National Weather Service Medford

September 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).

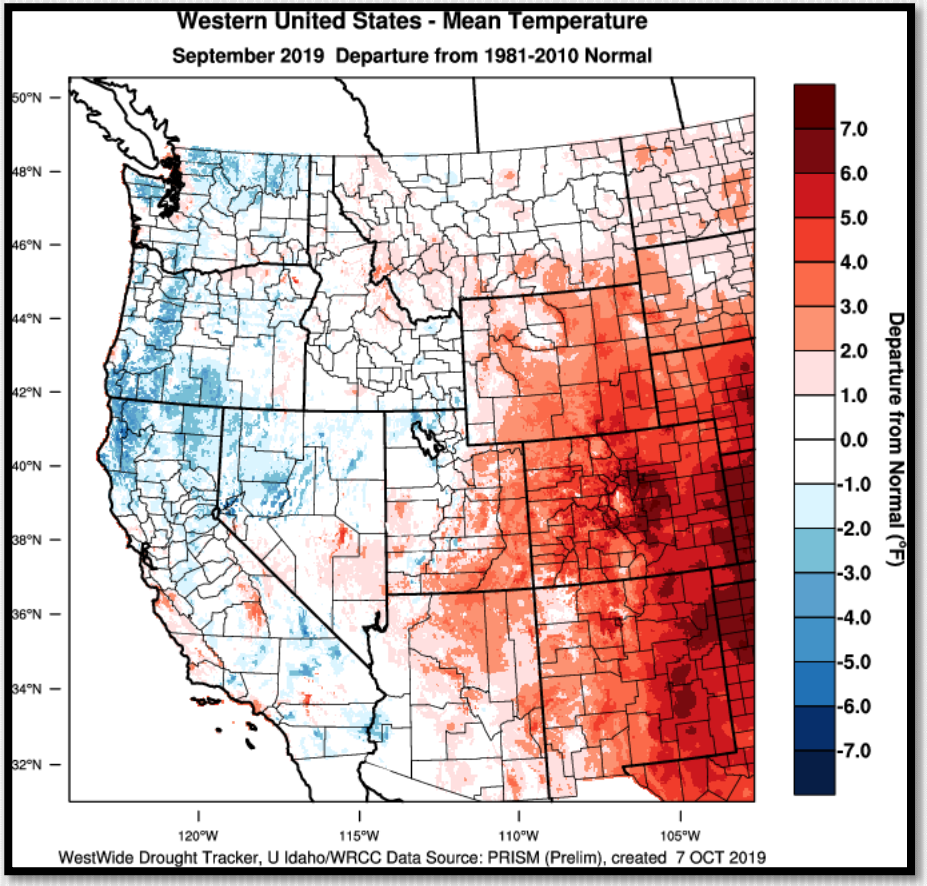
September 2019 Weather Review

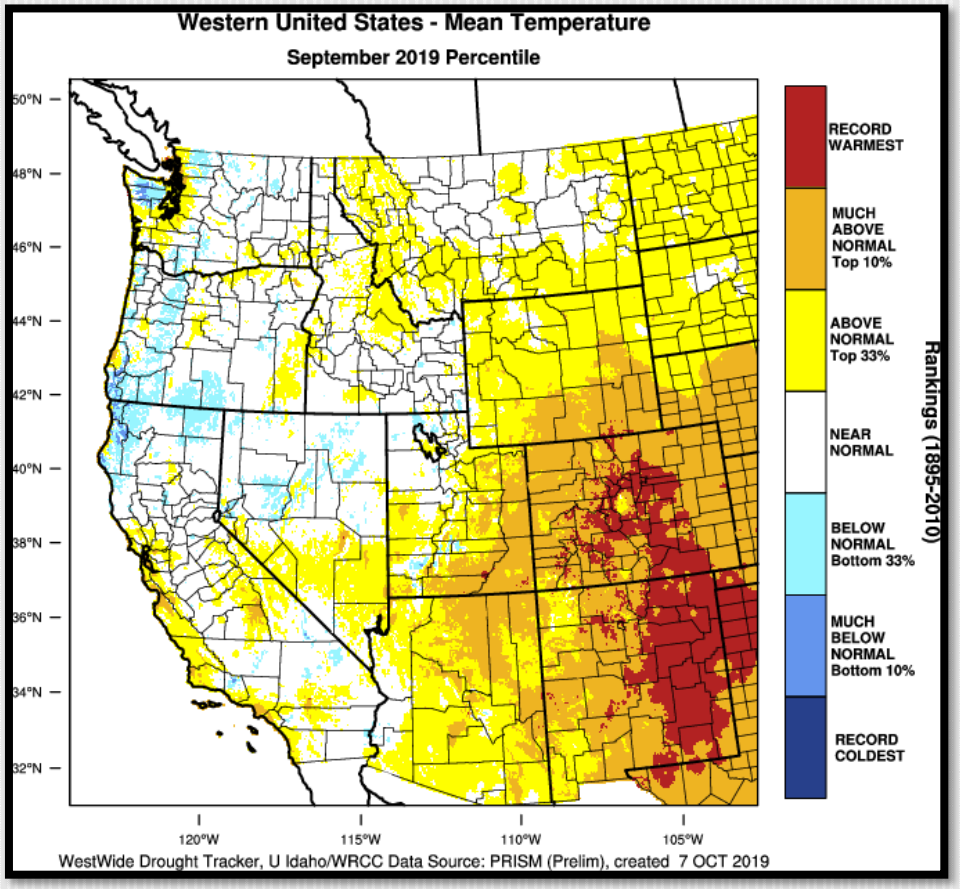
Overall, the month of September ended cooler and wetter than normal but it wasn't without it's periods of hot and dry. Periods of high pressure aloft with a thermal trough at the surface alternated with a series of fronts during the month, with more fall-like weather behind each front. Each front brought beneficial rain to the area, with some high elevation snow at times, and basically brought an already quiet fire season to an early end.

This was the tenth wettest September on record for Medford, with a few climate sites recording one of their top ten wettest Septembers on record. There were periods of thunderstorms as the upper level troughs moved inland, but given the moist fuel conditions, there wasn't fire weather concerns with these thunderstorms. One system brought a particularly strong thunderstorm to the Rogue Valley. This was an impressive storm for this area given the synoptic setup and had the features of a mini-supercell. Torrential rain and a copious amount of pea sized hail blanketed portions of the Medford area on the evening of the 18th. Strong winds from this storm also downed some trees around the area, resulting in some damage to vehicles.

Temperatures rebounded to more normal values after this, but then a strong trough settled over the Pacific Northwest during the last few days of the month. This brought one of the coldest air masses for that time of year over the area and resulted in a 3 day period of well below normal temperatures. All of our climate sites, excluding North Bend, recorded one of their top 3 coldest daytime high temperatures during this period. Snow levels dipped down to around 5000 feet and Crater Lake recorded their first snowfall of the season (7.8" storm total) during this time. High temperatures were around 15 to 25 degrees below normal across the forecast area at the end of the month.

September 2019 *Observed Temperatures*





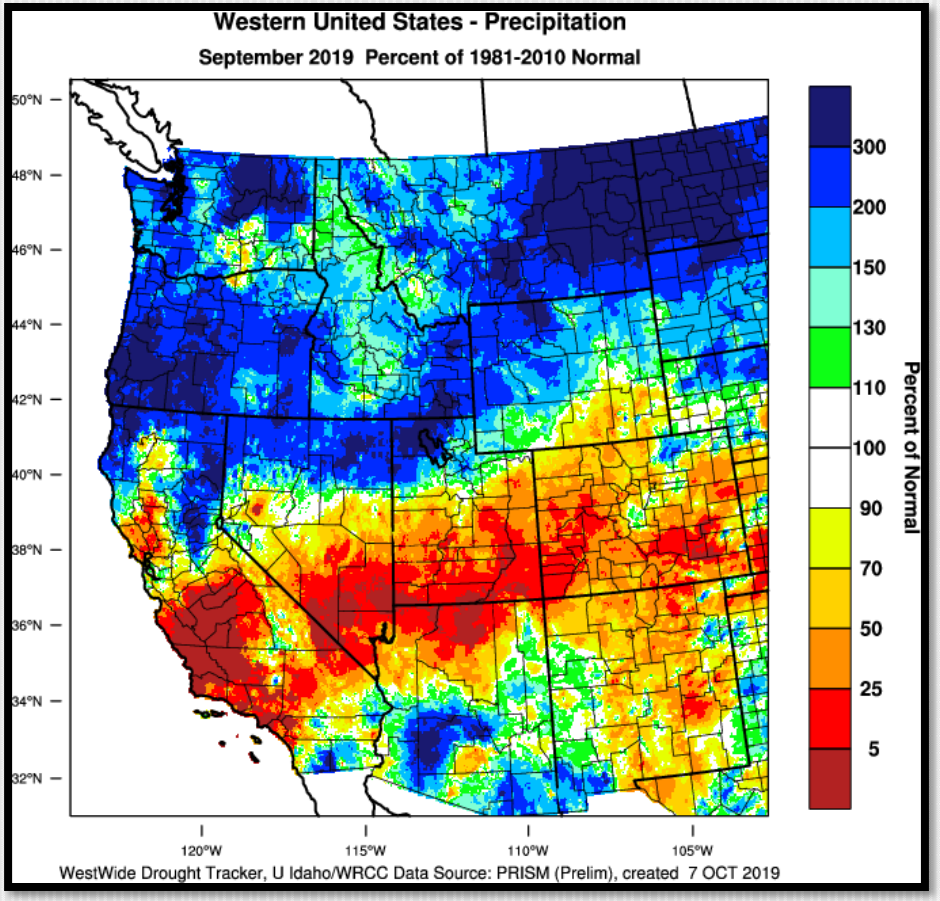
Average Temperatures

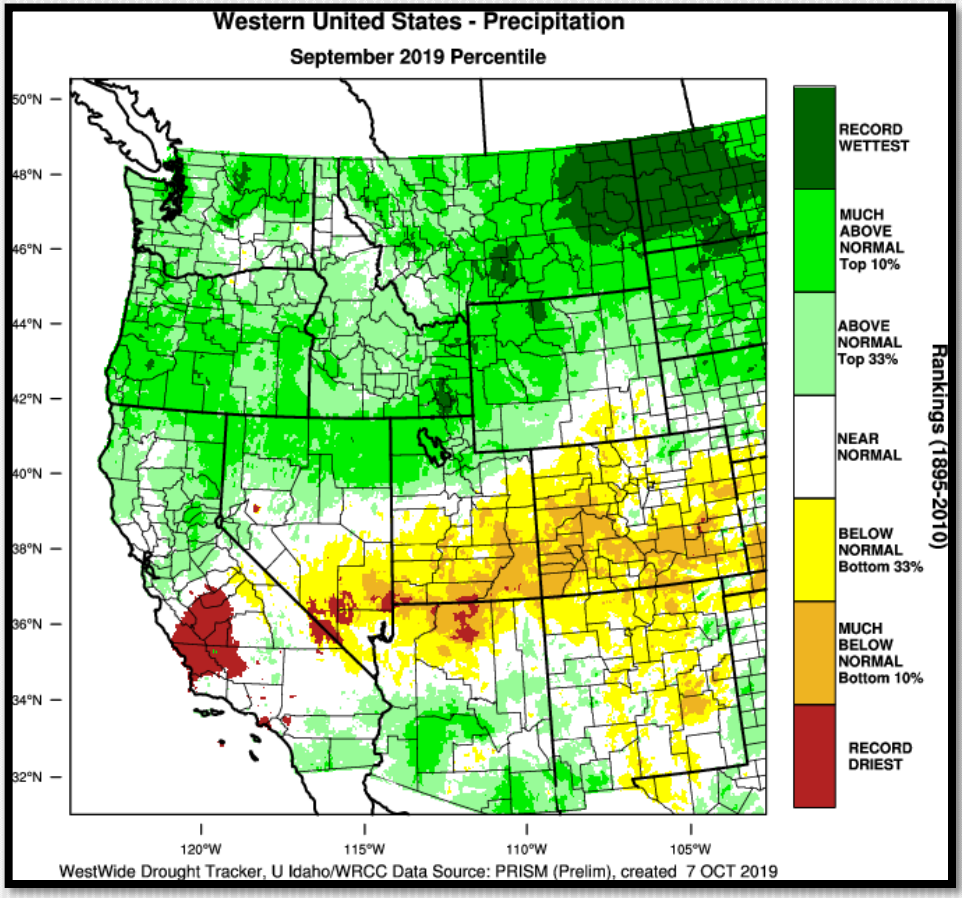
	Average (°F)	Departure from Normal	Average Max (°F)	Departure from Normal	Average Min (°F)	Departure from Normal
North Bend	61.7	***4.3°***	68.2	***3.4°***	55.2	***5.2°***
Roseburg	64.0	***-0.9°***	74.8	***-3.8°***	54.9	***3.7°***
Medford	65.3	***-1.5°***	77.5	***-6.0°***	53.1	***3.1°***
Klamath Falls	55.4	***-2.0°***	71.9	***-3.9°***	38.8	***-0.3°***
Montague, CA	62.9	***0.7°***	79.2	***-2.1°***	46.6	***3.5°***
Mt. Shasta City, CA	59.5	***-1.0°***	74.6	***-3.4°***	44.4	***1.4°***
Alturas, CA	56.7	***0.4°***	73.9	***-3.7°***	39.4	***4.4°***

Monthly Max & Min Temperatures

	Max (°F)	Date(s)	Min (°F)	Date(s)
North Bend	73°	12th & 13th	43°	30th
Roseburg	94°	5th	42°	29th
Medford	96°	4th	40°	29th
Klamath Falls	90°	4th	29°	30th
Montague, CA	96°	4th & 5th	35°	29th & 30th
Mt. Shasta City, CA	91°	4th & 5th	32°	30th
Alturas, CA	92°	3rd & 4th	31°	17th & 29th

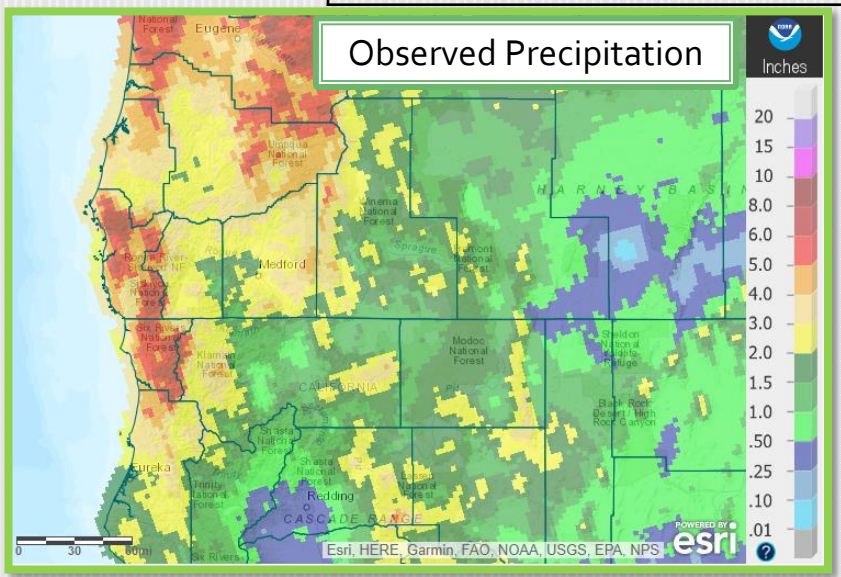
September 2019 *Observed Precipitation*

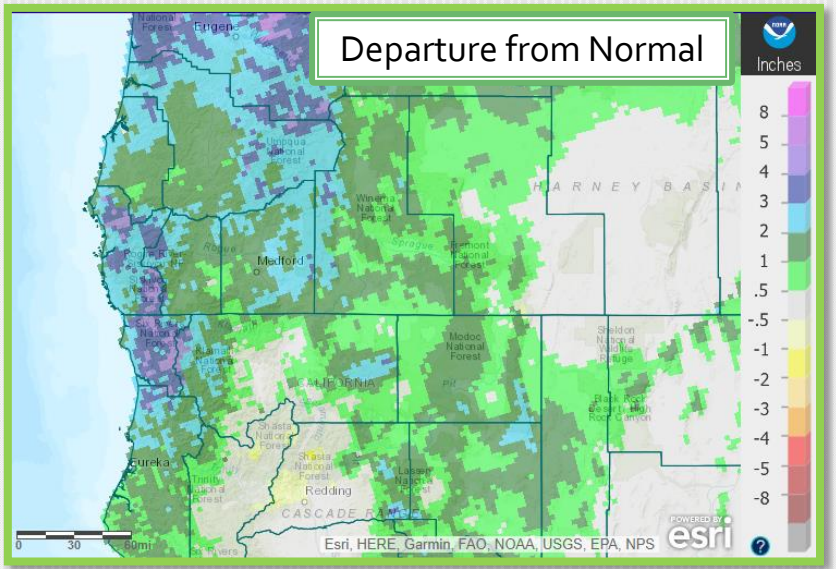




September Precipitation

	Total	Departure from Normal	Greatest 24-hr Total	Date(s)
North Bend	2.80"	1.22"	0.92"	18th
Roseburg	2.55"	1.59"	0.82"	15th
Medford	1.86"	1.29"	0.65"	18th
Klamath Falls	1.87"	1.34"	0.68"	16th
Montague, CA	M	M	M	M
Mt. Shasta City, CA	1.45"	0.78"	0.44"	16th
Alturas, CA	1.48"	0.96"	0.81"	16th





Record September Precipitation

Record Daily Precipitation

	New Record	Date	Old Record	Year
Medford	*0.59″*	15th	0.33″	2001
	0.65″	18th	0.59″	1966
Klamath Falls	*0.68″*	16th	0.51″	1977
Alturas	*0.81″*	16th	0.30″	1977

Top Ten Monthly Rainfall Totals for some Climate Sites

	Month Precipitation	Rank
Roseburg	*2.55″*	3rd
Medford	*1.86″*	10th
Klamath Falls	*1.87″*	7th
Alturas	*1.48″*	7th

Crater Lake

	Average Max Temp (°F)	Average Min Temp (°F)	Total Precipitation	Total Snowfall	Snow Depth as of: 9/30/18	Highest Max/ Lowest Min
September	55.4°	37.1°	5.54″	7.8″	7″	74° (5th & 8th) / 21° (29th & 30th)
Normal (1981-2010)	63.1°	36.1°	1.98″	3.3″	1″	N/A

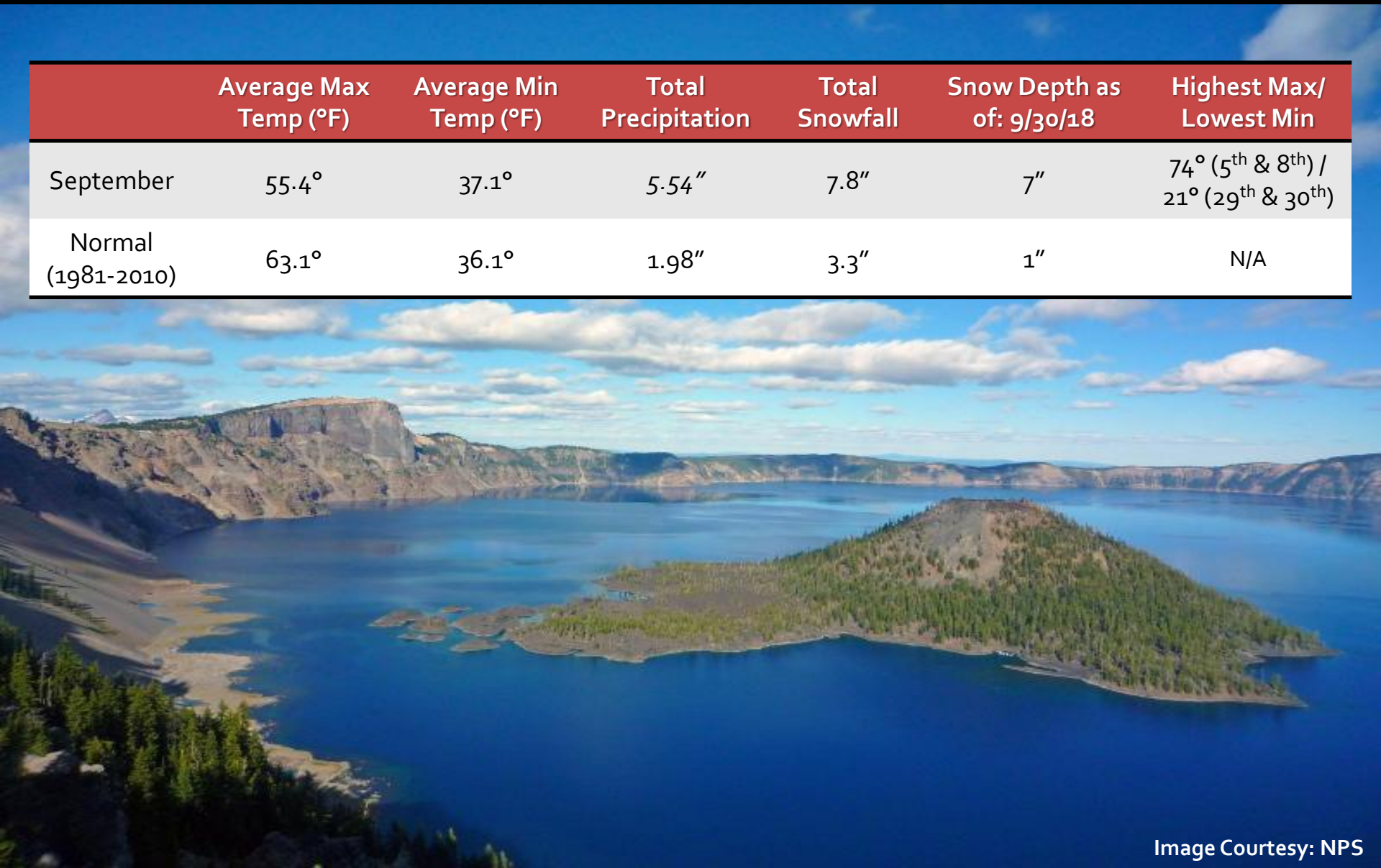


Image Courtesy: NPS

Notable September Weather

NWS Storm Survey: Strong Storm on September 18th


Photo Credit: Matthew Newman Photography


Photo Credit: Robin Miller

On the evening of Wednesday, September 18, a thunderstorm developed in northwest Jackson County and moved southeast along Interstate-5 through Medford between around 6 PM and 620 PM. A second weaker cell formed to the northeast and paralleled the track of the first, but instead tracked through White City and along the eastern edge of the Rogue Valley. This thunderstorm strengthened quickly after passing over the Medford airport. RADAR depicted distinct rotation in both cells, along with significant hail signatures, but both had very shallow development. No major weather was reported with the weaker cell, other than heavy rain, but several reports of damage were received within the path of the primary cell. Significant amounts of small hail (less than half an inch) were reported, particularly in the vicinity of Providence Hospital, and several trees were downed in the area.

NWS Storm Survey Results: Hail

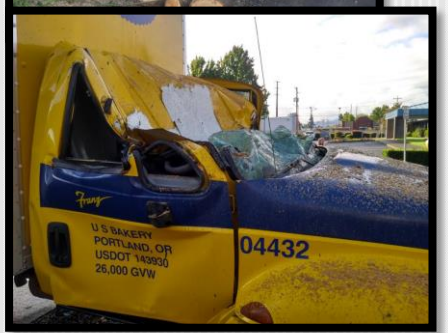
Significant amounts of small hail were reported around Providence Hospital. Hail appeared to occur along with very heavy rain, causing washes of hail to accumulate near storm drains and in low points in the terrain and in parking lots. Hail within the washes was mostly around a quarter of an inch or smaller, but some stones were measured to be just over half an inch. Witnesses in the area described near white-out conditions due to rain and small hail, with up to a foot of hail collecting in washes near storm drains. No hail was believed to reach severe criteria, although there is no doubt that there were numerous travel impacts along local roads, sidewalks, and parking lots.

NWS Storm Survey Results: Wind

Above & Right: Tree that crushed a truck on Superior Court. Note very small root ball for the size of tree, and lack of upwind roots past the curb.

Left: Tree that struck Franz delivery truck. Note retaining wall on upwind side, and lack of roots.

Below Right: Tree that fell on home at on Queen Anne. Note rotten base and lack of anchoring roots, especially on the upwind side of tree.



Two downed trees were reported along Superior Court, both causing significant damage to vehicles. One of these was a Franz delivery truck parked along the road, which had its cab caved in by the trunk of a tree of roughly 2.5 foot diameter. The second was a pickup truck in the parking lot of an office park, which was crushed by a roughly 52 foot tall tree with a trunk diameter of around 2.5 feet. A third tree was downed to the south, along Queen Anne Avenue. This tree, just over 3 feet in diameter, fell across the edge of a home, causing damage to eaves and gutters, but not appearing to pierce the roof. All three trees fell almost directly to the south, indicating straight line north winds. It should be noted that all trees also possessed compromised and underdeveloped root systems, with parking lots or retaining walls preventing the growth of anchoring roots on their north sides. One of the trees was also diseased, and was rotting in the roots and in the core of the trunk. Therefore, it is doubtful that severe wind speeds were necessary to fell these trees, especially given the moist soils and the wind load on their full leaf canopies.. There were several small branches downed in the area as well, but there were no indications of severe level winds.

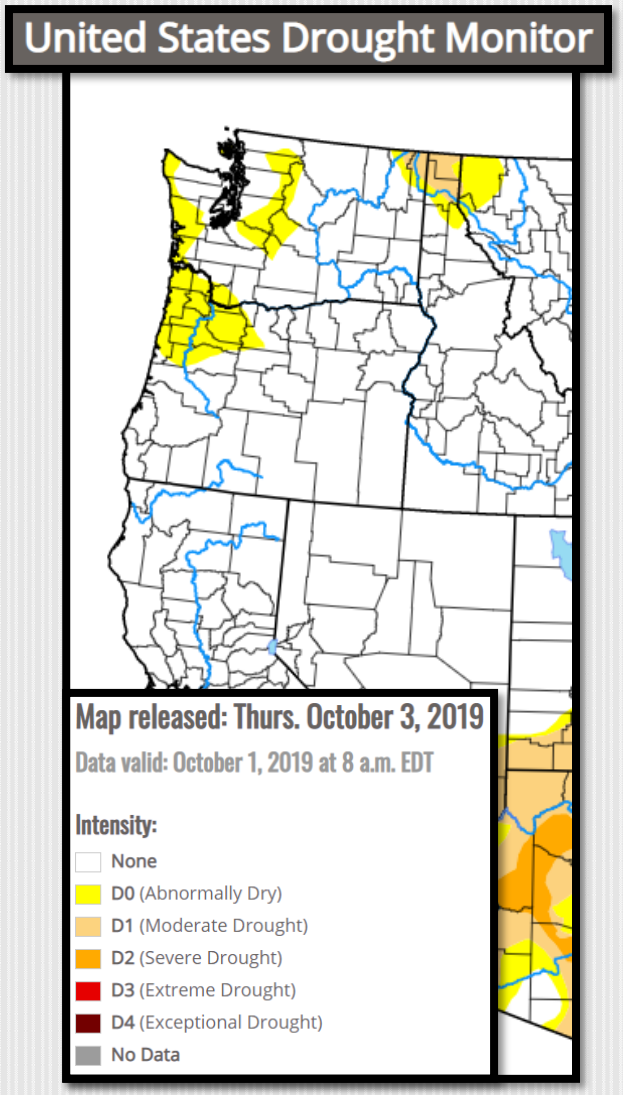
First Snowfall at Crater Lake

Record Cold Daytime Highs

	Saturday 9/28		Sunday 9/29		Monday 9/30	
	High Temp /Rank	Record/Old Record	High Temp /Rank	Record/Old Record	High Temp /Rank	Record/Old Record
Medford	58°F / 3rd	56°F / 1971	54°F / 2nd	48°F / 1971	60°F / 3rd	52°F / 2007
Roseburg	60°F / 2nd	58°F / 2007	57°F / 1st	58°F / 2009	60°F / 2nd	56°F / 2007
Klamath Falls	49°F / 1st	50°F / 1986	47°F / 2nd	43°F / 1971	49°F / 3rd	45°F / 1971
Alturas	52°F / 1st	Ties w/ 1986	47°F / 1st	52°F / 2007	48°F / 1st	50°F / 1971
Montague	54°F / 1st	59°F / 2007	51°F / 1st	59°F / 1950	58°F / 1st	59°F / 2009
Mt Shasta City	56°F / 3rd	50°F / 1962	50°F / 2nd	45°F / 1971	54°F / 2nd	48°F / 1971

All of our climate sites, excluding North Bend, experienced their top 3 coldest daytime high temperatures (lowest maximums) each day this past weekend. Red highlighted text indicates a new record.

Drought Monitor (Current) & Outlook (October)

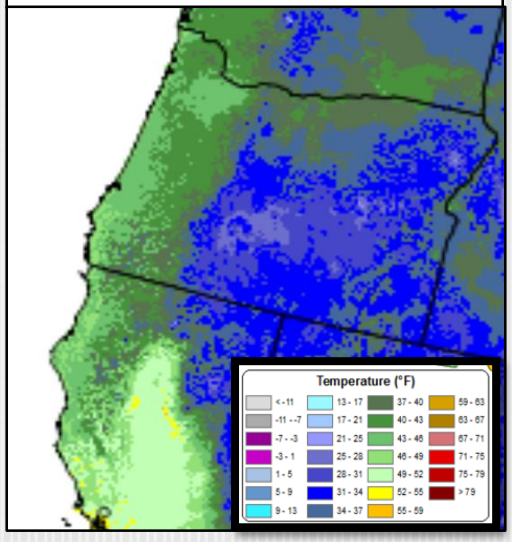


http://www.cpc.ncep.noaa.gov/products/expert_assessment/month_drought.png

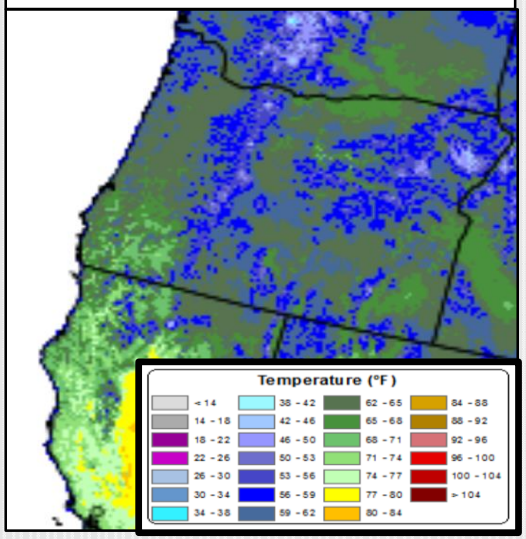
Looking Ahead: Normals for October (1981-2010)

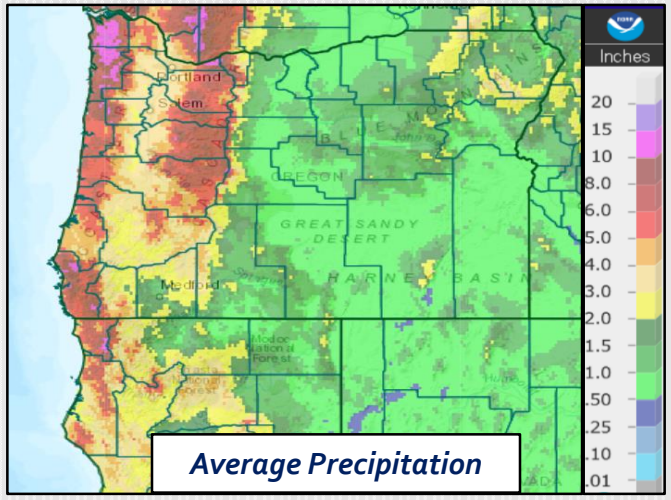
October is the first month of the water year because it is the month when the weather usually turns definitively cooler and wetter for our forecast area. If fire season hasn't already ended, it almost certainly will end this month. Average low temperatures are in the 20s and 30s east of the Cascades, 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



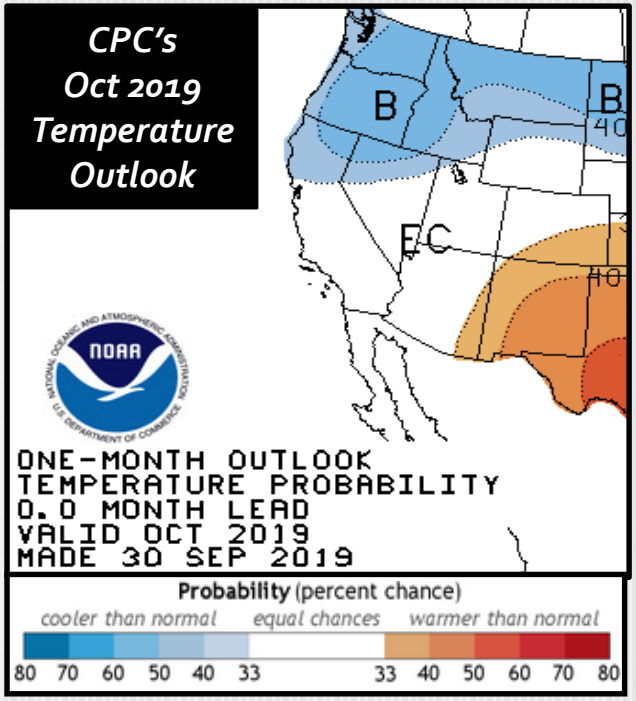


Average Precipitation

October 2019 Outlook
Updated: 10/10/2019

The updated (Sep 30th) official CPC forecast for Oct 2019 calls for increased chances of colder than normal temperatures across all of our forecast area with the greatest potential for below normal temperatures from the foothills of the Cascades eastward. The precipitation forecast indicates equal chances for below, near, and above normal precipitation. The first 9 days of this month have been colder than normal by approximately 5-10 degrees, except by less than 5 degrees along and near the coast. It has also been drier than normal with most of the area having seen less than a tenth of an inch of water- generally <50% of normal for the month to date. Our localized updated forecast is that temperatures for October 2019 is for temperatures to fluctuate between near normal and below normal ***resulting in temperatures 3-8 degrees below normal for the month, least along and near the coast***. In other words, the CPC forecast looks right on for temps. We're expecting a storm series October 16-24th that will bring a period of significant precipitation, ***but most areas are likely to finish the month near to below normal for precipitation*** as troughing lifts out by month's end. While isolated exceptions are possible, ***most areas are likely to be 50-100% of normal for precip. by month's end.***

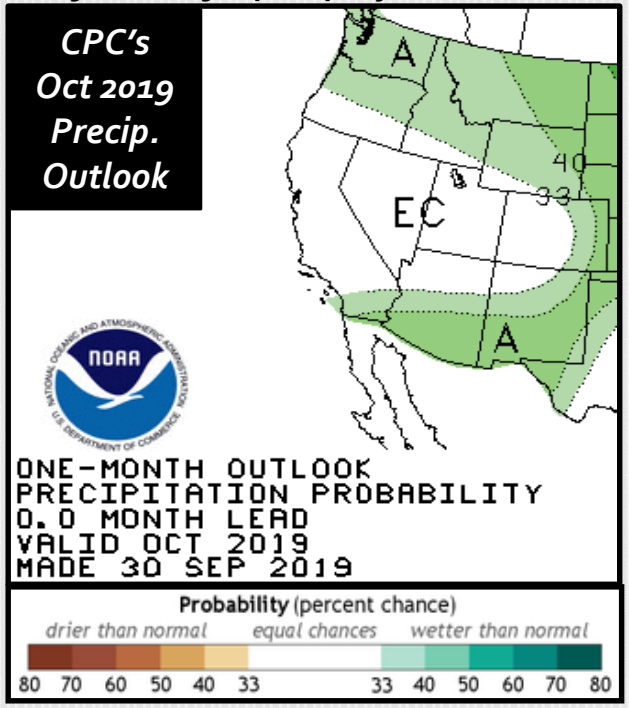
CPC's Oct 2019 Temperature Outlook



Expected Impact, October 2019:

The cool Sep 2019 followed by a cool Oct 2019 means an end to the summer growing season is nearly certain for all areas except along and near the coast. Frosts and freezes will be more frequent than the 1981-2010 average and much more frequent than since 2010. 50-100% of normal precipitation should have little impact, but cold temperatures along with precipitation indicate we are likely to see some impactful early season snow for hunters and travel near and above 4,000 feet.

CPC's Oct 2019 Precip. Outlook



*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 September 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 September 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*