

National Weather Service Medford

May 2020 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 \(NCEI\)](#).



May 2020 Weather Review

Overall, May 2020 was characterized by the typical swings in the weather that is to be expected during the transition seasons. The month started off on a warm note, but that quickly changed as a front moved through. Although it wasn't much, this front brought beneficial rain to the area and was followed by a period of cold nights that resulted in frost and freeze conditions for much of the area. This was followed by an early season heat wave as upper level ridging took hold over the area from the 7th through the 11th. During this heat wave, the Medford Airport recorded it's first 90+ degree day of the year with 93°F occurring on the 8th. Both Roseburg and Mt Shasta City set daily high temperature records during this heat wave.

Relief came around the 11th as the pattern transitioned to a more active pattern which persisted for the next two weeks. A series of systems moved through the area during this time, bringing much cooler temperatures (around 5 to 10 degrees below normal) and periods of much needed rainfall. With much of the area under severe to extreme drought designations, every drop of precipitation was welcome despite the fact that it did little to relieve the deficit created by a very dry fall and below normal winter season precipitation. During this active weather period, gusty winds were felt across the area, resulting in significant blowing dust in portions of Lake County and even a few thunderstorm days in the Rogue Valley.

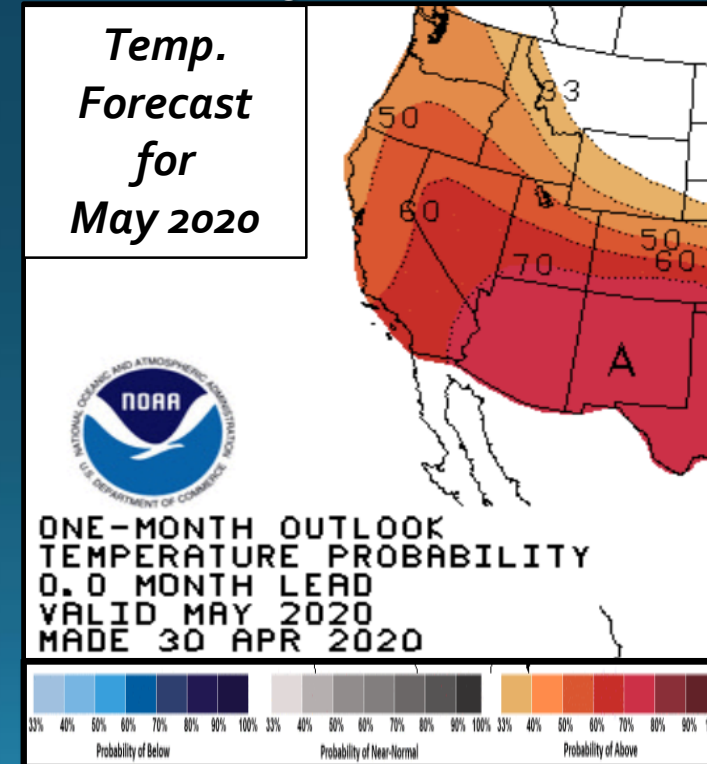
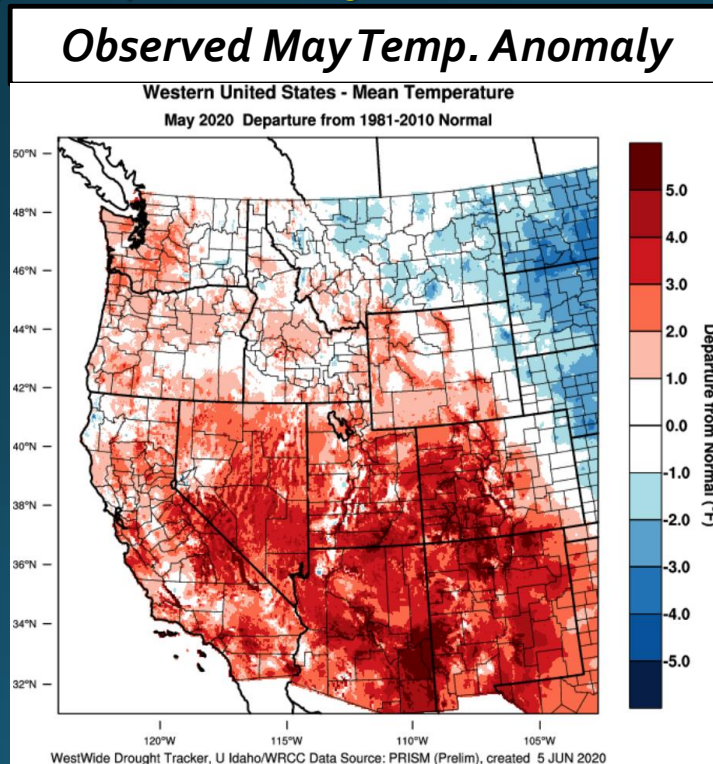
The weather did another 180 for the last week of the month when a strong ridge of high pressure settled over the area, resulting in another heat wave. During this time, temperatures reached well into the 90s for the valleys west of the Cascades and in northern California. Although Roseburg was the only site to set a record high temperature during this time, this heat wave brought the hottest temperatures of the year thus far.

The month finished off with another drastic change in the pattern. Low pressure off the southern California coast moved northeast, moving through the area as a negatively tilted trough. This system brought a variety of weather to the area including a thunderstorm outbreak, much cooler temperatures (20 degrees cooler than during the heat wave), and significant rainfall. The thunderstorm outbreak brought on by this low, resulted in over 850 strikes. Golf ball sized hail was reported with one thunderstorm in the Klamath Marsh area, while a cold core funnel was spotted in the Dorris area. This system was quite significant for this time of year, especially in terms of precipitation. Some areas west of the Cascades received their average May monthly precipitation in just one day with this system! There were multiple daily precipitation records set, and Medford saw it's second greatest daily rainfall during the month of May with this system. This amount of rainfall was enough to push most of the area over their normal thresholds for monthly precipitation.



A Look Back at the May 2020 Temp Outlook

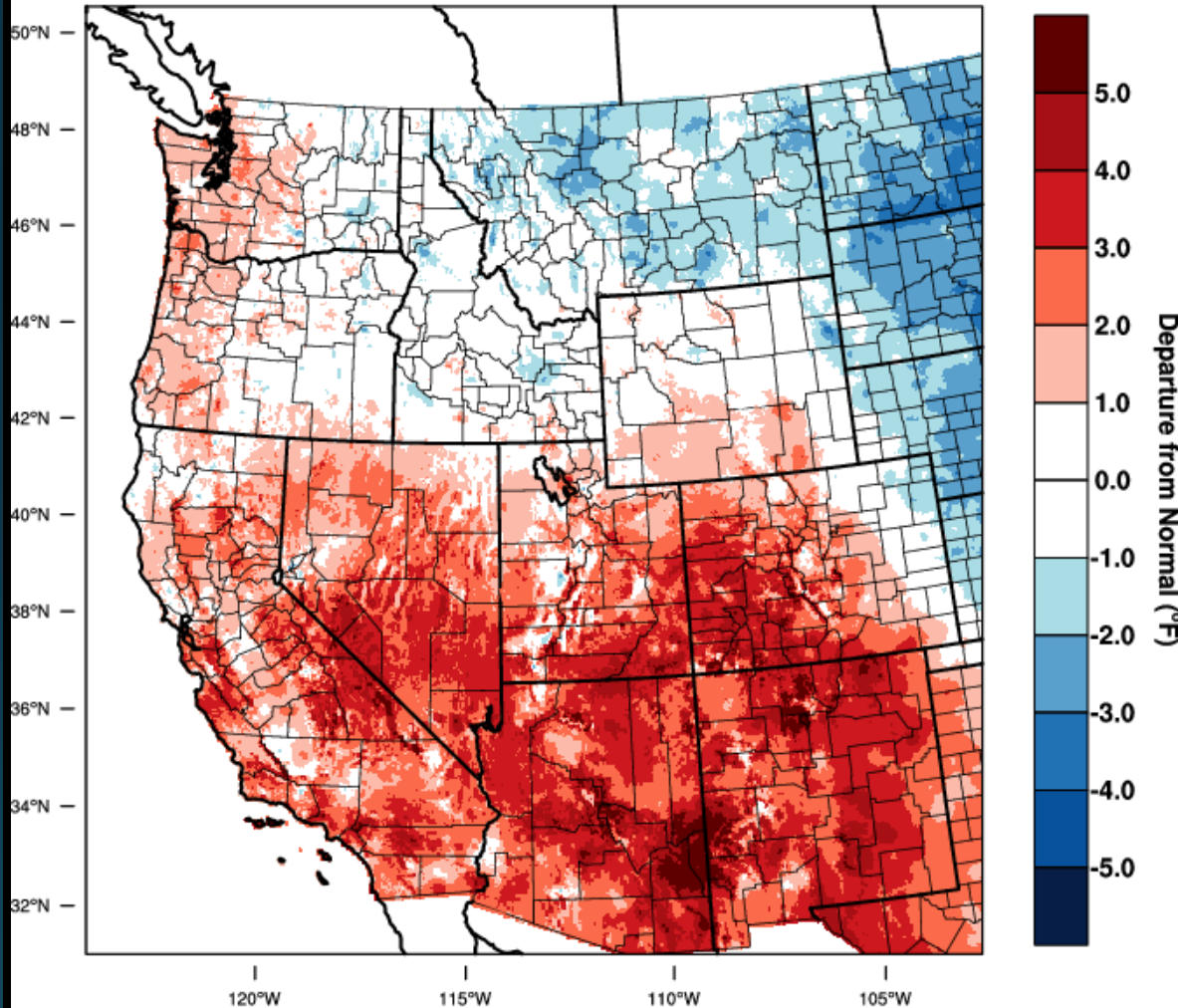
- **What was our localized forecast?** Our localized *May temperature* forecast was for *above normal temperatures, most likely between +3°F and +8°F from the 1981-2010 normals.*
- **Was the forecast anomaly correct?** *Partially- Our anomaly forecast was too far on the warm side, by 2.5 degrees F. Actual anomalies across the forecast area were -2°F to +4°F. The majority of the forecast area experienced anomalies between -1°F and +3°F.*
- **Was the expected impact correct?** *Yes, until the 11th and generally 'No' thereafter.* Frost and freeze was a concern early in the month. There were also some wildfires around the time of the warm spell that lasted through the 11th. However, thereafter, significant rainfall and some mountain snow resulted in warmer nights and lesser fire danger.
- **Did our forecast improve upon the CPC forecast?** *No.* Our localized forecast was misleading because it was too warm.





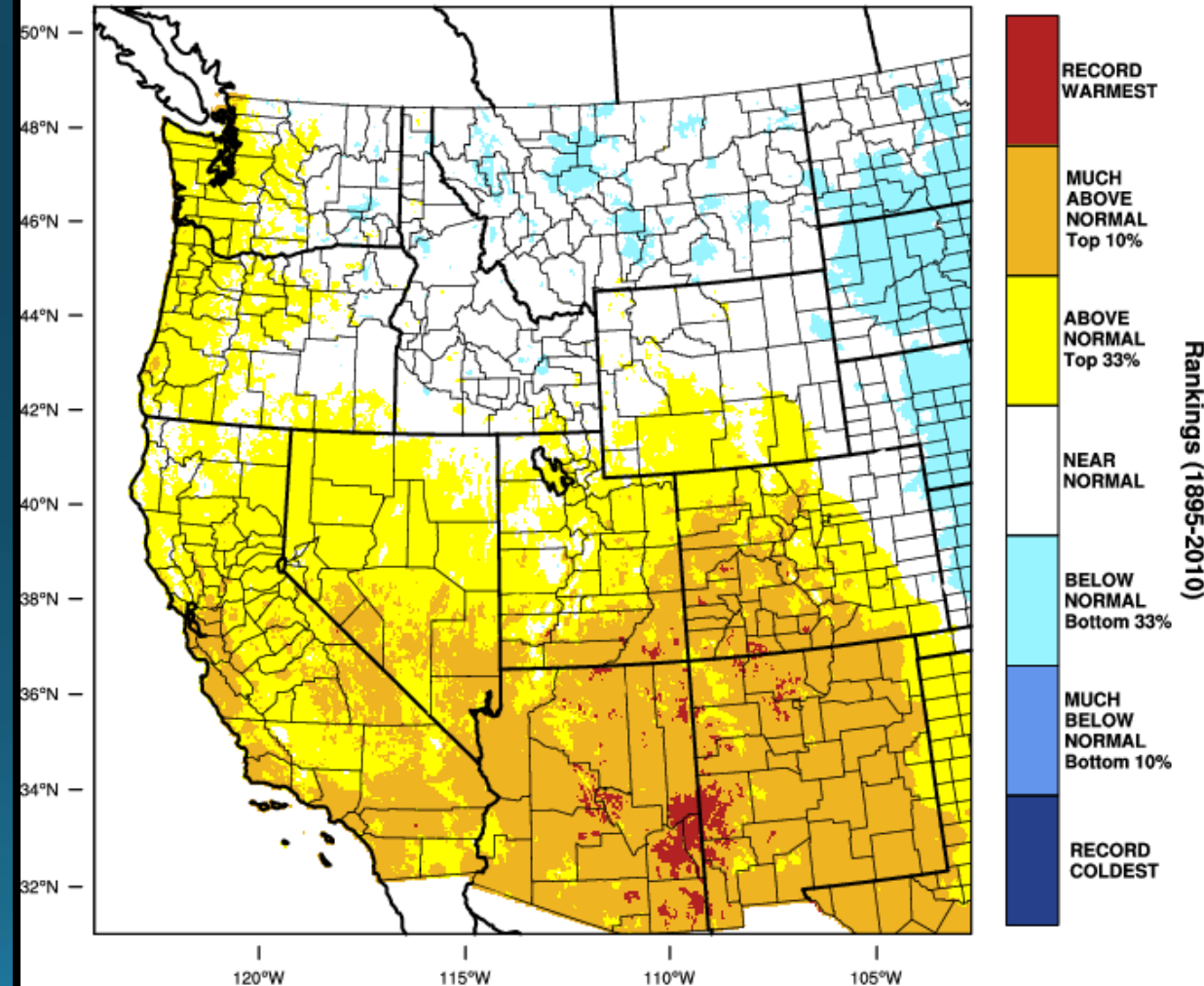
May 2020 Observed Temperatures

Western United States - Mean Temperature
May 2020 Departure from 1981-2010 Normal



WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 2 JUN 2020

Western United States - Mean Temperature
May 2020 Percentile



WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 2 JUN 2020



Average Temperatures

| | Average (°F) | Departure from Normal | Average Max (°F) | Departure from Normal | Average Min (°F) | Departure from Normal |
|---------------------|--------------|-----------------------|------------------|-----------------------|------------------|-----------------------|
| North Bend | 54.8 | 1.9° | 61.8 | 2.9° | 47.9 | 0.9° |
| Roseburg | 60.8 | 2.3° | 72.6 | 2.7° | 49.1 | 1.9° |
| Medford | 61.6 | 1.8° | 75.0 | 1.7° | 48.2 | 2.0° |
| Klamath Falls | 53.0 | 2.1° | 68.4 | 3.1° | 37.7 | 1.1° |
| Montague, CA | 59.6 | 3.5° | 75.9 | 4.2° | 43.4 | 3.0° |
| Mt. Shasta City, CA | 55.6 | 1.2° | 69.9 | 0.8° | 41.2 | 1.5° |
| Alturas, CA | 53.1 | 1.4° | 69.7 | 1.9° | 36.5 | 0.9° |



Monthly Max & Min Temperatures

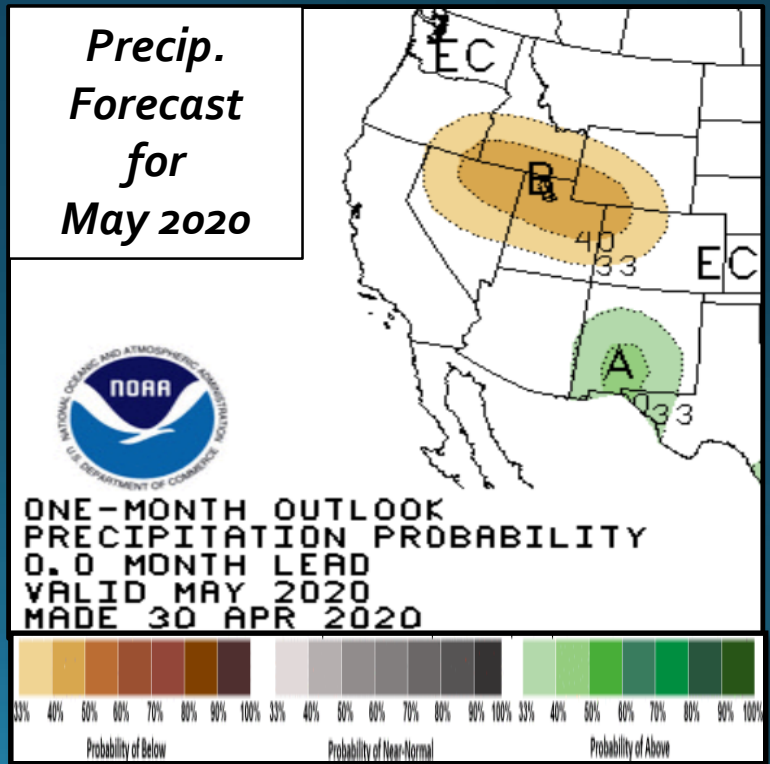
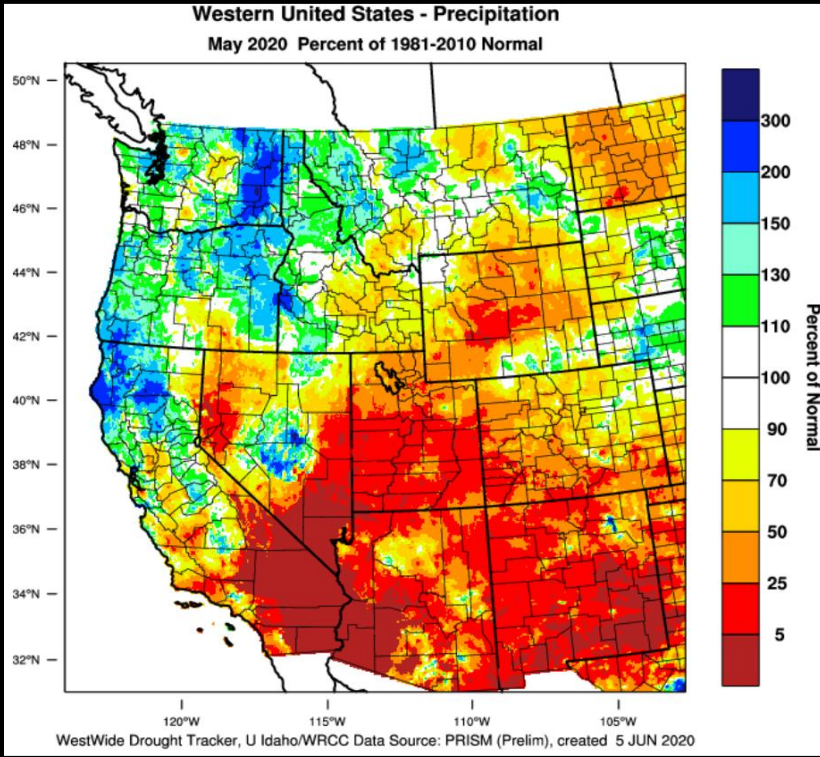
| | Max (°F) | Date(s) | Min (°F) | Date(s) |
|----------------------------|-----------------|--|-----------------|--|
| <i>North Bend</i> | 69° | 11th & 16th | 41° | 23rd |
| <i>Roseburg</i> | 93° | 28th | 40° | 4th & 7th |
| <i>Medford</i> | 96° | 28th | 36° | 4th |
| <i>Klamath Falls</i> | 89° | 28th | 23° | 3rd |
| <i>Montague, CA</i> | 98° | 28th | 28° | 3rd |
| <i>Mt. Shasta City, CA</i> | 90° | 28th | 29° | 4th |
| <i>Alturas, CA</i> | 93° | 29th | 24° | 4th |

| | <i>Date</i> | <i>Record High</i> | <i>Old Record/Year</i> |
|-----------------------|------------------|--------------------|------------------------|
| <i>Roseburg</i> | 8 th | 90° | 84° / 1939 |
| | 28 th | 93° | 90° / 2009 |
| <i>Mt Shasta City</i> | 8 th | 85° | 84° / 2012 |
| | 9 th | 86° | 85° / 1969 |



A Look Back at the May 2020 Precip Outlook

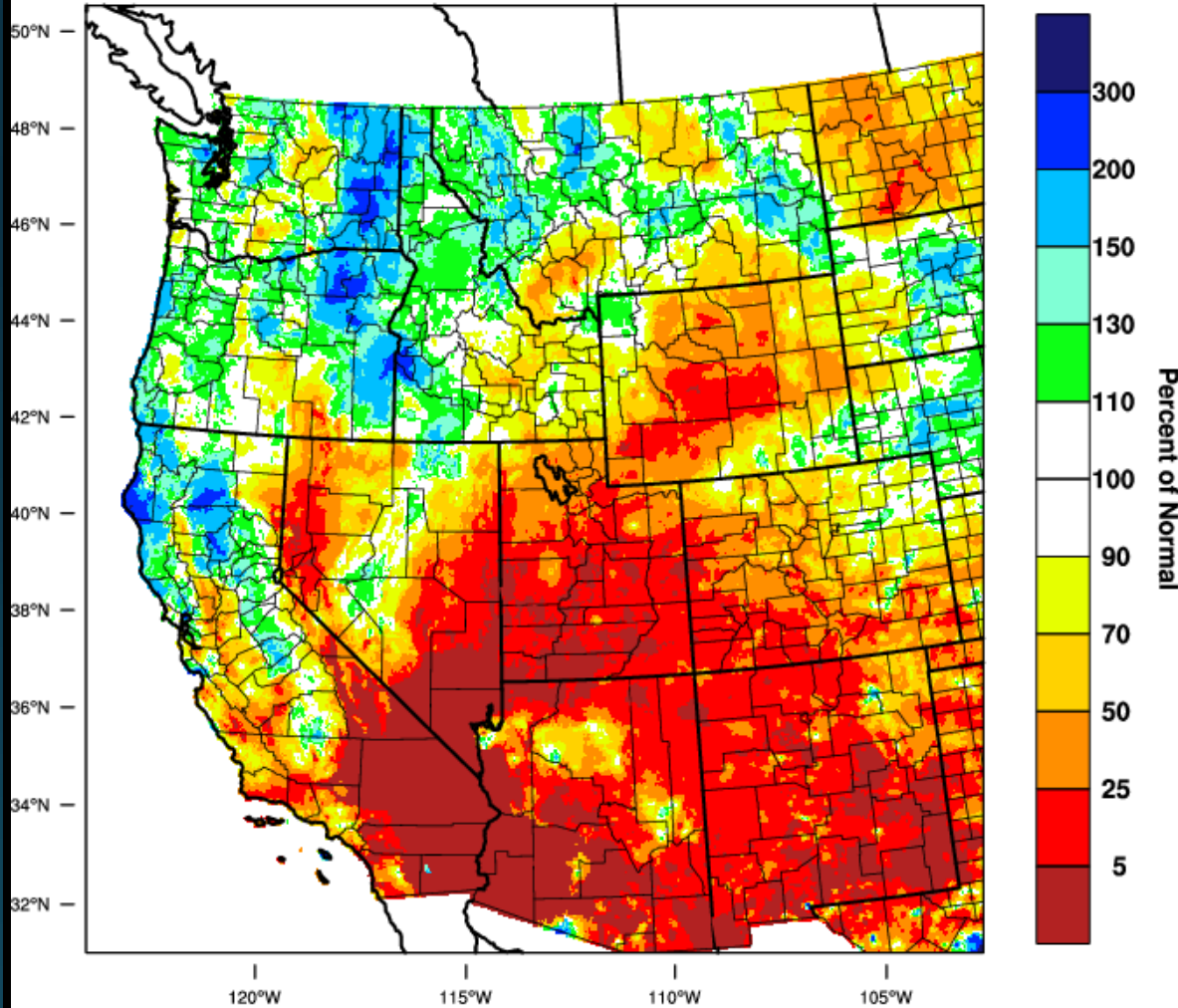
- **What was our localized forecast?** Our localized *May precipitation* forecast was for **BELOW normal precipitation across the forecast area (in the 20-80% range)**. It was mentioned that precipitation was “likely to be closest to normal precipitation from about the Coast Range westward.”
- **Was the forecast anomaly correct?** *Mostly no, except in portions of Lake and Modoc counties.* The actual range of anomalies was 25% to 200%+ of normal. Most areas were 90% and 200% of normal.
- **Was the expected impact correct?** *No and Yes.* Expectations for increased drought and wildfire concerns disappeared for most of the area on or slightly after the 12th due to significant rainfall. Our forecast did indicate “an increased potential for showers and thunderstorms from the 2nd week onward”.
- **Did our forecast improve upon the CPC forecast?** *No.* The data we had available for the localized outlook indicated increased uncertainty in the precipitation forecast due “anomalous southwesterly flow which will open the door for showers and thunderstorms from the 2nd week of the month onward.” CPC’s forecast was better.





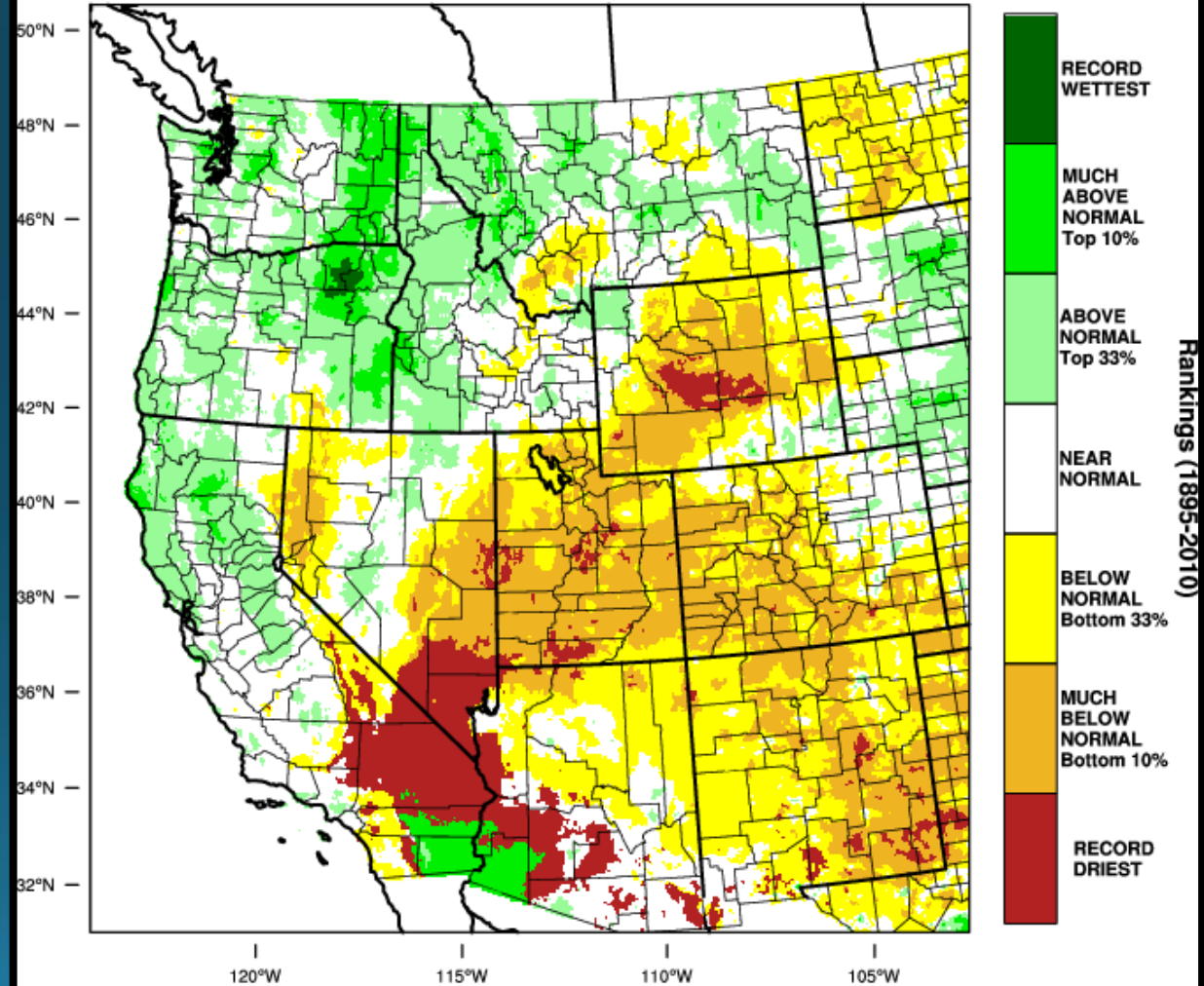
May 2020 Observed Precipitation

Western United States - Precipitation
May 2020 Percent of 1981-2010 Normal



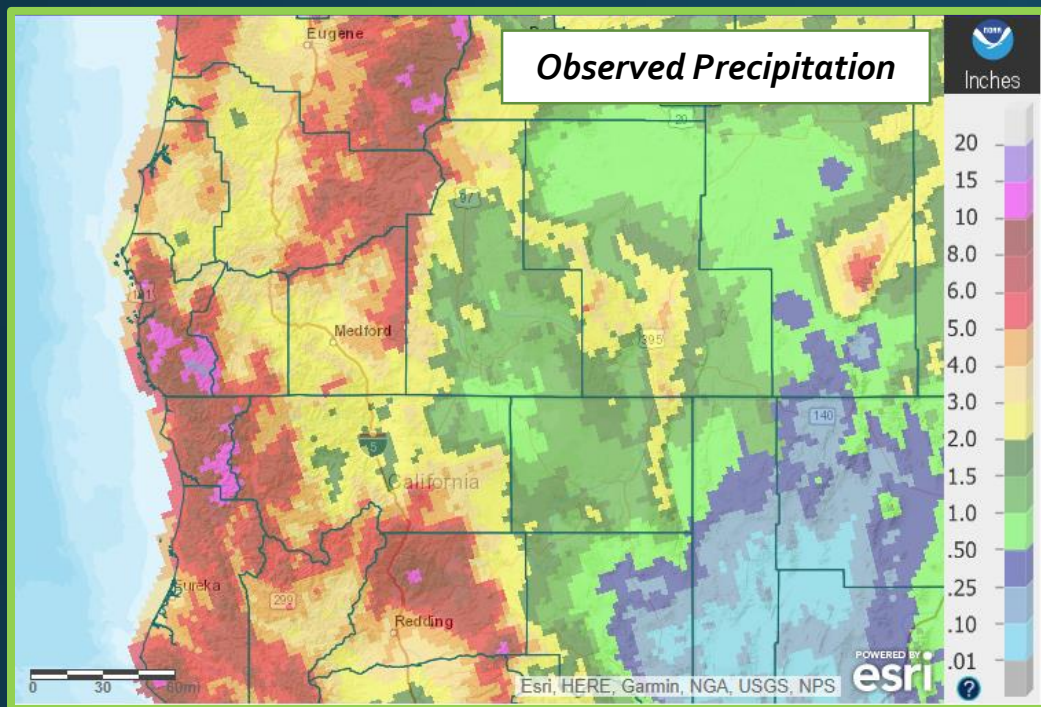
WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 2 JUN 2020

Western United States - Precipitation
May 2020 Percentile



WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 2 JUN 2020

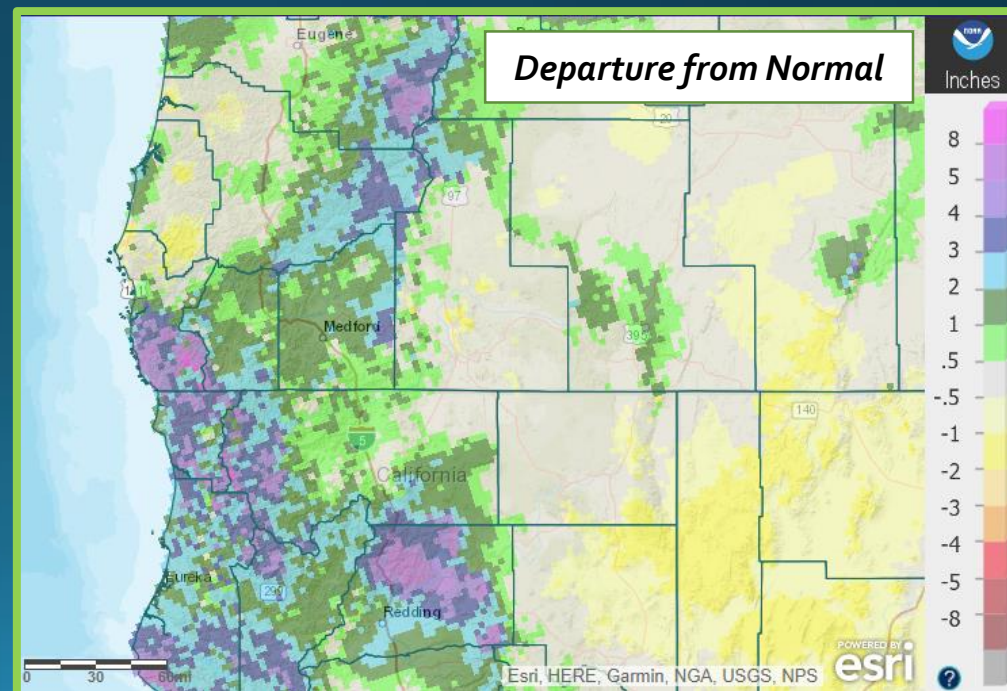
Precipitation



| | Total | Departure from Normal | Greatest 24-hr Total | Date(s) |
|---------------------|-------|-----------------------|----------------------|------------------|
| North Bend | 4.66" | 1.27" | 1.04" | 13 th |
| Roseburg | 3.22" | 0.95" | 1.19" | 30 th |
| Medford | 2.50" | 1.19" | 1.47" | 30 th |
| Klamath Falls | 1.18" | -0.20" | 0.33" | 17 th |
| Montague, CA | 2.03" | 0.61" | 0.72" | 30 th |
| Mt. Shasta City, CA | 3.39" | 1.17" | 1.50" | 17 th |
| Alturas, CA | 1.26" | -0.10" | 0.37" | 17 th |

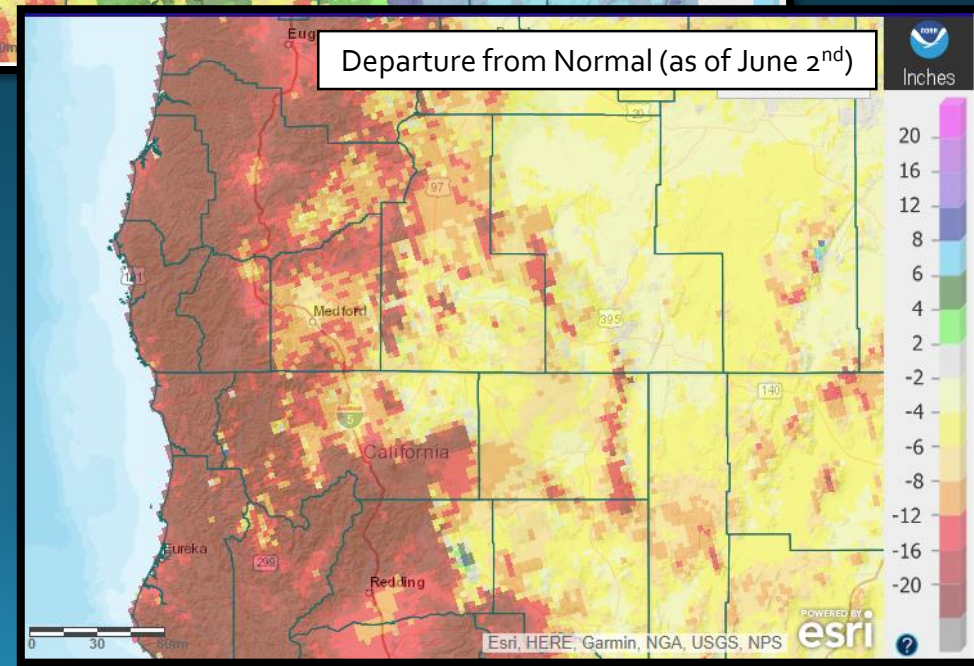
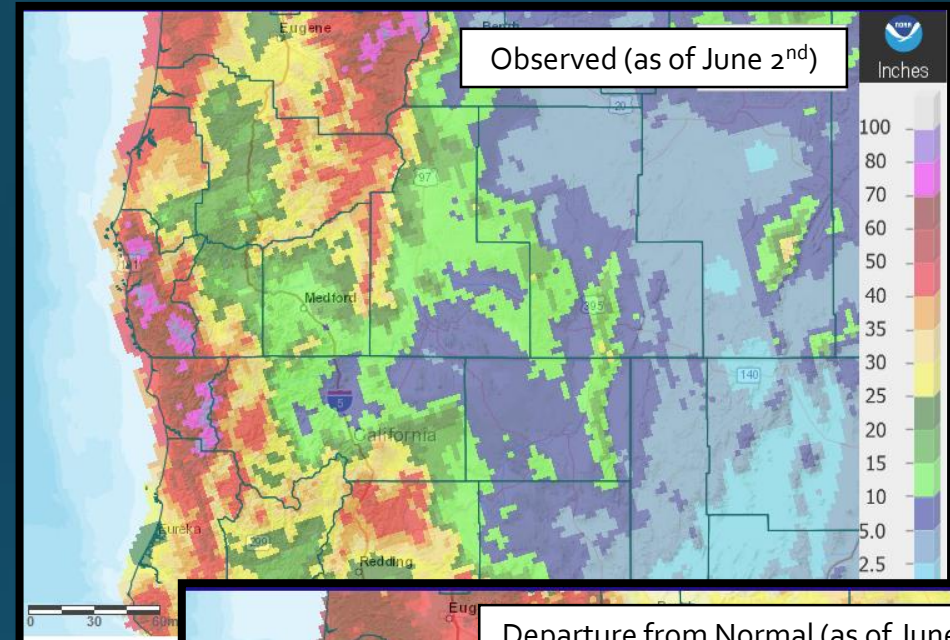
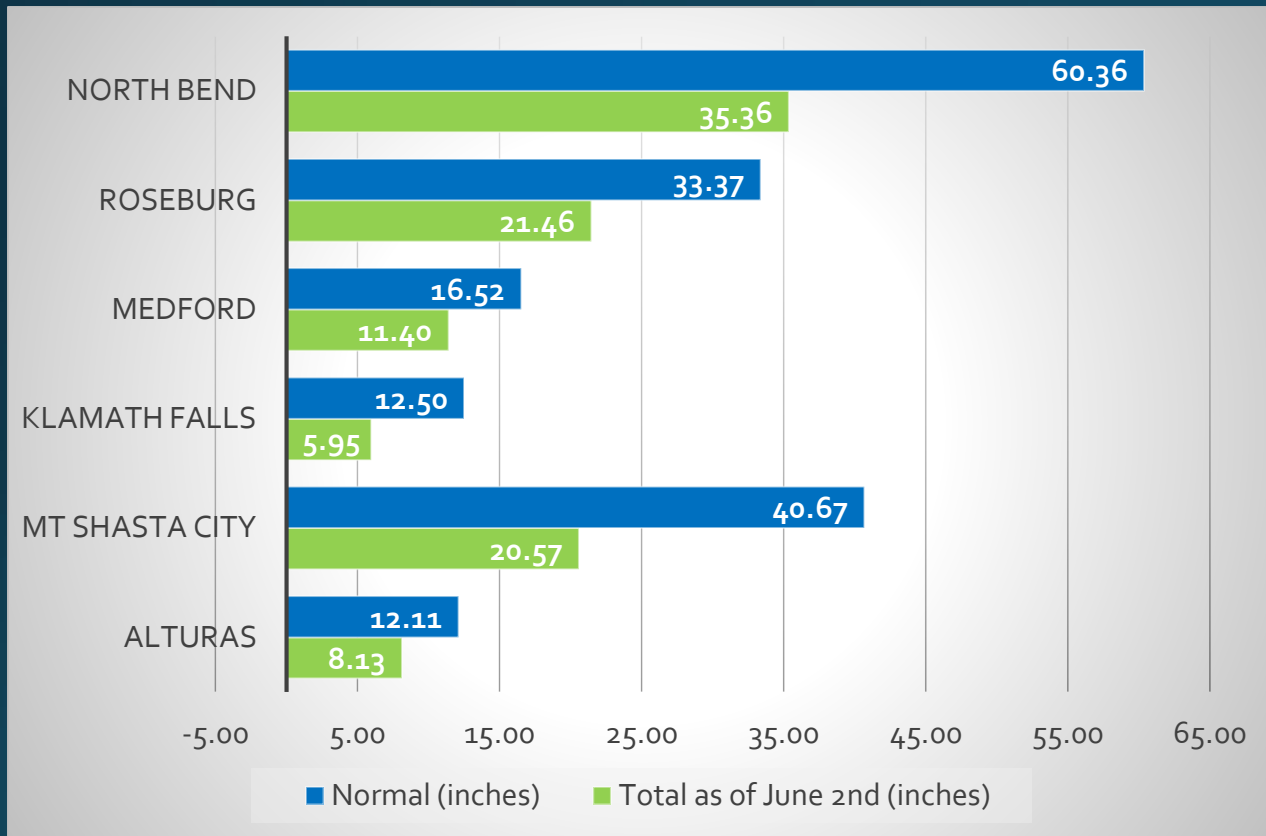
Record Precipitation

| | Date / Amount | Old Record / Year |
|------------|--------------------------|-------------------|
| Medford | 1.47" / 30 th | 0.74" / 1993 |
| Montague | 0.72" / 30 th | 0.48" / 1949 |
| North Bend | 1.00" / 2 nd | 0.91" / 1975 |
| Roseburg | 1.19" / 30 th | 0.45" / 1943 |



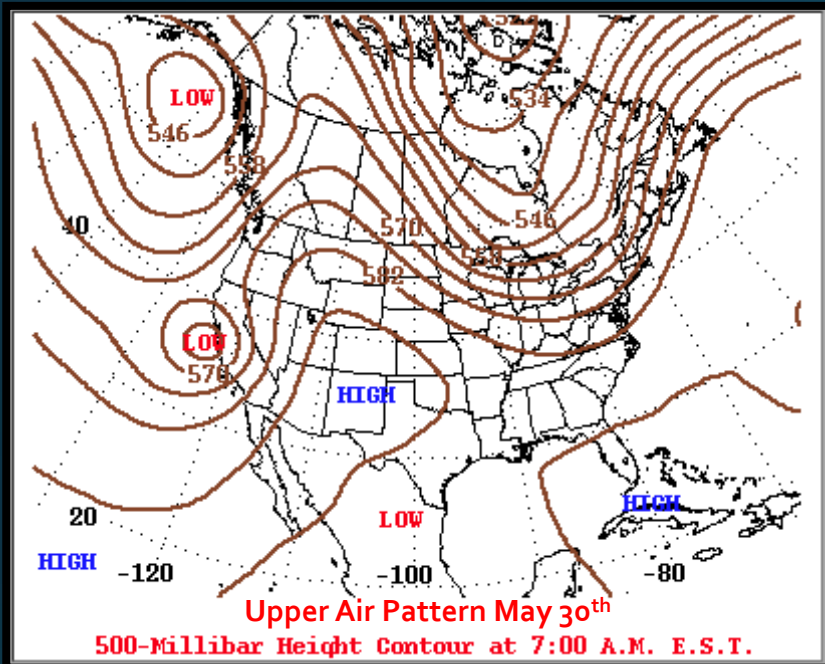


Water Year Status (As of June 2nd)



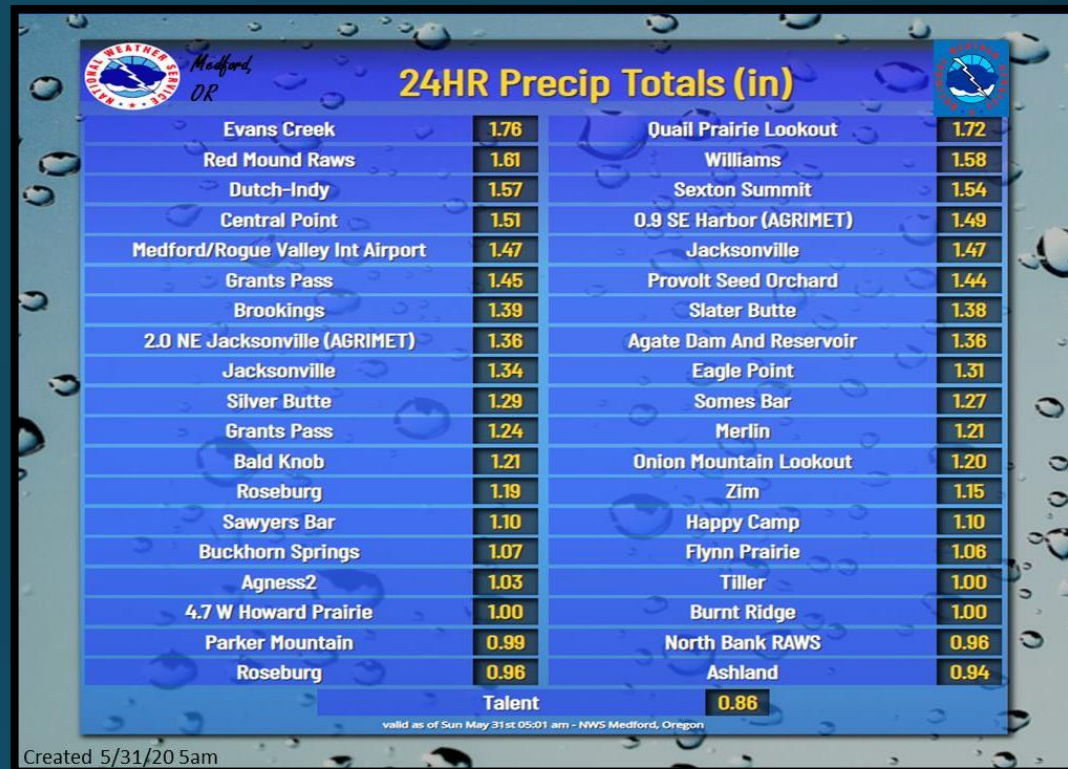
May Significant Events

Anomalous Wet Late Season System & Thunderstorm Outbreak



On Saturday, May 30th, 2020, an unusually wet storm system moved northward along the West Coast. Tapping into copious moisture pooling from the Cascades westward, this system delivered rain amounts more typical of late fall and early winter, as opposed to late spring. Amounts of 1.00-1.50 inches were common, with some locations reaching or exceeding 2.00 inches. The 1.47 inches of rain that fell at the Medford Rogue Valley International Airport almost doubled the daily rainfall record of 0.74 inches set on May 30, 1993.

It also went down as the 2nd wettest day in May ever recorded in Medford, second to only the 1.67 inches of rain that fell on May 18, 1956. To get an appreciation for just how wet this system was, the 1.47 inches that occurred that day in Medford was more than what normally occurs during the entire month, which is 1.31 inches! Due to preceding dry conditions, there were no flooding impacts and, other than some minor rises on area streams, creeks and rivers, ponding of water on roadways and reduced visibility at times were the main hazards. Even though this system brought needed water to area reservoirs and reduced fire risk, it wasn't nearly enough to quell the long term drought the area has been in dating back to last year. Records in Medford have been kept since 1911.



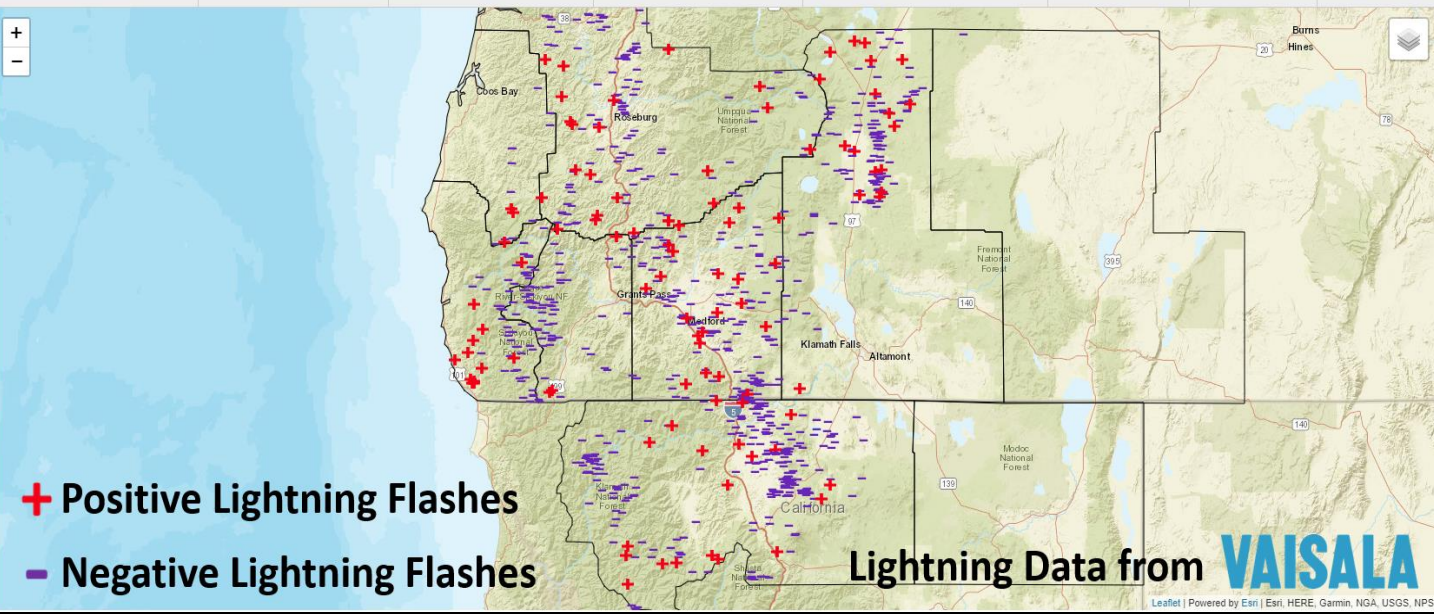
HOW DID SATURDAY'S RAIN IN MEDFORD RANK CLIMATOLOGICALLY?

| Max Daily Rainfall May 30 th | | | Max Daily Rainfall Month of May | | |
|---|-------|-------------|---------------------------------|-------|-------------|
| Rank | Value | Ending Date | Rank | Value | Ending Date |
| 1 | 1.47 | 2020-05-30 | 1 | 1.67 | 1956-05-18 |
| 2 | 0.74 | 1993-05-30 | 2 | 1.47 | 2020-05-30 |
| 3 | 0.44 | 1936-05-30 | 3 | 1.40 | 1953-05-26 |
| 4 | 0.36 | 1987-05-30 | 4 | 1.21 | 1945-05-24 |
| 5 | 0.30 | 1990-05-30 | 5 | 0.90 | 2009-05-03 |
| 6 | 0.19 | 1985-05-30 | 6 | 0.85 | 1992-05-19 |
| 7 | 0.18 | 1948-05-30 | 7 | 0.80 | 1996-05-21 |
| 8 | 0.15 | 1967-05-30 | - | 0.80 | 1963-05-10 |
| 9 | 0.13 | 2011-05-30 | - | 0.80 | 1956-05-04 |
| 10 | 0.12 | 1956-05-30 | 10 | 0.78 | 1942-05-25 |

Period of record: 1911-03-11 to 2020-05-31

Cloud to Ground Lightning Flash Summary 11 pm May 29th – 11pm May 30th

| 284 | 616 | 624 | 620 | 622 | 280 | 281 | 623 | 619 | 617 | 621 | 282 | 618 |
|----------|---------|---------|---------|-----------|-------|------|------|-----|-----|-----|-----|-----|
| 117 | 117 | 101 | 98 | 82 | 75 | 74 | 67 | 41 | 35 | 23 | 10 | 8 |
| Siskiyou | Jackson | Douglas | Klamath | Josephine | Curry | Coos | Lake | | | | | |
| 278 | 162 | 155 | 139 | 69 | 66 | 13 | 1 | | | | | |



Pictures submitted to NWSMedford Facebook page

In addition to the copious amounts of precipitation, the dynamics of this system brought a rather significant thunderstorm outbreak to the area. One cell in particular produced golf ball sized hail near the Klamath Marsh area with another report of golf ball sized hail in the Chemult area. Over 850 lightning strikes were recorded during this outbreak, and even a cold core funnel cloud was spotted in the Dorris area that afternoon.

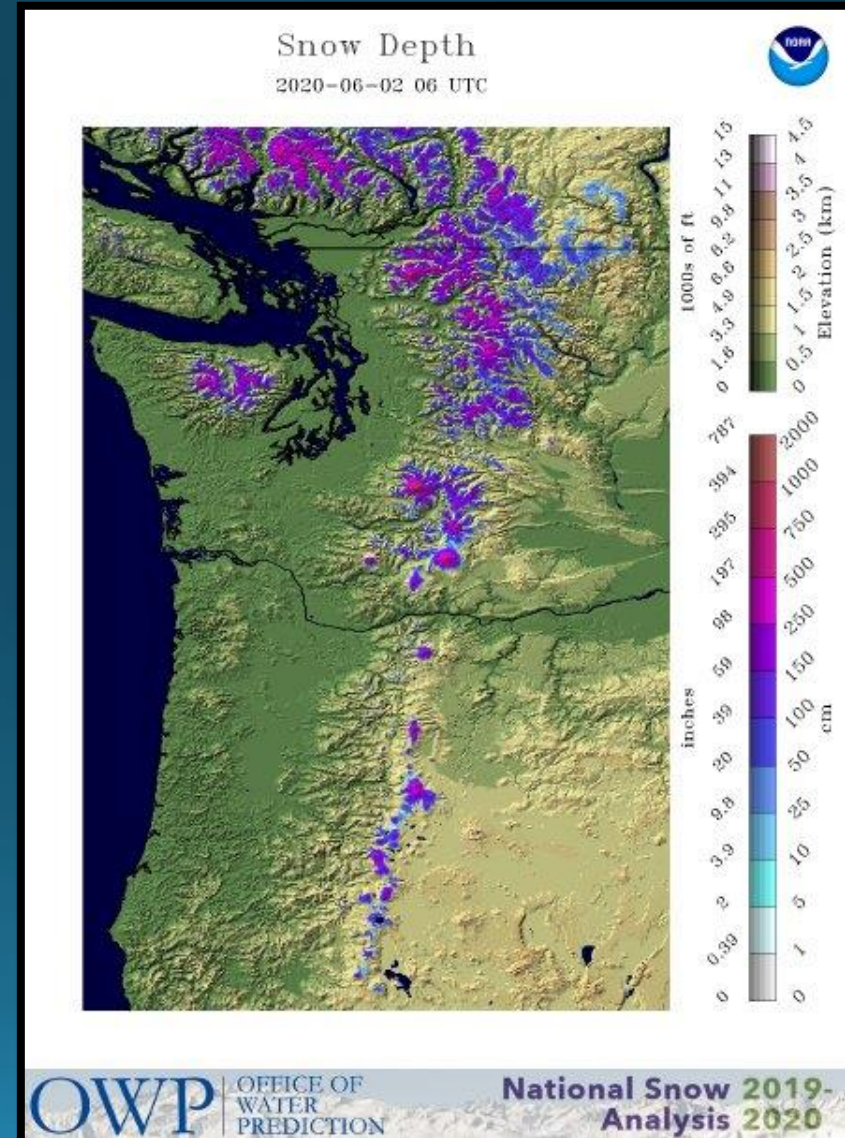
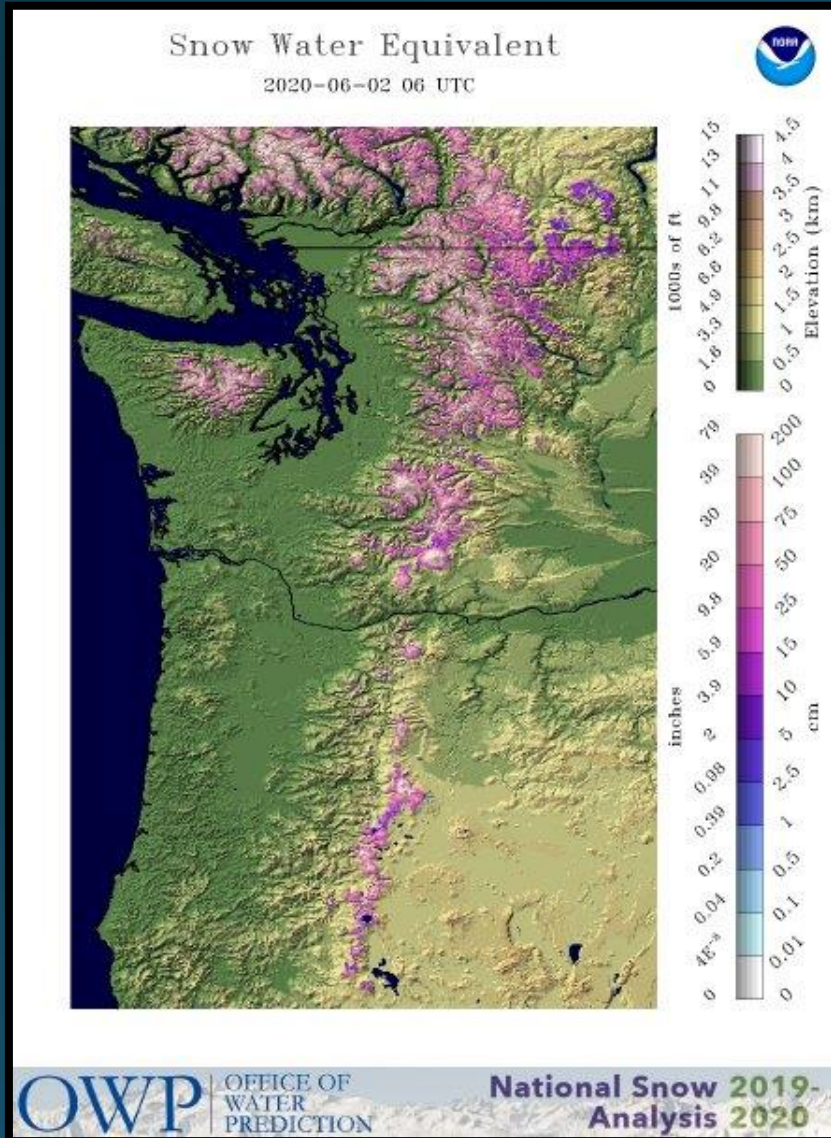


Hail stones near Crescent

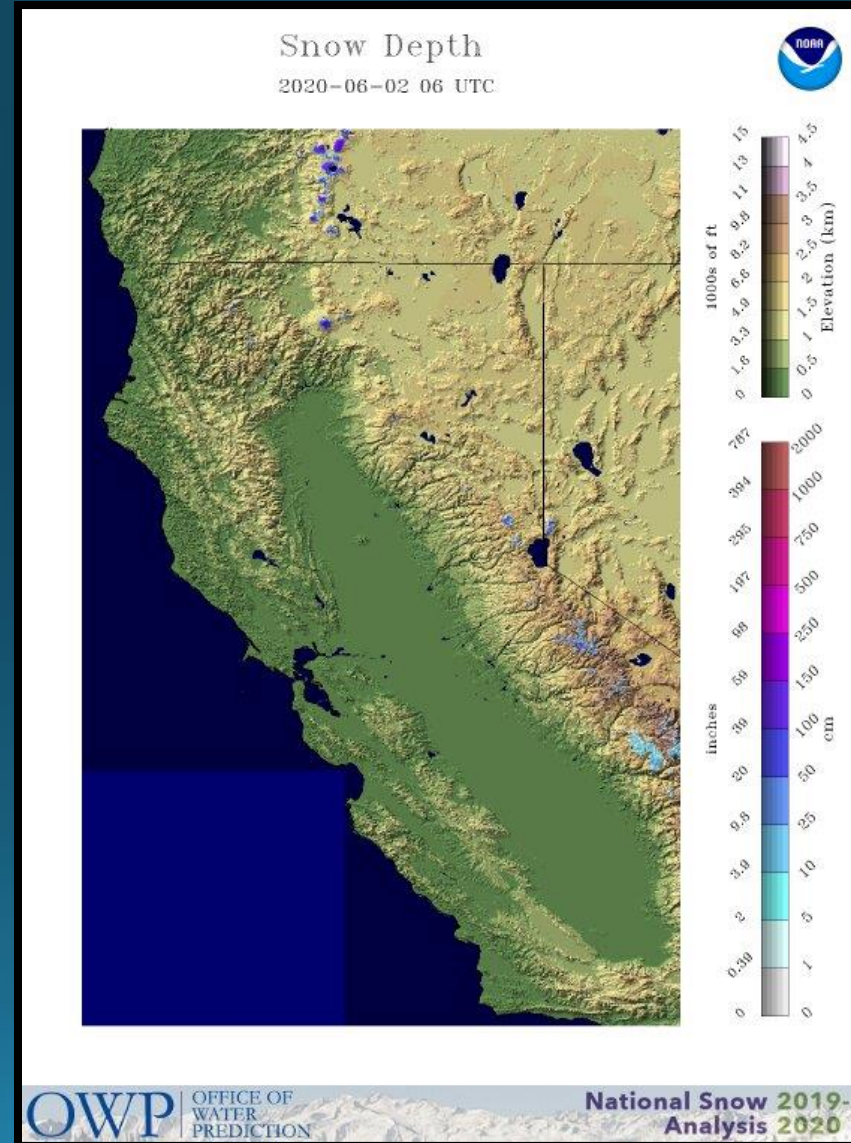
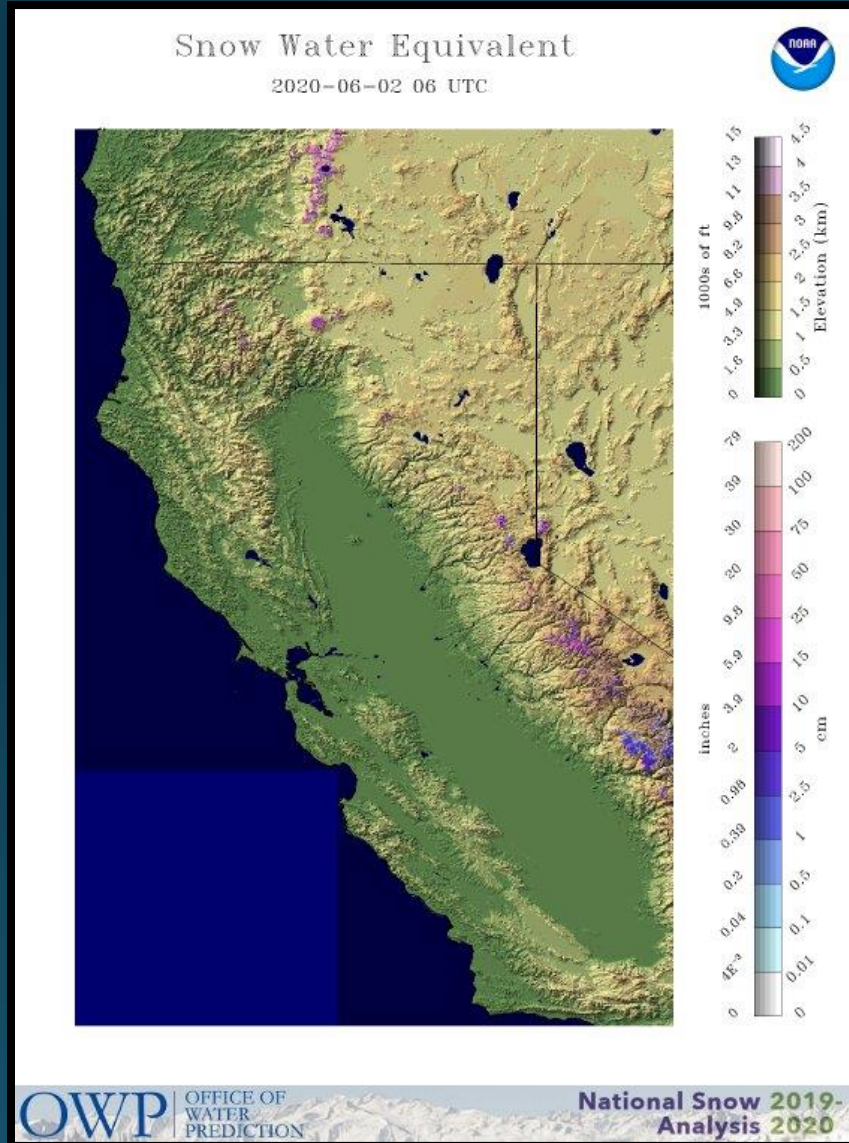




PacNW SWE & Snow Depth as of 6/2/20

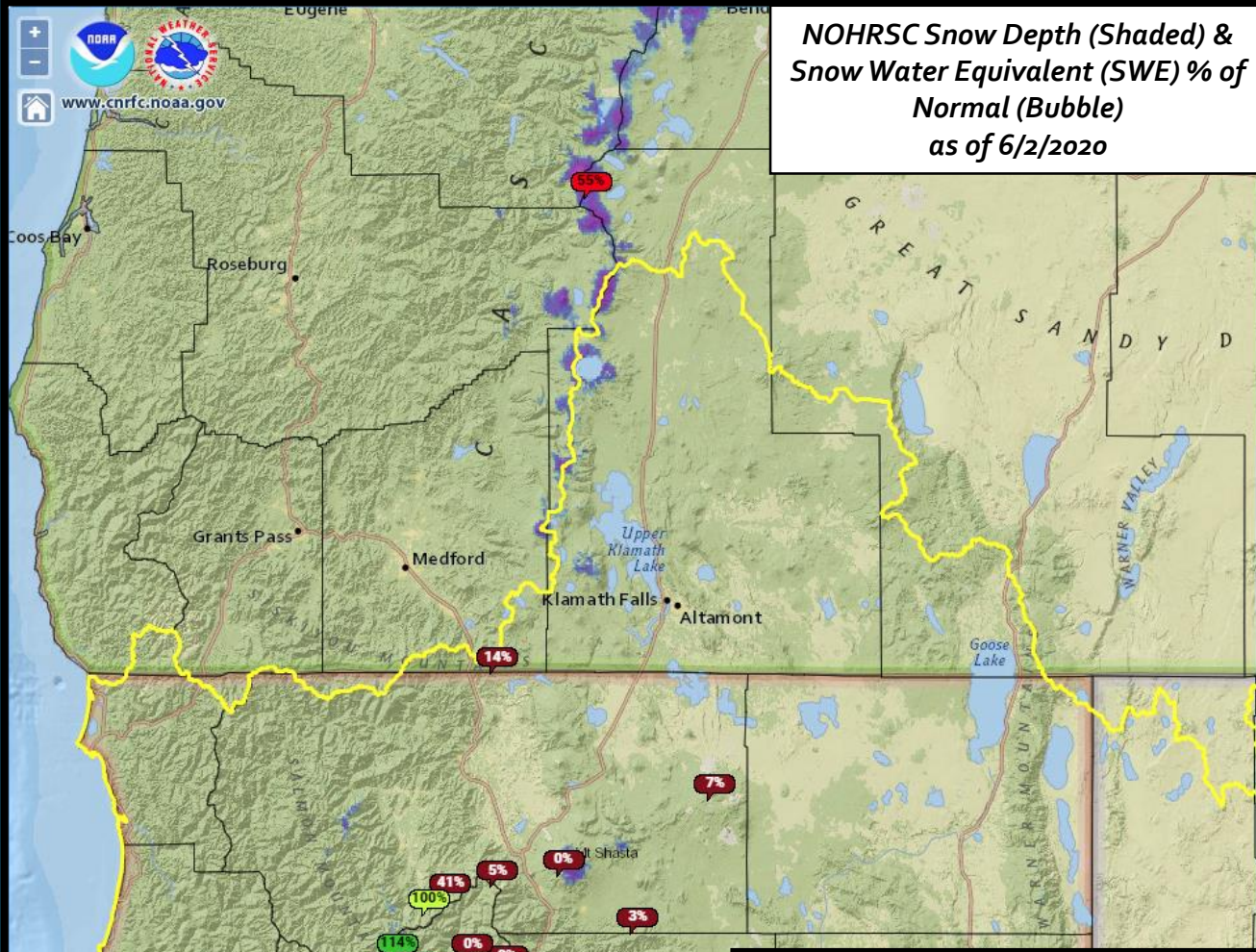


California SWE & Snow Depth as of 6/2/20

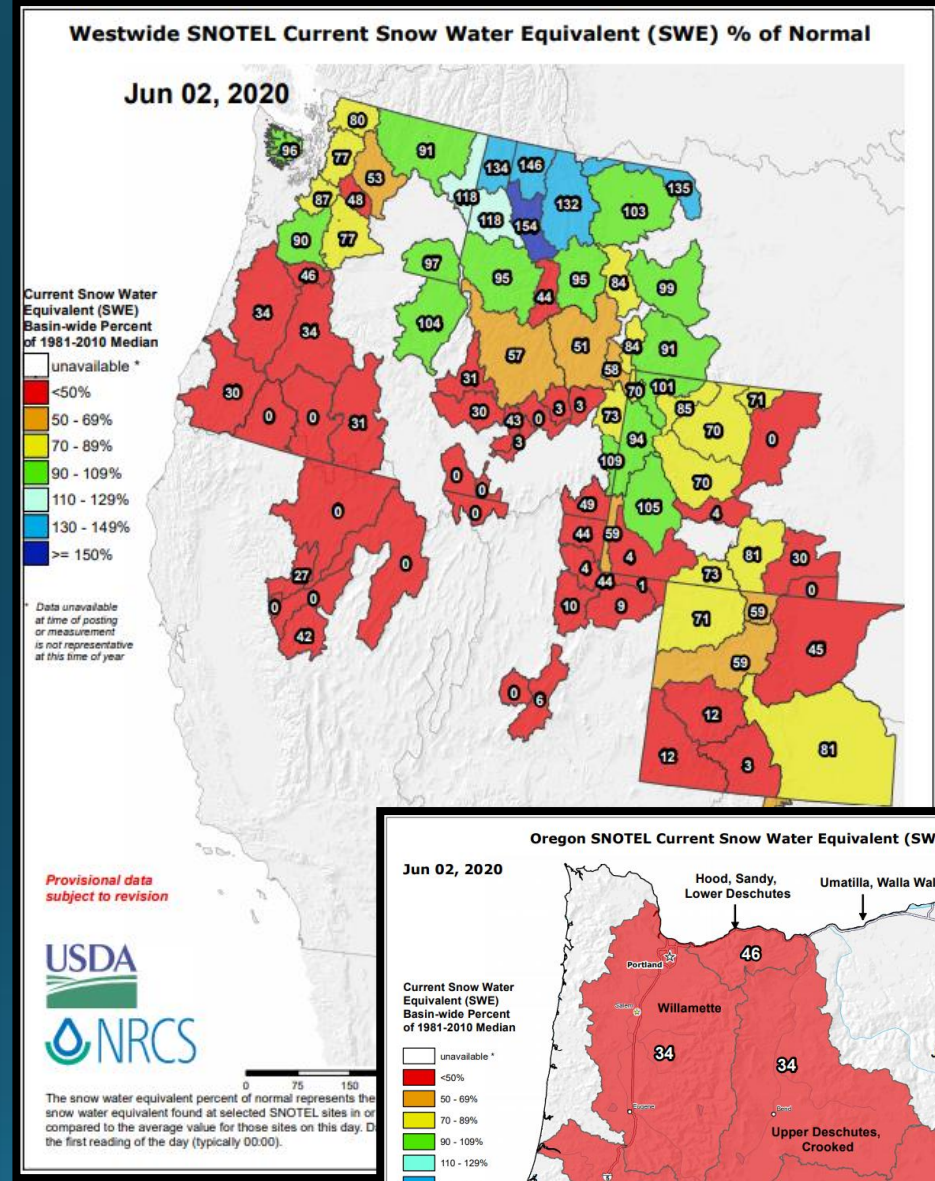
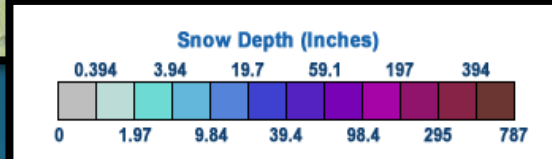
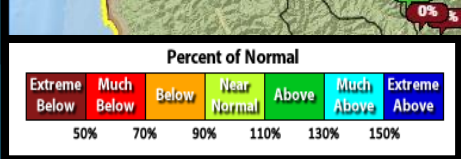




Snowpack Status



NOHRSC Snow Depth (Shaded) & Snow Water Equivalent (SWE) % of Normal (Bubble) as of 6/2/2020



Westwide SNOTEL Current Snow Water Equivalent (SWE) % of Normal Jun 02, 2020

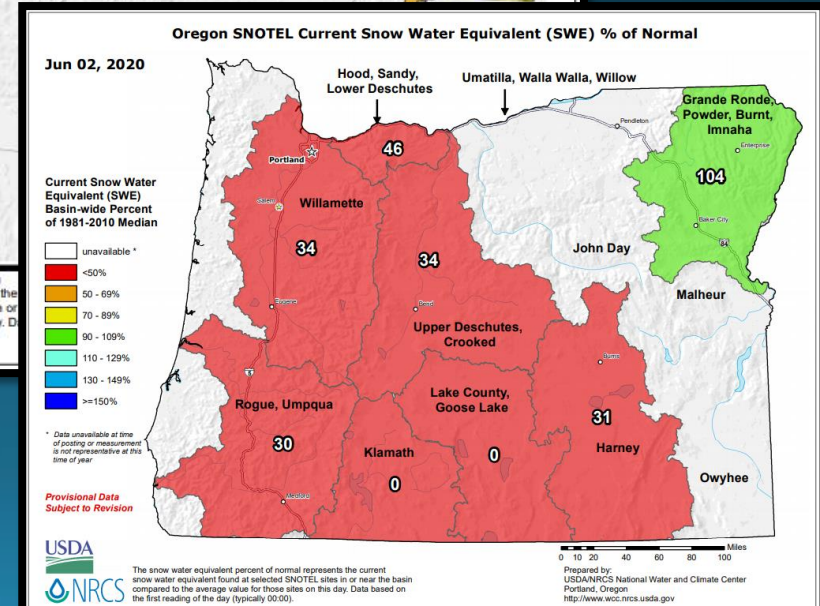
Current Snow Water Equivalent (SWE) Basin-wide Percent of 1981-2010 Median

- unavailable *
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- >= 150%

* Data unavailable at time of posting or measurement is not representative at this time of year

Provisional data subject to revision

The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).



Oregon SNOTEL Current Snow Water Equivalent (SWE) % of Normal Jun 02, 2020

Current Snow Water Equivalent (SWE) Basin-wide Percent of 1981-2010 Median

- unavailable *
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- >=150%

* Data unavailable at time of posting or measurement is not representative at this time of year

Provisional Data Subject to Revision

The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by: USDA/NRCS National Water and Climate Center, Portland, Oregon
<http://www.wcc.nrcs.usda.gov>

Crater Lake

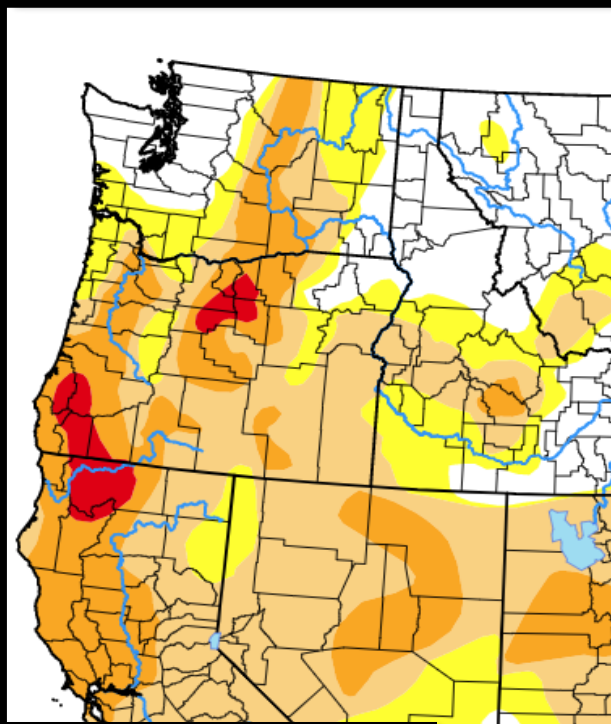
Image Courtesy: NPS



| | Average Max Temp (°F) | Average Min Temp (°F) | Total Precipitation | Total Snowfall | Snow Depth as of: 05/31/20 | Highest Max/ Lowest Min |
|--------------------|-----------------------|-----------------------|---------------------|----------------|----------------------------|---|
| May | 51.0 | 30.6° | 6.43" | 21.0" | 11" | 72° on 29 th / 21° on 3 rd , 7 th , & 15 th |
| Normal (1981-2010) | 49.2° | 28.4° | 3.57" | 15.9" | 53" | N/A |

Drought Monitor (Current) & Outlook (June)

United States Drought Monitor



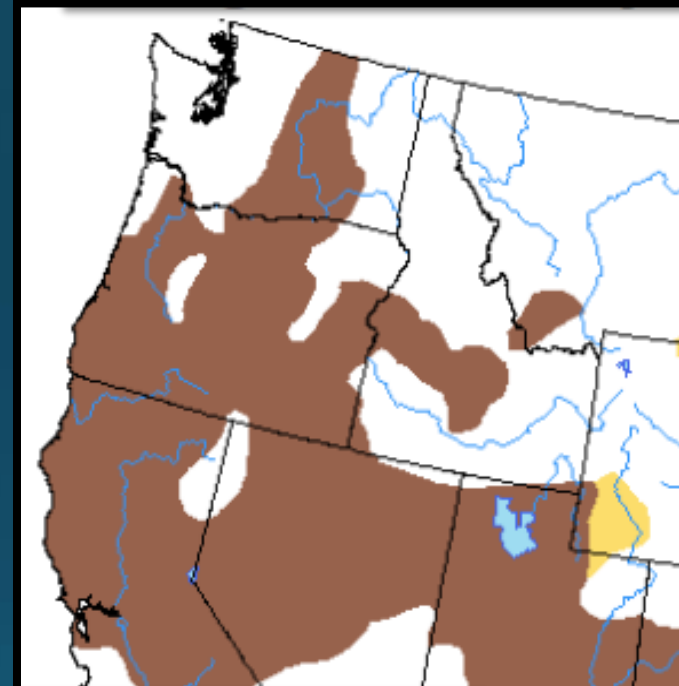
Map released: Thurs. May 28, 2020

Data valid: May 26, 2020 at 8 a.m. EDT

Intensity:

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data

U.S. Monthly Drought Outlook Drought Tendency During the Valid Period



Valid for June 2020
Released May 31, 2020

- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely





Looking Ahead: Normals for June (1981-2010)

Temperatures:

Along the coast lows are around 50 with highs in the 60s. Inland, valley high temperatures are usually in the 70s to mid 80s. Nights are typically cool, with average minimum temperatures in the 30s and 40s in the valleys east of the Cascades, and in the 40s to near 50 in the valleys west of the Cascades. The higher mountains typically experience highs in the 50s and 60s, with lows in the 30s to lower 40s.

Precipitation:

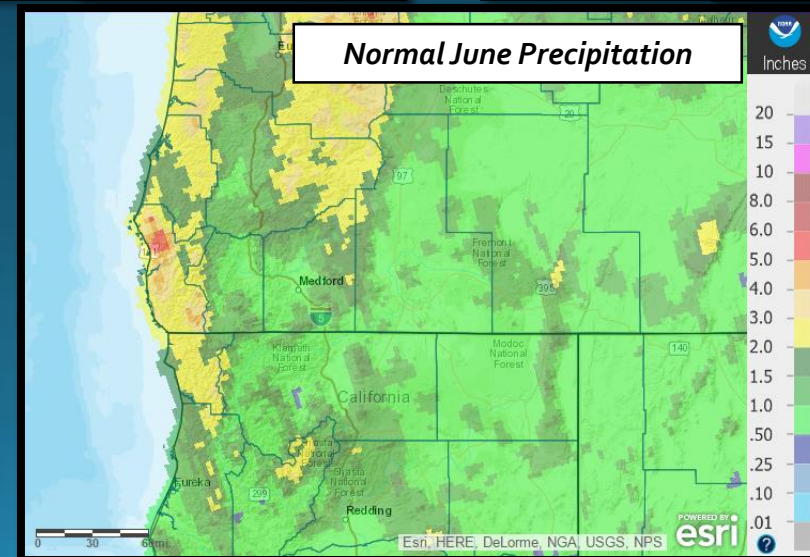
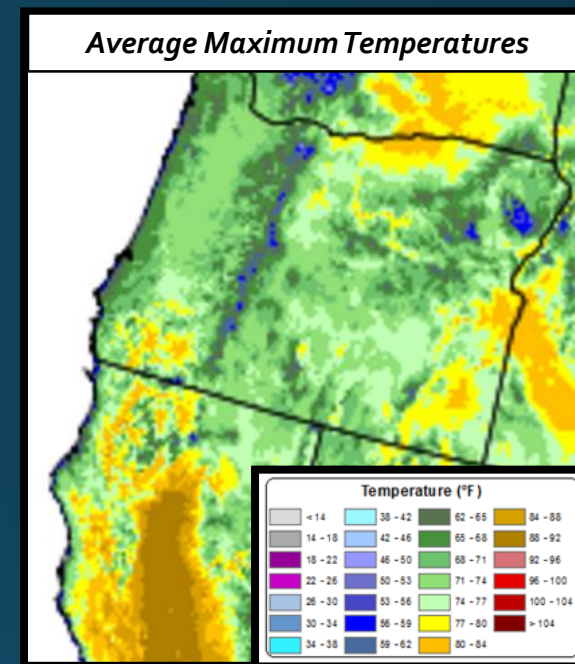
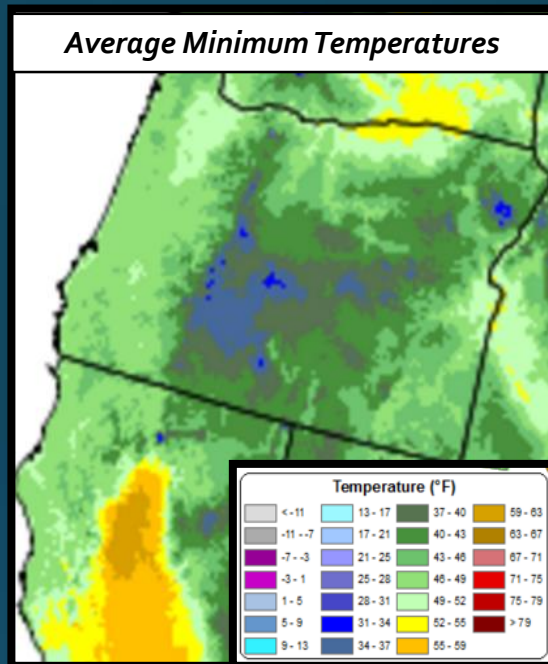
June is a dry season month, so it typically features limited precipitation. Precipitation often comes in the form of showers and thunderstorms, but a frontal systems do still occur, though much less frequently than in the wetter months of the year. Nearly half of the forecast area receives, on average, an inch or less of precipitation in June. The mountains get 1 to 3 inches of water in June, except in portions of the Cascades and Coast Range, where 3 to as much as 6 inches occurs, on average. West of the Coast Range and in eastern Douglas County normal precipitation is 2 to 4 inches.

Snow:

Crater Lake NP HQ's average June snowfall is 4.1 inches, per the 1981-2010 normal period. Average snow depth there for the 1931-2000 time period is 51 inches on June 1st, and 6 inches on June 30th.

Lightning, 2003-2017 Average:

The average number of cloud to ground lightning strikes in the Medford County Warning Area during the month of June from 2003 to 2017 was 3,080. For comparison, the average for May is 2,466 and 4,196 for July.





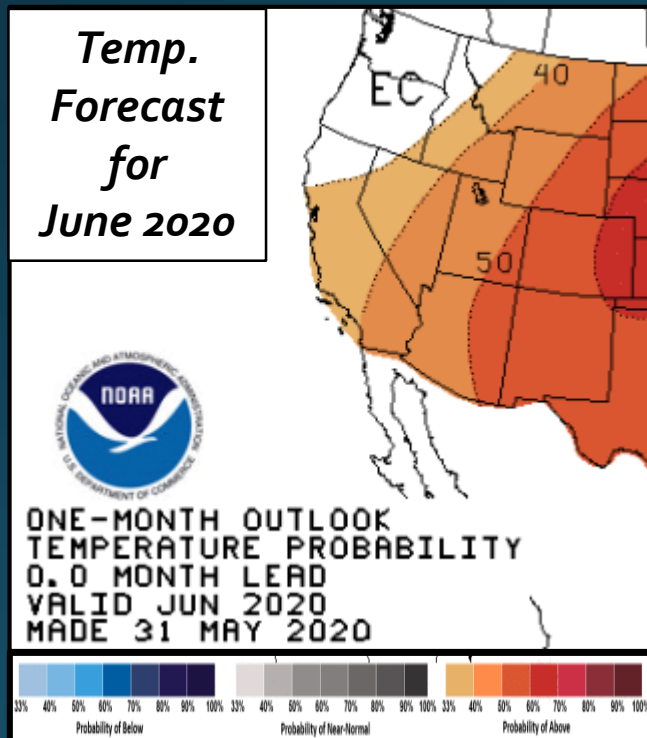
June 2020 Outlook

(Written June 8th)

The official Climate Prediction Center forecast for June 2020 predicts "Equal Chances" of below, near, and above normal temperatures and increased chances of above normal precipitation across the Medford NWS forecast area.

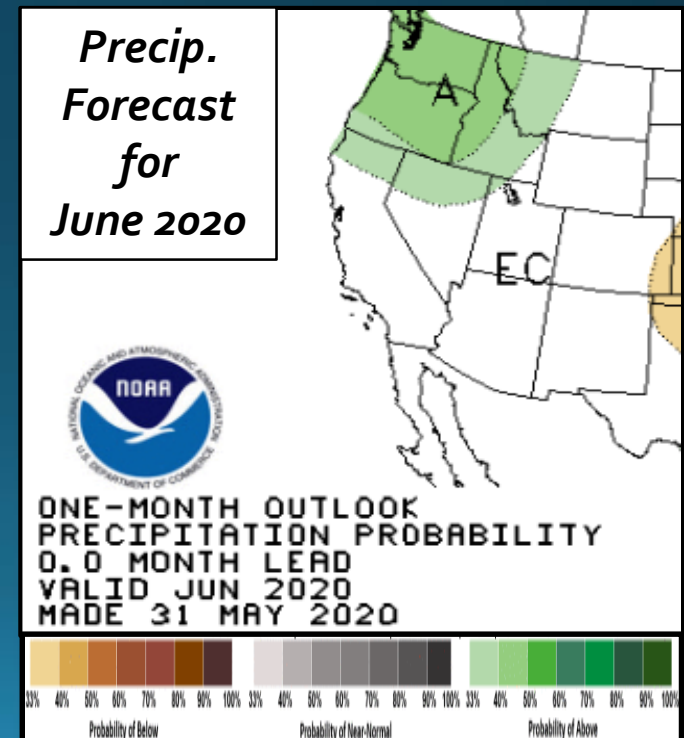
- Our localized *June temperature* forecast is for **NEAR to ABOVE normal temperatures, most likely between -2°F and +5°F from the 1981-2010 normals.**
- Our localized *June precipitation* forecast is for **NEAR to ABOVE normal precipitation, most likely in the 70-130% range.** Precipitation is most likely to be above normal for June in areas favored by southwest flow from along and near the Cascades west and in California. Expected convective precipitation favors the Marble, Scott, Siskiyou, and Oregon Cascade mountains.

Summary: The month of June already began with a cool and wet start, with some areas near the Cascades receiving more than half of their average for June in the first week. Guidance strongly suggests another trough of low pressure moving into the forecast area on the 12th and 13th which could push some areas over averages for the entire month of June by mid-month. That low pressure trough is then expected to lift out before a weaker trough swiftly moves in and persists through about the 21st. Expect unsettled weather with periods of showers and thunderstorms through the 21st. Models then suggest a warm-up to temperatures 5-10F above normal, on average, for about a week, but, this, too could result in another round of showers and thunderstorms by month's end.



Expected Impact, June 2020:

The precipitation early this month and the expectations for more means that fire danger is most likely to remain low to moderate. This means that the threat of fires getting large and causing roadway and smoke impacts is low. Temperatures near to slightly above normal and precipitation near to slightly above normal also means drought severity is likely to remain the same or, possibly, diminish some. Thunderstorms are pretty typical in June as are a few strong to severe ones. The system on the 12-13th should bring some thunderstorms to the area, as well as the trough after that. The last week of the month is likely to bring the warmest temperatures, so thunderstorms could be significant around the end of the month. Strong to severe thunderstorms this time of year tend to bring gusty winds, hail, and heavy rain that can cause isolated damage, in addition to lightning that can start fires that grow larger later in the summer.





*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 might have records dating 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 might 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: 01/1902 – Present**
- **Roseburg: 04/1900 – Present**
 - ❖ *Missing:*
 - 05/1900-01/1901
 - 03/1901-06/1902
 - 08/1902-12/1930
 - 10/1965-06/1997
- **Medford: 03/11/1911 – Present**
- **Klamath Falls: 12/1897 – Present**
- **Montague, CA: 07/1948 – Present**
 - ❖ *Missing:*
 - 08-09/1952
 - 02/1953-06/2000
- **Mount Shasta City, CA: 04/1948 – Present**
- **Alturas, CA: 05/1935 – Present**