National Weather Service Medford

January 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).

January 2020 Weather Review

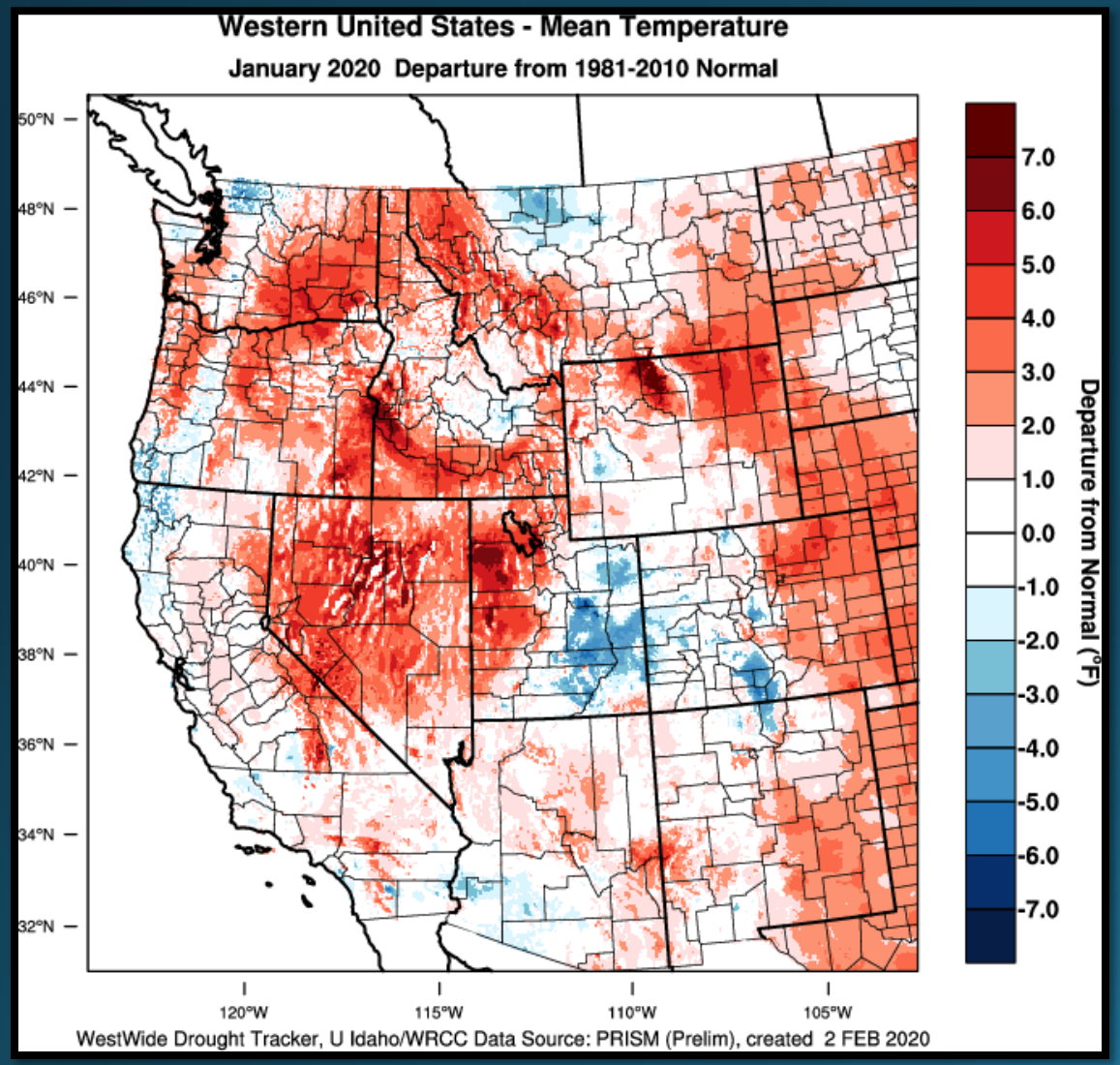
Overall, January 2020 was warmer and drier than normal for most places, however there were areas that experienced wetter and cooler than normal conditions. January began on a warm note with some locations recording their warmest temperatures of the month during this time. After which, a few quick moving fronts typical for this time of year moved through the area. Snow levels during this time hovered around 4000 feet, and although these fronts delivered beneficial precipitation, snowpack was still well below normal after the first week of the month.

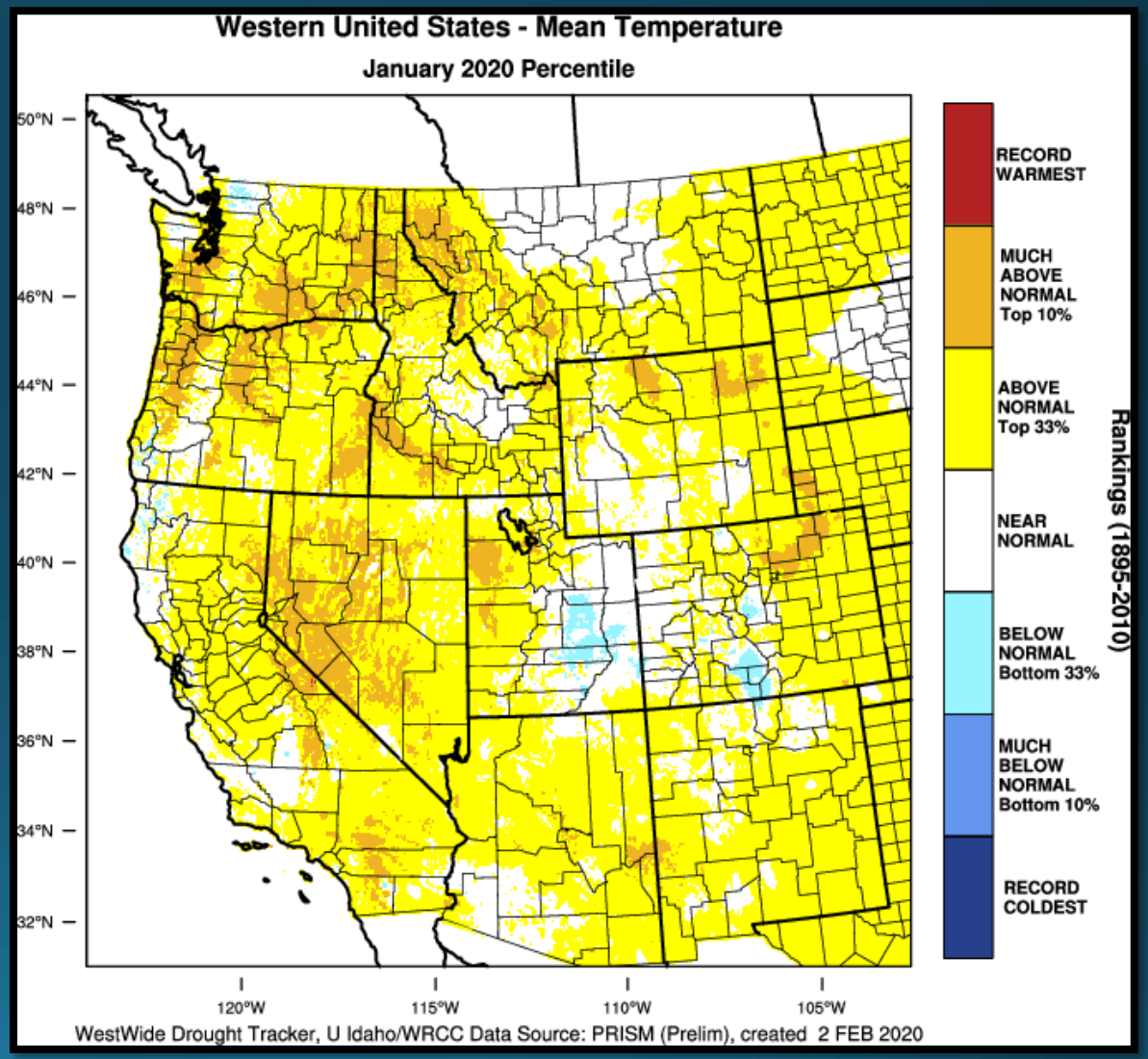
Then, a series of progressively colder fronts moved through the area as the pattern transitioned to a much colder and wetter one. This pattern persisted through the middle of the month where snow levels hovered around 2000-3000 feet. Multiple systems moved through under this colder than normal air mass, and this brought beneficial rain for the valleys and snow for the mountains. The meager snowpack at beginning of month grew significantly during this cold pattern, especially for the mid and upper elevations. Snow water equivalent grew from ~50% of normal to 90-100% of normal by the end of the month. Back to back systems delivered feet of snow for elevations above 5000 feet. In fact, from the 11th through the 17th, Crater Lake received over 75 inches of snow. During this time, highways 230, 138 and portions of highway 62 were closed due to downed trees from heavy snow.

One of the more impactful systems during the month arrived toward the end of the series on the 15th. Ahead of this front, strong winds affected the typical areas: Shasta Valley, east of the Cascades, and along the coast. This well defined front brought a line of thunderstorms to the coast with heavy rain and strong winds, which led to a severe thunderstorm warning for the Port Orford/Cape Blanco area. Due to the heavy precipitation associated with this front, low elevation snow that had been expected earlier that week finally occurred with this frontal passage. Precipitation rates were significant enough to bring down the colder air aloft, which cooled the atmosphere enough for snow to occur in west side valleys. There was significant snowfall in the Illinois Valley (7-10inches), and the heavy wet snow led to widespread power outages that lasted for multiple days. At the Medford Airport, only 0.5" was reported and this was largely gone by the end of the day. This pattern favored heavy snow in the Mt. Shasta City area and over a foot of snow was recorded was recorded with this system.

After a brief break in the weather, the pattern transitioned to one more typical for the area and time of year. While the weather remained active, snow levels rose to 6000-7000 ft. This resulted in more beneficial rain for the lower elevations and building snow pack in the higher elevations, but led to snow melt for the mid-elevations. Thankfully no flooding occurred as there was just enough breaks between systems to keep main stem rivers from reaching bank-full. Towards the end of the month, snow levels lowered to more seasonal values as a few more systems moved through the area. A brief break in the weather finished off the month with an upper level ridge nudged over the area. This brought much warmer than normal temperatures (for areas not socked in the fog and low clouds at least), with a few record high temperatures being tied on the 31st.

January 2020 Observed Temperatures





Average Temperatures

	Average (°F)	Departure from Normal	Average Max (°F)	Departure from Normal	Average Min (°F)	Departure from Normal
North Bend	48.3	2.5°	53.4	1.9°	43.2	3.0°
Roseburg	47.1	4.0°	53.5	3.8°	40.8	4.3°
Medford	41.9	1.6°	47.9	0.1°	36.0	3.2°
Klamath Falls	33.0	2.8°	41.7	2.1°	24.3	3.5°
Montague, CA	38.4	3.0°	47.4	2.8°	29.4	3.3°
Mt. Shasta City, CA	36.7	0.8°	44.0	-1.3°	29.3	2.9°
Alturas, CA	34.3	4.4°	44.4	2.8°	24.2	6.0°

Monthly Max & Min Temperatures

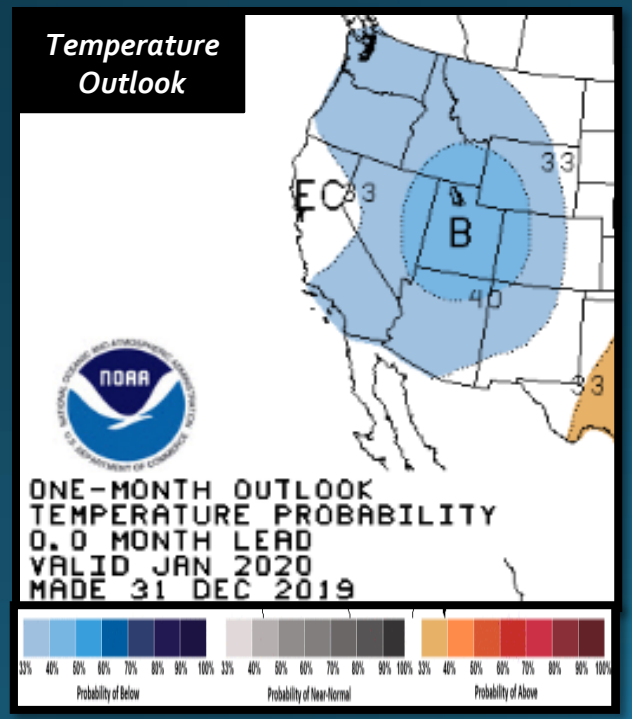
	Max (°F)	Date(s)	Min (°F)	Date(s)
North Bend	63°	3rd & 31st	33°	15th
Roseburg	67°	31st	29°	15th
Medford	56°	31st	29°	15th
Klamath Falls	57°	31st	-3°	15th
Montague, CA	56°	1st & 26th	19°	17th
Mt. Shasta City, CA	62°	31st	22°	22nd
Alturas, CA	62°	31st	5°	10th

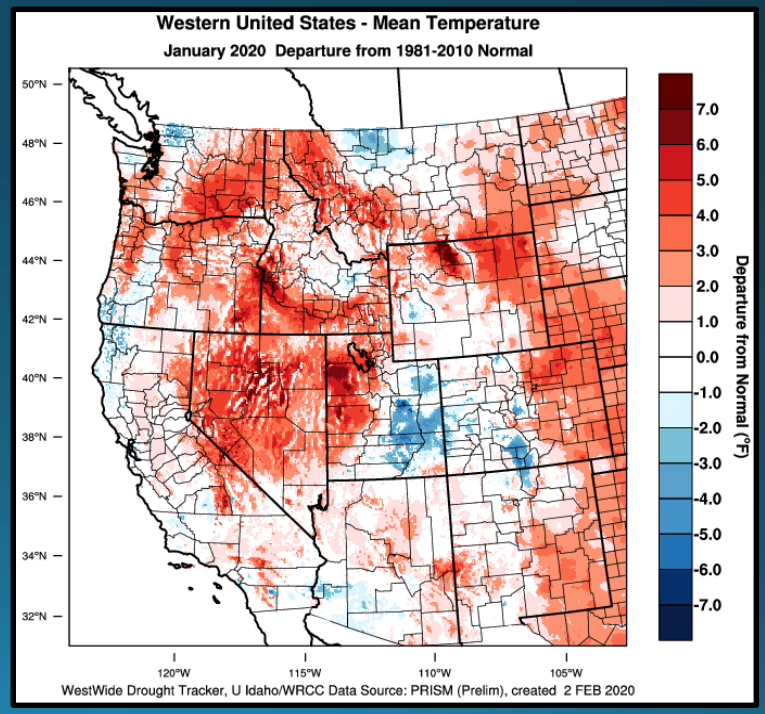
	Date	Record High	Old Record/Year
Alturas	3rd	60°	Ties w/2001
North Bend	3rd	63°	62° / 1999
Roseburg	3rd	61°	57° / 2012

	Date	Record Low	Old Record/Year
Klamath Falls	15th	-3°	Ties w/1917

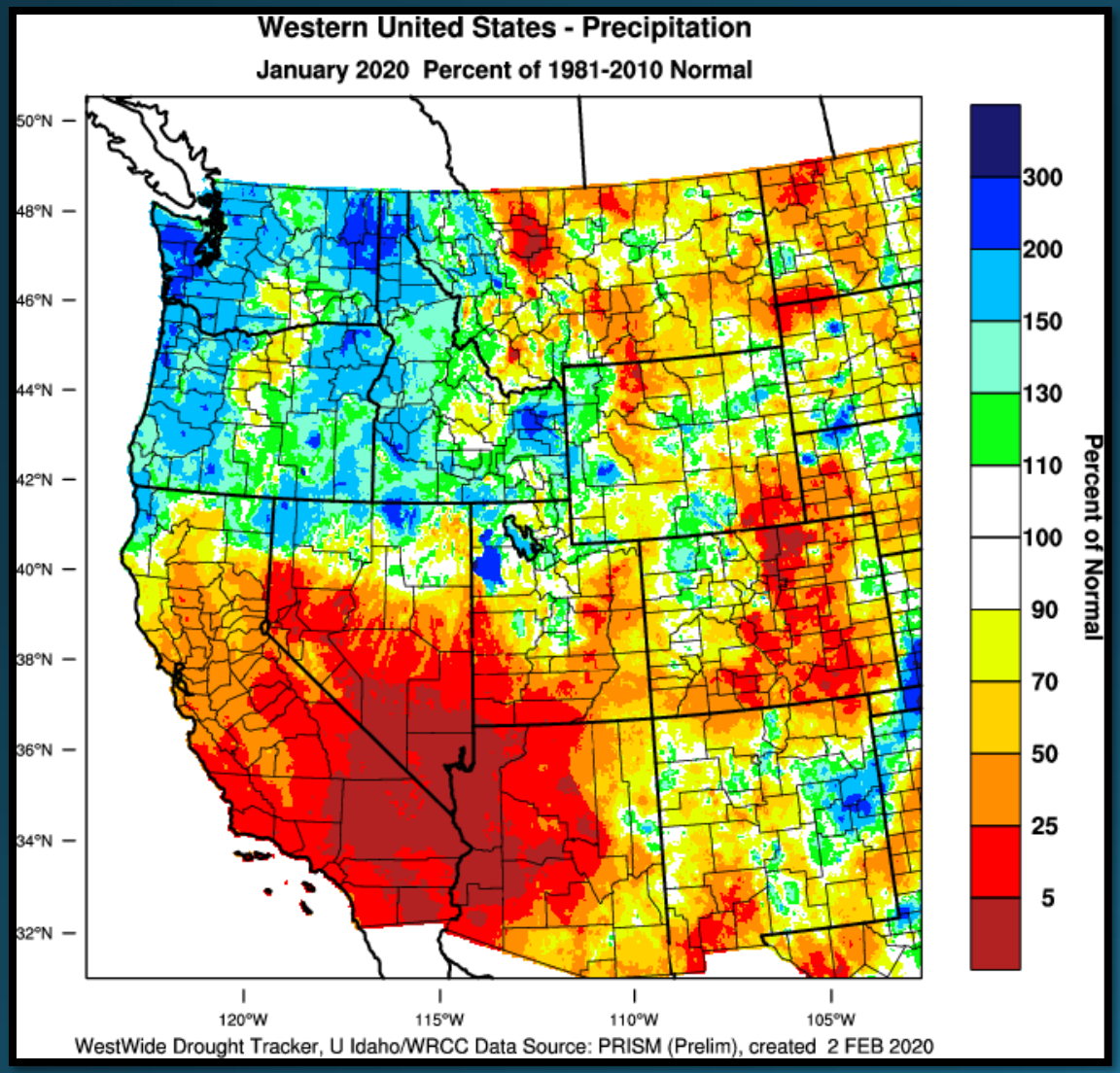
A Look Back at the January 2020 Temperature Outlook

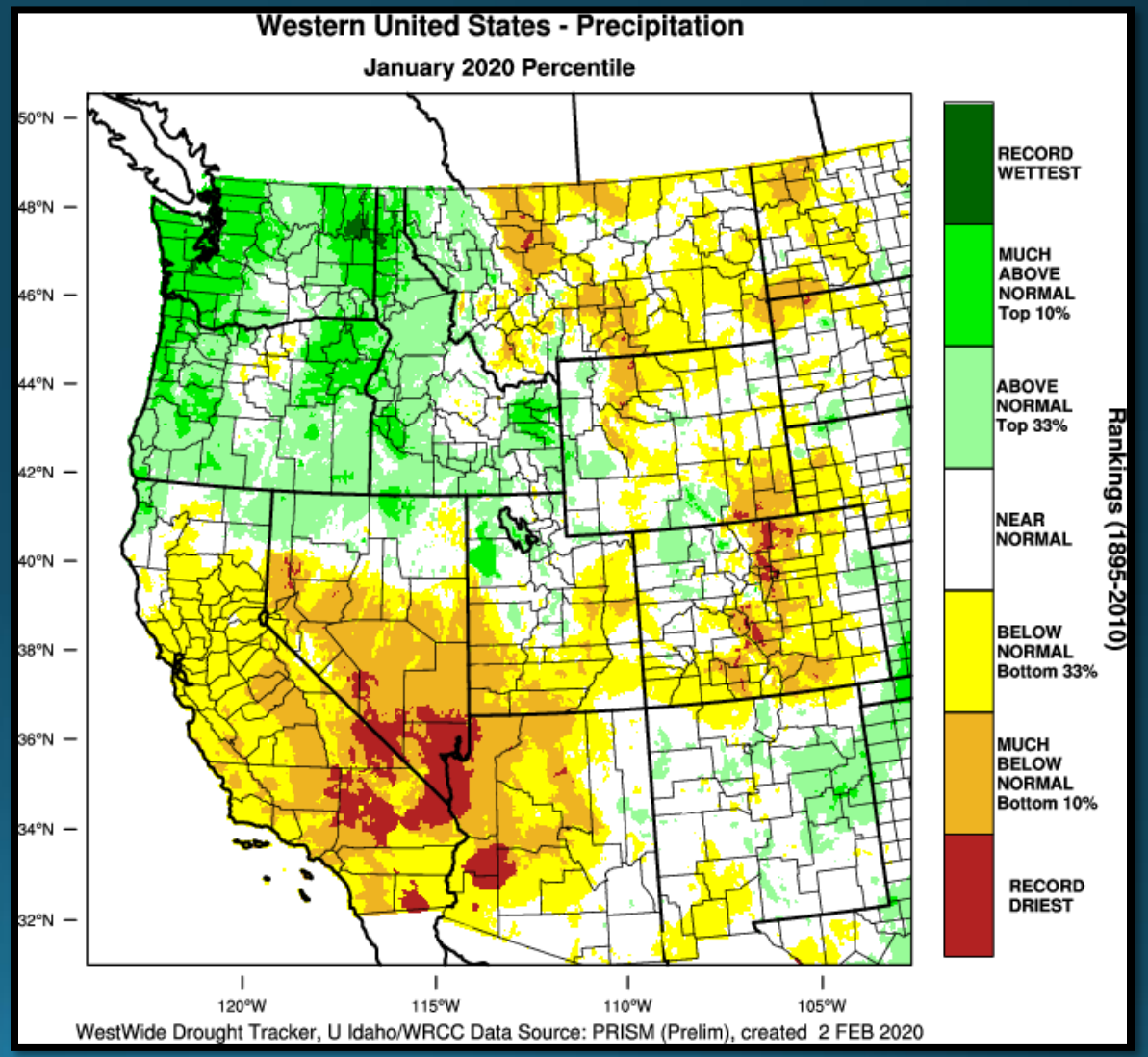
- ***Was the forecast anomaly correct?*** Our localized forecast indicated temperatures would be "near to slightly above normal, in the -2F to +4F range." The actual range, per the WRCCC PRISM analysis, was -4F to +5F, with most locations right around normal. CPC's forecast for our forecast area, as to where the colder than normal anomalies were most likely to be, was off from a spatial perspective.
- ***Was the expected impact correct?*** Yes. The snowpack increased from around 60 percent of normal to 80-100 of normal for our Oregon areas during the month of January, while our California areas generally remained the same or decreased from a percent of normal SWE perspective.
- ***Did our forecast improve upon the CPC forecast?*** Yes, however, CPC had much tougher job than we did with our forecast because we made our update on January 15th. Theirs was made the last day of December.



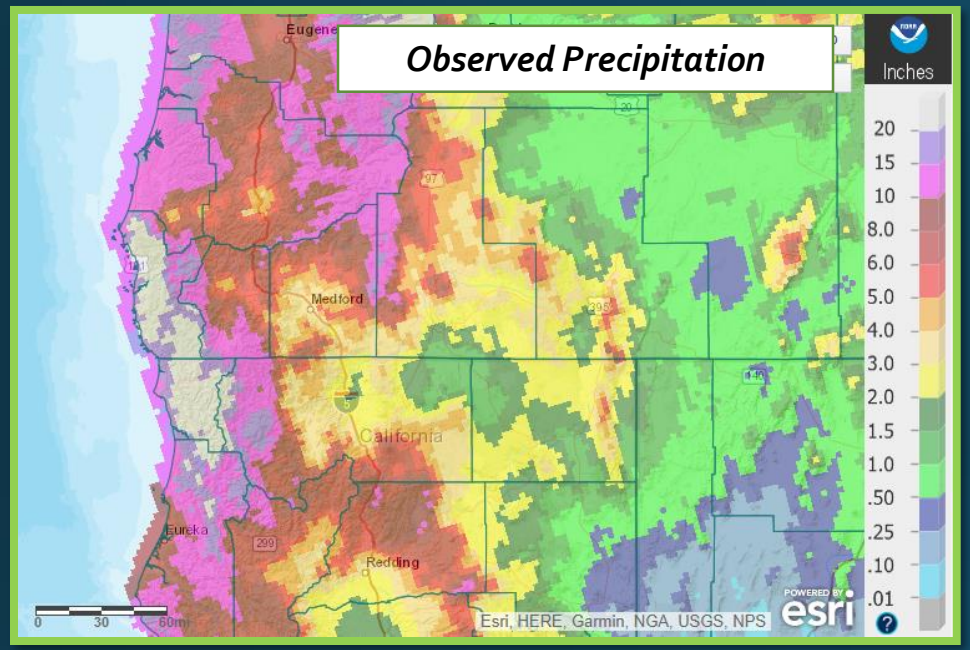


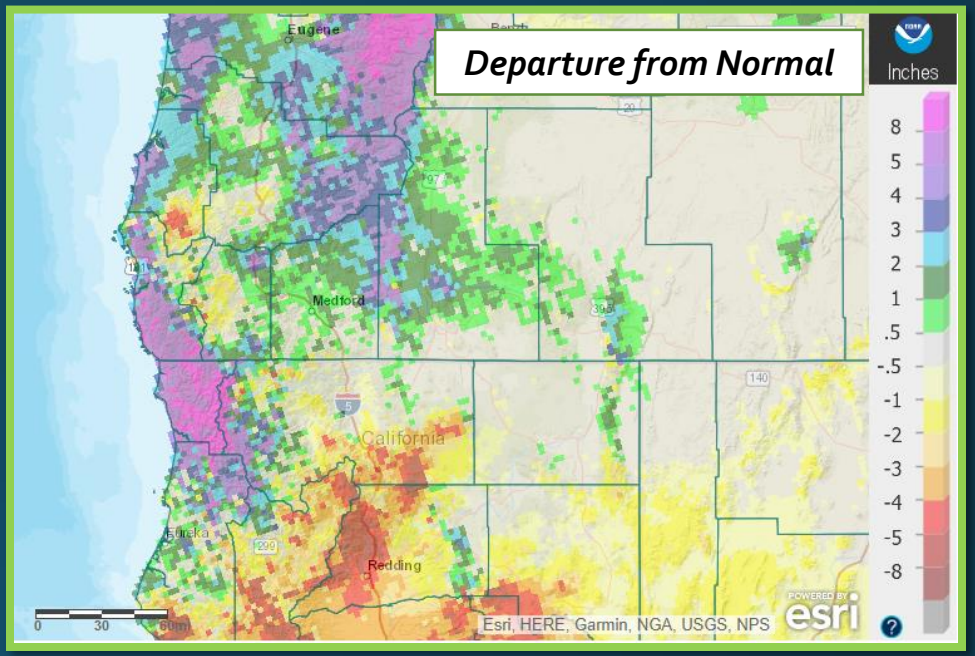
January 2020 Observed Precipitation





Precipitation

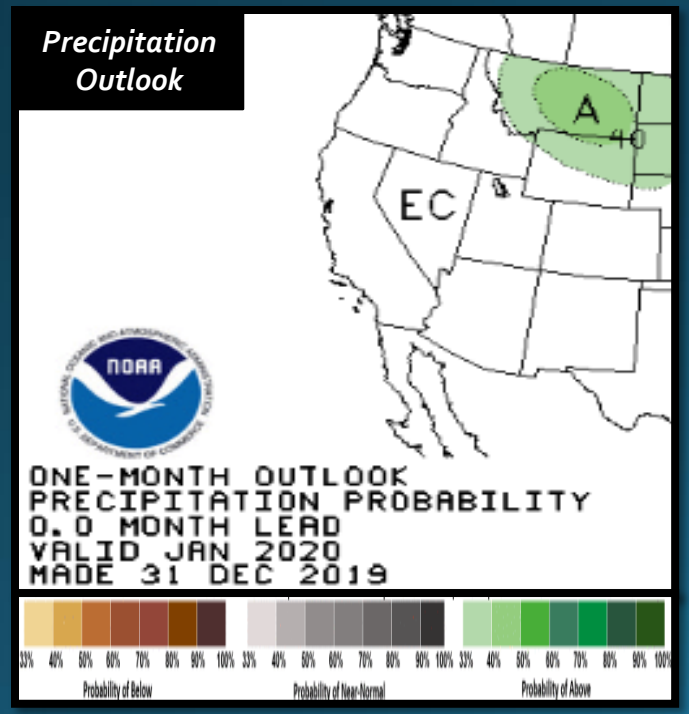


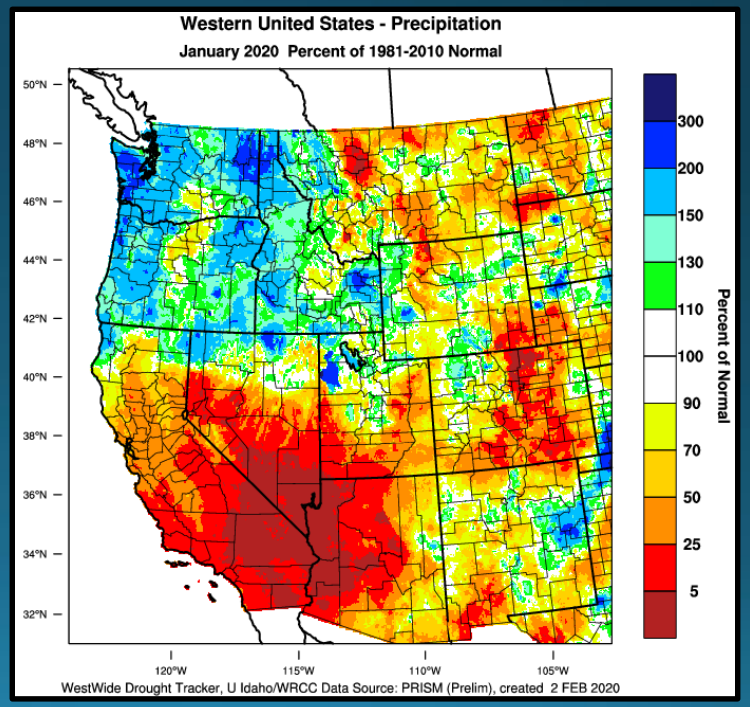


	Total	Departure from Normal	Greatest 24-hr Total	Date(s)
North Bend	*M*	*N/A*	*M*	*M*
Roseburg	*7.20"*	*2.11"*	*0.80"*	*15th*
Medford	*3.43"*	*1.00"*	*0.59"*	*16th*
Klamath Falls	*1.50"*	*-0.35"*	*0.35"*	*25th*
Montague, CA	*1.73"*	*-0.47"*	*0.48"*	*16th*
Mt. Shasta City, CA	*3.85"*	*-3.21"*	*1.56"*	*16th*
Alturas, CA	*1.79"*	*0.14"*	*0.55"*	*26th*

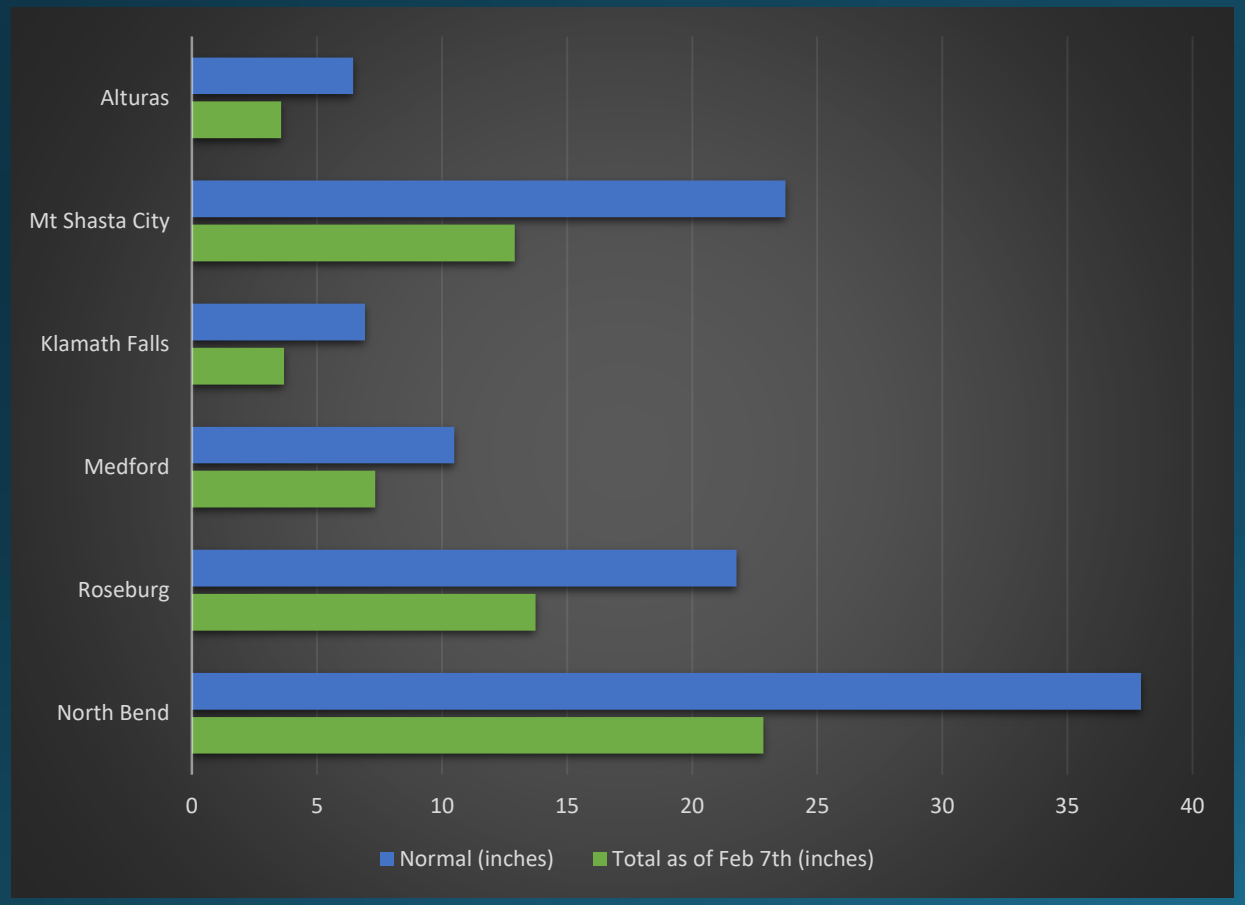
A Look Back at the January 2020 Precipitation Outlook

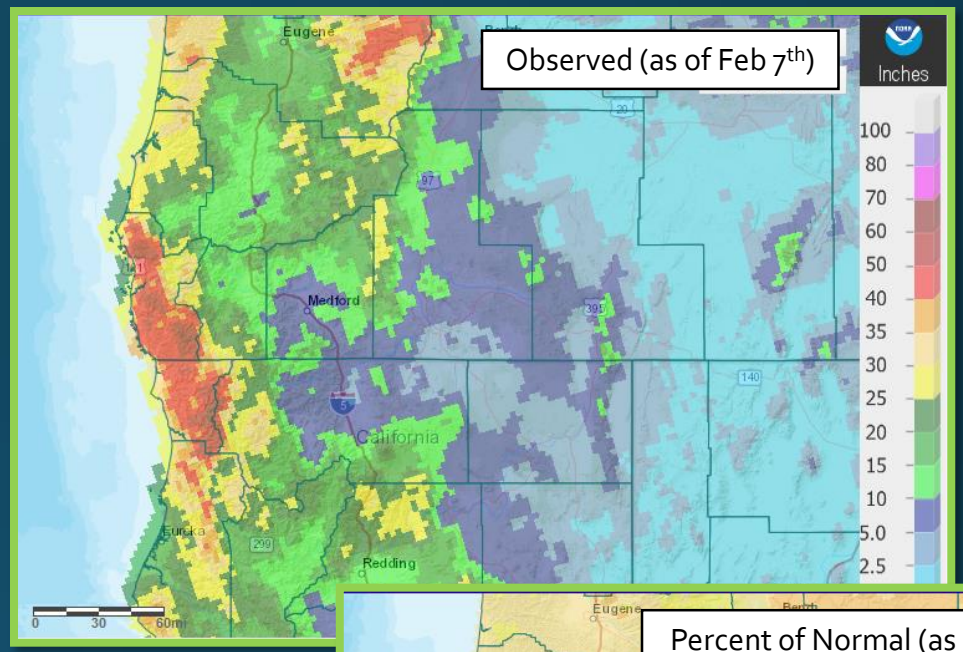
- ***Was the forecast anomaly correct?*** Our localized forecast indicated "precipitation is likely to be 50% to 200% of normal, lowest in the Mount Shasta area and highest in the Oregon Cascades". This was right on.
- ***Was the expected impact correct?*** Yes. The snowpack increased from around 60 percent of normal to 80-100 of normal for our Oregon areas during the month of January, while our California areas generally remained the same or decreased from a percent of normal SWE perspective. Storm activity in the Mount Shasta area during the last week of the month ended up being lesser and warmer than expected, however.
- ***Did our forecast improve upon the CPC forecast?*** Yes, however, CPC had much tougher job than we did with our forecast because we made our update on January 15th. Theirs was made the last day of December.

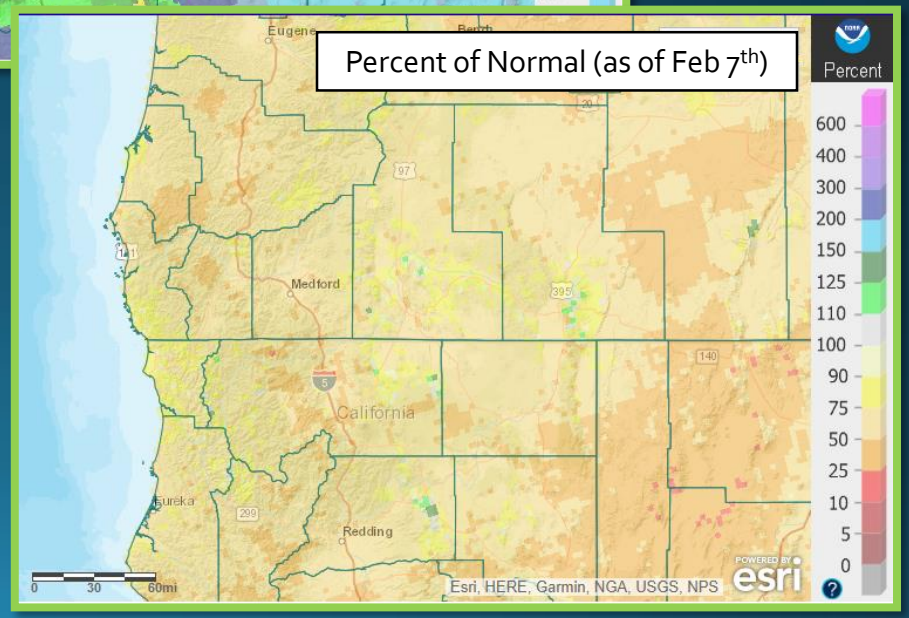




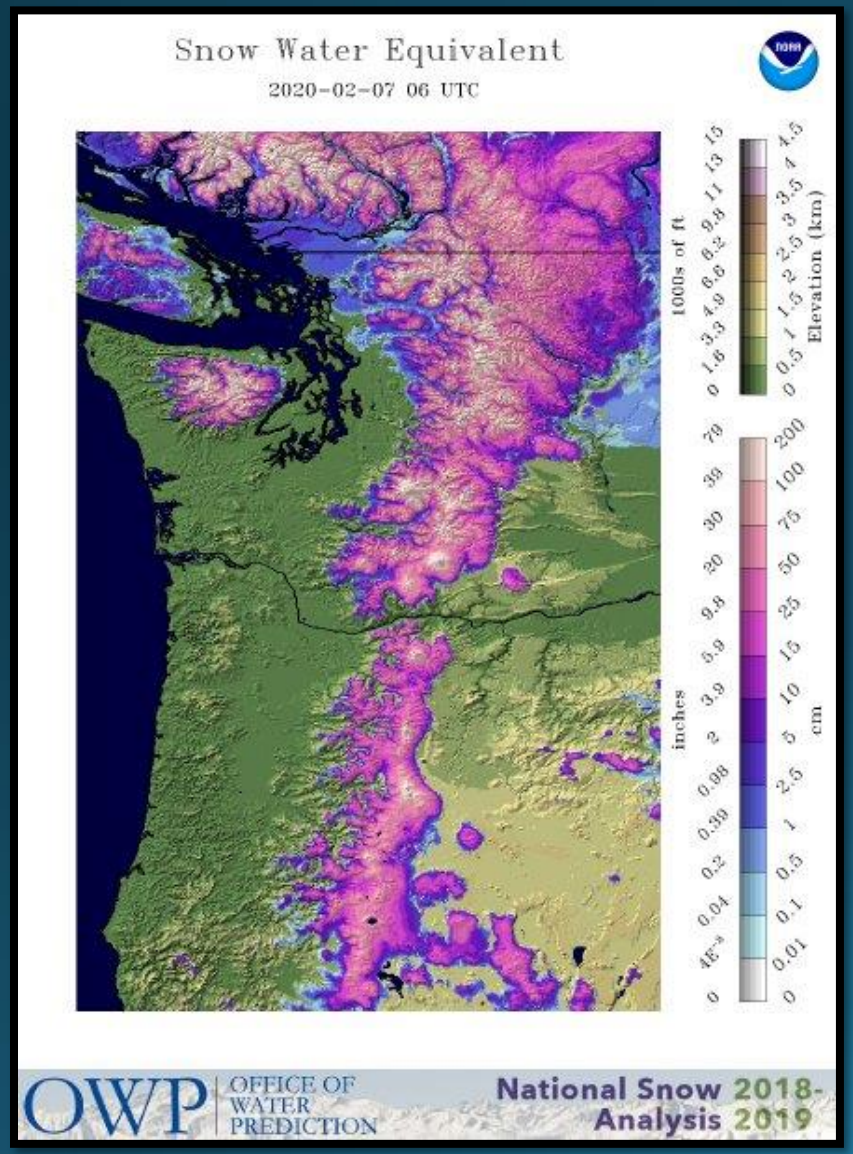
Water Year Status (As of Feb 7th)

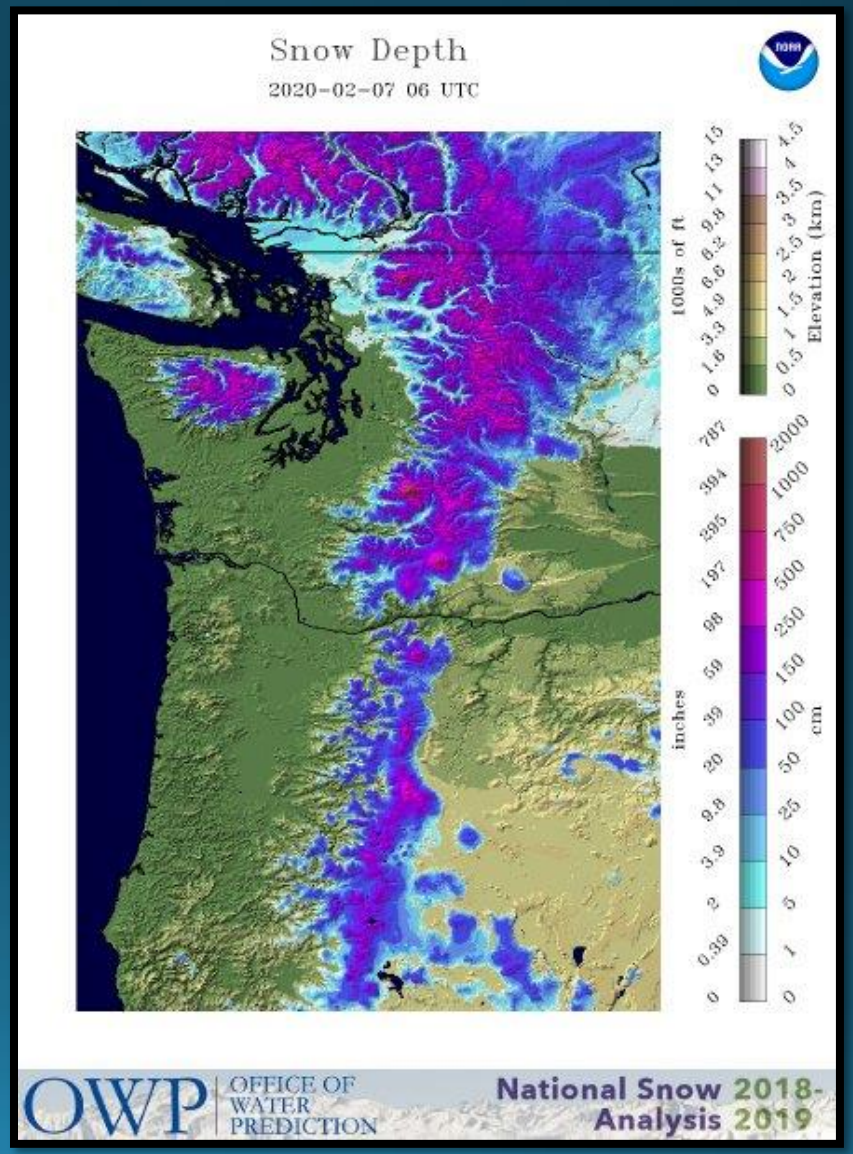




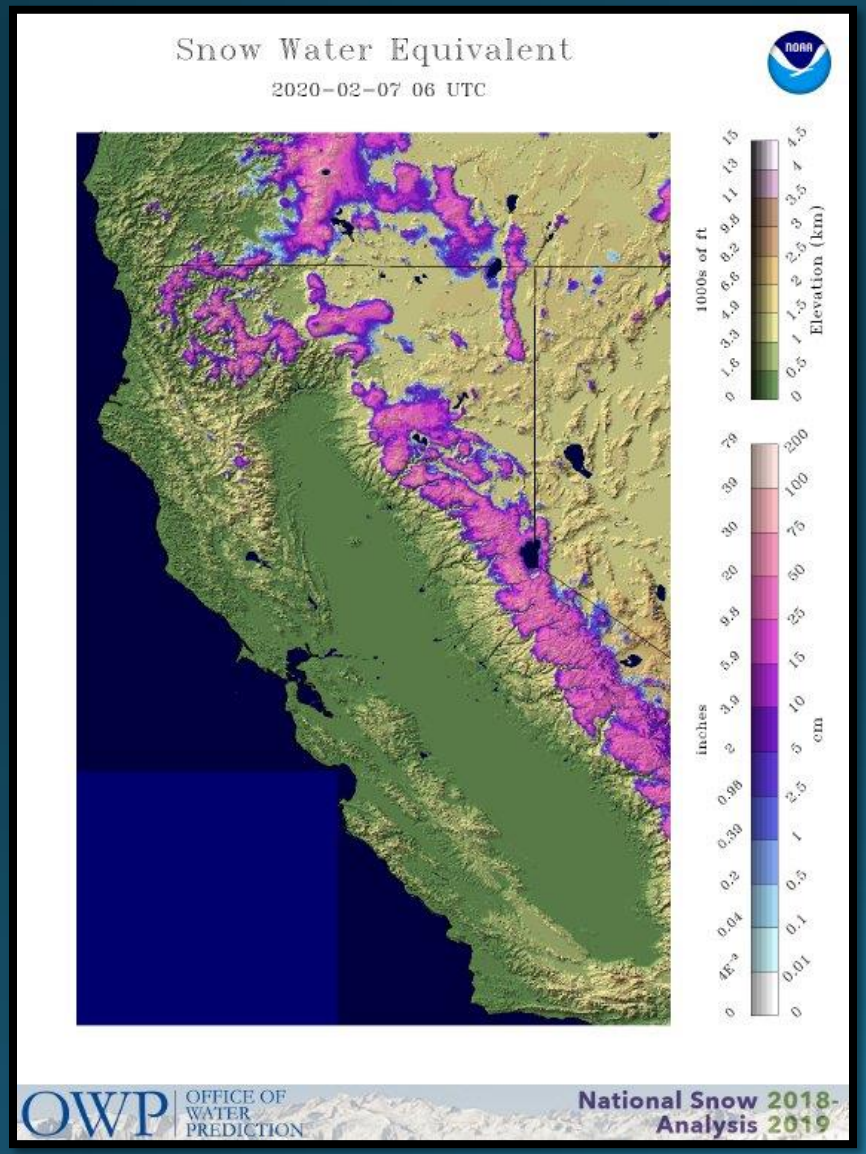


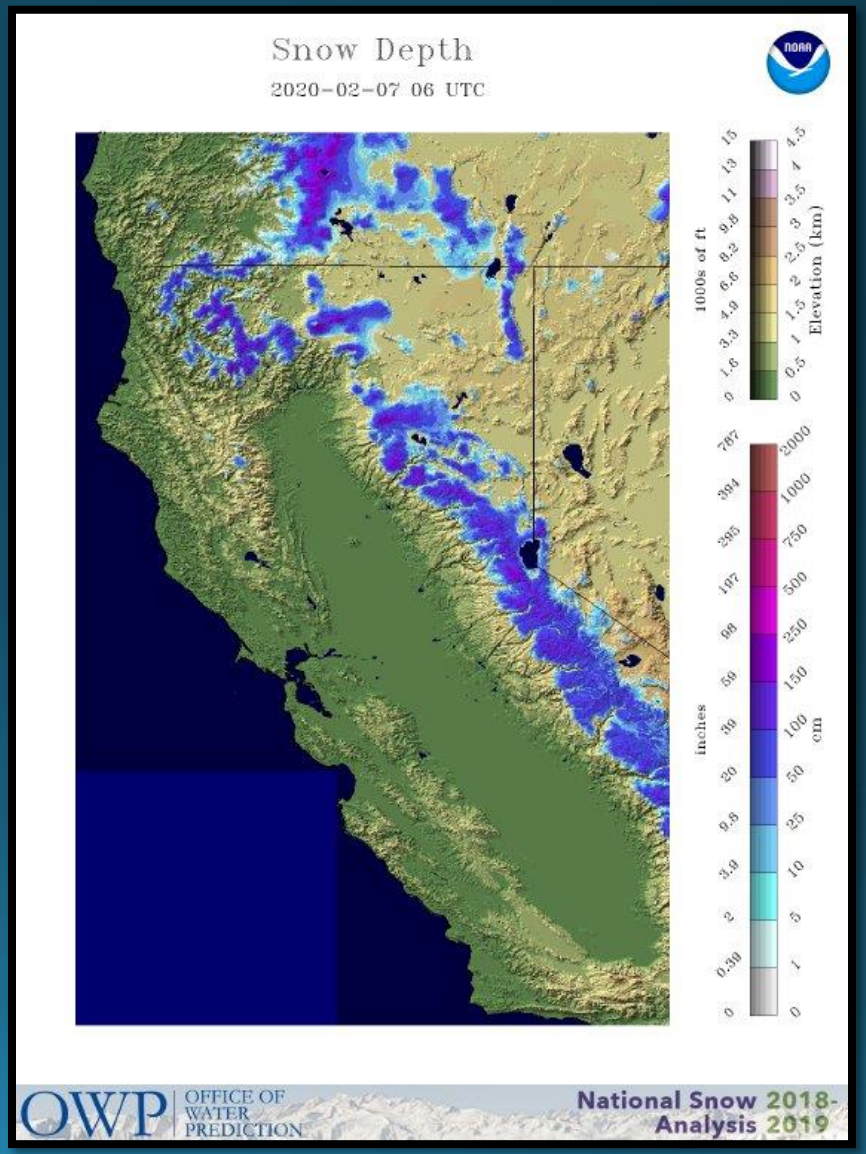
PacNW SWE & Snow Depth as of 2/7/20





California SWE & Snow Depth as of 2/7/20



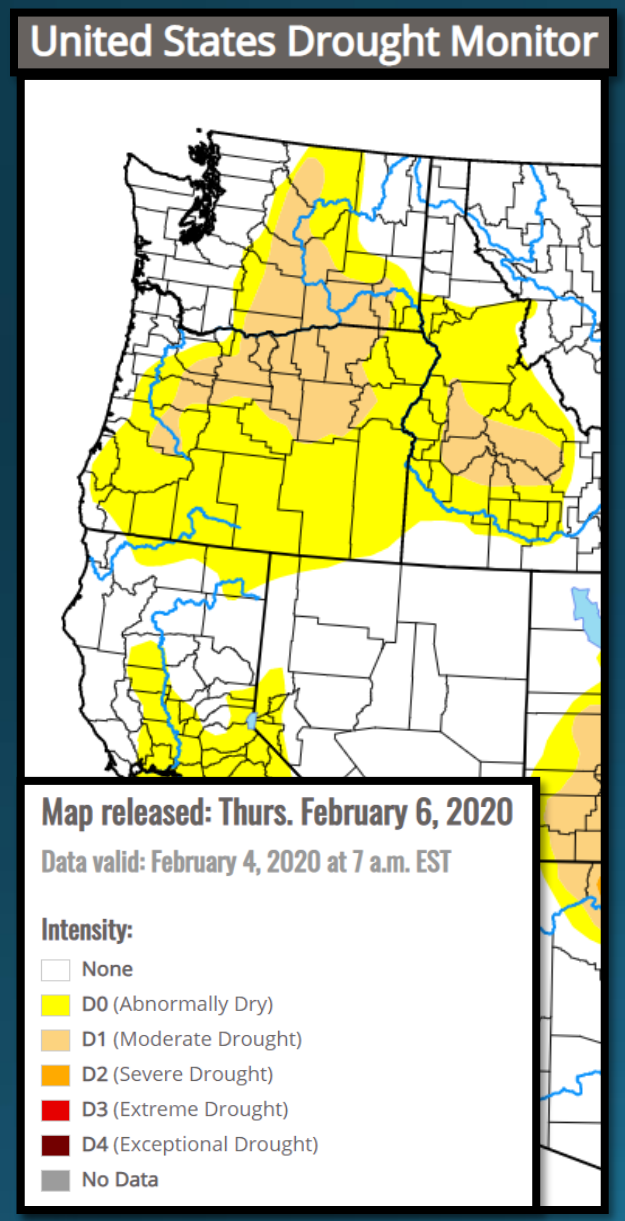


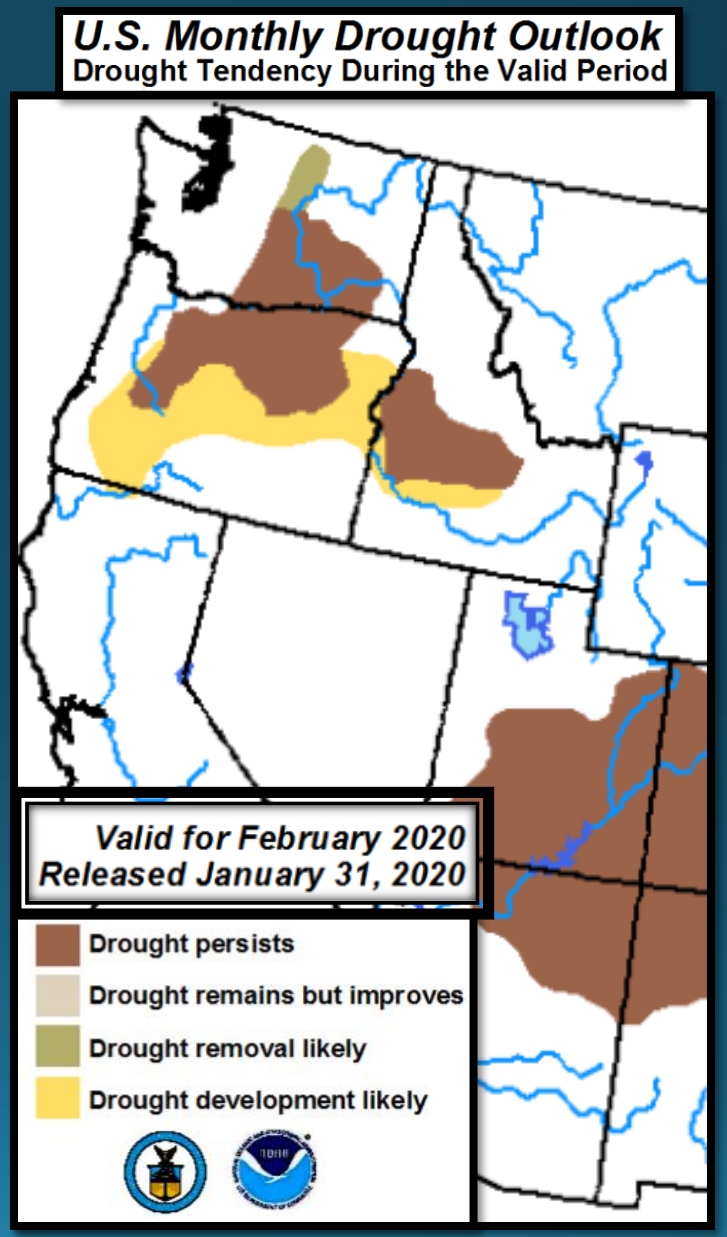
Crater Lake

Image Courtesy: NPS

	Average Max Temp (°F)	Average Min Temp (°F)	Total Precipitation	Total Snowfall	Snow Depth as of: 01/31/20	Highest Max/ Lowest Min
January	29.1°	20.8°	18.78"	135.0"	78"	42° on 1st / 11° on 15th
Normal (1981-2010)	34.4°	18.4°	9.41"	87.4"	91"	N/A

Drought Monitor (Current) & Outlook (Feb)





Looking Ahead: Normals for February (1981-2010)

Per the 1981-2010 climate normals, February is a very notable month, as temperatures begin their climb out of the winter minimums that are typical of December and January. As a whole, while the monthly average temperatures along the coast nudge upward only a degree or less from January to February, temperatures inland rise 3-5 degrees, with high temperatures showing the most appreciable rise when compared to January.

Minimum Temps: Lows on the East Side, in the Cascades, Siskiyous, and Trinity Alps are typically in the upper teens and 20s, except for the upper reaches of Mount Shasta, where it's colder. Lows are typically in the 30s for the interior West Side, while upper 30s and 40s are most common along and near the coast.

Maximum Temps: Highs at lower elevations on the East Side are typically in the 40s. In the Cascades, Siskiyous, Trinity Alps, and mountains east of the Cascades, daily maximums are typically in the 30s. Highs on the West Side and along and near the coast are typically in the 45 to 55 degree range, on average, though it is a bit cooler in some West Side mountainous area..

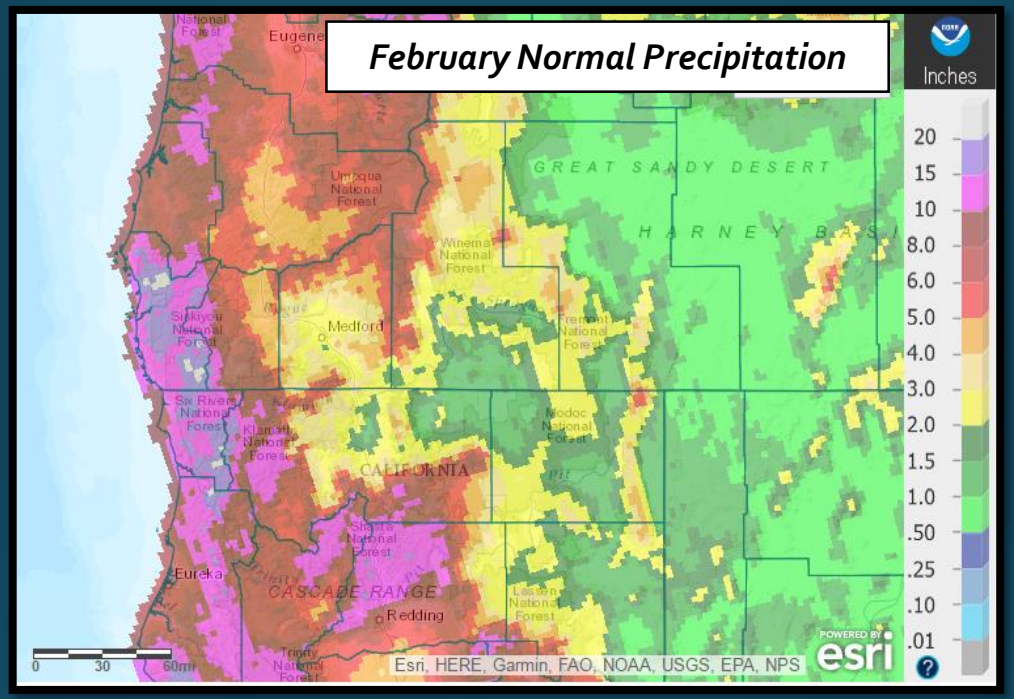
Precipitation: For most of the forecast area, February is certainly still a wet month, but not as wet as November through January and, in some areas, March. Interestingly, however, data indicates that February is the second wettest month of the year for Klamath Falls and Mount Shasta City and is the third wettest for other locations near those two cities. The combination of this wetness and the cool conditions of late winter mean that mountain snowfall is still typically very significant across the area. Mountain snowpack typically continues to grow through mid-March.

As for rainfall and snow water equivalent amounts, the lower elevations east of the Cascades receive at least 1”-3” of water, except in the northeastern half of Lake County, where amounts are a half inch to one inch. Higher elevations east of the Cascades and the Chemult area typically get 2”-6” of water. The Cascades, much of the Siskiyous, and Trinity Alps get 5”-10” of water, although portions of Mount Shasta get a little more. The West Side sees a wide spread in precipitation, with 2”-6” over much of the Interior West Side, with a bit less for Medford and in parts of the Shasta Valley. Douglas, southwestern Josephine, western Siskiyou, Coos, and Curry Counties get 5”-15”, on average, although some locations in the Coast Range typically get over 20” of water during the month of February.

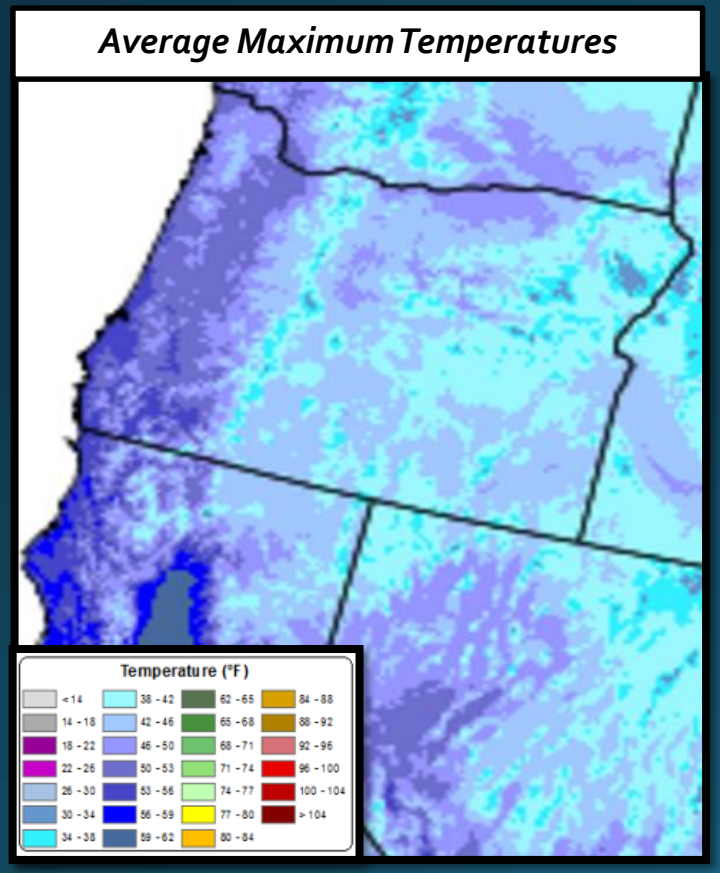
Much of this water typically falls as snow above about 5,000-6,000 feet MSL. For instance, the 1981-2010 average February snowfall for Crater Lake National Park Headquarters is 71.3”. The average snow depth there is usually 88 inches on February 1st and 106 inches on the last day of the month.

Normals for February (1981-2010)

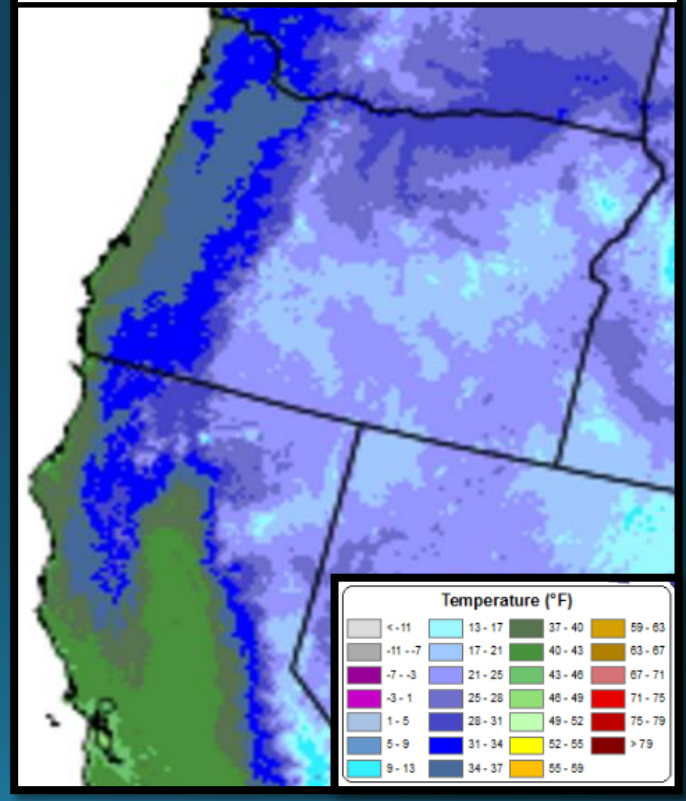
February Normal Precipitation



Average Maximum Temperatures



Average Minimum Temperatures



February 2020 Outlook

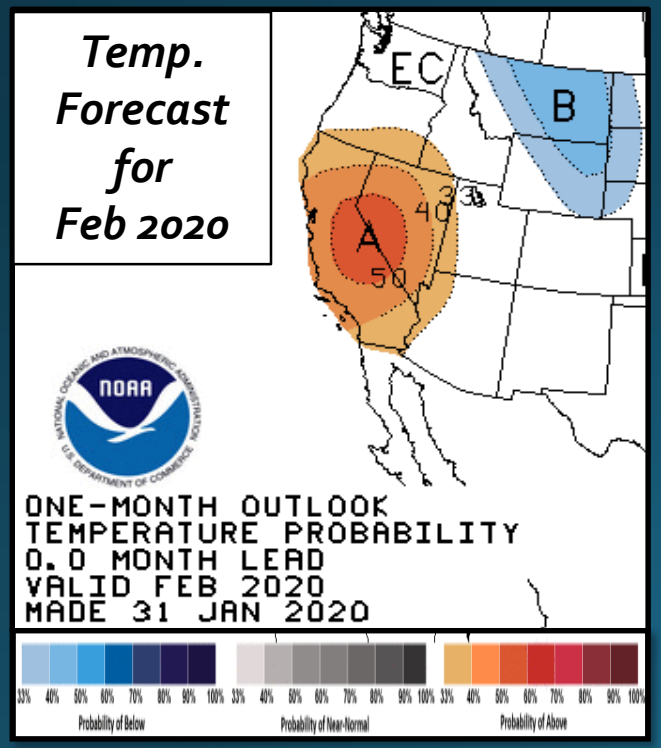
(Written February 4th)

The official CPC forecast for February 2020 predicts increased chances of above normal temperatures over the southeastern two-thirds of the forecast area. The precipitation forecast is mostly for equal chances of above, near, and below normal precipitation, except precipitation has an increased probability of being below normal over Coos and Douglas counties.

Based on the latest Arctic Oscillation blog and ensemble model guidance, the overall pattern of ridging in the Gulf of Alaska and low pressure troughing fluctuating between the Rockies and West Coast, but mostly centered over the Intermountain West, ***our localized forecast is for mostly below normal temperatures and below normal precipitation across the forecast area***. With a general NW flow over the area and the trough centered inland, the coldest temperature anomalies are likely to be across the Oregon east side of our forecast area, and temperatures are likely to be closest to climatology along the coast and in Siskiyou County. ***Temperatures are likely to range from between -1F and -8F of normal.***

We also expect precipitation will be below normal for the month due to the NW flow over the area. ***Driest areas are likely to be Siskiyou County in NorCal and wettest should be the Oregon Cascades with anomalies 30% to 80% of normal.*** Models do suggest the wettest conditions during the last 2 weeks of the month along with temperatures 5-10 degrees below normal.

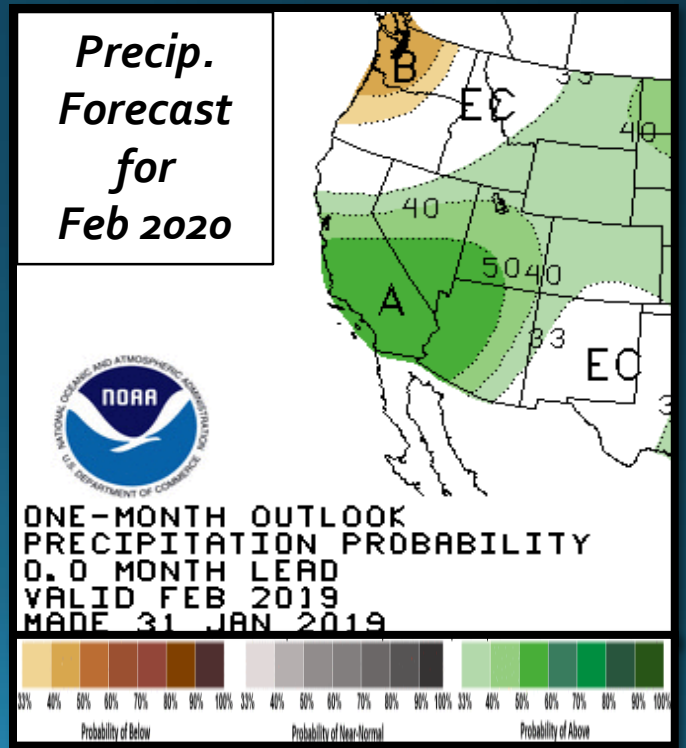
Temp. Forecast for Feb 2020



Expected Impact, Feb 2020:

With our localized forecast indicating a good chance that temperatures will be below normal and precipitation expected to be below normal, we should expect cold weather impacts through the month. However, despite it likely being drier than normal, an active NW flow and wetter mid-late month with temps 5-10F below normal suggests that we will see more snow at low and mid elevations than is typical. Thus, expect that we'll see snow impacts, especially in our Oregon areas, at times, throughout the month. Cold weather impacts are likely to maximize in the 15-20th time frame. Altogether, the 80-100% of normal SWE is likely to stay the same or grow slightly to 80-120% of normal across our Oregon areas due to the colder weather, while California areas will probably slip further behind calendar day normal SWE as the month progresses (into the 40-90% range).

Precip. Forecast for Feb 2020



*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: 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**