

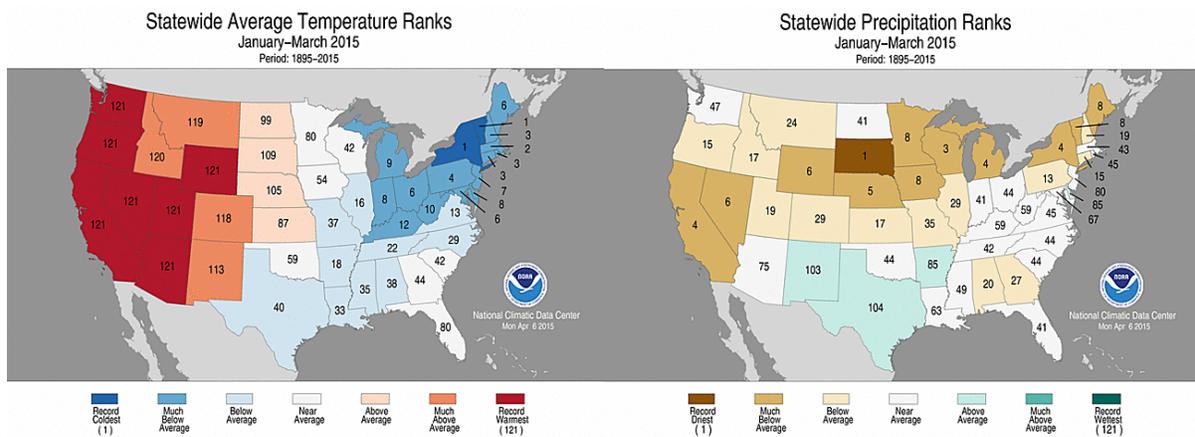
***UNITED STATES DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE
PHOENIX, ARIZONA***

***Fire Weather Annual Report
2015***

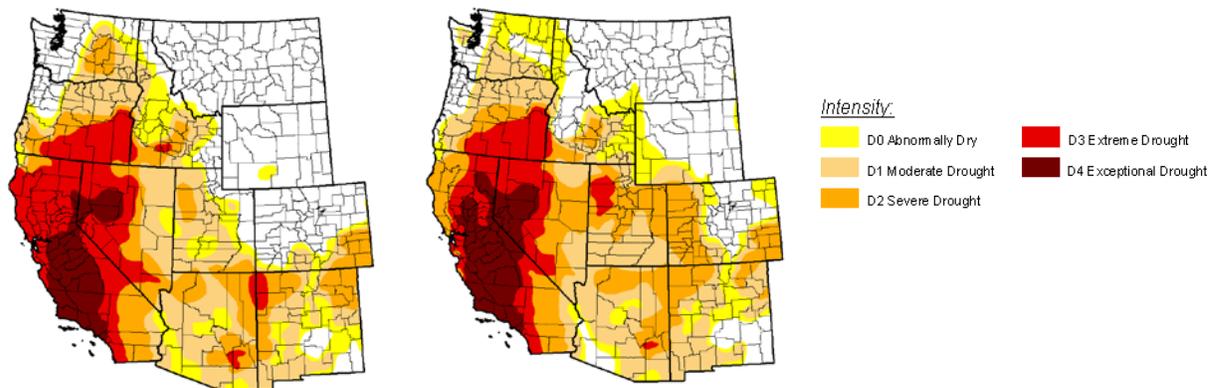
***Prepared by:
Valerie L. Meyers – Fire Weather Program Leader***

A. Climate and Fire Weather Overview

JANUARY-MARCH: The year 2015 started out with record and near record warmth across most of the Intermountain West. It tied for the 3rd warmest year recorded for central Arizona (Phoenix), and warmest ever recorded for southwest Arizona (Yuma). The first 3 months of the year set the stage for this usually warm year with each individual month in the top 15 warmest on record; and collectively the warmest ever recorded. The early-year warmth in the West was accompanied by below-average precipitation and record low mountain snow packs. This pattern continued into April, contributing to the multi-year drought across portions of the western United States (California), thus setting the stage for a potentially bad fire season.

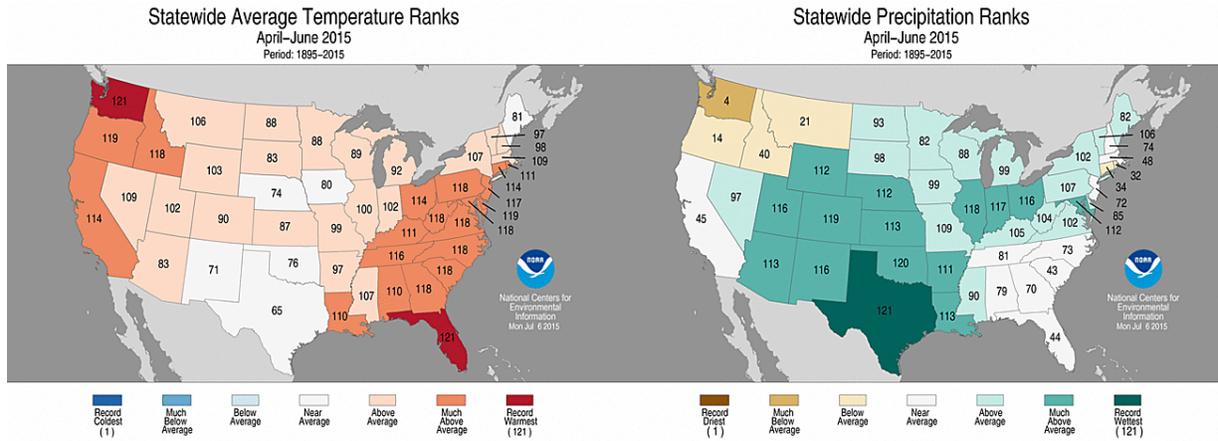


U. S. Drought Monitor - December 29, 2014 through March 31, 2015

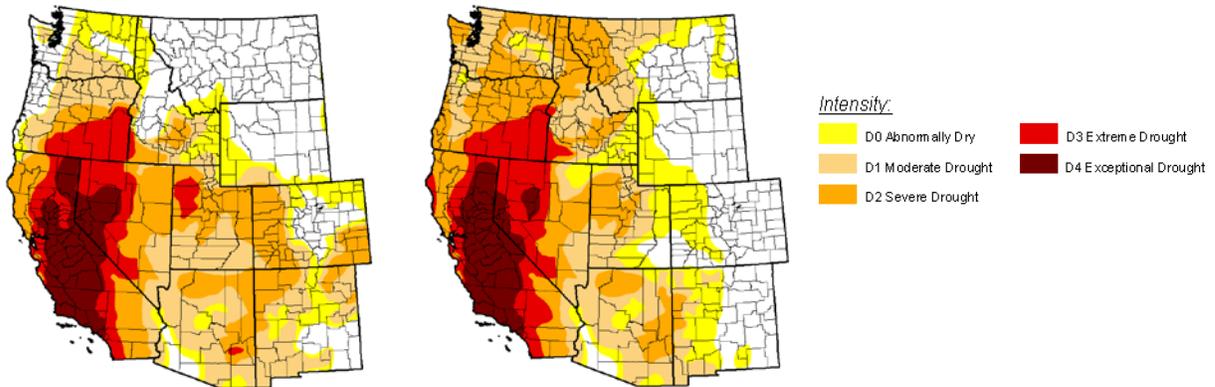


APRIL-JUNE: The typically dry spring season over the southwest United States was a bit different as atmospheric flow patterns began to change and El-Nino conditions slowly evolved in the equatorial Pacific. Even though very few storm systems affected Arizona and Southeast California with many locations receiving no rain or snow, May was unusually cool and wet,

making spring 2015 one of the wetter spring seasons in recent memory. Temperatures were still warmer which efficiently dried and cured fuels, adding concern for an active fire season. Fortunately, with the few storm systems, stronger winds were not common or widespread leading to the ability to better control smaller incidents from growing, despite the antecedent favorable fuel conditions.

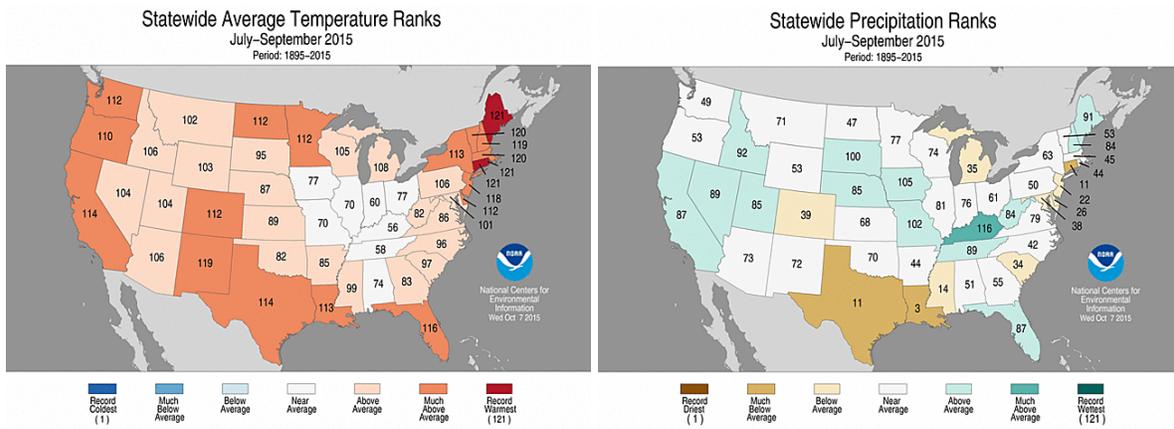


U.S. Drought Monitor – April 7 through June 30, 2015

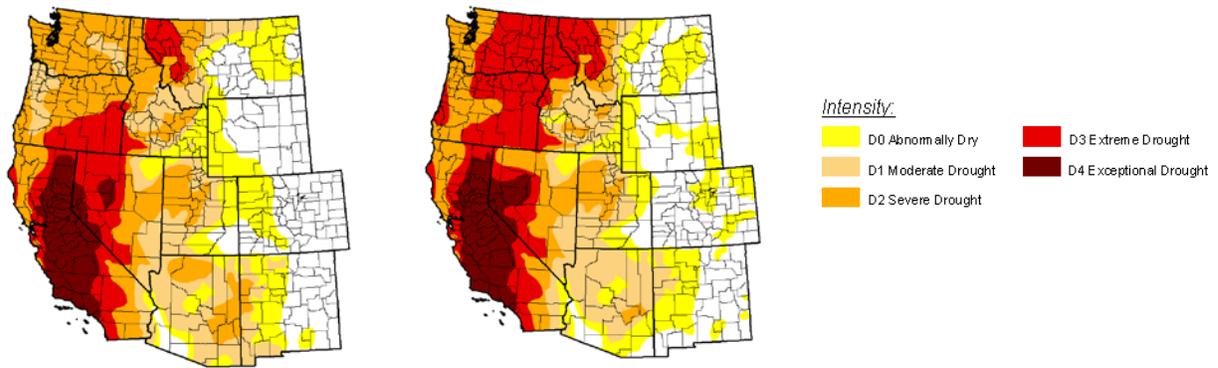


JULY-SEPTEMBER: The monsoon season was warmer and somewhat wetter than average across the region. Storm activity started early over southeast Arizona during the last two weeks of June, and the activity slowly progressed northward. By mid-July, remnant moisture from decaying tropical storms helped widespread thunderstorms and heavy rainfall to develop over portions of Arizona and Southeast California. The atmospheric flow pattern turned more favorable in August allowing moisture to push deeper northward across Arizona and New Mexico. Correspondingly, thunderstorm activity became more widespread, with storms, heavy rainfall and isolated flash flood events lingering into September. As a result, drought conditions

improved significantly due to the rainfall, with fuels staying rather moist and the overall fire threat throughout the Southwest Area quite limited during this time frame.

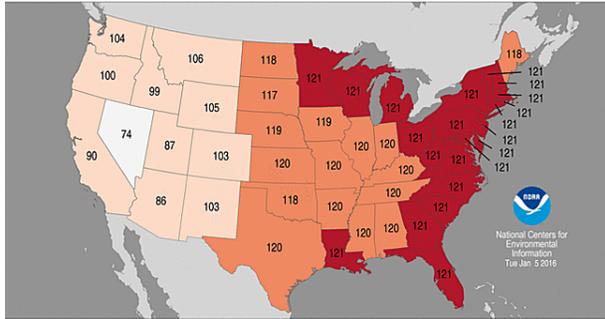


U. S. Drought Monitor – July 7 through September 29, 2015

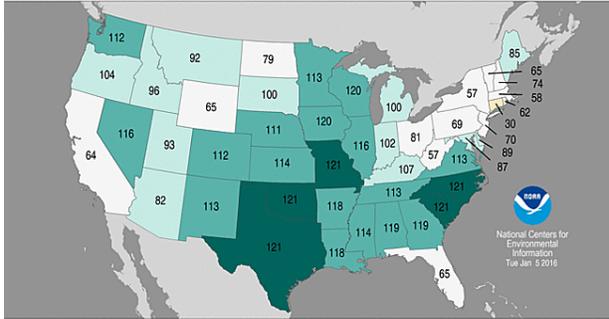


OCTOBER-DECEMBER: Primarily warmer and wetter weather dominated during the latter portion of 2015. A strong El-Nino signature was well established and the changing atmospheric flow patterns in October directed several weather systems with very beneficial rain and snow at the Pacific Northwest and northern California. The storm track did drift farther south with a few storms making it into the Southwest United States. Enough precipitation did fall across Arizona and New Mexico to keep drought conditions in check after the improvements seen during the monsoon season. However, the impacts to the exceptional drought status across California were minimal. Fuel moisture remained relatively high throughout this period along with elevated relative humidity levels leading to limited fire danger.

Statewide Average Temperature Ranks
 October–December 2015
 Period: 1895–2015



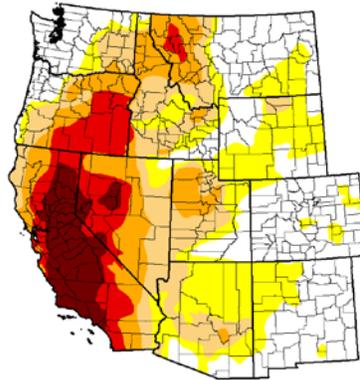
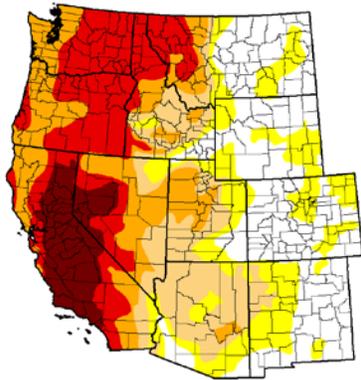
Statewide Precipitation Ranks
 October–December 2015
 Period: 1895–2015



Record Coldest (1)
 Much Below Average
 Below Average
 Near Average
 Above Average
 Much Above Average
 Record Warmest (121)

Record Driest (1)
 Much Below Average
 Below Average
 Near Average
 Above Average
 Much Above Average
 Record Wettest (121)

U. S. Drought Monitor – October 6 through December 29, 2015



Intensity

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

B. Red Flag Warning Verification

The National Weather Service in Phoenix issued a total of **3** Red Flag Warnings (RFW) all due to strong winds and low relative humidity. NWS Phoenix does not issue watches, or warnings for dry thunderstorms in Arizona per the Region 3 AOP. Per Region 5 AOP, criteria for a dry lightning RFW apply only to fire weather zones 230 and 232 in southeast California. ****** There were **no** Red Flag Warnings issued for dry thunderstorm events in 2015.

- Number of RFWs Issued (by zone)
- Probability of Detection (POD) (Highest Skill = 1.0)
- Far Alarm Ratio (FAR) (Highest Skill = 0.0)
- Critical Success Index (CSI) (Highest Skill = 1.0)
- Average Lead Time of the Warning

<u>Zone</u>	<u>Issued</u>	<u>POD</u>	<u>FAR</u>	<u>CSI</u>	<u>Average Lead Time (hours)</u>
131/232	1	1.00	0.00	1.00	24.25
132	1	1.00	0.00	1.00	34.25
133	1	1.00	0.00	1.00	24.00
230	0				
232	0				
Total	3	1.00	0.00	1.00	27.50

C. Fire Weather Watch Verification

The National Weather Service in Phoenix issued a total of **2** Fire Weather Watches in 2015, all due to strong winds and low relative humidity.

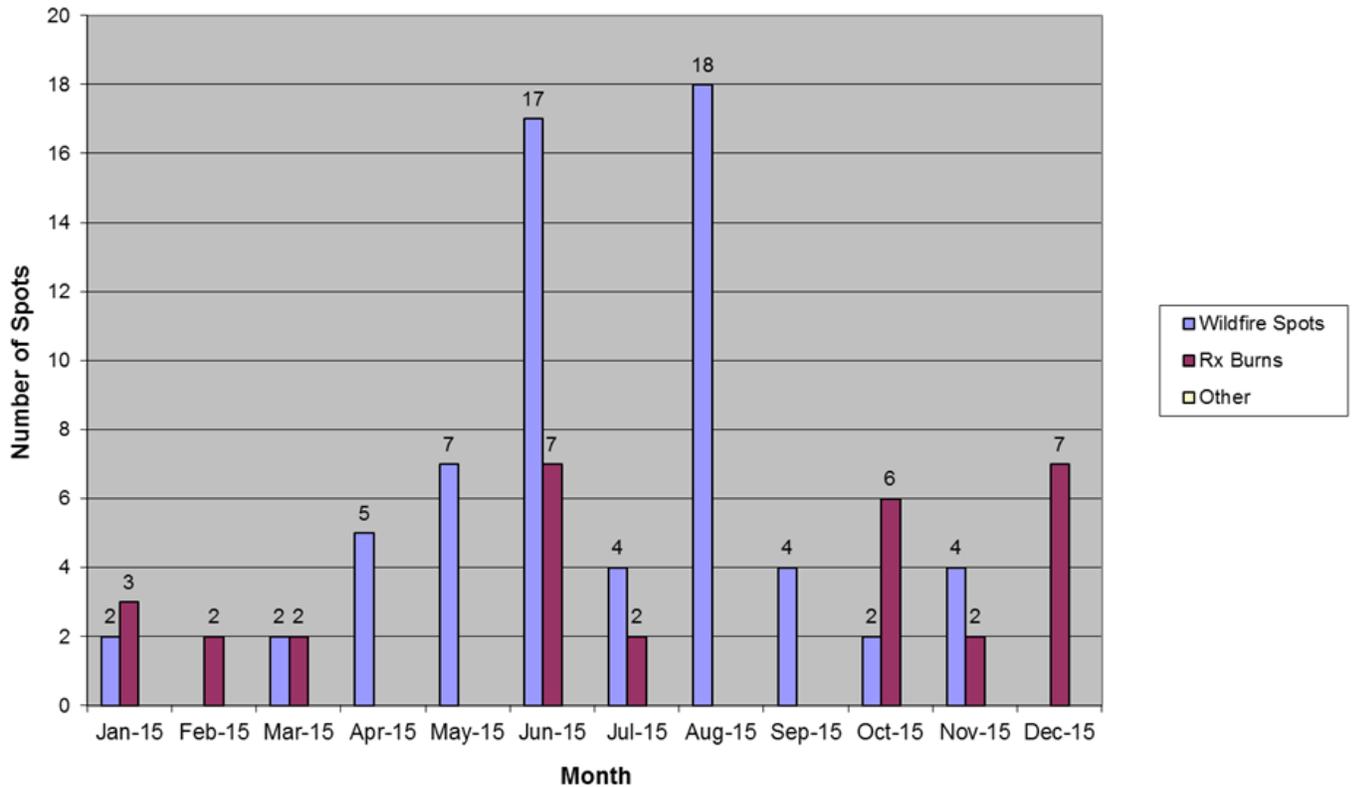
<u>Zone</u>	<u>Issued</u>	<u>Upgraded to RFW</u>	<u>Verified</u>	<u>Average Lead Time (hours)</u>
131/231	1	1	1	48.75
132	1	1	1	58.75
133	0	0	0	0.00
230	0	0	0	0.00
232	0	0	0	0.00
Total	2	2	2	53.75

D. Spot Forecasts

The National Weather Service in Phoenix issued a total of **96** spot forecasts during 2015. The chart below breaks down the number and type of spot forecast issued per month. The category “Other” is comprised of HAZMAT, SAR, or spot forecasts to support emergency response during special circumstances (i.e., flash flooding).

<u>RX BURNS</u>	<u>WILDFIRES</u>	<u>OTHER</u>	<u>TOTAL</u>
31	65	0	96

2015 Monthly Spot Forecasts



E. Incident Meteorologist (IMET) Dispatches

WFO PHOENIX: No dispatches in 2015

<u>Incident Name</u>	<u>Location</u>	<u>Dispatch Days</u>	<u>Dispatch Dates</u>
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F. Fire Weather Training, Outreach and Decision Support Activities

<u>Dates</u>	<u>Activity</u>	<u>Agency</u>	<u>Location</u>
January – March	Post Wildfire Debris Flow Webpage Development	National Weather Service	Internet Conferences
January 13 – 14	S390 Instruction	Prescott National Forest	Prescott, AZ
Jan 22 – Feb 2	Pro Bowl- Super Bowl Decision Support	City of Phoenix IMT and MACC	Phoenix, AZ
February 12	Burn Boss Refresher	Tonto National Forest	Mesa, AZ
February 18	Region3 AOP Preseason Meeting	NWS and Southwest Area Representatives	Virtual – Internet
March 4 - 5	CAWRT Fireline Safety Refresher	Multiple Local Agencies	Glendale, AZ
March 7-13	S190-390 Instruction Weather Briefings	Arizona Wildland Fire and Incident Management Academy	Prescott, AZ
March 11-12	Region 5 AOP Preseason Meeting	NWS and California Representatives	Virtual - Internet
March 23 - 27	IMET Virtual Workshop	National Weather Service	Virtual - Internet
March 24	Spring Fire Management Meeting	Tonto National Forest	Mesa, AZ
Mar 27 & 31	CAWRT Fireline Safety Refresher/Training	Multiple Local Agencies	Tempe, AZ
Mar 29 – Apr 4	Arizona Wildfire Awareness Week	State of Arizona and Federal Land Management Agencies	Social Media and Internet Campaign
April 14/16/21	Arizona Fire Dispatch Center Meetings	ADC/PDC/PIDC	Phoenix/Prescott/Mesa
May 12	Maricopa County Pre-Fire Season Meeting	Maricopa County EM	Phoenix, AZ
June 21 & 28	Weekly Fire Weather Web/Phone Briefings	Tonto National Forest, BLM and County EMs	Virtual - Internet