



2019 SUMMER OUTLOOK

CAL FIRE

Predictive Services Sacramento

Spring 2019

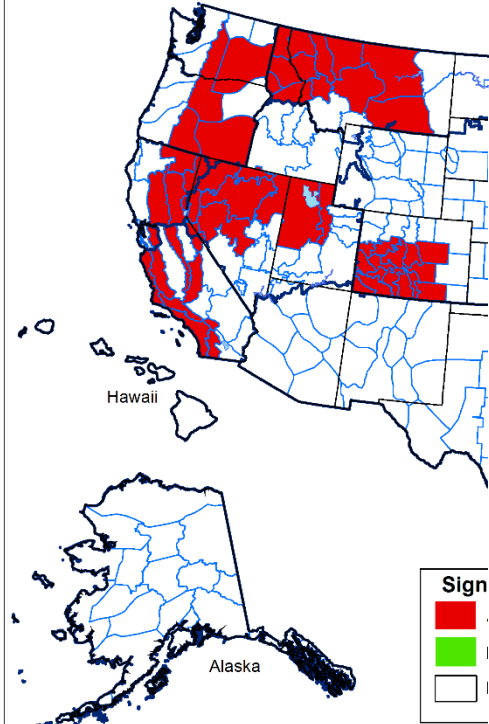
CAL FIRE 2018 SUMMER SUMMARY

- 2018 Notable Events
- 2019 Outlook



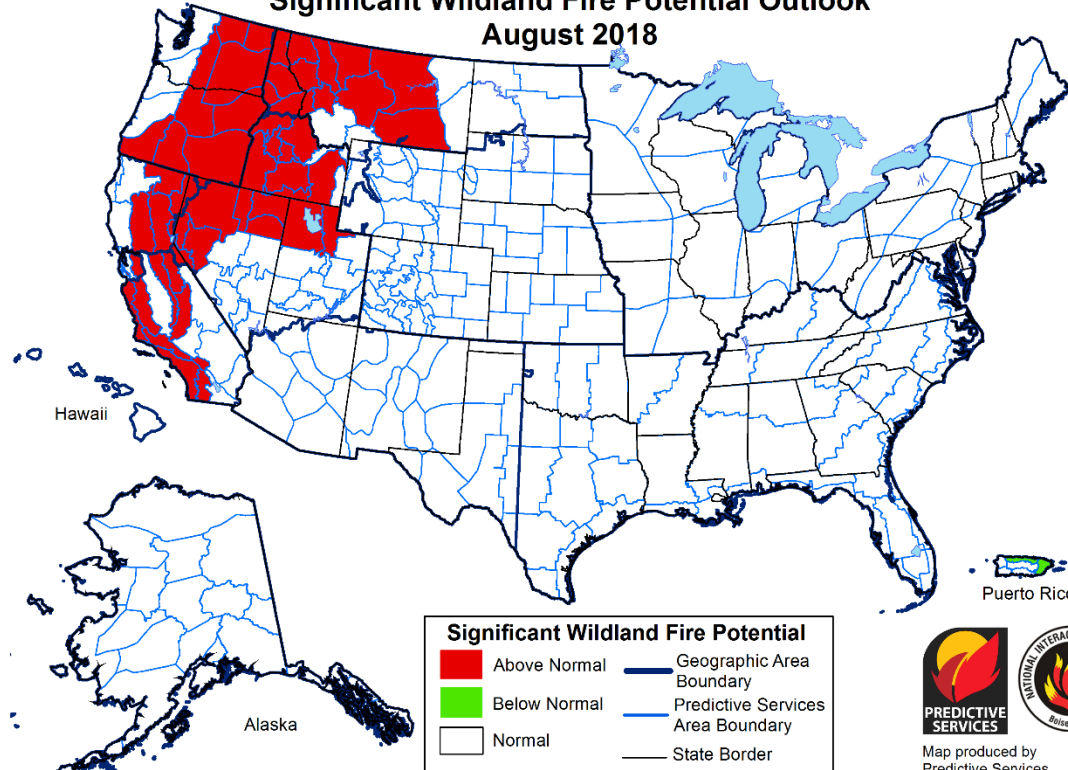
2018 SEASONAL OUTLOOK

**Significant Wildland Fire Potential Outlook
July 2018**



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.

**Significant Wildland Fire Potential Outlook
August 2018**



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.

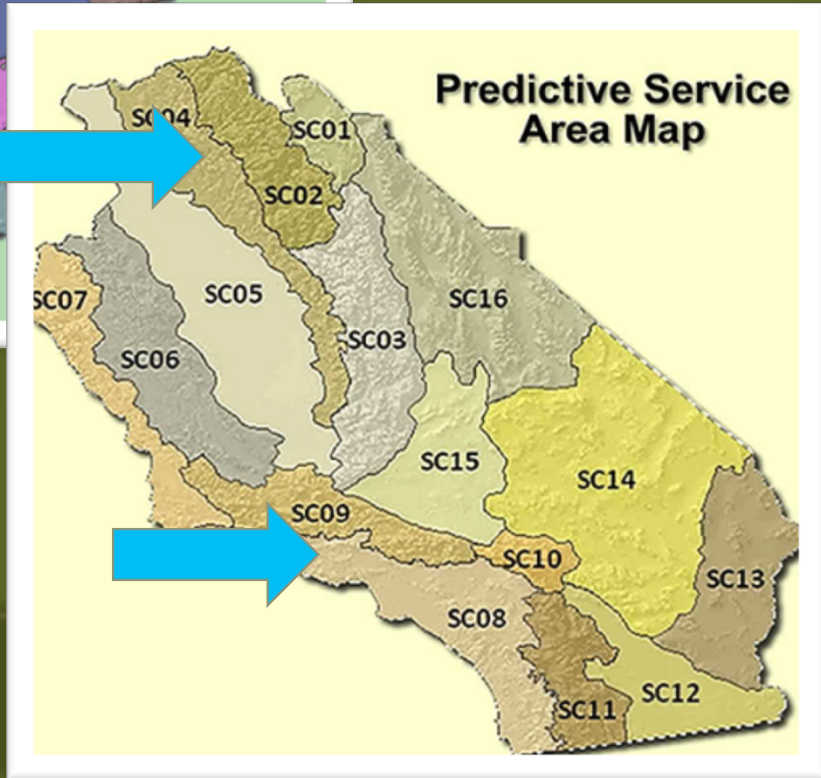
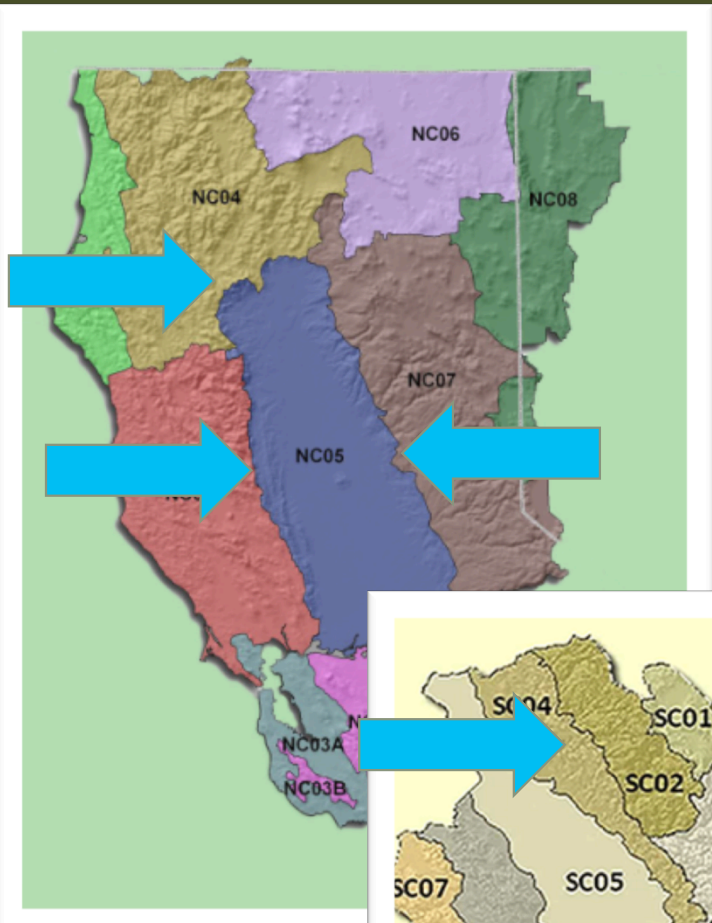


Map produced by
Predictive Services,
National Interagency Fire Center
Boise, Idaho
Issued May 1, 2018
Next issuance June 1, 2018

2018 NOTABLE EVENTS



2018 NOTABLE EVENTS

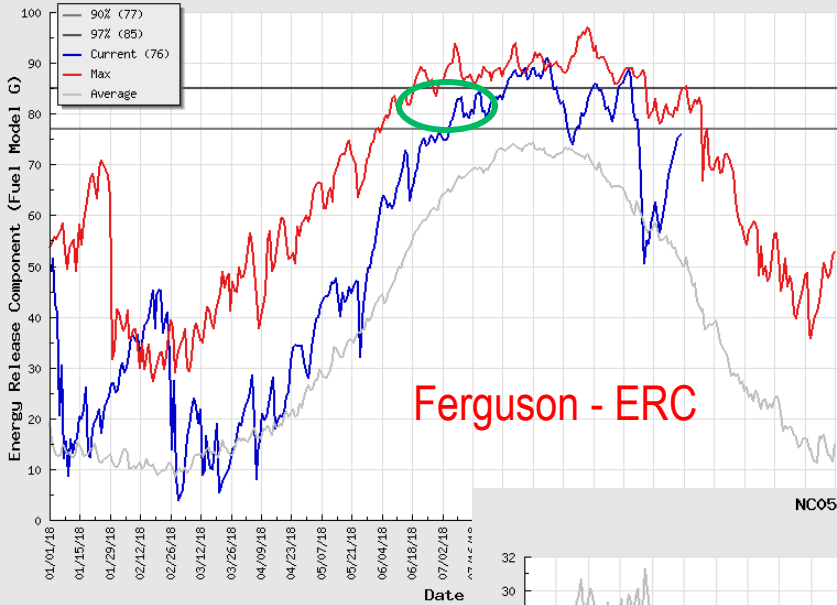


- Ferguson fire in Mariposa County July 13, 2018 96,901 Ac.
- Carr Fire in Shasta County July 23, 2018 , 229,651 Ac.
- Mendocino Complex fire in Mendocino, Lake, Colusa and Glen July 27, 2018, 459,123 Ac
- Camp Fire in Butte County November 8, 2018, 153,336 Ac
- Woolsey Fire, Ventura and Los Angeles County November 8, 2018, 96,949 Ac

2018 NOTABLE EVENTS

SC04 – Sierra Foothills

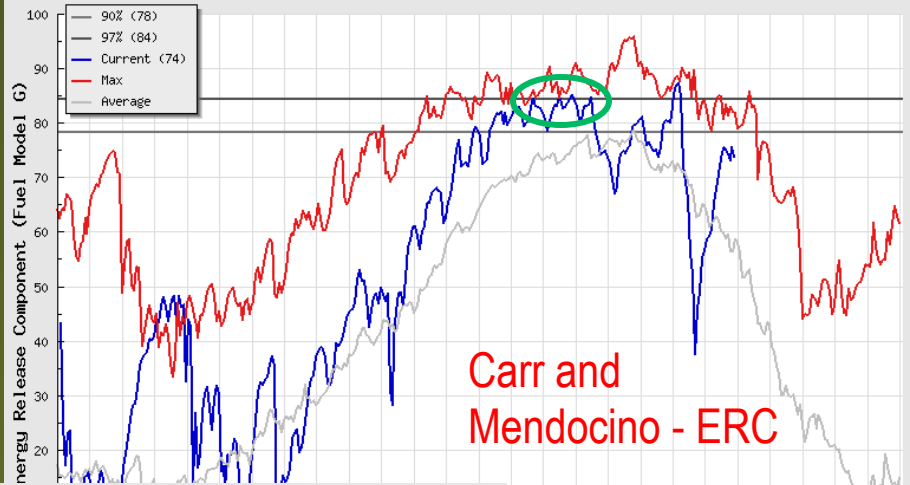
Valid Date: 21-Oct-2018



Ferguson - ERC

NC05 – Sac Valley/Foothills

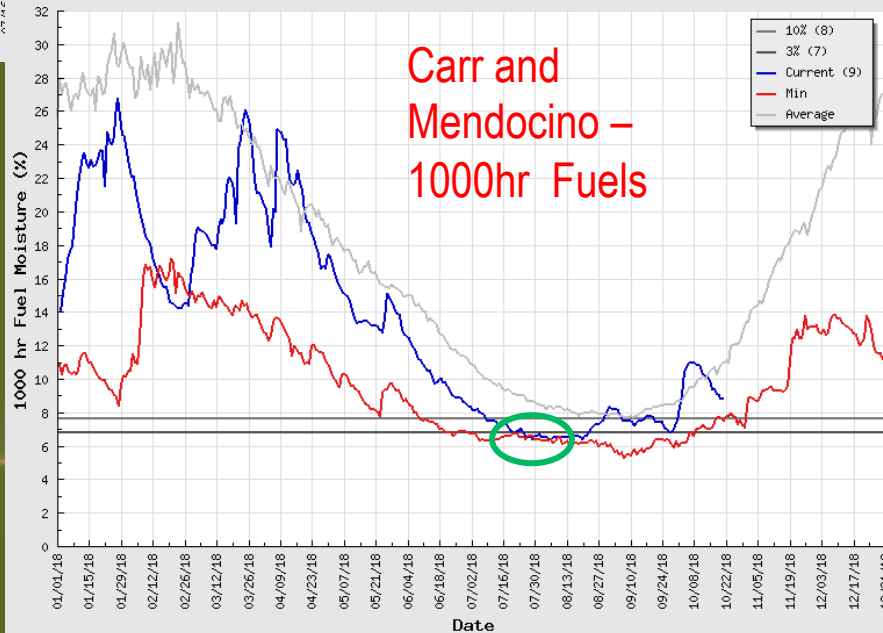
Valid Date: 21-Oct-2018



Carr and Mendocino - ERC

NC05 – Sac Valley/Foothills

Valid Date: 21-Oct-2018



Carr and Mendocino – 1000hr Fuels

Indices record at or near records for the month of July when the Ferguson, Carr and Mendocino Complex fire started.

FERGUSON



Heavy Fuel Loading from past
drought – Bug kill

CARR



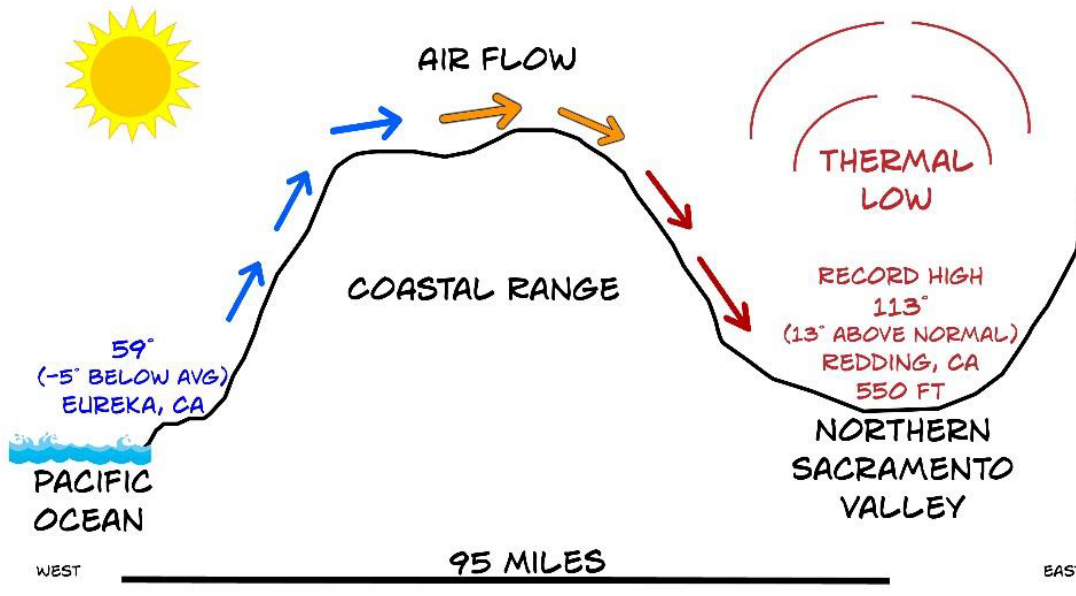
A large pyrocumulus cloud (or cloud of fire) explodes outward during the Carr Fire near Redding, Calif., on July 27. (Josh Edelson/AFP/Getty images)

CARR

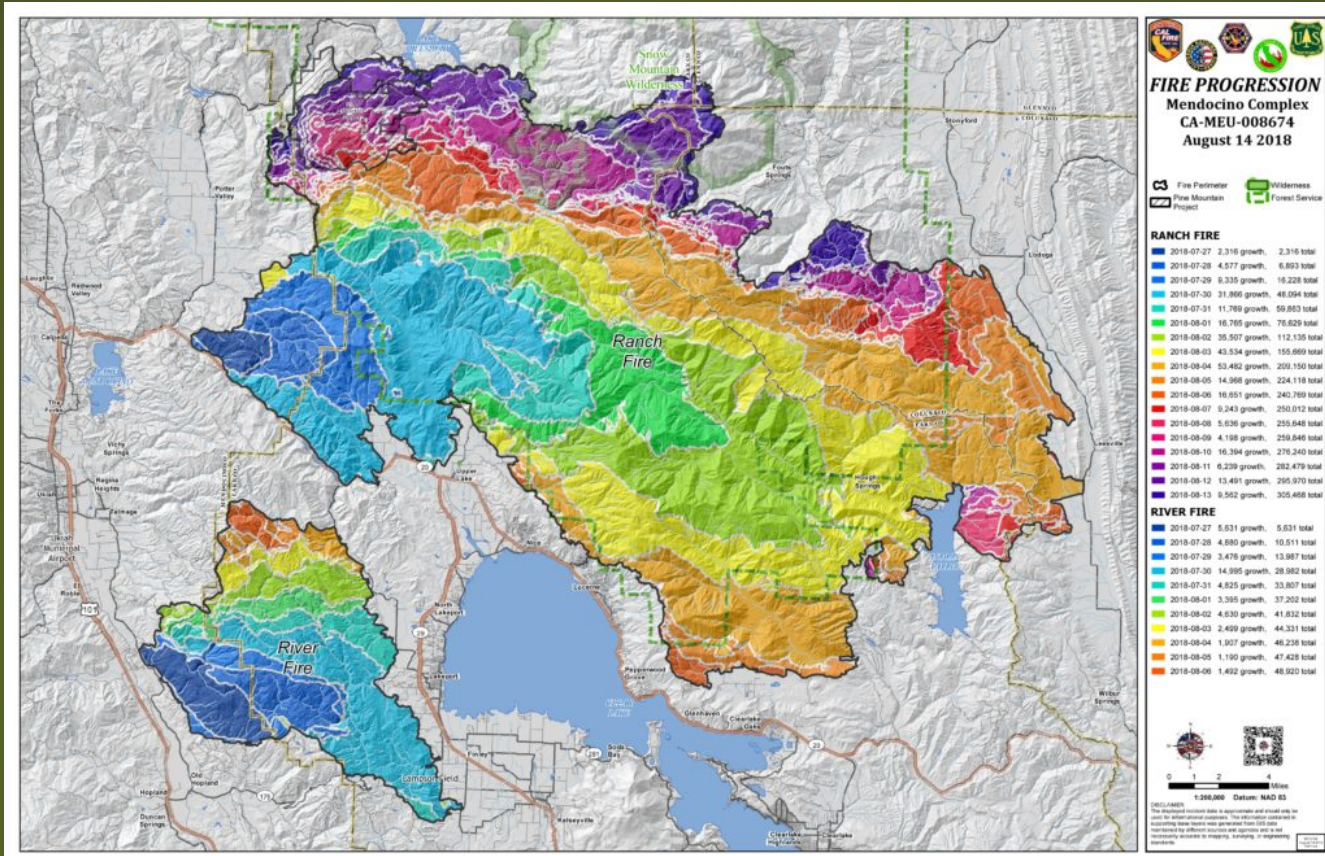


CARR FIRE, FIRE TORNADO

July 26, 2018. The fire tornado was a large rotating fire plume that was roughly 1000 feet in diameter at its base. Winds at the base of the fire tornado reached speeds in the range of 136-165 mph (EF-3 tornado strength),



MENDOCINO COMPLEX



MENDOCINO COMPLEX, LANSTAT 8



CAMP AND WOOLSEY FIRE



2018 NUMBER OF FIRES AND ACRES

Incident Information

Last modified on Jan 24, 2018

The below statistics are tracked on a weekly basis and provide a snapshot of the number of fires and acres burned. These are preliminary numbers taken from our Computer Aided Dispatch (CAD) system, and will likely change as dispatched wildfires may end up being other types of fires or false alarms. These numbers are subject to change until the final fire season reports are completed and tabulated.

NUMBER OF FIRES AND ACRES:

Interval	Fires	Acres
January 1, 2018 through December 30, 2018	6,284	876,147
January 1, 2017 through December 30, 2017	7,117	505,956
5 year average (same interval)	5,756	233,483
2018 Combined YTD (CALFIRE & US Forest Service)	7,571	1,671,203

(Statistics include all wildfires responded to by CAL FIRE in both the State Responsibility Area, as well as the Local Responsibility Area under contract with the department. Statistics may not include wildfires in State Responsibility Area protected by CAL FIRE's contract counties. Final numbers will be provided in the annual Wildfire Activity Statistics Report (Redbook) once it's published.)

TOP 20 CALIFORNIA WILDFIRE LIST

Top 20 Largest California Wildfires

FIRE NAME (CAUSE)	
1	MENDOCINO COMPLEX (Under Investigation)
2	THOMAS (Powerlines)
3	CEDAR (Human Related)
4	RUSH (Lightning)
5	RIM (Human Related)
6	ZACA (Human Related)
7	CARR (Human Related)
8	MATILJA (Undetermined)
9	WITCH (Powerlines)
10	KLAMATH THEATER COMPLEX (Lightning)
11	MARBLE CONE (Lightning)
12	LAGUNA (POWERLINES)
13	BASIN COMPLEX (Lightning)
14	DAY FIRE (Human Related)
15	STATION (Human Related)
16	CAMP FIRE (Under Investigation)
17	ROUGH (Lightning)
18	McNALLY (Human Related)
19	STANISLAUS COMPLEX (Lightning)
20	BIG BAR COMPLEX (Lightning)

*There is no doubt that there were fires with significance of the large fires in more recent times.
 **This list does not include fire jurisdiction. These are the Top 20 regardless of whether they were state, federal, or local responsibility.

Top 20 Most Destructive California Wildfires

FIRE NAME (CAUSE)	DATE	COUNTY	ACRES	STRUCTURES	DEATHS
1	CAMP FIRE (Under Investigation)	November 2018	153,336	18,804	85
2	TUBBS (Electrical)	October 2017	36,807	5,643	22
3	TUNNEL - Oakland Hills (Rekindle)	October 1991	1,600	2,900	25
4	CEDAR (Human Related)	October 2003	273,246	2,820	15
5	VALLEY (Electrical)	October 1933	47	0	29
6	WITCH (Powerlines)	October 2017	36,807	5,643	22
7	WOOLSEY (Under Investigation)	October 2003	273,246	2,820	15
8	CARR (Human Related)	October 2003	273,246	2,820	15
9	NUNS (Powerline)	July 1953	1,340	0	15
10	THOMAS (Powerline)	November 1966	2,028	0	12
11	OLD (Human Related)	October 1943	13,145	0	11
12	JONES (Undetermined)	November 1956	43,904	0	11
13	BUTTE (Powerlines)	August 2008	105,855	10	10
14	ATLAS (Powerline)	October 2017	36,523	544	9
15	PAINT (Arson)	October 2007	90,440	548	8
16	FOUNTAIN (Arson)	August 1968	22,197	0	8
17	SAYRE (Misc.)	July 2018	229,651	1,614	8
18	CITY OF BERKELEY (Power)	October 2017	51,624	781	6
19	HARRIS (Undetermined)	October 2003	91,281	1,003	6
20	REDWOOD VALLEY (Powerline)	October 2003	91,281	1,003	6

***Structures" include homes, outbuildings, etc.
 ***This list does not include fire jurisdiction.

Top 20 Deadliest California Wildfires

FIRE NAME (CAUSE)	DATE	COUNTY	ACRES	STRUCTURES	DEATHS
1	CAMP FIRE (Under Investigation)	Butte County	153,336	18,804	85
2	GRIFFITH PARK (Unknown)	Los Angeles	47	0	29
3	TUNNEL - Oakland Hills (Rekindle)	Alameda	1,600	2,900	25
4	TUBBS (Electrical)	Napa & Sonoma	36,807	5,643	22
5	CEDAR (Human Related)	San Diego	273,246	2,820	15
6	RATTLESNAKE (Arson)	Glenn	1,340	0	15
7	LOOP (Unknown)	Los Angeles	2,028	0	12
8	HAUSER CREEK (Human Related)	San Diego	13,145	0	11
9	INAJA (Human Related)	San Diego	43,904	0	11
10	IRON ALPS COMPLEX (Lightning)	Trinity	105,855	10	10
11	REDWOOD VALLEY (Powerline)	Mendocino	36,523	544	9
12	HARRIS (Undetermined)	San Diego	90,440	548	8
13	CANYON (Unknown)	Los Angeles	22,197	0	8
14	CARR (Human Related)	Shasta County, Trinity County	229,651	1,614	8
15	ATLAS (Powerline)	Napa & Solano	51,624	781	6
16	OLD (Human Related)	San Bernardino	91,281	1,003	6
17	DECKER (Vehicle)	Riverside	1,425	1	6
18	HACIENDA (Unknown)	Los Angeles	1,150	0	6
19	ESPERANZA (Arson)	Riverside	40,200	54	5
20	LAGUNA (Powerlines)	San Diego	175,425	382	5

** Fires with the same death count are listed by most recent. Several fires have had 4 fatalities, but only the most recent are listed.
 ***This list does not include fire jurisdiction. These are the Top 20 regardless of whether they were state, federal, or local responsibility.



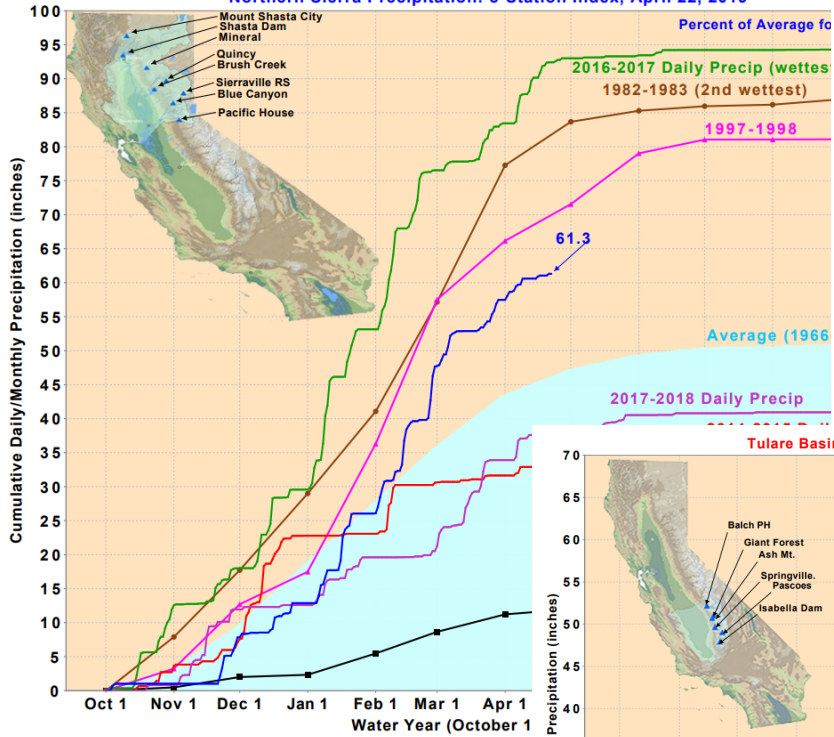
2019 SUMMER OUTLOOK



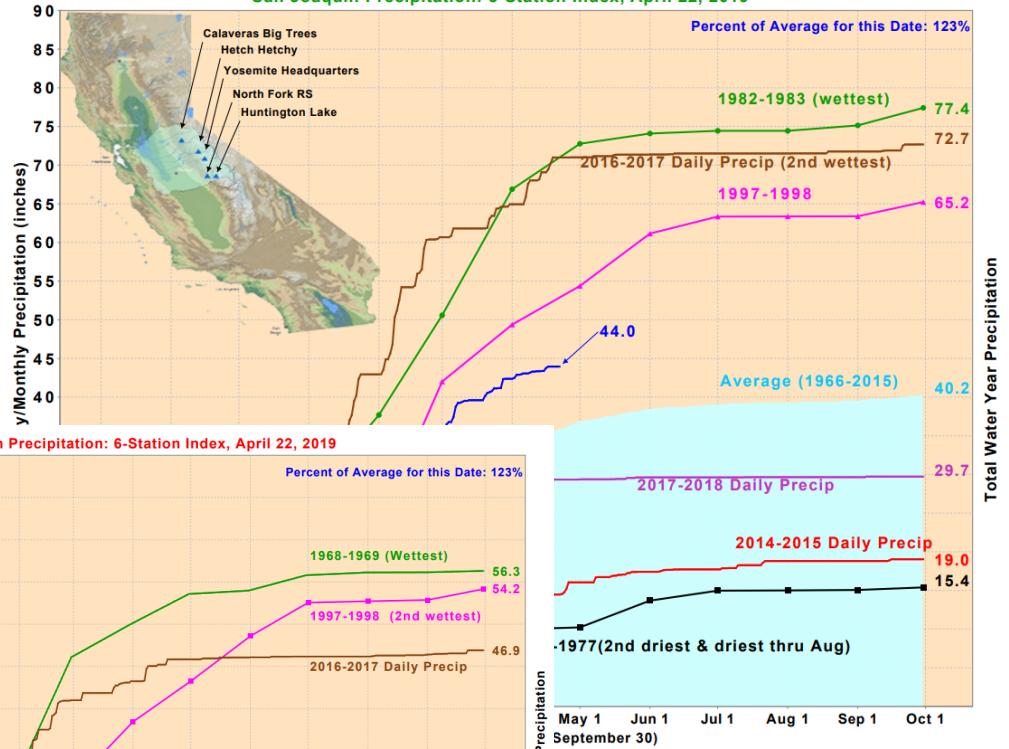
GOES-17 satellite image of a massive storm hitting California on February 2, 2019
NOAA

2018/2019 SIERRA PRECIPITATION

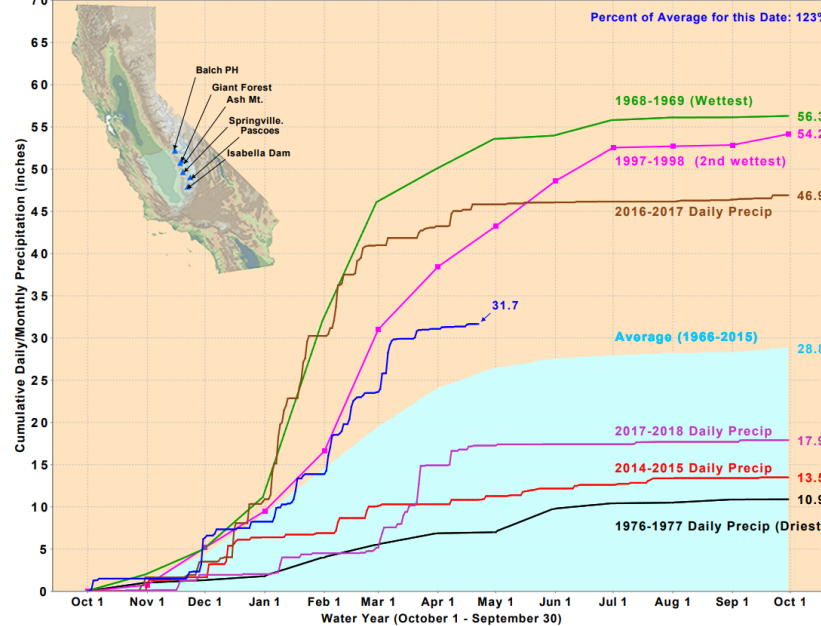
Northern Sierra Precipitation: 8-Station Index, April 22, 2019



San Joaquin Precipitation: 5-Station Index, April 22, 2019



Tulare Basin Precipitation: 6-Station Index, April 22, 2019

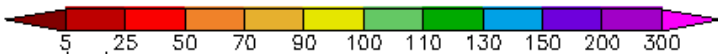
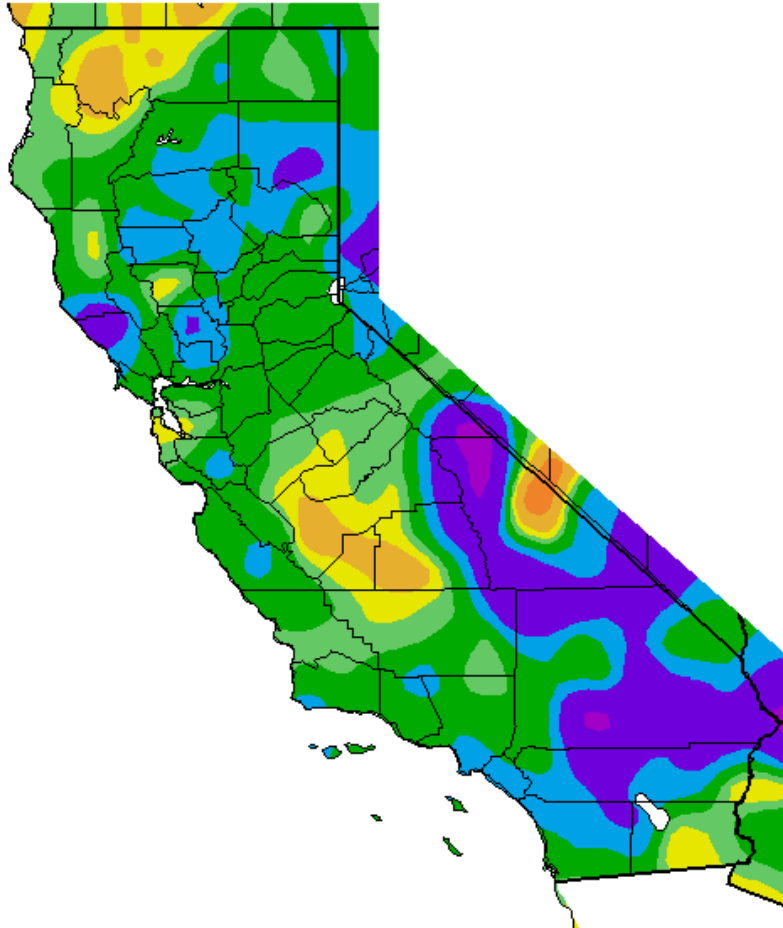


Total Water Year Precipitation

Total Water Year Precipitation

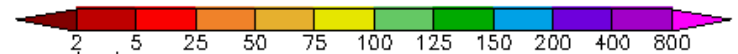
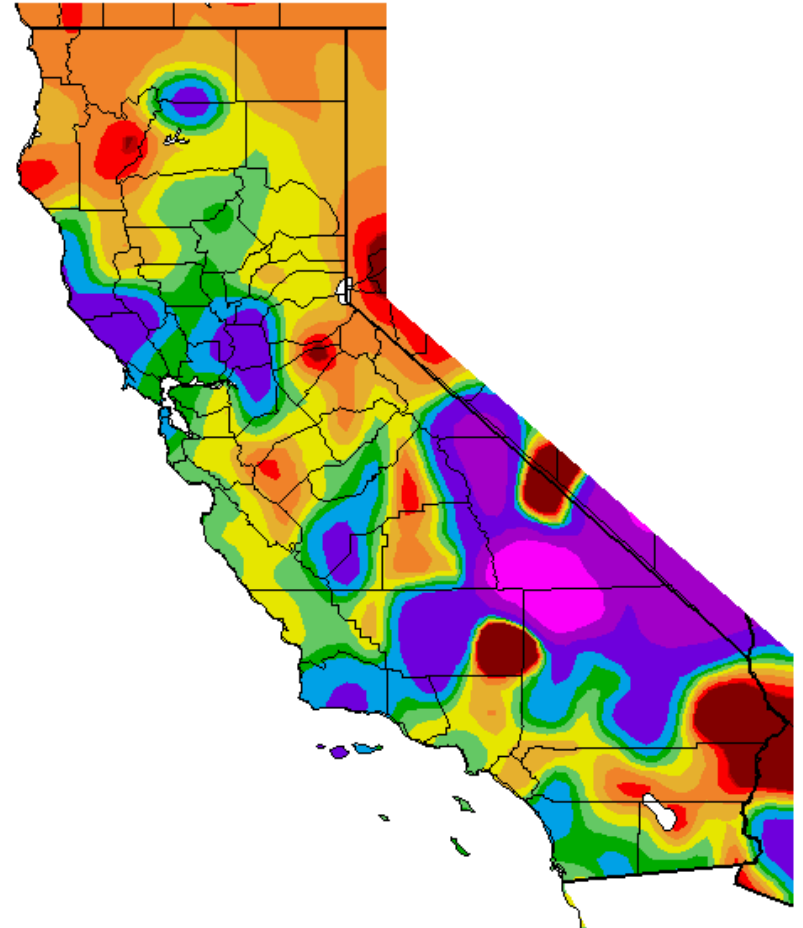
Current WX - Percent of Normal Precipitation

Percent of Average Precipitation (%)
10/1/2018 – 5/18/2019



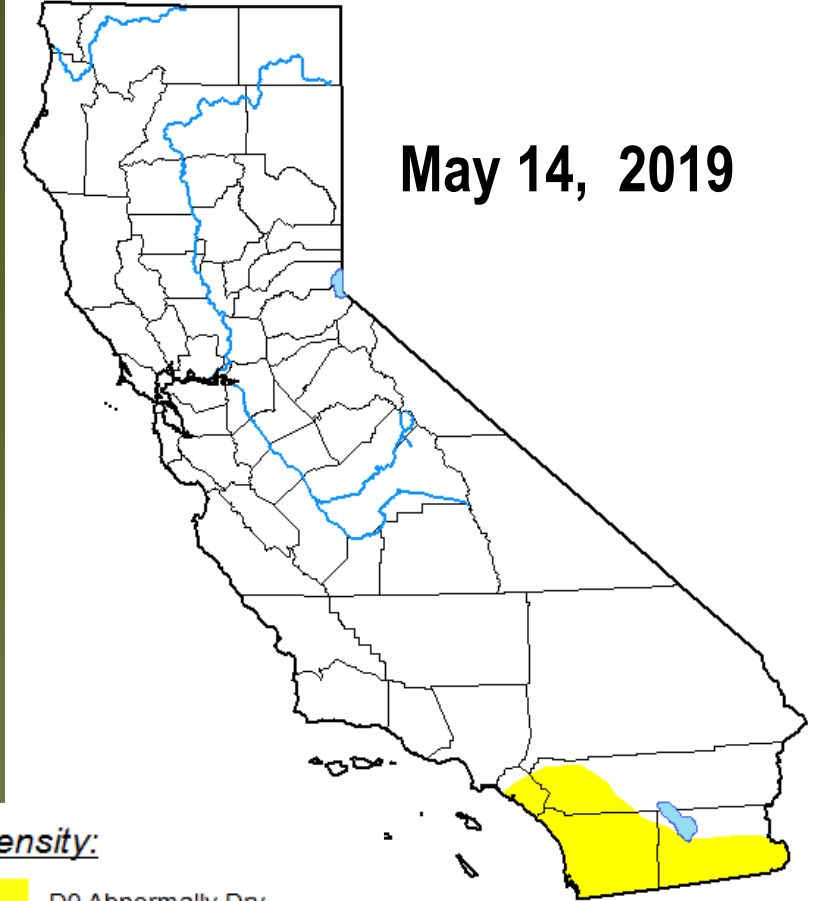
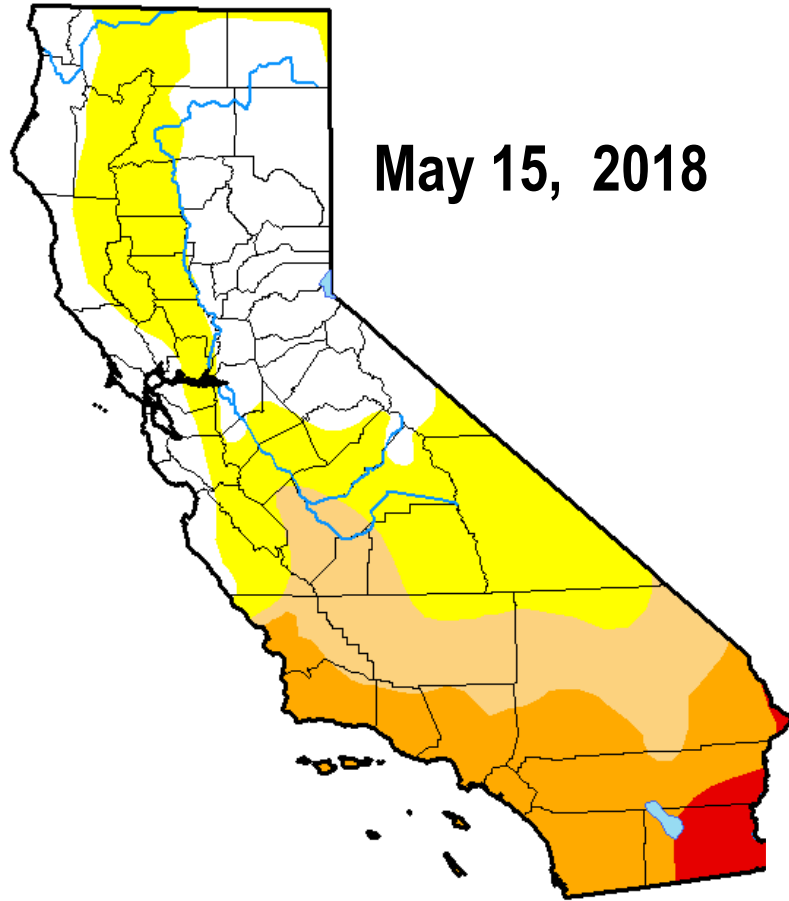
Generated 5/19/2019 at WRCC using provisional data.
NOAA Regional Climate Centers

Percent of Average Precipitation (%)
4/19/2019 – 5/18/2019



Generated 5/19/2019 at WRCC using provisional data.
NOAA Regional Climate Centers

Current WX -Drought Monitor



Intensity:

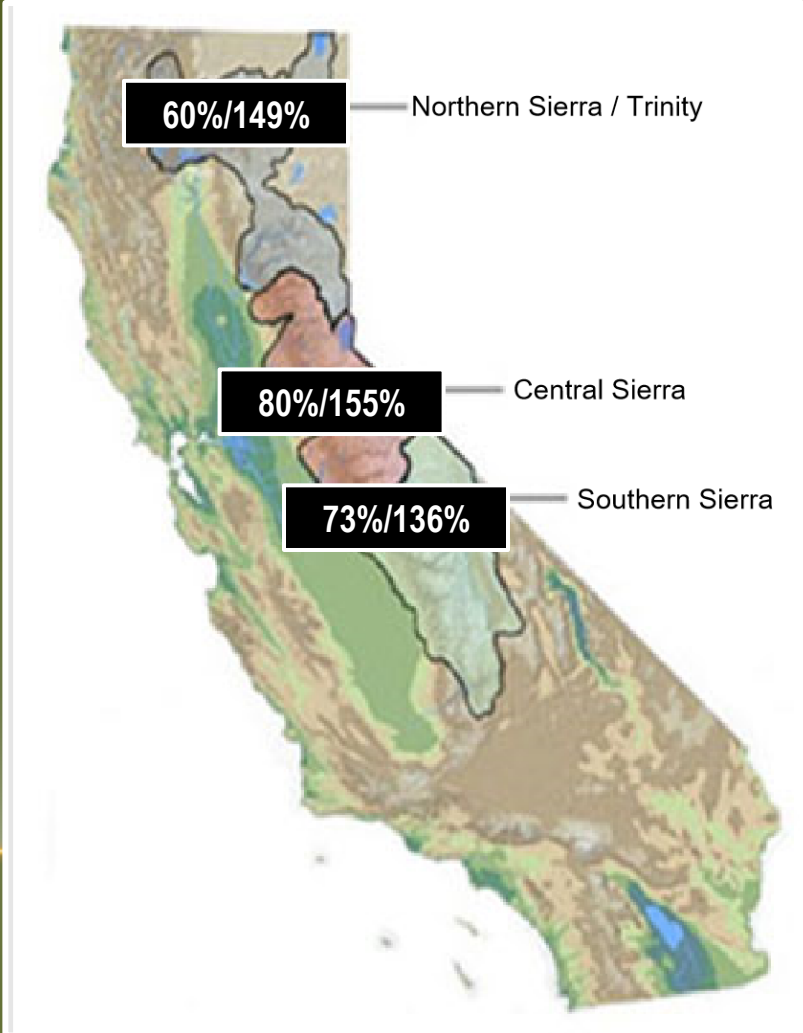
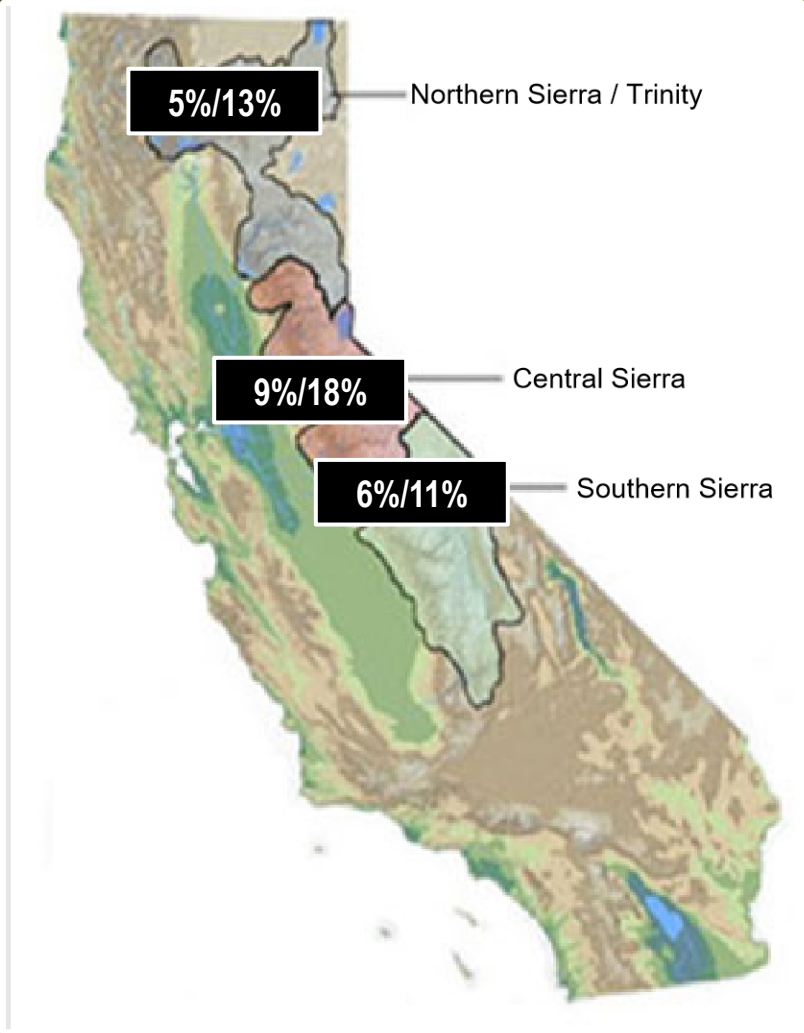
-  D0 Abnormally Dry
-  D1 Moderate Drought
-  D2 Severe Drought
-  D3 Extreme Drought
-  D4 Exceptional Drought

CURRENT WX – SNOW WATER CONTENT

% April 1st Avg / % May 20th Normal

2018

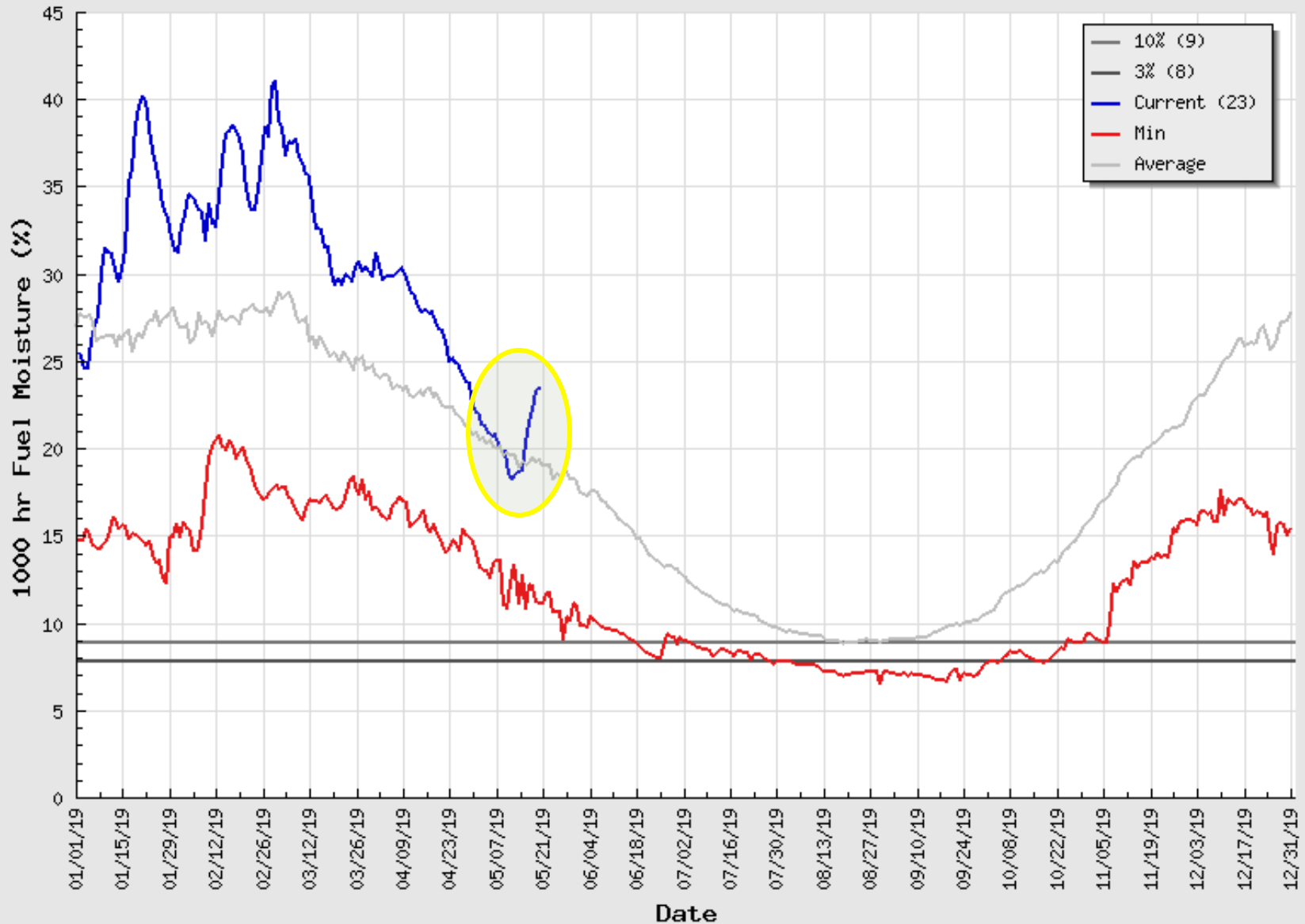
2019



Fuels – North Zone 1000 hr FM

NZ

Valid Date: 20-May-2019



FUELS - HERBACEOUS CARRYOVER MITIGATED

Fall 2018



March 26 2018



Spring 2019



March 29 2019



2018/2019 WINTER



Localized Mortality N. Sacramento Vly

Significant
vegetation
damage from
Feb 13th
Snowstorm

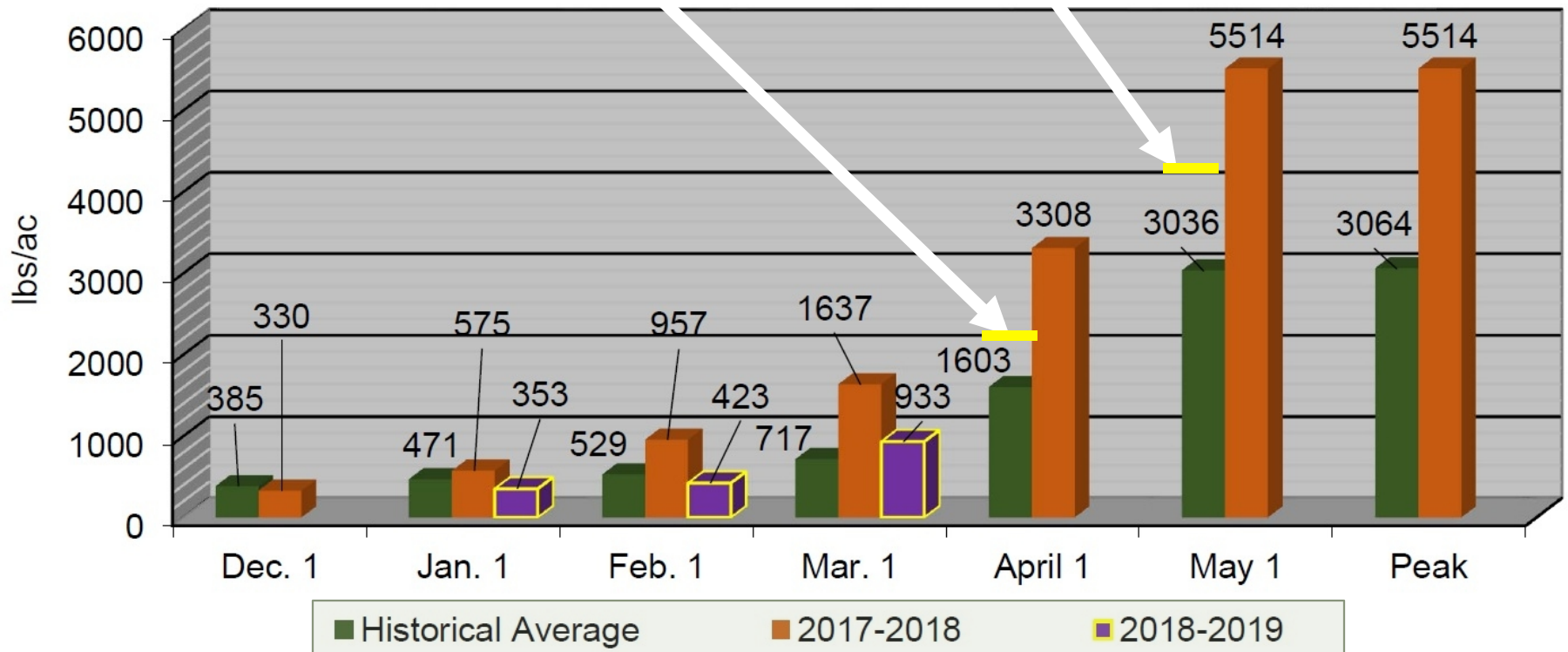
Generally impacting
elevations below 2000 ft



CURRENT GROWING SEASON: ABOVE NORMAL GREEN-UP

Sierra Foothills Rangeland Forage Production Data

SFREC Forage Growth by Month - Historical Avg. vs 2017-18, 2018-19



2019 SUMMER OUTLOOK

Significant Wildland Fire Potential Outlook

May 2019

Significant Wildland Fire Potential Outlook

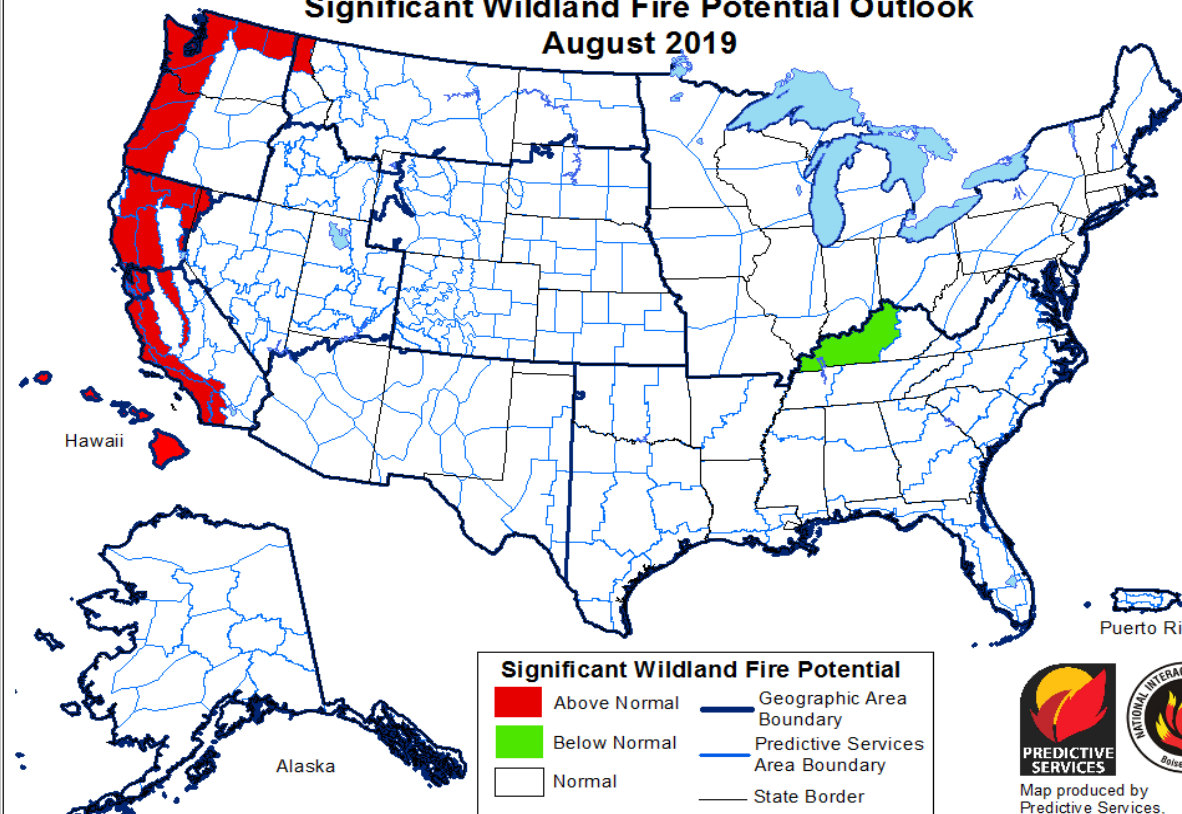
June 2019

Significant Wildland Fire Potential Outlook

July 2019

Significant Wildland Fire Potential Outlook

August 2019



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 May 1, 2019
 Next issuance June 1, 2019

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.

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2017 SUPER BLOOM YEAR



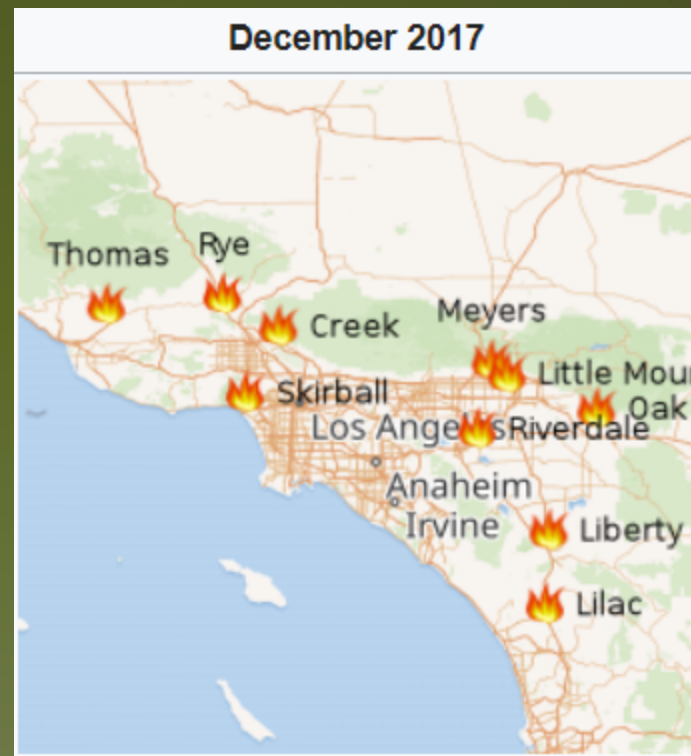
2019 SUPER BLOOM YEAR



SIMILARITIES

- Multiple weather systems
- Higher than normal rainfall amounts
- Atmospheric River events

2017 SUPER BLOOM YEAR LED TO LATE SEASON FIRES



VENTURA COUNTY FUEL MOISTURE UPDATE

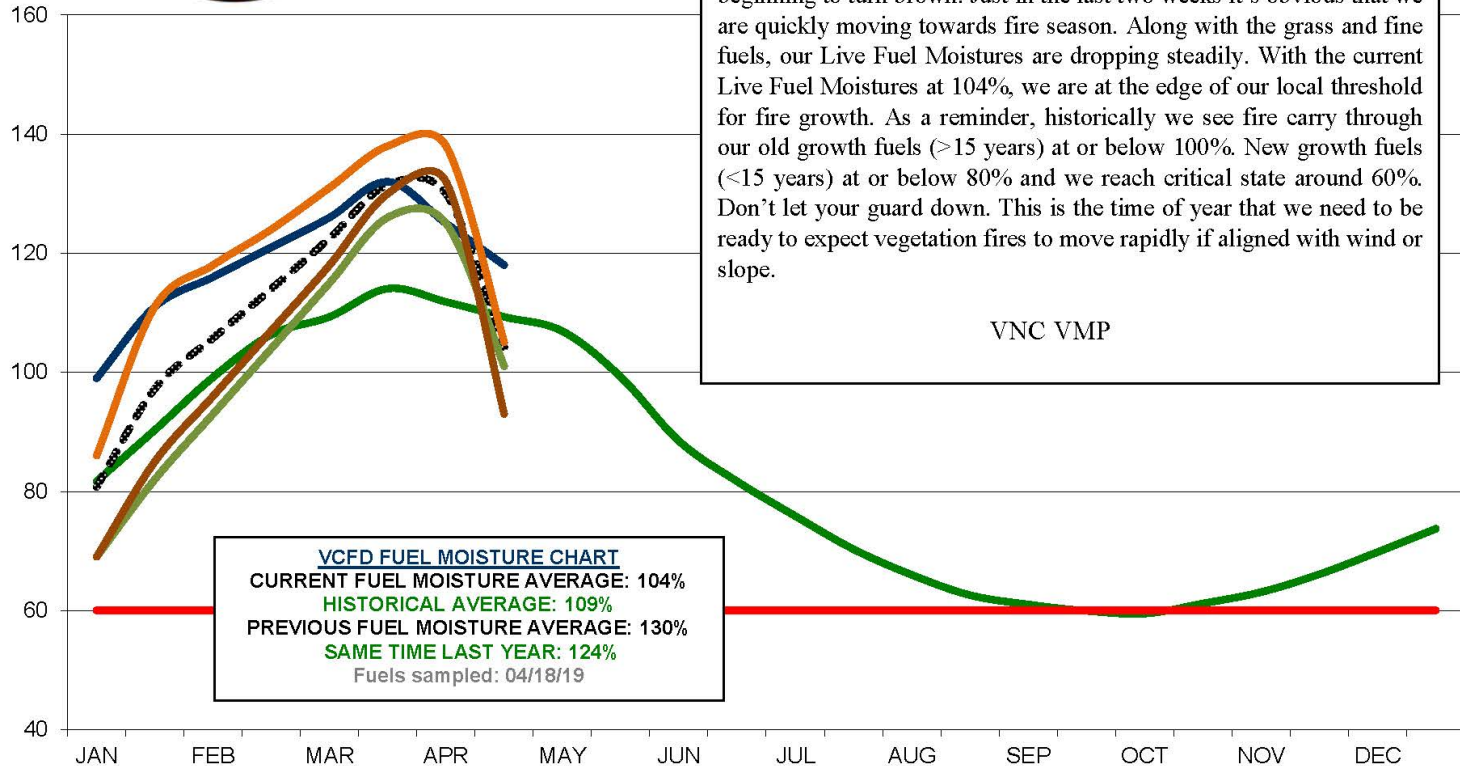


VENTURA COUNTY FIRE DEPARTMENT LIVE FUEL MOISTURE 2019 ALL FUEL BEDS - CHAMISE

Fuels/Fire Discussion

The grass on the local hills has begun to cure and the hills are beginning to turn brown. Just in the last two weeks it's obvious that we are quickly moving towards fire season. Along with the grass and fine fuels, our Live Fuel Moistures are dropping steadily. With the current Live Fuel Moistures at 104%, we are at the edge of our local threshold for fire growth. As a reminder, historically we see fire carry through our old growth fuels (>15 years) at or below 100%. New growth fuels (<15 years) at or below 80% and we reach critical state around 60%. Don't let your guard down. This is the time of year that we need to be ready to expect vegetation fires to move rapidly if aligned with wind or slope.

VNC VMP



— HISTORICAL AVG
 - - - AVG LFM
 — CRITICAL
 — CASITAS
 — MALIBU
 — SIMI
 — OJAI
 — T.O.

OUTLOOK SUMMARY

- We are seeing some of the same patterns that occurred in 2017
- The large amount of rainfall has led to an extensive grass crop that will contribute to fast moving early season fires in the grass.
- A potential for large, late season fires as the remaining grass crop will support wind driven combustion of the larger fuels after they have dried/cured.
- Areas above 6000 ft to have below normal to normal large fire potential due to the abundant slow melting snow pack

QUESTIONS?

