

National Weather Service Medford

August 2019 Climate Summary



*These data are preliminary and have not undergone final QC by NCEI. Therefore, these data are subject to revision. Final and certified climate data can be accessed at the [National Centers for Environmental Information \(NCEI\)](#).

August 2019 Weather Review

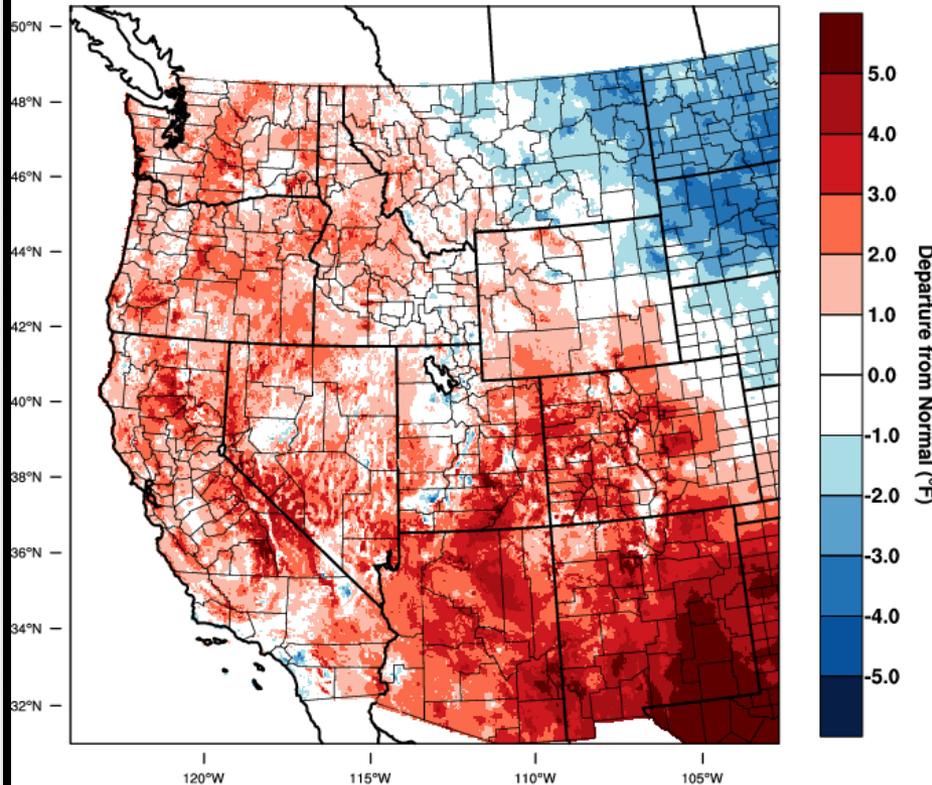
August 2019 was quite different compared to August of previous years, with the key difference being the lack of wildfire smoke across the area. The weather was also more active with two low pressure systems that delivered above normal precipitation. Temperatures finished above normal as well, but there weren't any significant heat waves during the month.

For most of the month, the weather pattern was dominated by strong high pressure in the Four Corners region and general troughiness over the eastern Pacific Ocean. There were two unusually strong low pressure systems (by August standards) that moved through the area bringing showers, thunderstorms, gusty winds and periods of heavy rain. The first system moved through August 9th and 10th. Over 2000 strikes were recorded with this first round of storms, but fortunately there was ample moisture associated with this system so wetting rains accompanied these thunderstorms and no major wildfires developed. Another system arrived on August 21st which brought wetting rains for much of the area west of the Cascades and north of the OR/CA border.

Other than the two low pressure systems that moved into the area, the other notable weather during the month was periods of heat as the high pressure in the four corners region migrated northwestward over our area. This resulted in near triple digit readings for inland valleys from August 3rd through the 6th and again on the 26th. On the 27th, Medford reached triple digits for only the second time this summer with a high temperature of 105. This is notable when compared to summers of previous years where Medford reach 100 degrees or greater over 10 times each summer since 2012. Following the heat at the end of the month, a disturbance moved up from the south and tapped in to some moisture from what was once tropical depression Ivo. This brought scattered thunderstorms to the forecast area with the greatest coverage in northern California and east of the Cascades on the 28th and 29th. Again there was ample moisture associated with these storms, so no major wildfires developed. The month finished with dry and warm conditions.

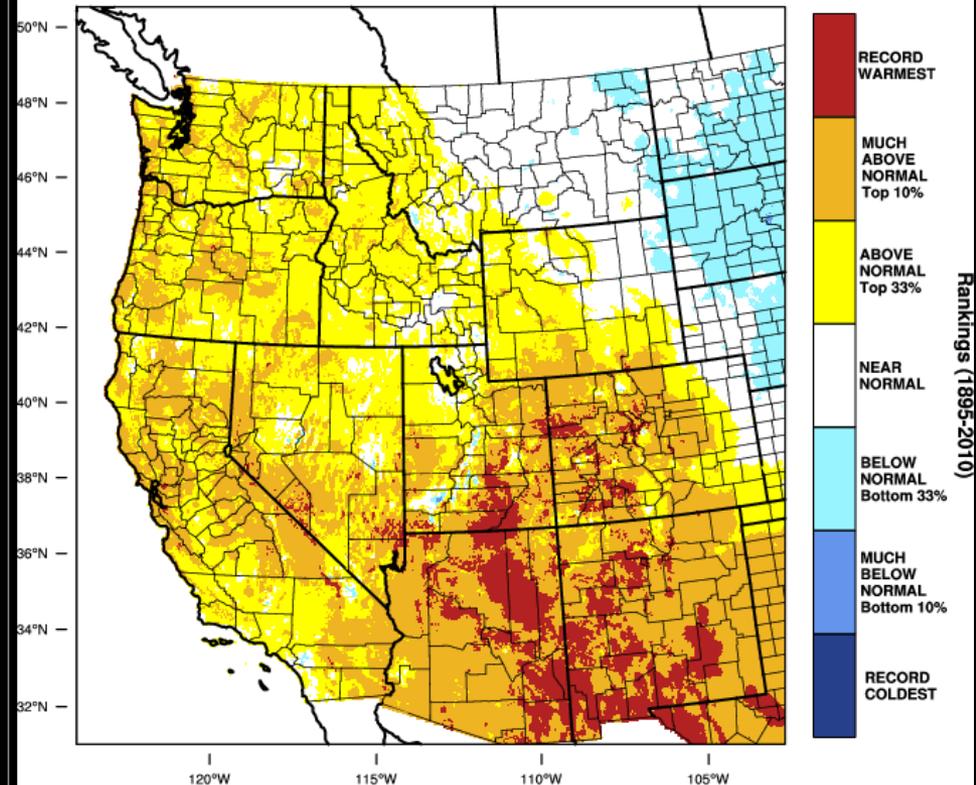
August 2019 Observed Temperatures

Western United States - Mean Temperature
August 2019 Departure from 1981-2010 Normal



WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 7 SEP 2019

Western United States - Mean Temperature
August 2019 Percentile



WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 7 SEP 2019

Rankings (1895-2010)

Average Temperatures

	<i>Average (°F)</i>	<i>Departure from Normal</i>	<i>Average Max (°F)</i>	<i>Departure from Normal</i>	<i>Average Min (°F)</i>	<i>Departure from Normal</i>
<i>North Bend</i>	63.1	4.0°	70.9	5.5°	55.3	2.4°
<i>Roseburg</i>	72.9	2.8°	86.4	1.7°	59.4	3.9°
<i>Medford</i>	75.8	2.1°	91.7	1.0°	60.0	3.2°
<i>Klamath Falls</i>	66.4	1.5°	85.4	2.2°	47.3	0.7°
<i>Montague, CA</i>	73.6	2.9°	92.6	2.9°	54.6	3.0°
<i>Mt. Shasta City, CA</i>	69.1	2.5°	87.1	1.9°	51.1	3.1°
<i>Alturas, CA</i>	67.0	2.4°	88.7	2.3°	45.3	2.6°

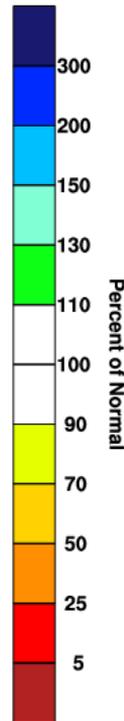
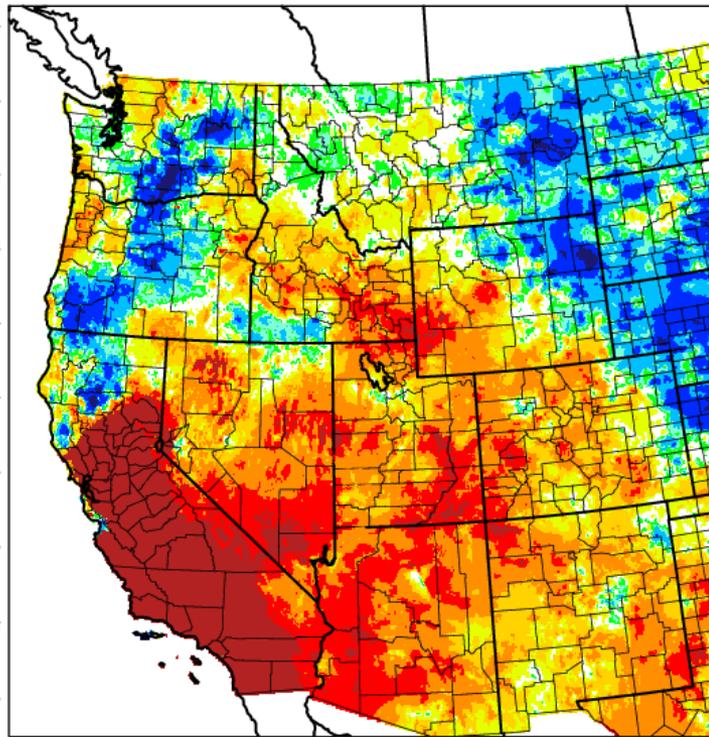
Monthly Max & Min Temperatures

	<i>Max (°F)</i>	<i>Date(s)</i>	<i>Min (°F)</i>	<i>Date(s)</i>
<i>North Bend</i>	<i>77°</i>	<i>27th</i>	<i>48°</i>	<i>24th</i>
<i>Roseburg</i>	<i>103°</i>	<i>27th</i>	<i>53°</i>	<i>23rd</i>
<i>Medford</i>	<i>105°</i>	<i>27th</i>	<i>53°</i>	<i>17th</i>
<i>Klamath Falls</i>	<i>94°</i>	<i>27th</i>	<i>41°</i>	<i>17th</i>
<i>Montague, CA</i>	<i>103°</i>	<i>27th</i>	<i>50°</i>	<i>20th & 23rd</i>
<i>Mt. Shasta City, CA</i>	<i>98°</i>	<i>27th</i>	<i>42°</i>	<i>11th</i>
<i>Alturas, CA</i>	<i>97°</i>	<i>27th</i>	<i>36°</i>	<i>11th</i>

	Record High / Date	Old Record/Year		Record High / Date	Old Record/Year
Roseburg	103° / 27 th	99° / 2017	Montague	99° / 26 th	97° / 2017
Mt Shasta	98° / 27 th	96° / 2017		103° / 27 th	99° / 2017

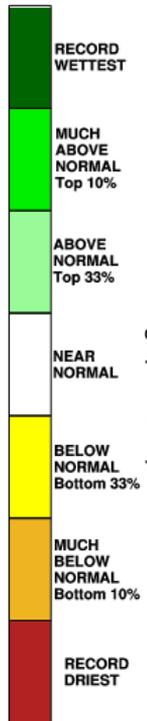
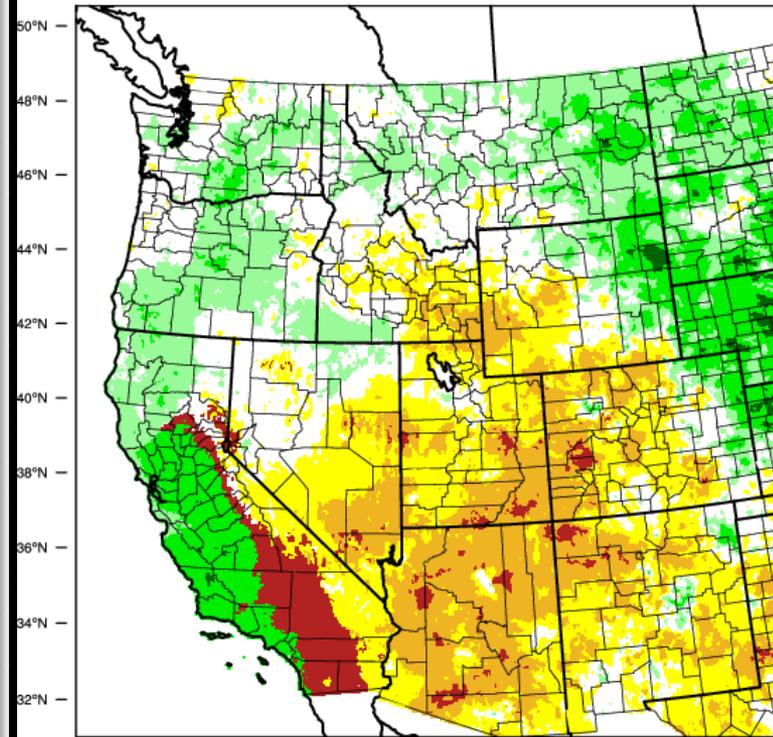
August 2019 Observed Precipitation

Western United States - Precipitation
August 2019 Percent of 1981-2010 Normal



WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 7 SEP 2019

Western United States - Precipitation
August 2019 Percentile



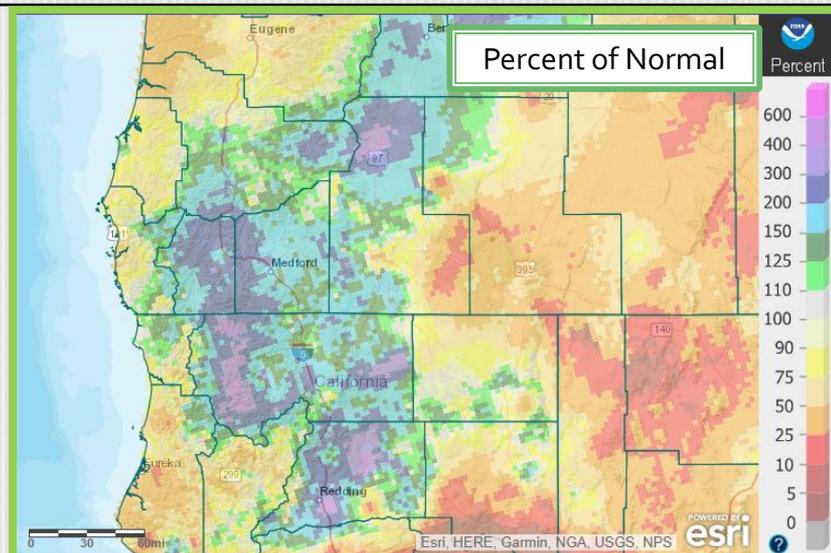
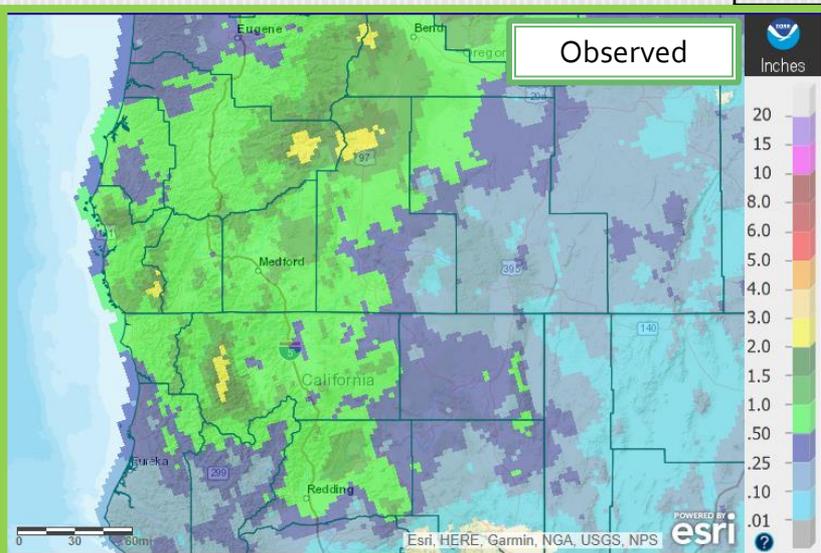
WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 7 SEP 2019

August Precipitation

Record Daily Precipitation

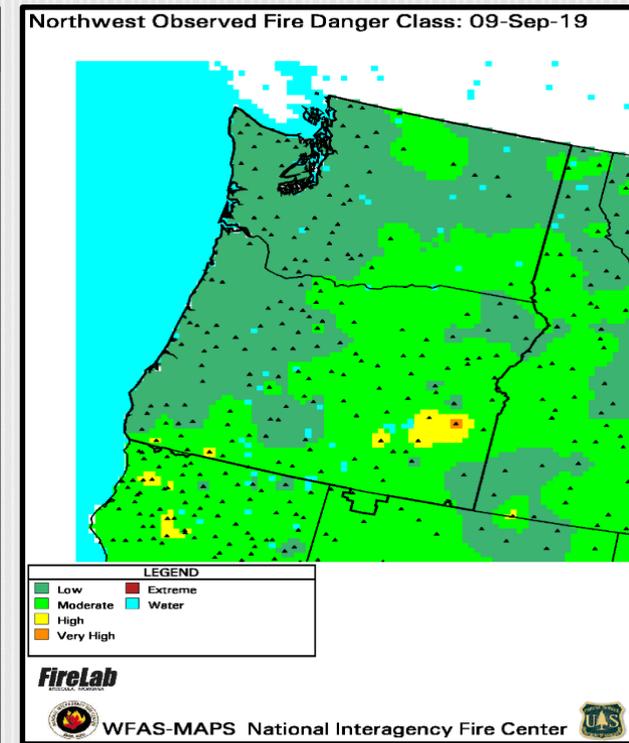
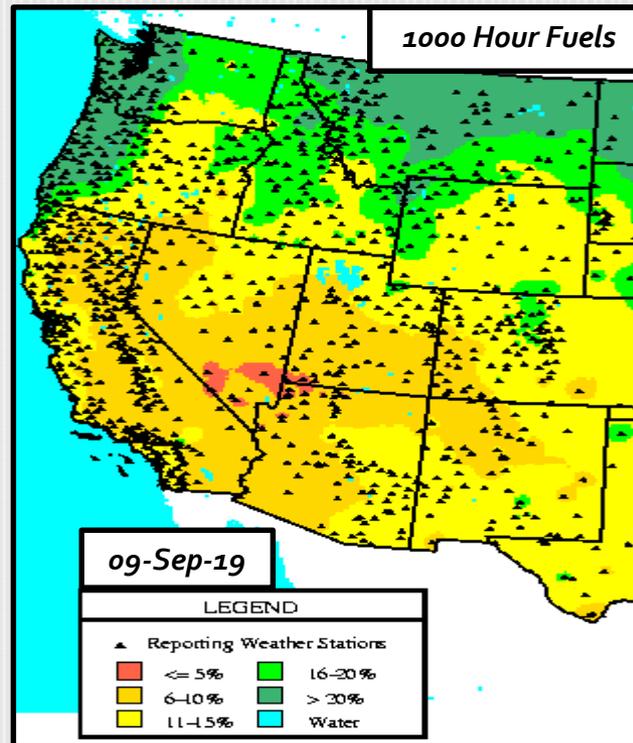
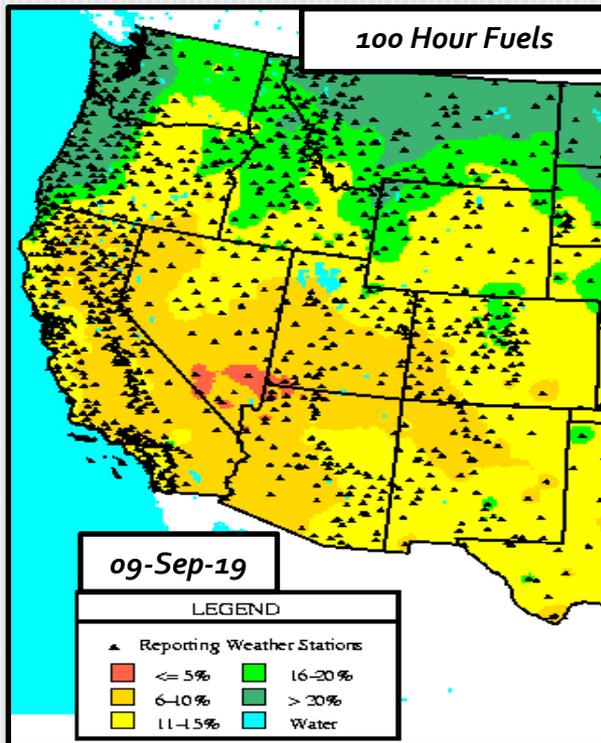
	New Record	Date	Old Record	Year
Medford	0.11"	9 th	0.07"	2000
Klamath Falls	0.54"	10 th	0.25"	2017
Roseburg	0.59"	11 th	0.18"	1991

	Total	Departure from Normal	Greatest 24-hr Total	Date(s)
North Bend	0.36"	-0.26"	0.26"	22 nd
Roseburg	1.08"	0.61"	0.59"	10 th
Medford	0.86"	0.46"	0.38"	10 th
Klamath Falls	0.63"	0.20"	0.54"	10 th
Montague, CA	0.42"	0.08"	0.36"	10 th
Mt. Shasta City, CA	M	N/A	M	N/A
Alturas, CA	0.54"	0.18"	0.27"	28 th



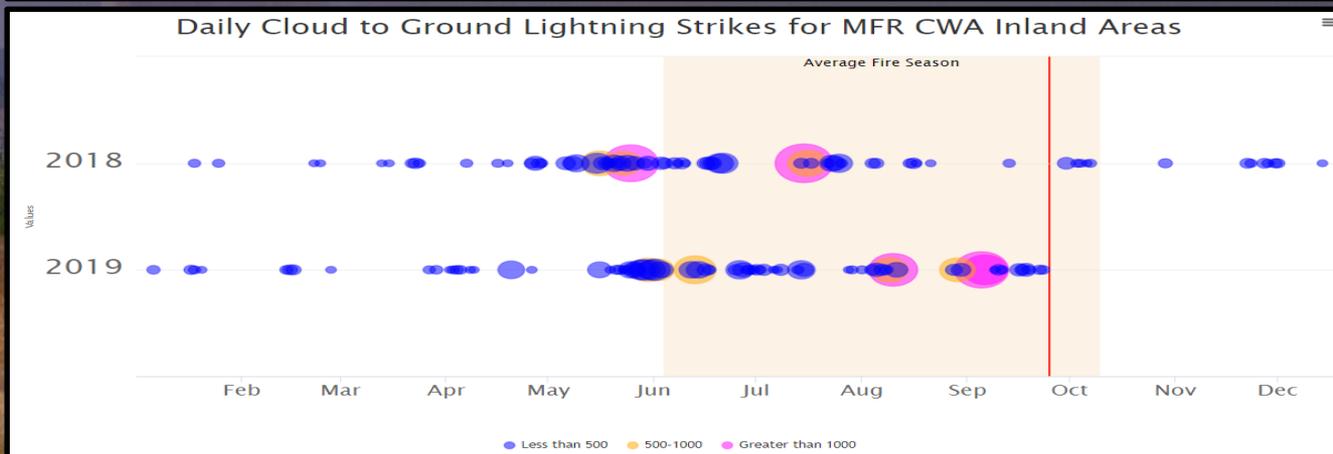
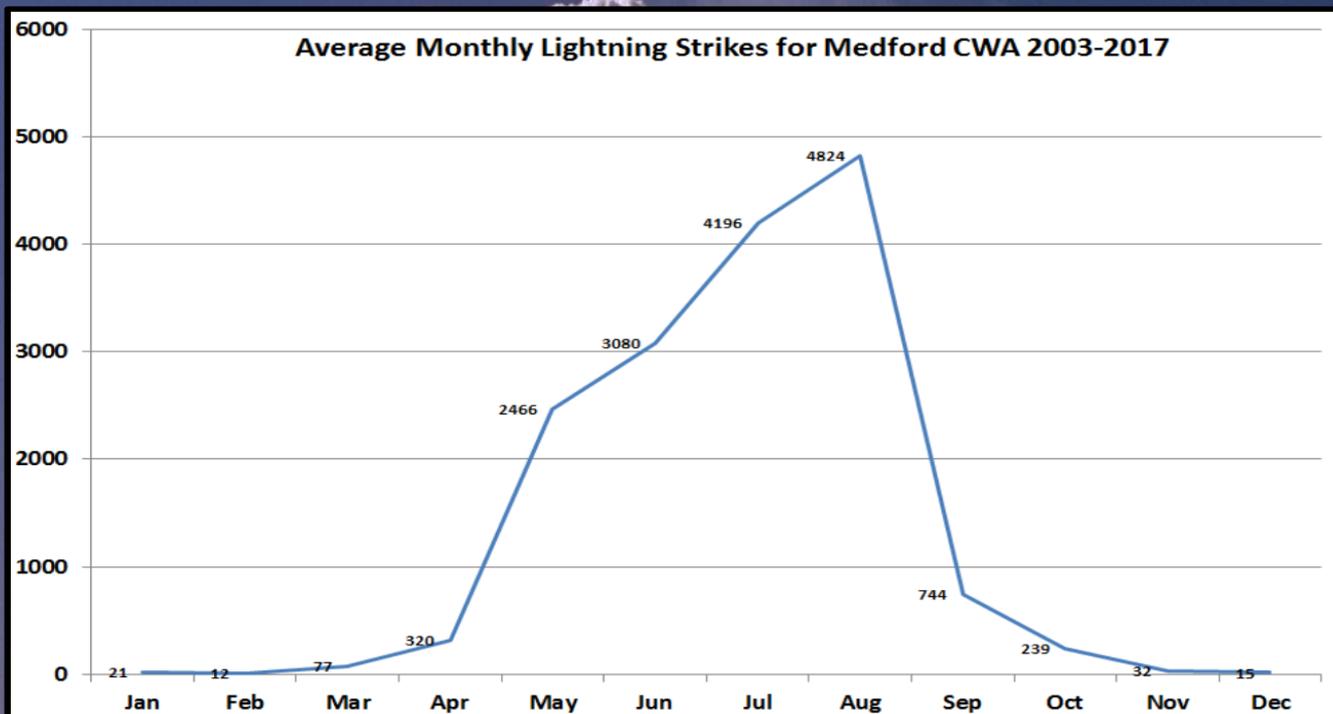
Fuel & Fire Potential Status as of September 9th, 2019

Southwestern Oregon and Northern California have received periodic rainfall and periods of cooler temperatures with high relative humidities since August. The marine layer has made frequent appearance and wetting rainfall has been more frequent and widespread for areas along and northwest of the Oregon Cascades, Umpqua Divide, and Coastal Mountains. This is very evident the 100 and 1,000 hour fuels. A recent wetter and cooler period began on the 9th, at which time fire danger diminished to primarily "Low" to "Moderate".



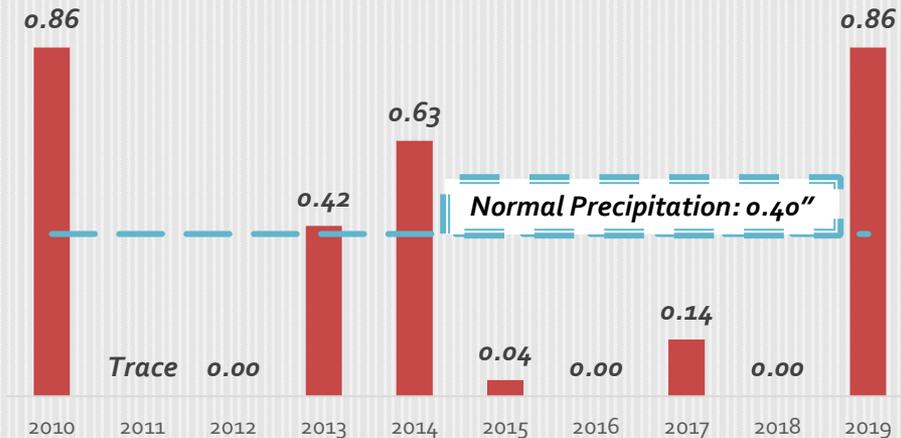
Average Cloud to Ground Strikes

* Average amount of lightning diminishes substantially in September



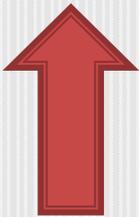
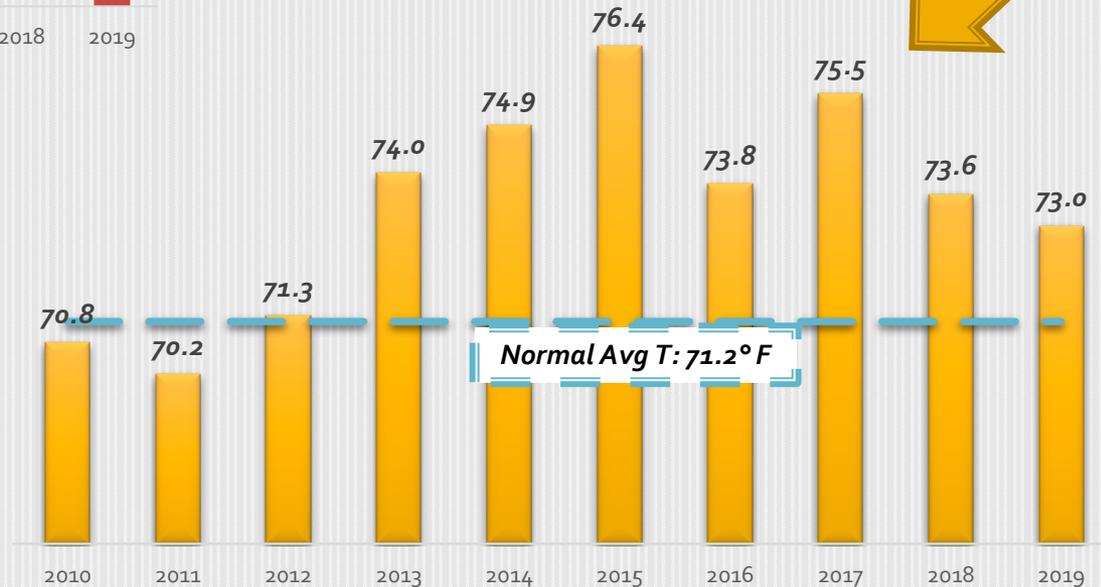
A Refreshing Summer

August Precipitation



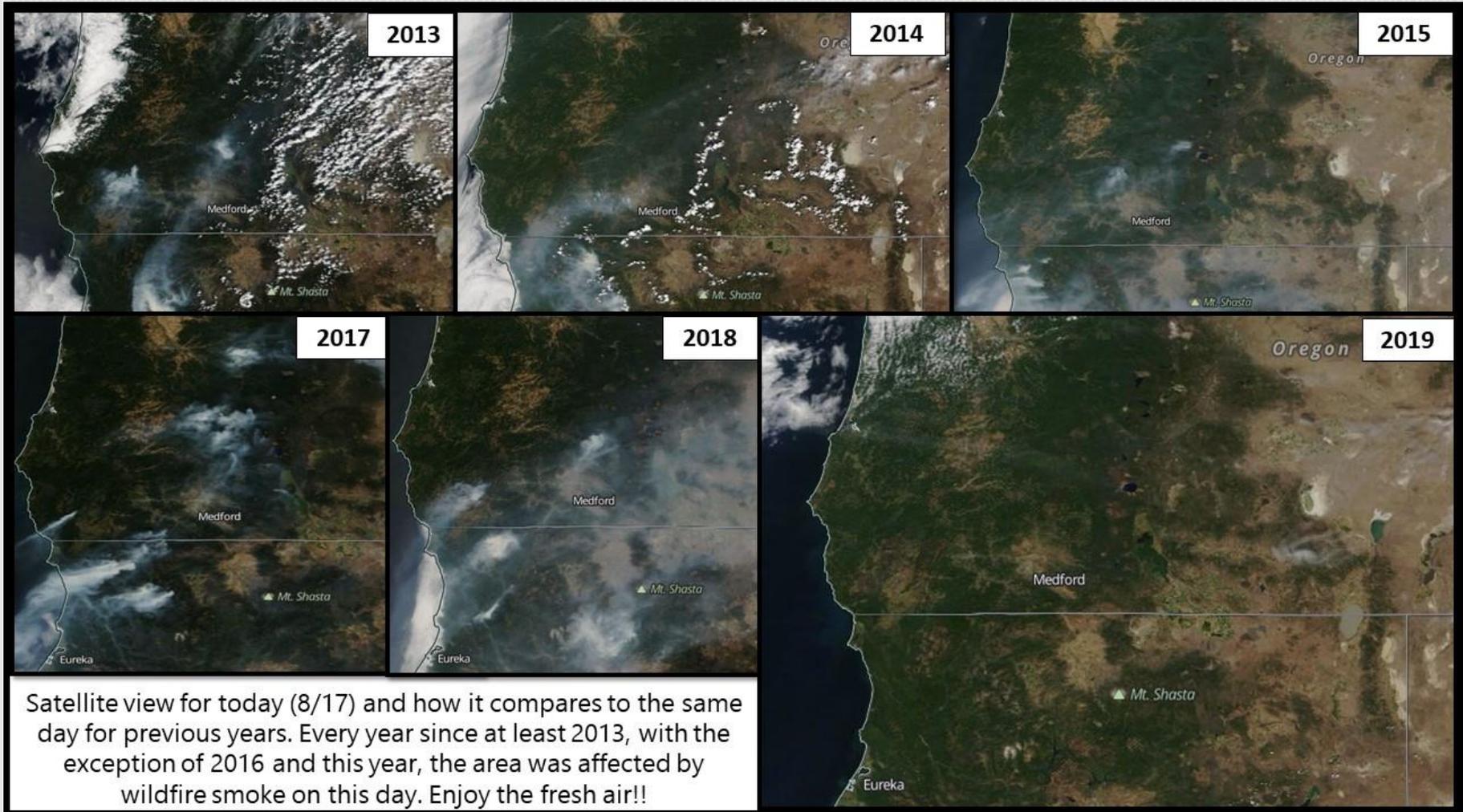
This summer was a welcome reprieve from the very hot temperatures & numerous large wildfires that occurred recently in previous summers. While still above normal, average temperatures over the summer months (June, July, & August) were the coolest they have been since 2012.

Average Temp JJA



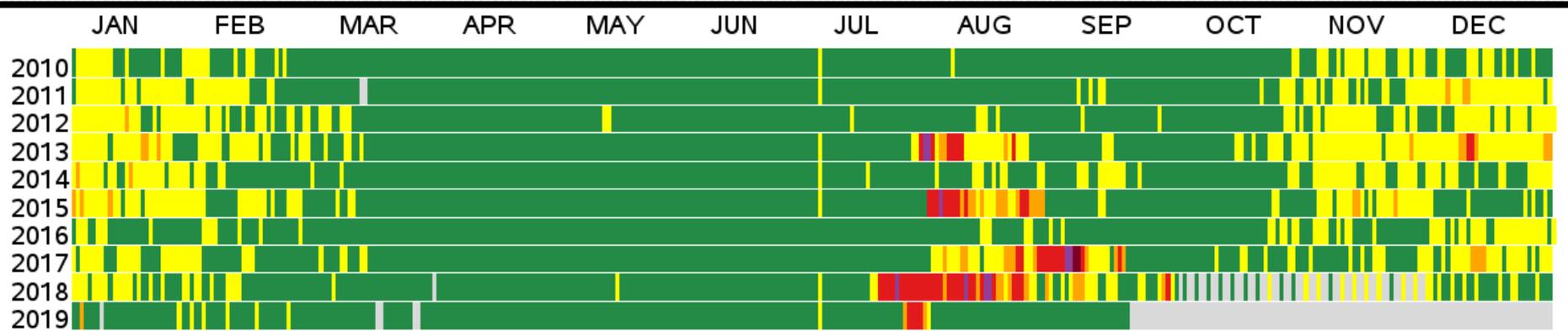
In addition to the "cooler" temperatures, August 2019 was the wettest August since 2010.

Smokeless Summer



With the lack of large wildfires this summer, the area was spared from the weeks of unhealthy air quality.

Much Better Air Quality this Summer!



AQI Category

- Good (≤ 12.0 ug/m³)
- Moderate (12.1-35.4 ug/m³)
- Unhealthy for Sensitive Groups (35.5-55.4 ug/m³)
- Unhealthy (55.5-150.4 ug/m³)
- Very Unhealthy (150.5-250.4 ug/m³)
- Hazardous (≥ 250.5 ug/m³)

Data is preliminary. Data sources: AirNow and EPA. Graphic retrieved from EPA.gov

PM2.5 Daily AQI Values, 2010 to 2019
Medford, OR

**Number of Days
of
Unhealthy or
Worse**
2019 → 7
2018 → 24
2017 → 15

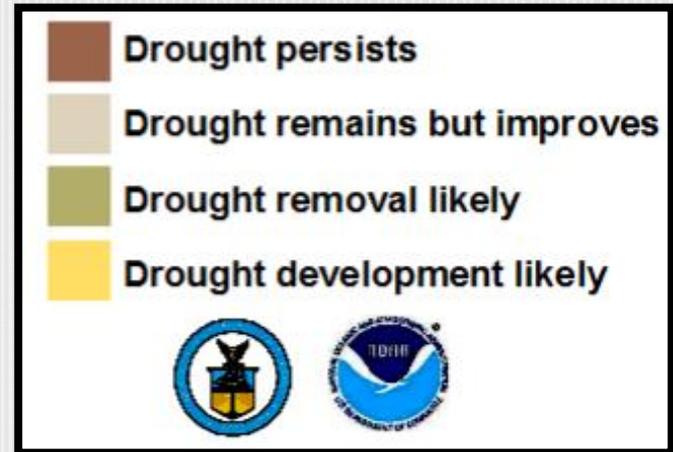
The 2018 summer's smoke event in Medford ranked as the longest period of "unhealthy" air quality per EPA and airnowtech.org data (since EPA records began in 2000). Other years with significant smoke were 2017, 2015, 2013, and 2002. Compare this to the 2019 summer; air quality was significantly better this year compared to previous summers. With the exception of about a week in July (due to smoke from the MP 97 wildfire), air quality was rated as good for the whole summer.

Crater Lake

	Average Max Temp (°F)	Average Min Temp (°F)	Total Precipitation	Total Snowfall	Snow Depth as of: 8/31/18	Highest Max/ Lowest Min
August	70.6°	44.3°	1.30"	0.0"	0"	78° (30 th) / 36° (12 th)
Normal (1981-2010)	69.7°	40.5°	1.00"	0.0"	0"	N/A



Drought Outlook: September

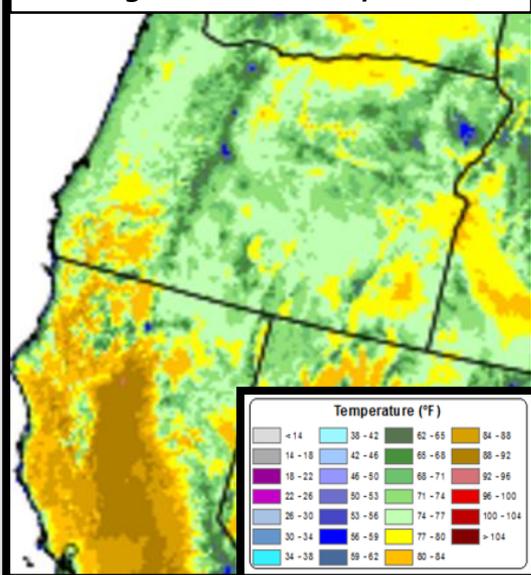


***Valid for September 2019
Released August 31, 2019***

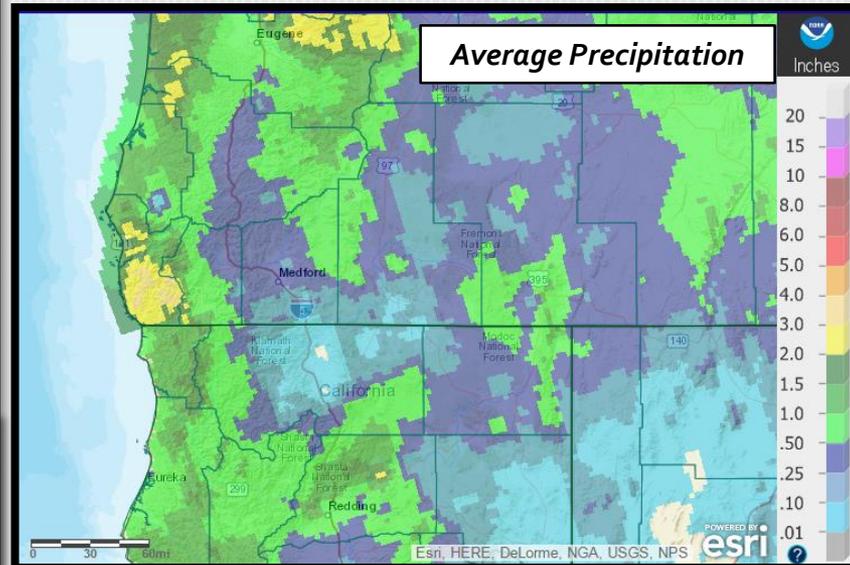
Looking Ahead: September Normals (1981-2010)

September typically marks the end of summer both astronomically and meteorologically. Longer nights and shorter days yield cooler conditions than August and the chance of rainfall increases, especially during the 2nd half of the month. Typically, daily high temperatures are in the 80s in the interior valleys west of the Cascades, in the 70s across the valleys east of the Cascades, and in the 60s and 70s in the mountains and along and near the coast. Daily low temperatures reach frosty low to mid 30s in much of Klamath and northern Lake Counties, and 35-45°F for most of the rest of the area from the Cascades eastward. 40s and lower 50s are normal west of the Cascades, with the warmest nights typically along the Curry County coast at 52-55°F, on average. Precipitation is usually half an inch or more for most of the forecast area, with an inch or more for the highest terrain of the Cascades westward, coastal counties, and coastal mountains. 2-4 inches is normal in the wetter portions of the Coastal Mountains. Northeast and east winds related to enhanced seasonal pressure gradients can result in periods of cool nights and warm days in the valleys along with low relative humidities. This pattern often yields relatively warm days along and near the coast, as well.

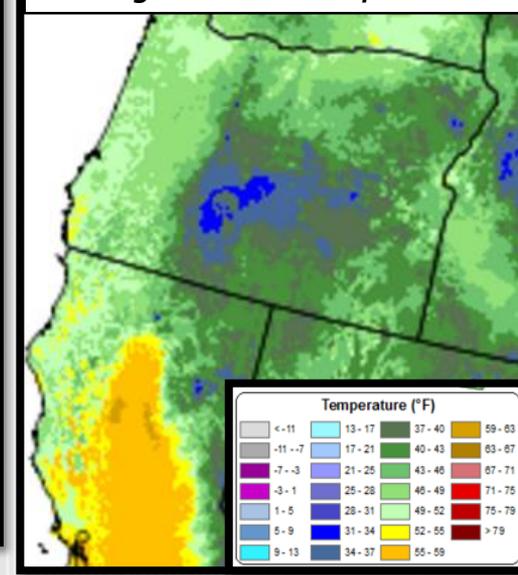
Average Maximum Temperatures



Average Precipitation

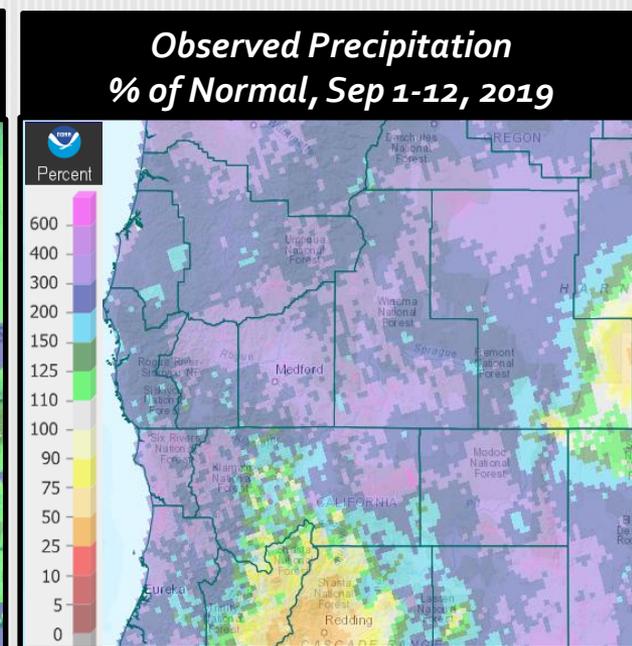
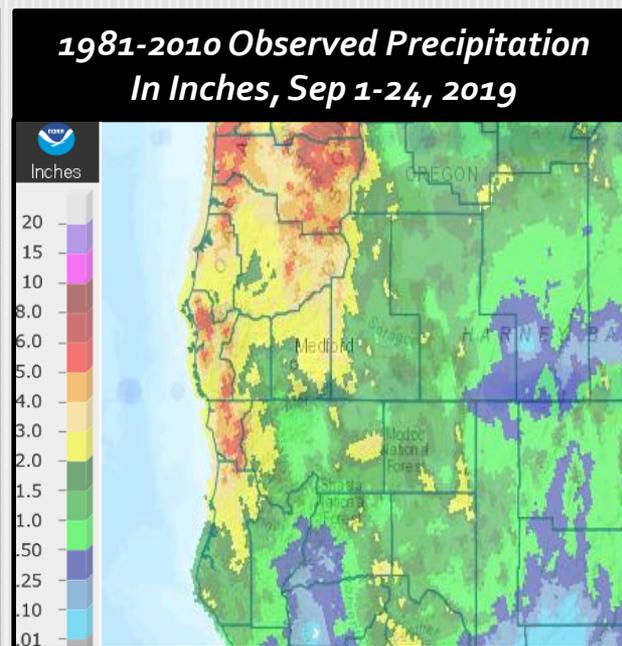
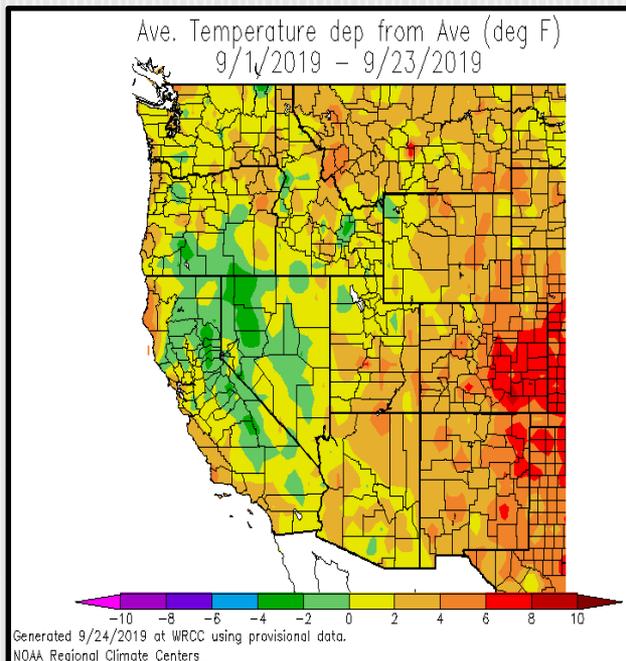


Average Minimum Temperatures



Observed Weather: Sep 1-24th, 2019

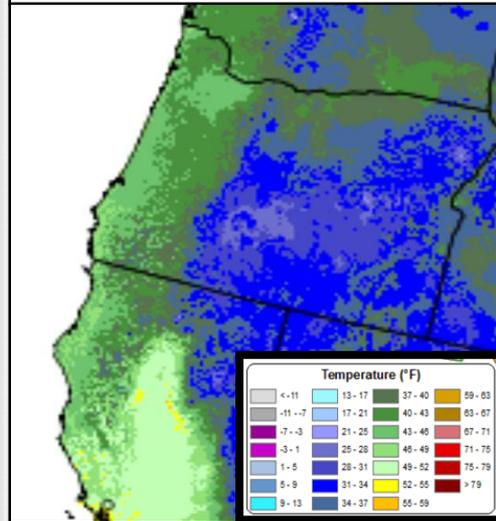
Temperatures through the 23rd of September have generally been near normal, though some areas have been +2 to +4F along and near the coast and -2 to -4F over most of the Cascades and east side. The coastal warmth is largely due to less northerly winds and resultant upwelling yielding warmer than normal SSTs. Precipitation amounts have been much above normal, generally 200-600% of normal. These graphics are all preliminary and the following caution should be used in using them: 1) For Temperatures: The spatial distribution of temperature anomalies on this graphic tends to be very broad and general. 2) For Precipitation: Data depicted here usually tends to be accurate, but can be contaminated by a bad data point. The lower amounts in NorCal appear consistent with point data, while the data in Lake and Harney counties is questionably low. Again, a better depiction is usually done with PRISM data within a few days of the next month. Phase 1 of the MJO and lower pressure in the Gulf of Alaska than normal are a couple of the drivers this month.



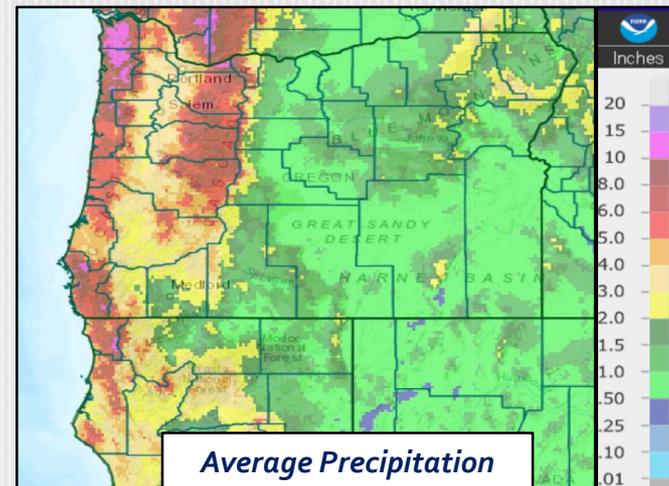
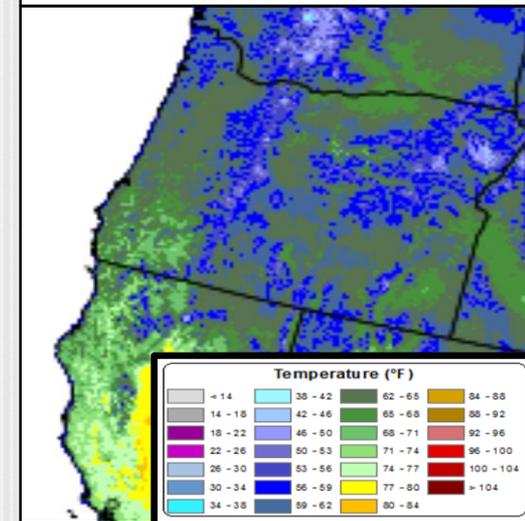
Looking Ahead: Normals for October (1981-2010)

October is the first month of the water year because it is the month when the weather usually turns definitively cooler and wetter for our forecast area. If fire season hasn't already ended, it almost certainly will end this month. Average low temperatures are in the 20s and 30s east of the Cascades, and in the upper 30s to 40s west of them. Average high temperatures are mainly in the 50s in the mountains, though colder on the peaks, where snow usually begins to accumulate. Most east side valley highs are in the 60s while, on the west side, 60s and lower 70s are normal. 5-10 inches of precipitation is normal for Curry County & in the higher terrain of far western Siskiyou County, and 10-15" in the Curry mountains. Elsewhere, amounts vary greatly, with 0.5" - 3" east of the Cascades, and 1" to 5" across much of the rest of the area.

Average Minimum Temperatures



Average Maximum Temperatures



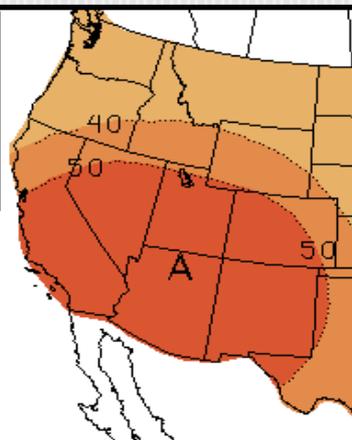
Average Precipitation

October 2019 Outlook

(Updated 9/25/19)

The official CPC forecast for Oct 2019, issued 9/19/19, calls for increased chances for warmer than normal temperatures (34-44%) and equal chances for at, below, or above normal precipitation. Please note that transition season months, meaning those in the spring and fall, historically, tend to be the most difficult to predict for CPC. ***Our localized update to this forecast is that temperatures for October 2019 look as if they're more likely to be at or below normal rather than above normal, especially for the first half of the month.*** This is because the MJO is in phase 1 and is expected to stall in phase 1 for at least the first half of October, but, possibly nearly the entire month. Such a situation correlates well, historically, with colder than normal temperatures throughout the western United States, greatest in Northern California. Low pressure troughing centered over the West that correlates with MJO Phase 1 for this season also favors at to above normal precipitation, especially from the Cascades westward. However, models indicate the trough generally centered to our east, putting us in drier northwesterly flow, therefore confidence is low in the precip forecast. ***Expect temperatures between +2F and -6F of normal and precip between 70 % and 150% of normal.***

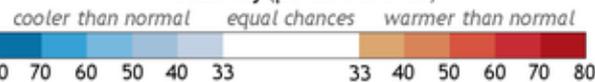
CPC's Oct 2019 Temperature Outlook



NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

ONE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
0.5 MONTH LEAD
VALID OCT 2019
MADE 19 SEP 2019

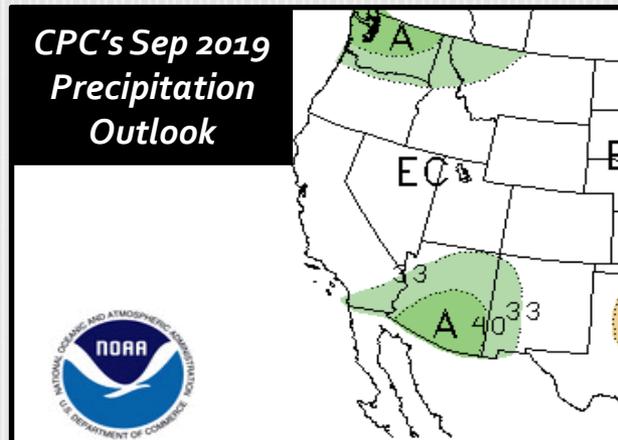
Probability (percent chance)



Expected Impacts for October 2019:

The primary anticipated impact of the colder and wetter weather continuing, especially from the Cascades west and, especially, early in the month, is that the summer growing season is likely to end earlier than it has in 10 years and, possibly, 20+ years. Fall has arrived early and looks to continue. There could also be some impacts from snowfall at elevations above 4kft, though these appear minor through mid-month. Otherwise, this pattern looks mostly beneficial for us.

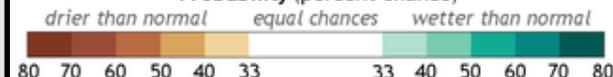
CPC's Sep 2019 Precipitation Outlook



NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

ONE-MONTH OUTLOOK
PRECIPITATION PROBABILITY
0.5 MONTH LEAD
VALID OCT 2019
MADE 19 SEP 2019

Probability (percent chance)



*A note about Period of Record (POR)

When looking at record setting events, it's important to consider the length and completeness of the site's period of record (POR). For example, a site may have records back to the early 1900's, but if there is a significant portion of the record missing, it's possible that the POR is not encompassing another significant event that may have surpassed the event in question. Therefore, "record setting" should be considered relative to the completeness/length of POR. To help keep records in context, the POR for each climate site is listed below:

- **North Bend: 1/1/1902 – Present**
- **Roseburg: 4/1/1900 – Present**
 - ❖ *Missing*:
 - 05/1900-01/1901
 - 03/1901-06/1902
 - 08/1902-12/1930
 - 10/1965-06/1997
- **Medford: 3/11/1911 – Present**
- **Klamath Falls: 12/1/1897 – Present**
- **Montague, CA: 7/1/1948 – Present**
 - ❖ *Missing*:
 - 08-09/1952
 - 02/1953-06/2000
- **Mount Shasta City, CA: 4/15/1948 – Present**
 - ❖ *Missing*:
 - 10/1984-01/1985
 - 10/1985-03/1986
 - 09/1986-07/1997
- **Alturas, CA: 6/1/1998 – Present**
 - ❖ *Missing*:
 - 08/1998