National Weather Service Medford

November 2017 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).

November 2017 Weather Review

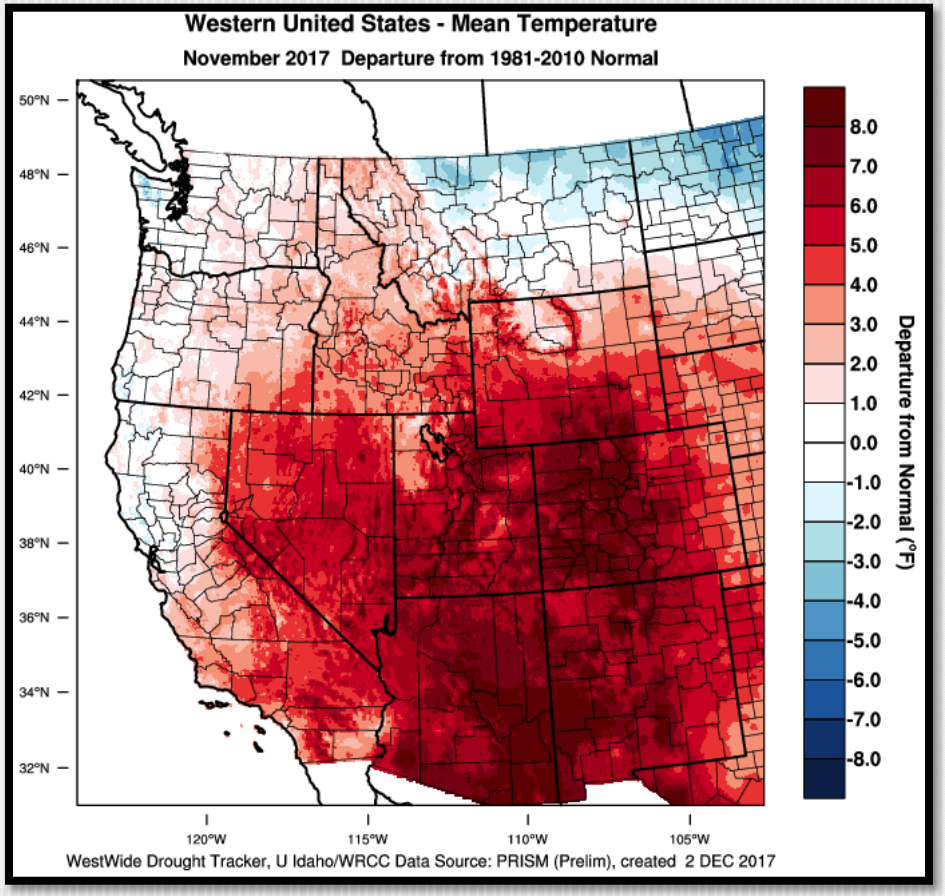
After a mild first day of November the weather turned active and generally stayed that way until the last two days of the month. Many frontal systems passed through the area, bringing generally near to above normal precipitation amounts. Temperatures fluctuated between periods of cooler and warmer than normal, but, overall, November 2017 ended as near to warmer than normal for most of the area.

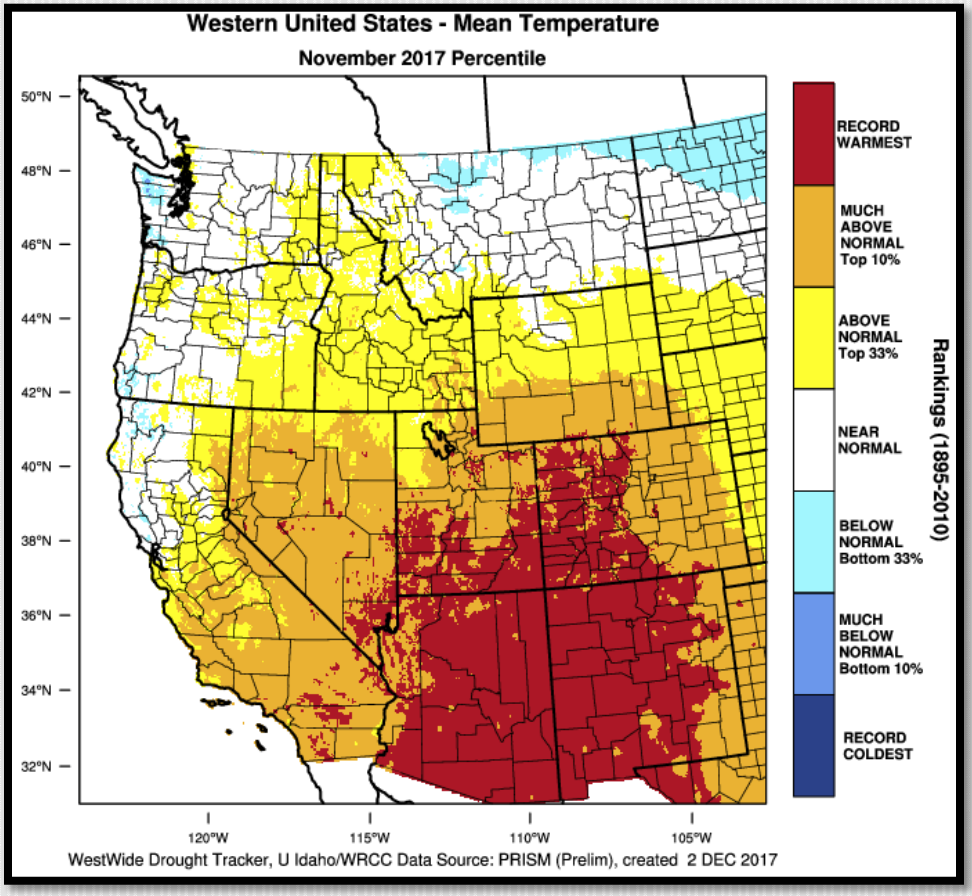
Most of the frontal systems that passed through were fairly typical for this time of year. No daily record precipitation records were broken and each front brought windy conditions to the area, but nothing extreme. With the active weather pattern, the valleys west of the Cascades were spared endless days of fog and low clouds, only experiencing a handful of days where fog and low clouds lingered all day.

Around the middle of the month, an atmospheric river took aim at the Pacific Northwest. This brought heavy rain to the coast, with over 6 inches falling in a 48-hour period in the Coastal Mountains. A ridge building over California pushed the main stream of moisture north of the area and drove snow levels to between 8,000 and 10,000 feet for about a week. While this made for easier holiday travel for Thanksgiving, the combination of warm temperatures, wind, high humidity, and rainfall shrunk the snow pack significantly below 7,500 feet, causing it to practically disappear below 6kft. With the warmer air mass in place, temperatures were much above normal for that week. Multiple daily high record temperatures were broken across the area between the 21st and the 26th.

With the bulk of Thanksgiving travel finished, the weather turned cooler on the 27th as a frontal system moved through. Snow levels returned to more typical levels for this time of year. The month ended with a couple of cool, quiet weather days.

November 2017 *Observed Temperatures*





Average Temperatures

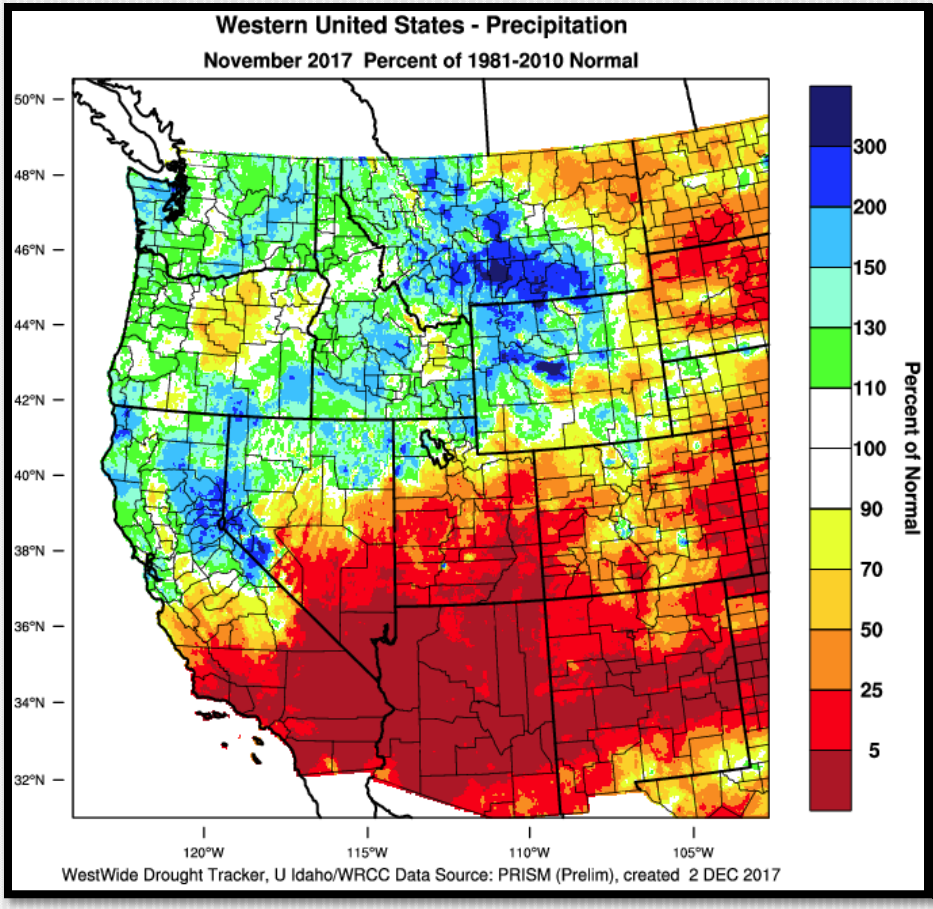
	Average (°F)	Departure from Normal	Average Max (°F)	Departure from Normal	Average Min (°F)	Departure from Normal
North Bend	50.6	***+1.8°***	57.2	***+2.3°***	43.9	***+1.2°***
Roseburg	48.8	***+1.9°***	55.9	***+2.4°***	41.7	***+1.4°***
Medford	46.0	***+1.3°***	53.6	***+0.6°***	38.4	***+2.0°***
Klamath Falls	39.3	***+3.8°***	49.4	***+3.5°***	29.2	***+4.2°***
Montague, CA	42.5	***+2.6°***	52.8	***+2.4°***	32.3	***+2.9°***
Mt. Shasta City, CA	41.4	***+0.8°***	49.7	***-1.6°***	33.0	***+3.2°***
Alturas, CA	40.4	***+4.3°***	51.3	***+2.0°***	29.4	***+6.5°***

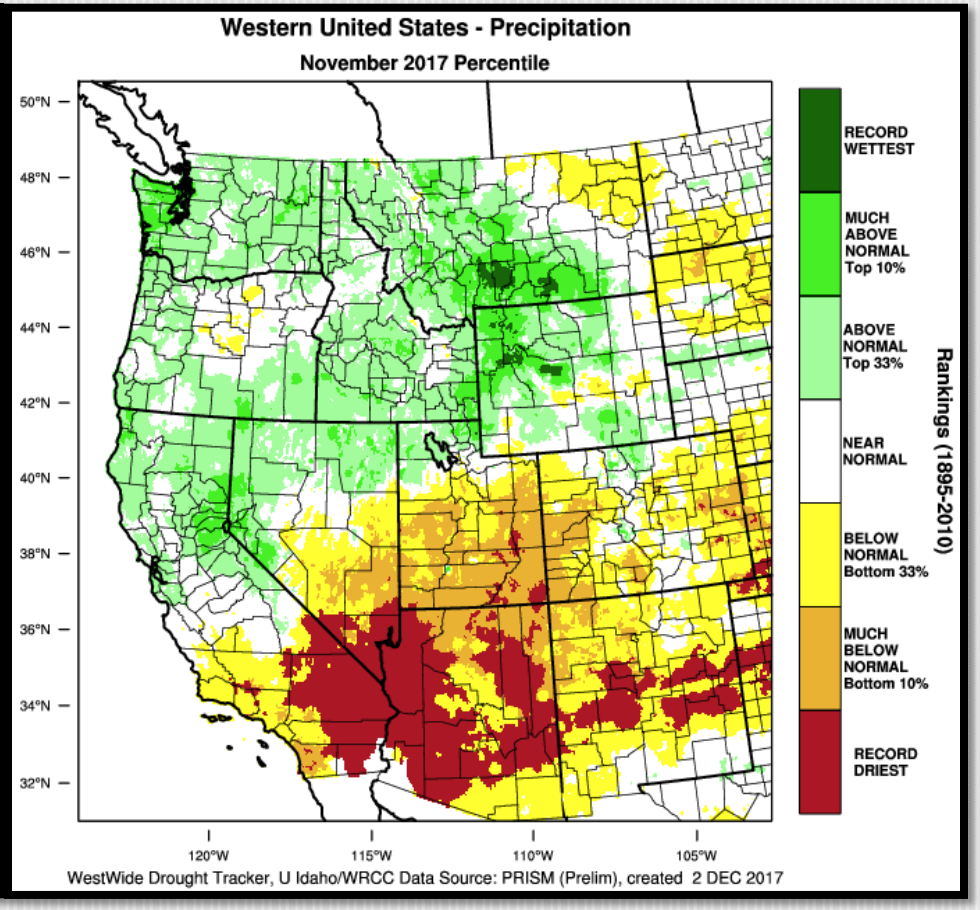
Monthly Max & Min Temperatures

	Max (°F)	Date(s)	Min (°F)	Date(s)
North Bend	71°	21st	34°	19th
Roseburg	73°	21st	31°	19th
Medford	72°	22nd	26°	18th
Klamath Falls	67°	22nd	18°	18th
Montague, CA	70°	1st	18°	18th
Mt. Shasta City, CA	67°	22nd	21°	18th
Alturas, CA	71°	22nd	17°	7th & 18th

Record High Temperatures	Date	Record High	Old Record/Year
Roseburg	21st	73°	65° / 1933
	22nd	71°	68° / 1942
Medford	21st	70°	67° / 1974
	22nd	72°	68° / 1926
	26th	64°	63° / 1938
Klamath Falls	22nd	67°	60° / 1989
	23rd	64°	61° / 1959
	25th	61°	59° / 1949
Alturas	22nd	71°	Ties with 1954
Montague	21st	68°	61° / 1971
	22nd	63°	62° / 1971
	23rd	68°	64° / 1955

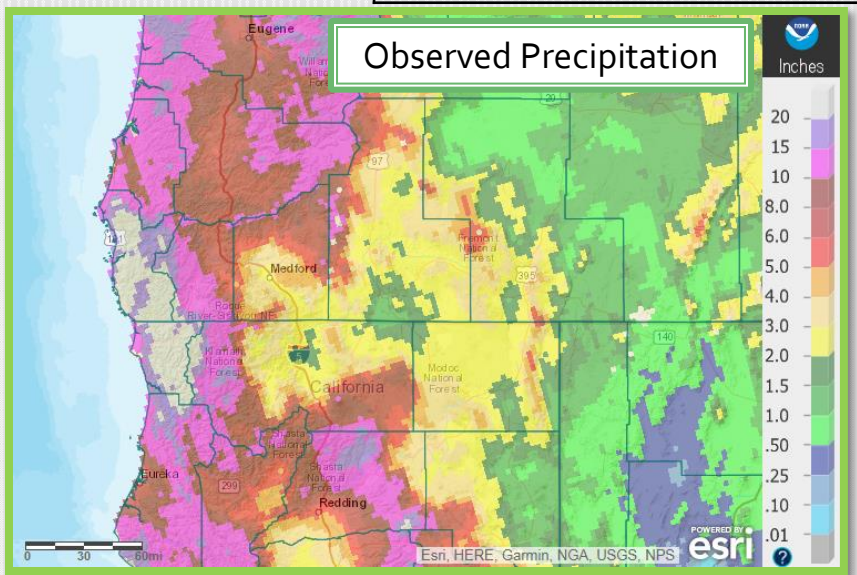
November 2017 *Observed Precipitation*

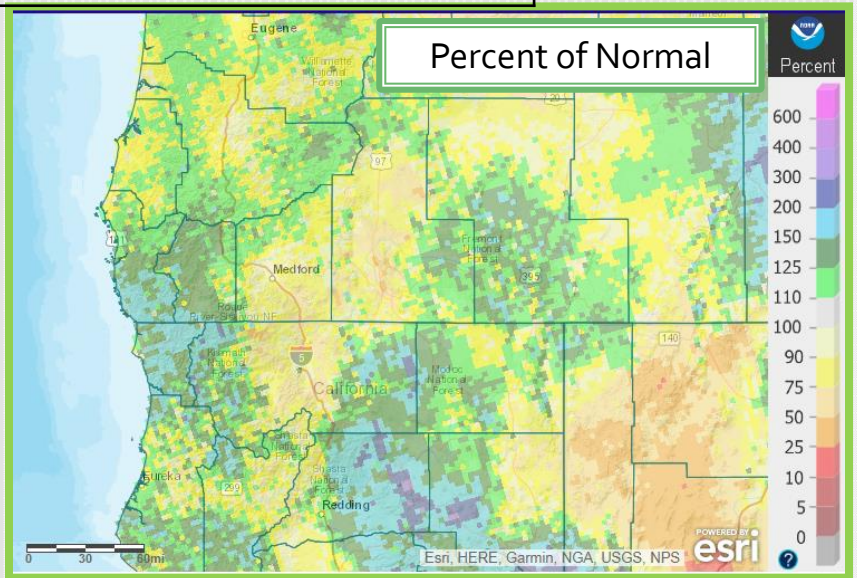




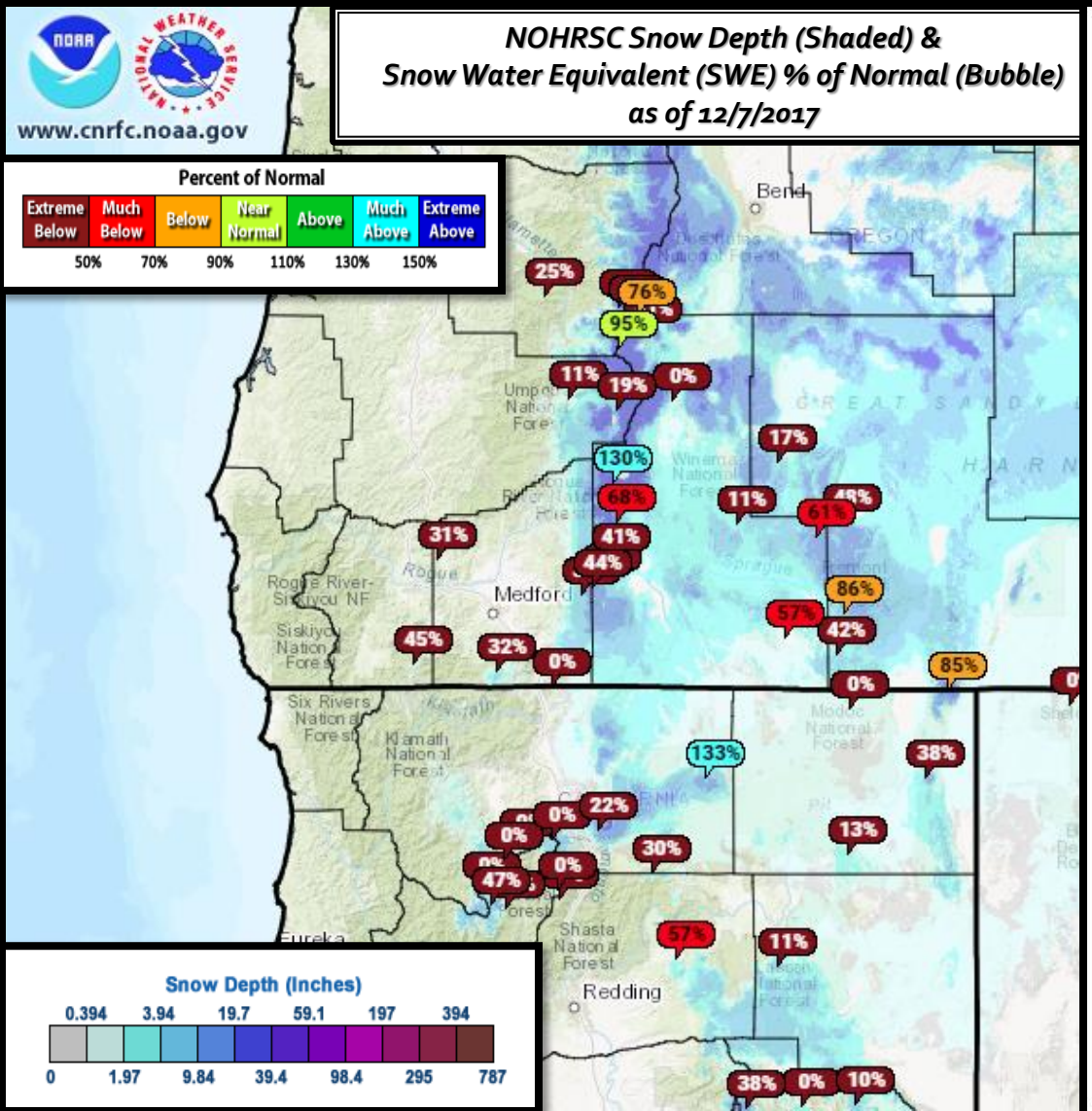
November Precipitation

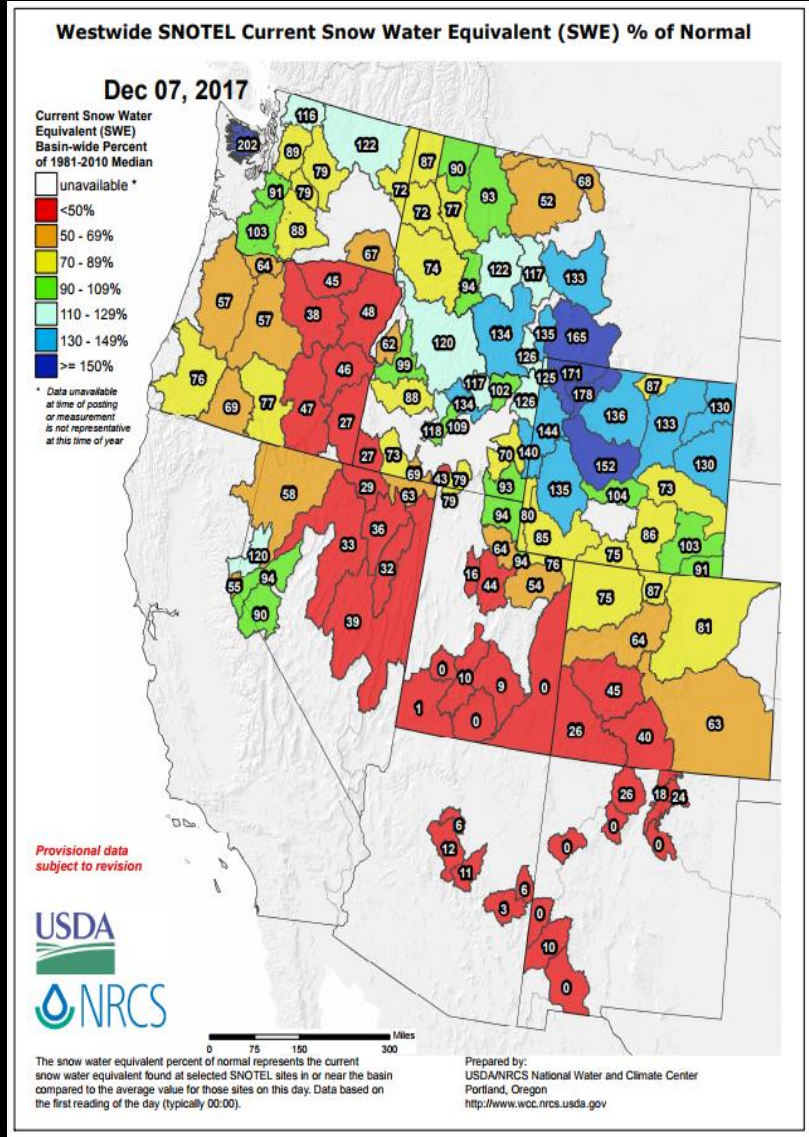
	Total	Departure from Normal	Greatest 24-hr Total	Date(s)
North Bend	10.19"	-0.04"	1.59"	15th
Roseburg	4.05"	-2.41"	0.65"	9th
Medford	2.87"	-0.15"	0.53"	19th – 20th
Klamath Falls	1.45"	-0.74"	0.56"	3rd
Montague, CA	1.58"	-1.39"	0.49"	3rd
Mt. Shasta City, CA	4.89"	-0.19"	1.26"	26th
Alturas, CA	1.70"	-0.09"	0.31"	16th



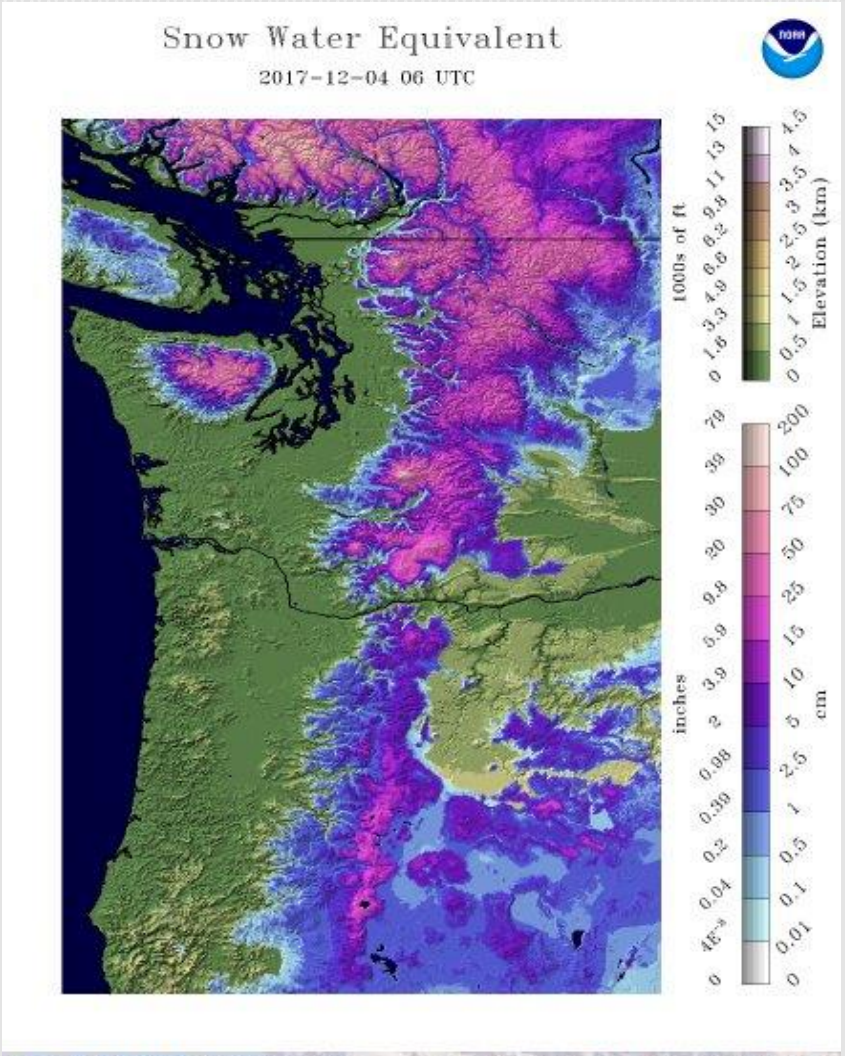


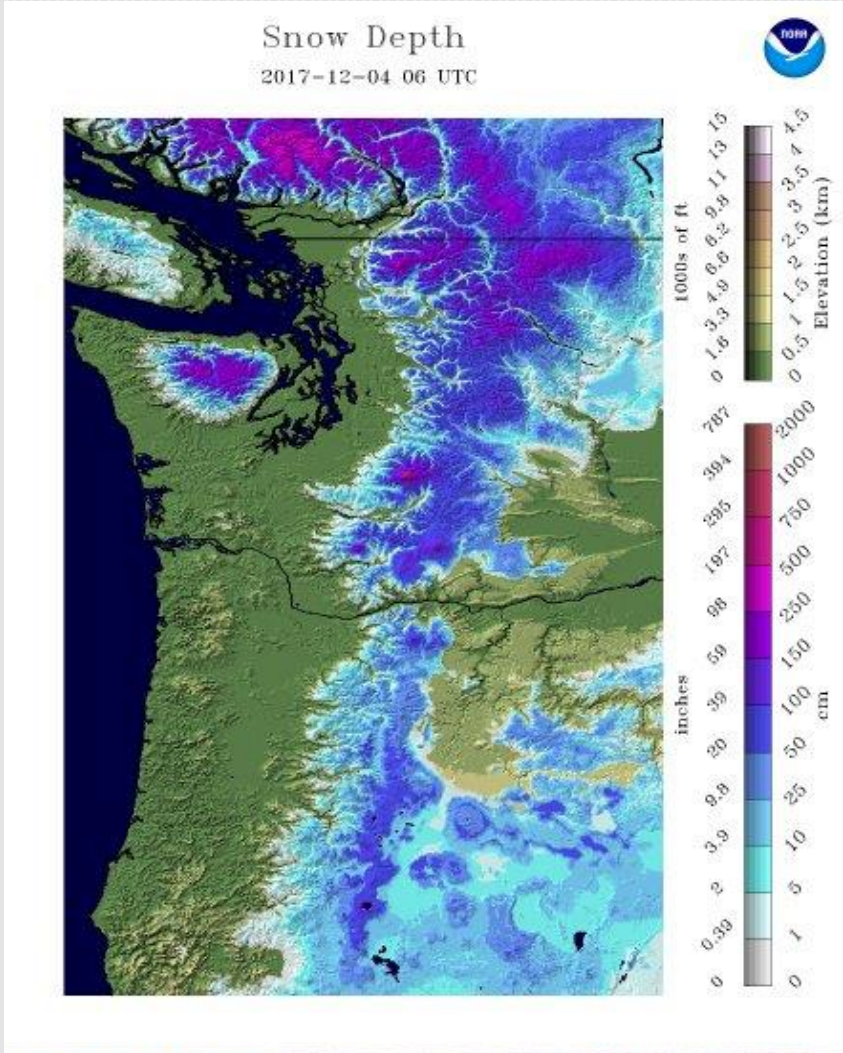
Snowpack Status



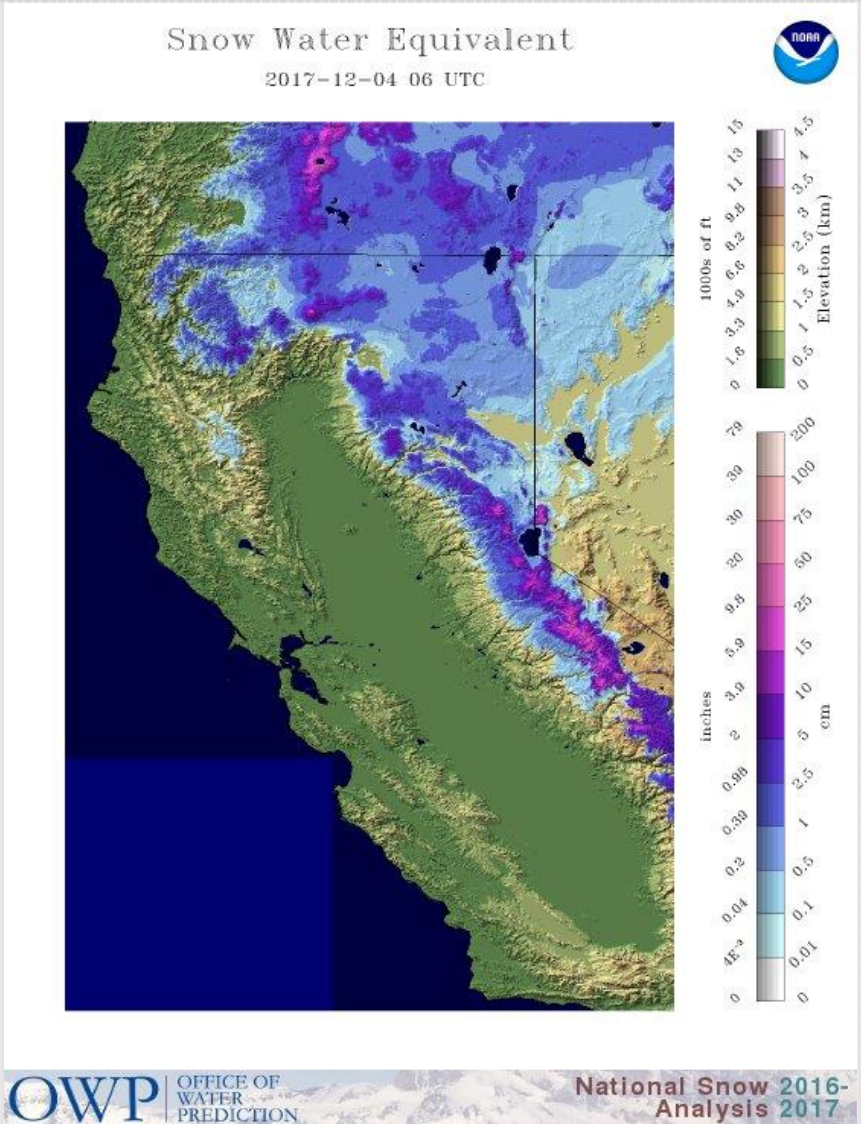


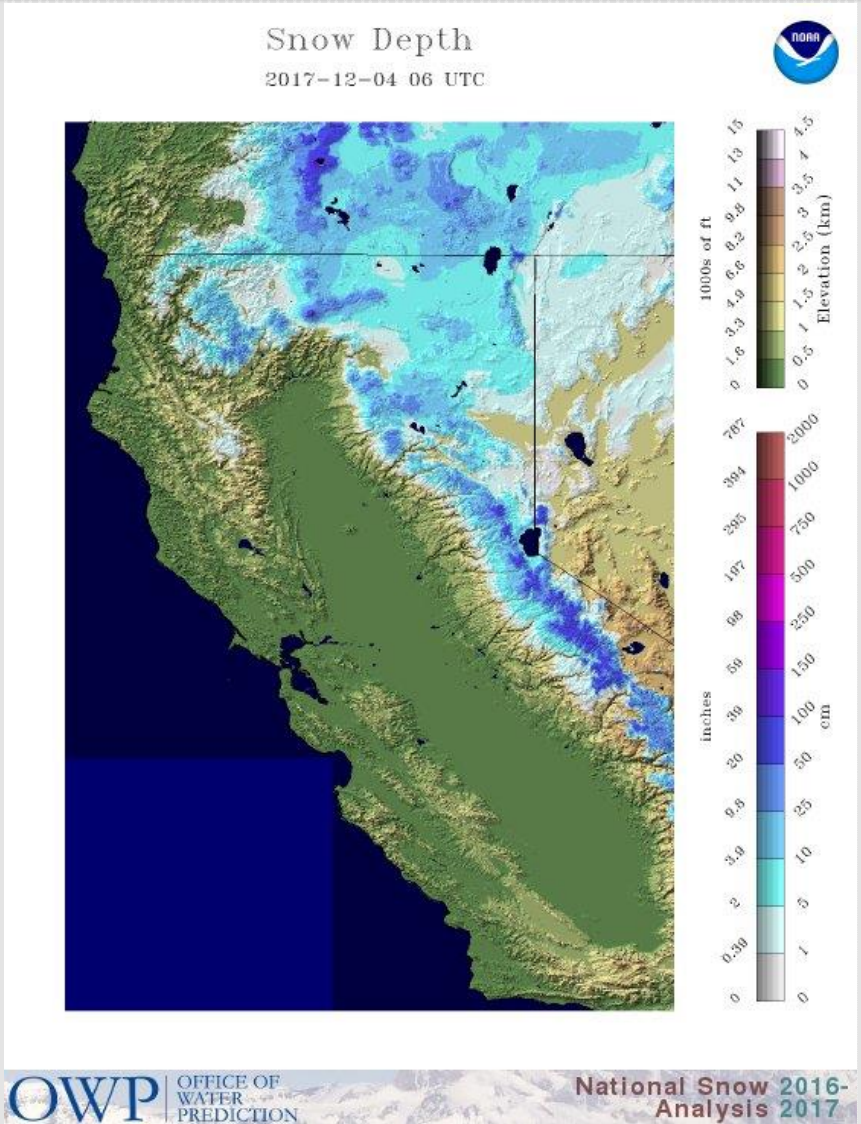
PacNW SWE & SD as of 12/4/17



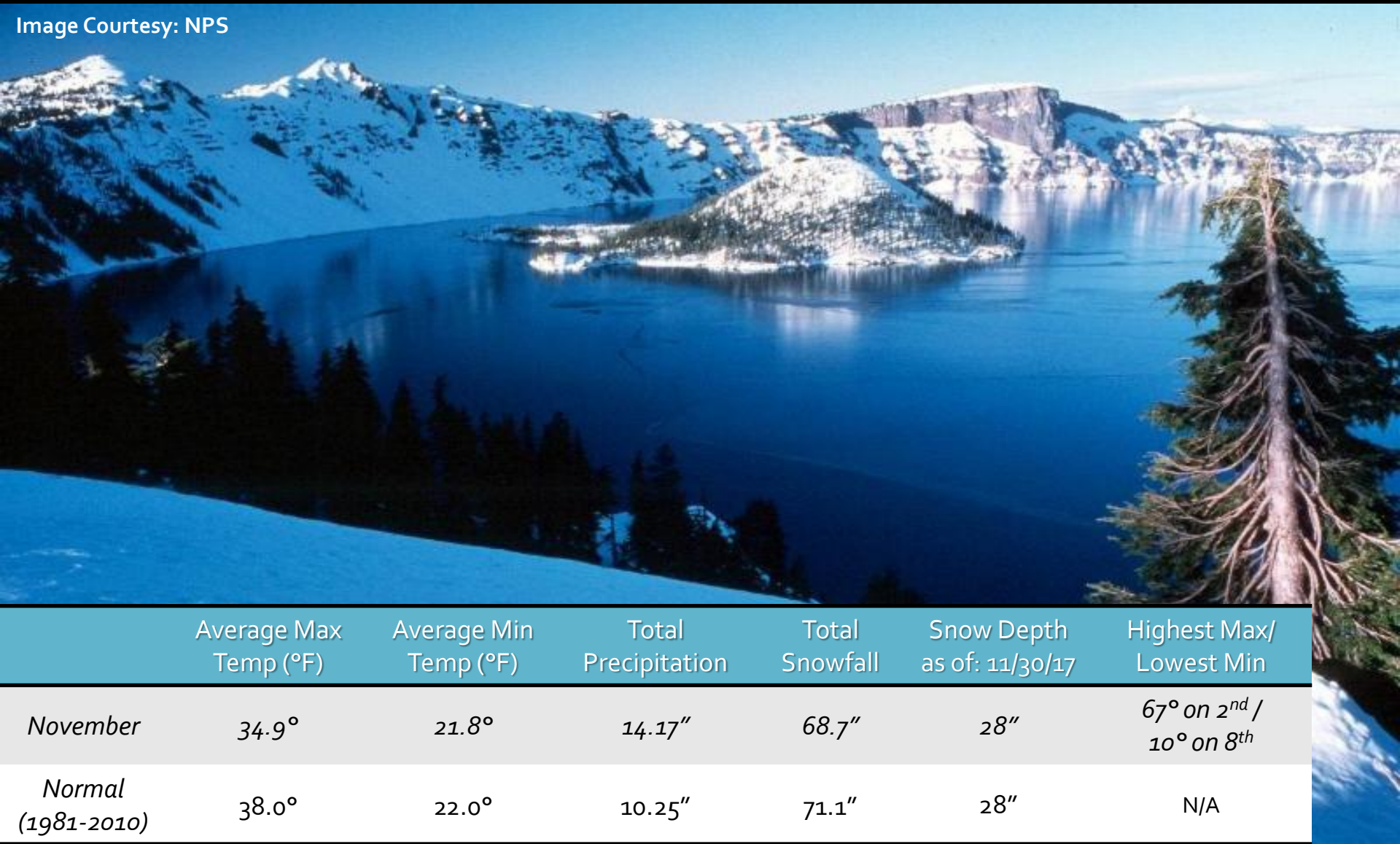


California SWE & SD as of 12/4/17



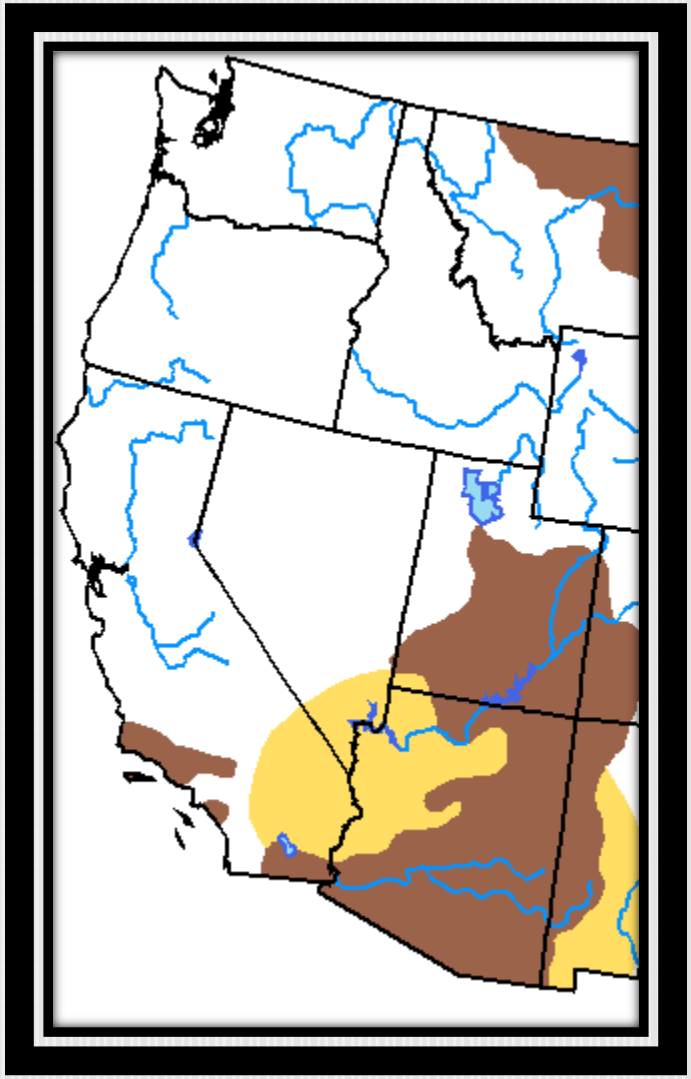


Crater Lake



	Average Max Temp (°F)	Average Min Temp (°F)	Total Precipitation	Total Snowfall	Snow Depth as of: 11/30/17	Highest Max/ Lowest Min
November	*34.9°*	*21.8°*	*14.17″*	*68.7″*	*28″*	*67° on 2nd / 10° on 8th*
Normal (1981-2010)	38.0°	22.0°	10.25″	71.1″	28″	N/A

Drought Outlook: December



Drought persists

Drought remains but improves

Drought removal likely

Drought development likely

Valid for December 2017
Released November 30, 2017

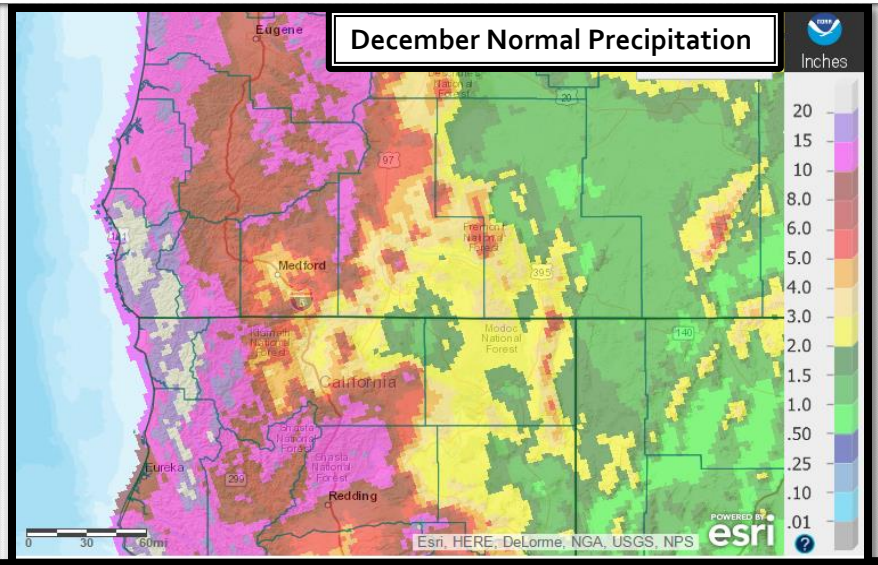
http://www.cpc.ncep.noaa.gov/products/expert_assessment/month_drought.png

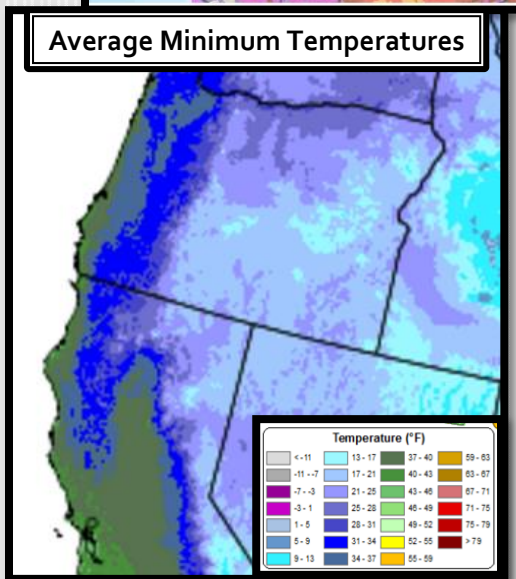
Looking Ahead: Normals for December (1981-2010)

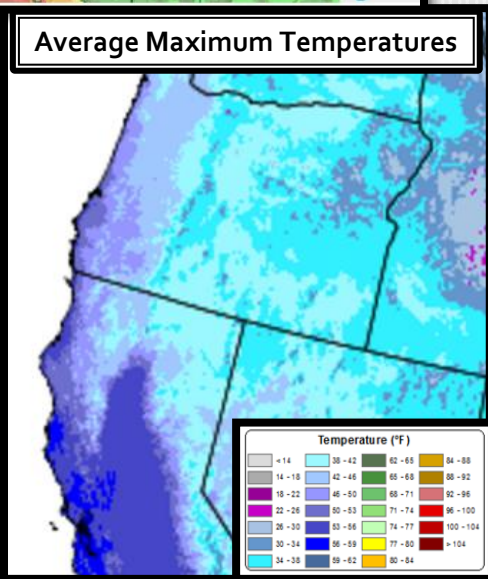
- December is typically the wettest month of the year, collectively, for southwest Oregon and far northern California. The driest locations of Lake County average only a half inch to an inch of water. Most valleys east of the Cascades typically receive 1-4 inches of water, while the mountains east of the Cascades typically see 3-9 inches of water. For the Cascades and Mount Shasta area, typical December totals are 8-15 inches. The drier West Side Valleys, like the Bear Creek drainage of the Rogue Valley and the Shasta and Scott Valleys in California, usually receive 2-5 inches. The remainder of the West Side receives 5-15 inches, although the wettest portions of the Umpqua Basin, the Coast and the Coast Range get 15-20+ inches during an average December.

- Much of this water often falls as snow above 4,500 feet MSL. For instance, the 1981-2010 average snowfall for Crater Lake National Park Headquarters is 92.6". Snow depth there usually is 35.4" on December 1st and 67.5" on December 31st based on the same average period.

- Typical daily high temperatures are 30°F to near 40°F in the mountains above 5000 feet and across the East Side, in the mid 40s to mid 50s west of the Cascades. Normal daily low temperatures are in the mid teens in the coldest locations on the East Side and on Mount Shasta to the upper 20s in and near the Cascades. West of the Cascades to the coast, lower 30s to mid 40s are most typical from east to west.



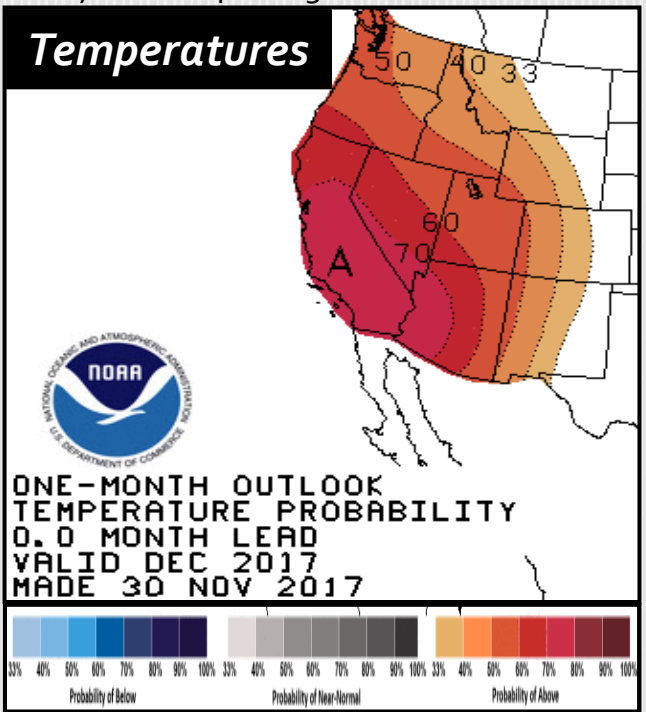




December 2017 Outlook
(Updated Dec 6th)

The official CPC forecast for December 2017 predicts greatly increased chances (55-65%) for above normal temperatures and below normal precipitation (50-60%) across the Medford NWS Forecast Area. A strong, blocking high pressure ridge that developed along the west coast this week is expected to remain in place through at least the middle of the month leading to strong temperature inversions and dry weather. Long range model guidance indicates the possibility of some storminess moving into the forecast area on or around December 20th, likely with above normal temperatures. Therefore, it appears that temperatures are nearly certain to end the month above normal across the vast majority of the forecast area. Due to downslope flow from the southeast, the Oregon west side is likely to have the highest temperature anomalies. Due to the presence of very dry air on the upslope side of this SE flow, the valleys of the east side are likely to be less anomalously warm. A climatologically wet to wetter than normal period of about a week appears possible late month due to phase 7 effects of the Madden Julian Oscillation, but precipitation for the month is very likely to end up being below normal.

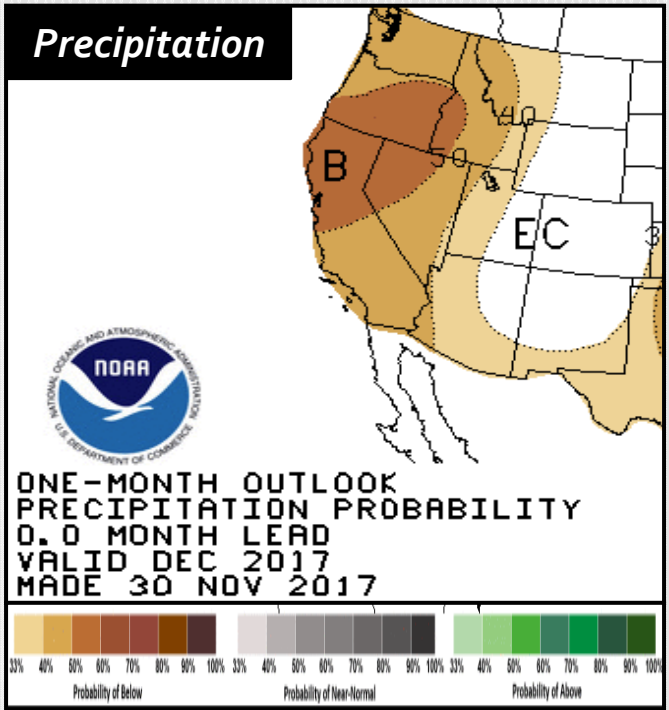
Temperatures



Expected Impact, Dec 2017:

Some daily record high temperatures are likely to be set this month, which could adversely affect some plant and animal species, though most are more likely to benefit from the warmth. While the dry conditions are likely to slow snow melt due to wet bulb effects, especially in the shade, the snow pack will be below normal, adversely affecting some winter recreation. Inversion conditions will result in air stagnation, burning restrictions, and deteriorated air quality, at times, in some valleys. Overall, the observed wetter than average November 2017 is likely to mitigate the negative effects of this warm, dry December. We'll also have more time to prepare for active winter weather.

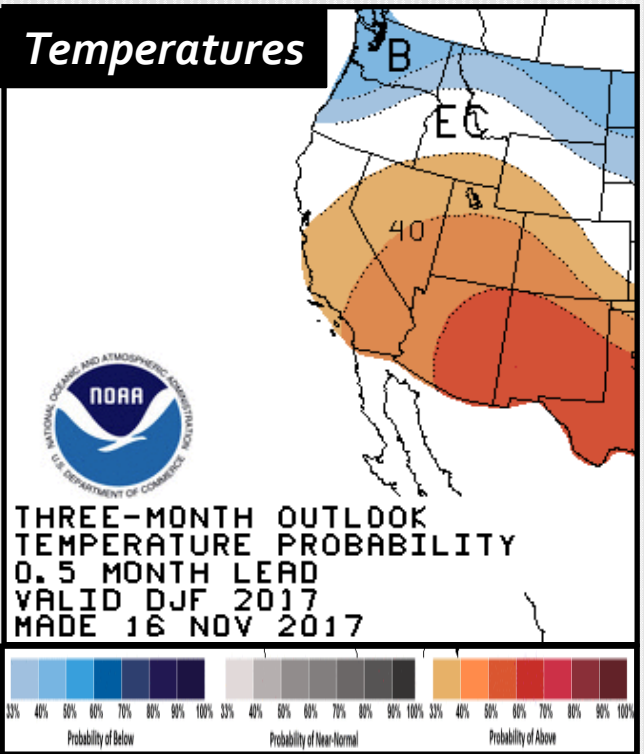
Precipitation



2017-18 Winter Season (DJF) Outlook (Updated 12/6/17)

The official CPC forecast for Dec, Jan, Feb, combined, is for increased chances for below normal temperatures in the northwestern 3rd of the forecast area, equal chances of above, near, and below normal temperatures elsewhere, and also equal chances for precipitation. A La Nina Advisory is in effect, which indicates a 65-75% chance of La Nina conditions continuing through at least the winter of 2017-18. Locally derived analog years for this season using the state of ENSO & the PDO indicate increased chances for near to below normal temperatures across the forecast area during DJF, with the greatest possibility of below normal temperatures for Oregon areas east of the Cascades. These analogous years indicate increased chances for near to above normal precipitation, with above normal probabilities for mountainous areas, the Cascades westward, and N. California, highest for interior western Oregon, but confidence is low due to a likely dry Dec.

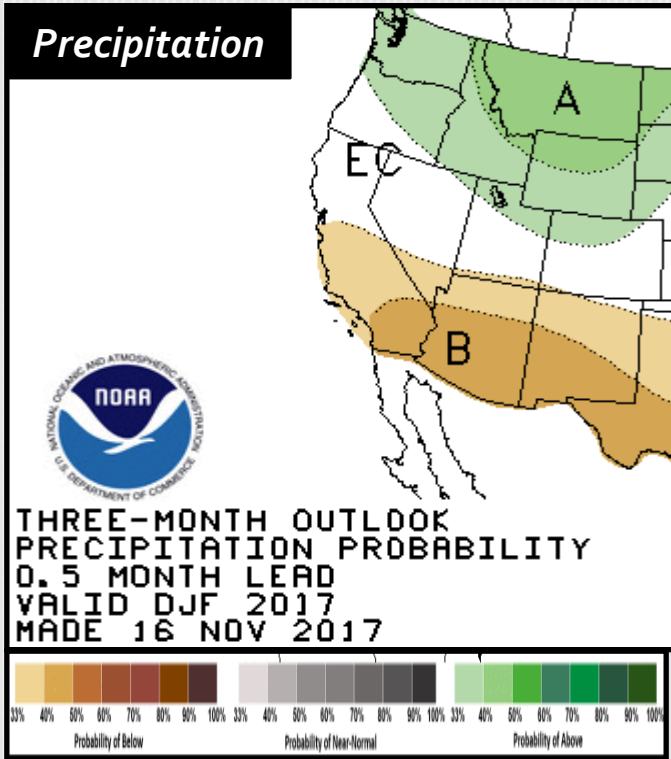
Temperatures



December Update & Impact:

With December likely to end up warmer and drier than normal due to the combined state of the MJO and negative Arctic Oscillation, the chances of this winter being wetter than normal has diminished, but is not gone. In past similar circumstances precipitation has picked up in Jan-Feb, but it takes a lot to make up for a very dry Dec. Thus, confidence is cool & wet has decreased, more toward the official CPC forecast. The overall impact is that near to above normal snowpack will be late to arrive for many areas.

Precipitation



*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 November 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 November 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: 1/1/1948 – Present**
  - *Missing:*
    - *08-10/1970*
    - *1971-10/1997*
- **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*