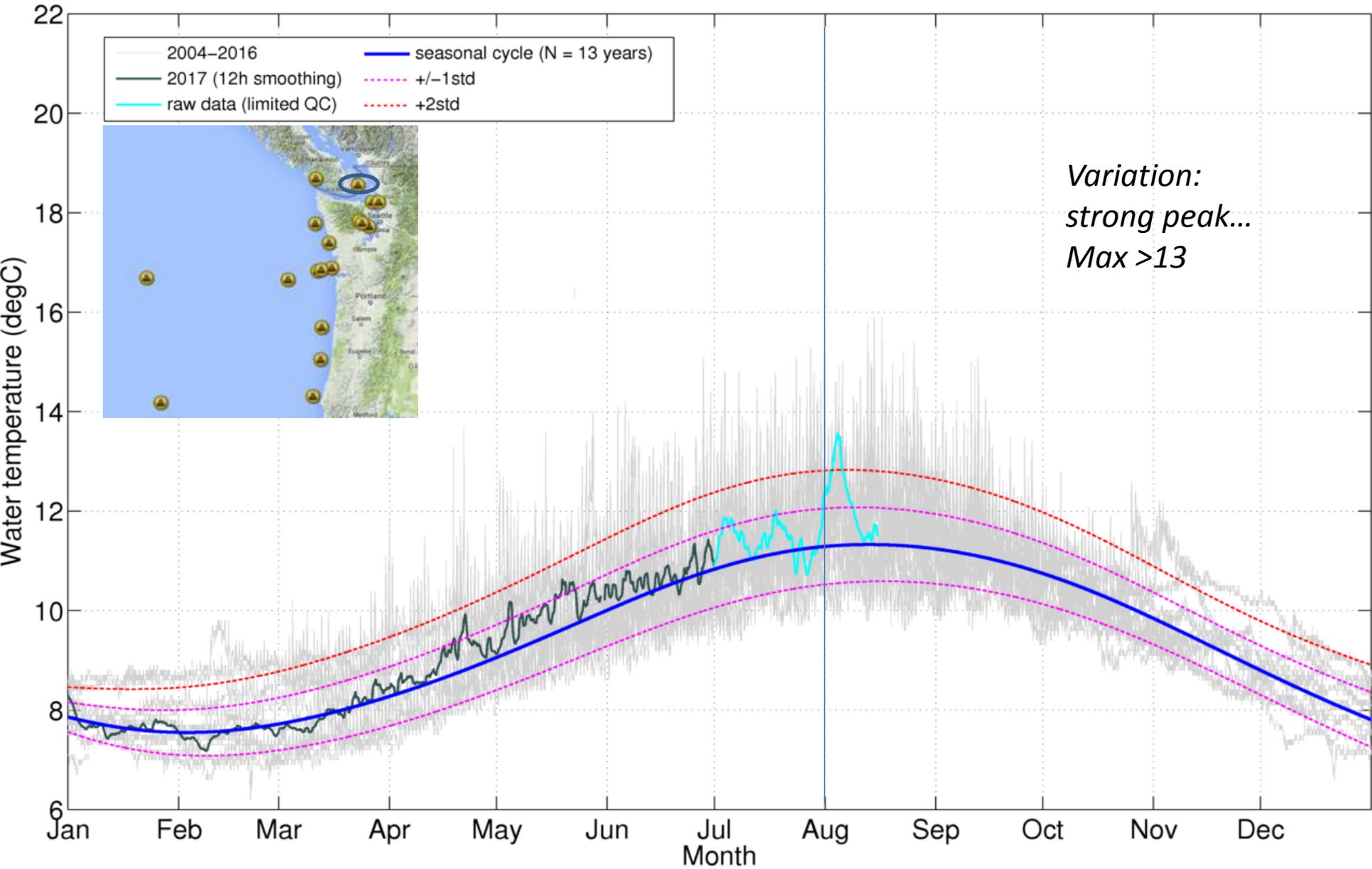
NDBC 46005, Washington, Wa

Sea Surface Temp



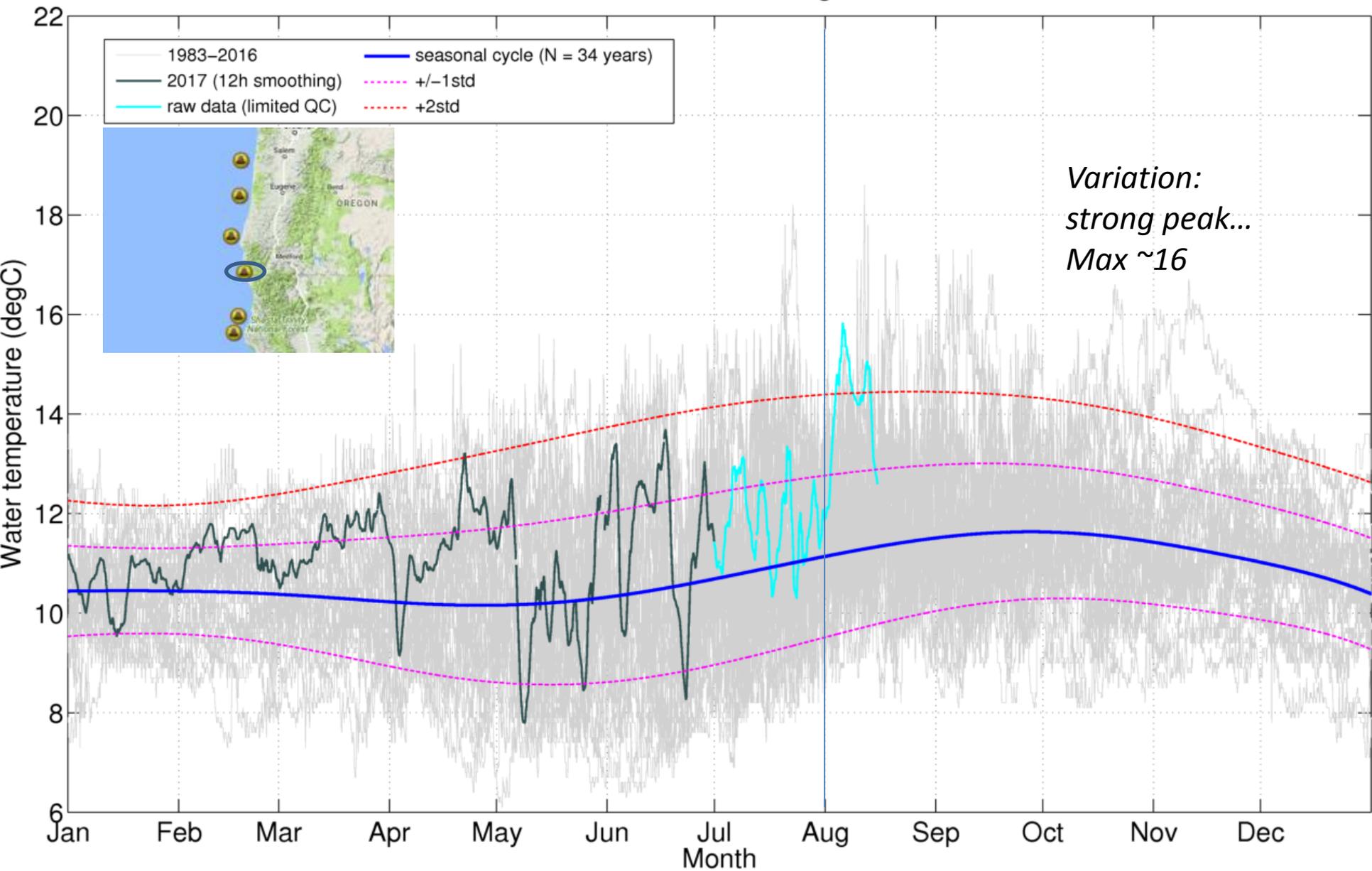
NDBC 46088, New Dungeness, Wa

Sea Surface Temp



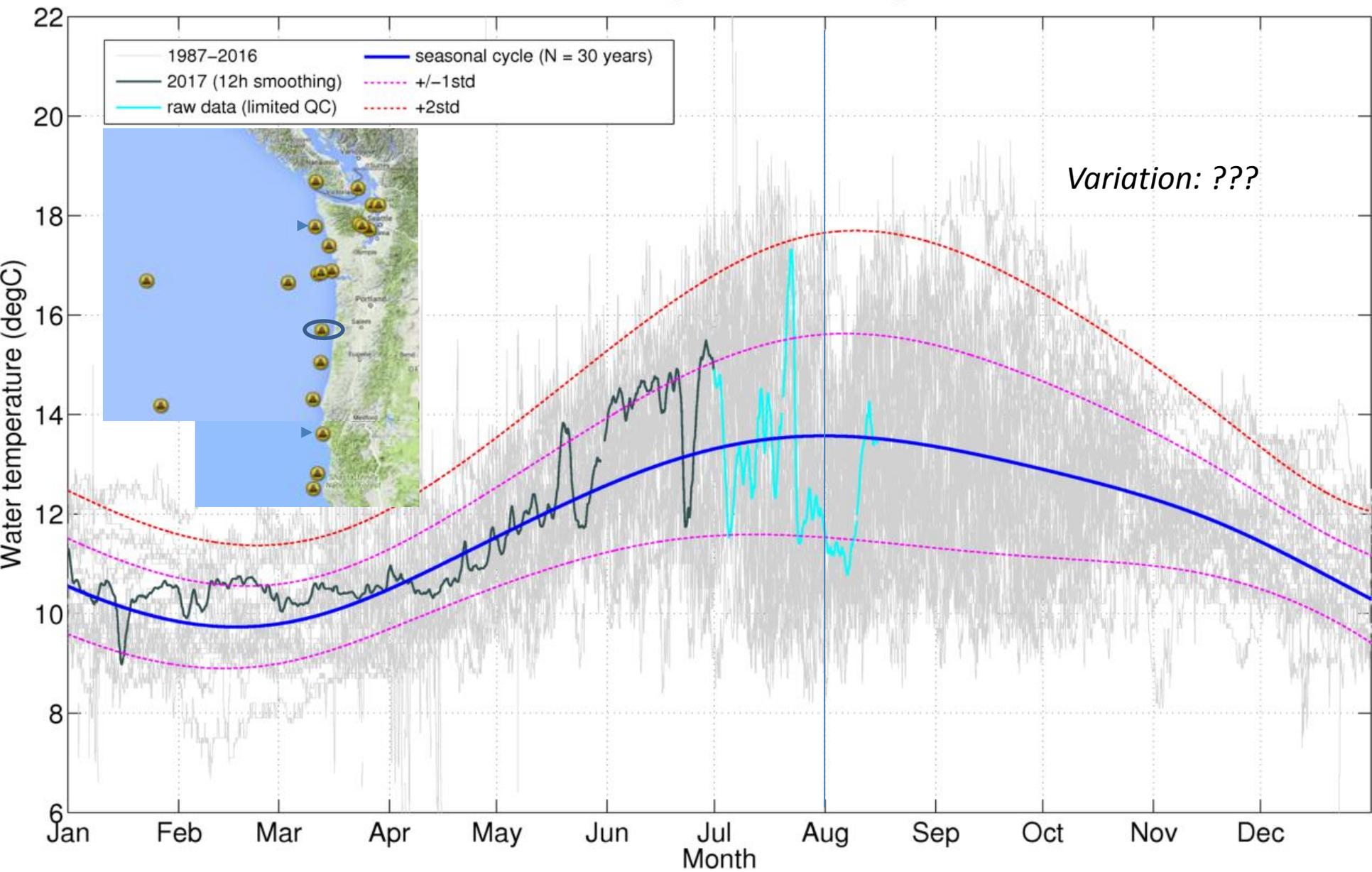
NDBC 46027, St Georges, Ca

Sea Surface Temp



Sea Surface Temp

NDBC 46050, Stonewall Bank, Or



Call Agenda



- Project Recap & Updates (Ruth Howell)
- El Niño and Regional Climate brief (Dan McEvoy)
- Guest Speaker: Western US wildfire season update (Tim Brown)
- IOOS Nearshore Conditions brief (Julie Thomas, Jan Newton)
- **Environmental conditions and impacts reporting and discussion (Ruth Howell)**
- Discussion

Regional Impacts Summary



Reporting Status:

- 63 entries since June 6, 2017
- Thanks to WRCC Shawn Roj for compiling impacts for this period

Environmental Conditions

- Floods
- Landslides
- Fire
- Air Pollution and Smoke
- Excessive Heat
- Drought
- Severe Weather
- Flash Flood

Human & Environmental Impacts

- Property damage/Loss of property
- Impacts to recreational access
- Evacuations
- Increased human health risks
- Power outages
- Loss of life
- Agriculture and livestock

Impacts in Pictures



A major heat wave hit the Southwest making it dangerous to spend time outdoors. Planes have a hard time taking off when temperatures reach 120 degrees F. This caused many travel delays. Many people were treated for burns on their hands and feet due to hot pavement or hot car interiors. Phoenix was close to breaking its all time high of 122 degrees F. At least 18 deaths have been blamed on the heatwave.



Impacts in Pictures



Fires across the west have burned over 6.2 million acres in 2017 according to the National Interagency Fire Center. The Brian Head fire in Utah was human caused, burned over 70,000 acres, and forced at least 1,500 people to evacuate. At least 13 homes were destroyed. The Detwiller fire in California, still under investigation, burned over 80,000 acres, and forced at least 4,000 people to evacuate. 63 residences were destroyed. Smoke from this fire affected air quality from California to Idaho.



Brian Head fire in Utah



Detwiller fire in California

Impacts in Pictures



Monsoonal moisture produced a flash flood at a popular swimming hole in the Tonto National Forest in Arizona. 9 people lost their lives due to the unpredictable nature of the flood. Another flash flood in Arizona stranded 17 hikers but all were rescued.



Impacts in Pictures



A massive landslide in Big Sur, CA, possibly the largest in the states history, buried a quarter mile stretch of Highway 1. More than 1 million tons of rock and dirt tumbled down a saturated slope in an area called Mud Creek. Luckily, though the road was already closed due to other repairs. This years storms have cause over \$1 billion in highway damage.



Impacts in Pictures



Heavy rains caused flash flooding in parts of Salt Lake City. A portion of the TRAX line was under a foot of water, causing train delays. 4 schools were damaged. Many homes suffered flooding damage. 4,000 customers were without power.



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- **Discussion (all)**
 - Additional impacts to report?
 - Observations on recent environmental anomalies?

Next NOAA West Watch: October 24, 1-2pm PDT/ 2-3pm PDT