

National Weather Service Medford

January 2018 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 2018 Weather Review

Although January 2018 was much more active when compared to December 2017 in terms of weather, it was still one of the warmest Januaries on record for the area. A few weak systems moved through during the first week or so, bringing much needed rainfall and light snow to the mountains. The weather finally turned more seasonable beginning with a series of storms beginning on the 15th-18th. Fronts more typical for January then delivered colder temperatures, much needed precipitation, and improved the snowpack through much of the rest of the month. Some of these fronts had strong winds associated with them and strong south and southeast winds even made it into the more sheltered valleys west of the Cascades. The warming effects of these downslope winds resulted in record high temperatures for both Medford and Roseburg on the 16th and 17th, respectively.

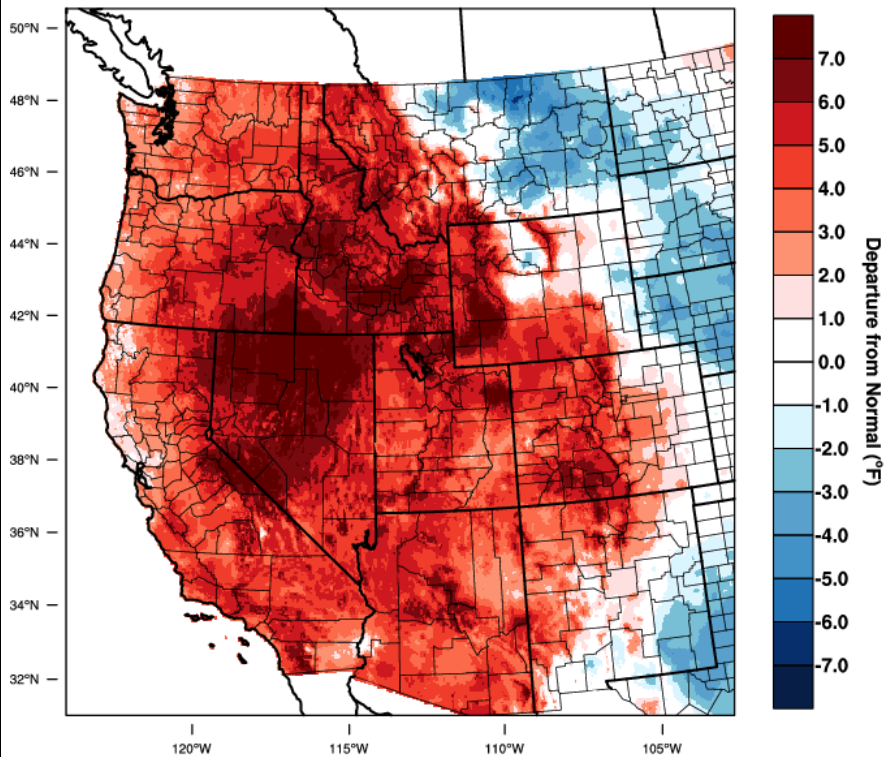
A strong storm with hurricane force winds developed northwest of Hawaii around mid-month. These winds created very high swell (30 to 35 feet) that made it to the Oregon coast on the 18th. Local buoys reported wave heights up to 46 feet with a maximum wave height of 60 feet reported off the coast of Astoria!

A few more systems passed through during the last third of the month, with one system bringing over 2 feet of snow to Crater Lake National Park HQ over four days. The same system brought snow levels down to many valley floors and the Medford Airport recorded a trace of snow on the 25th as a band of heavy showers moved across the west side. Heavier amounts of around 2 inches were recorded in the Illinois Valley along Hayes Hill, but snow didn't linger long.

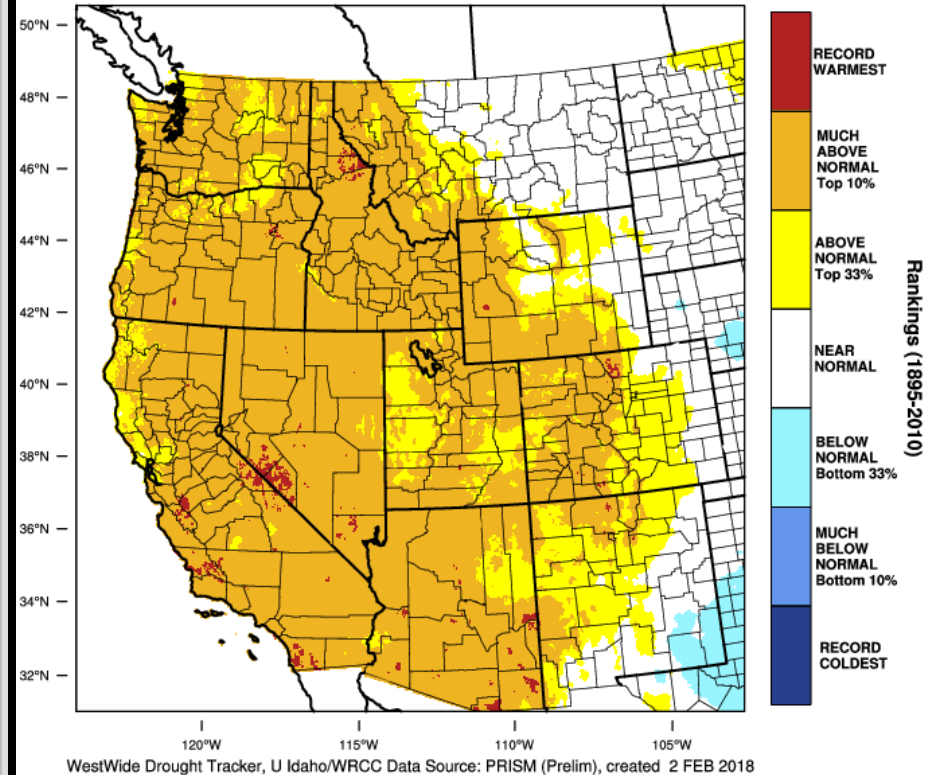
After this system exited to the east, warmer and drier conditions returned to the area as a strong ridge developed off the West Coast. While snowpack was improved during the month of January, it was still significantly below normal and well below the above average snowpack experienced this time last year.

January 2018 Observed Temperatures

Western United States - Mean Temperature
January 2018 Departure from 1981-2010 Normal

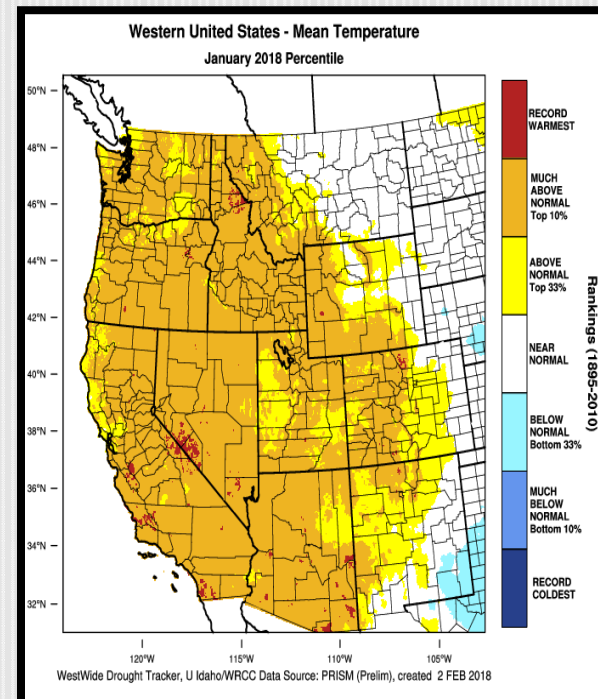
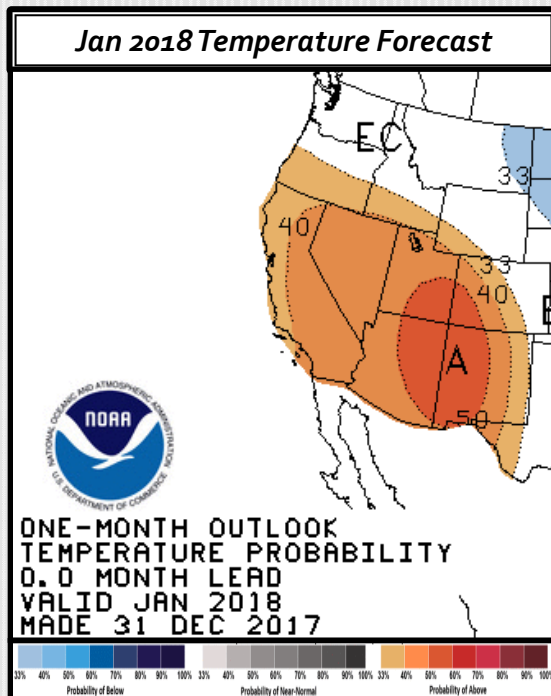


Western United States - Mean Temperature
January 2018 Percentile



A Look Back at the Jan 2018 Temperature Outlook

- **Was the forecast anomaly correct?** Yes. Both our outlook and the Climate Prediction Center (CPC) indicated above normal temperatures were expected for the month.
- **Was the expected impact correct?** Yes. The cooler temperatures and wetter period identified for the latter half of the month indicated an increase in snowpack that would affect winter recreation. Ski areas were able to open late in the month and snowpack did improve.
- **Did our forecast improve upon the CPC forecast?** Yes. While we effectively had the same anomaly forecast as CPC, we were able to provide more detail on the timing of the anomaly. We indicated the warm period would be focused in the first half of the month "with a powerful jet stream reaching the West Coast between Jan 15th and 17th with a parade of storms likely to follow."



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>	49.0	+3.2°	55.4	+3.9°	42.7	+2.5°
<i>Roseburg</i>	46.7	+3.6°	53.0	+3.3°	40.3	+3.8°
<i>Medford</i>	43.0	+2.7°	50.7	+2.9°	35.3	+2.5°
<i>Klamath Falls</i>	37.2	+7.0°	47.1	+7.5°	27.3	+6.5°
<i>Montague, CA</i>	39.3	+3.9°	49.3	+4.7°	29.3	+3.2°
<i>Mt. Shasta City, CA</i>	40.4	+4.5°	48.4	+3.1°	32.4	+6.0°
<i>Alturas, CA</i>	37.2	+7.3°	48.6	+7.0°	25.9	+7.7°

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>68°</i>	<i>13th</i>	<i>37°</i>	<i>31st</i>
<i>Roseburg</i>	<i>71°</i>	<i>17th</i>	<i>36°</i>	<i>26th</i>
<i>Medford</i>	<i>68°</i>	<i>17th</i>	<i>29°</i>	<i>24th & 25th</i>
<i>Klamath Falls</i>	<i>57°</i>	<i>17th</i>	<i>20°</i>	<i>7th</i>
<i>Montague, CA</i>	<i>61°</i>	<i>15th & 17th</i>	<i>20°</i>	<i>7th</i>
<i>Mt. Shasta City, CA</i>	<i>62°</i>	<i>14th & 29th</i>	<i>26°</i>	<i>20th & 23rd</i>
<i>Alturas, CA</i>	<i>59°</i>	<i>28th</i>	<i>14°</i>	<i>21st</i>

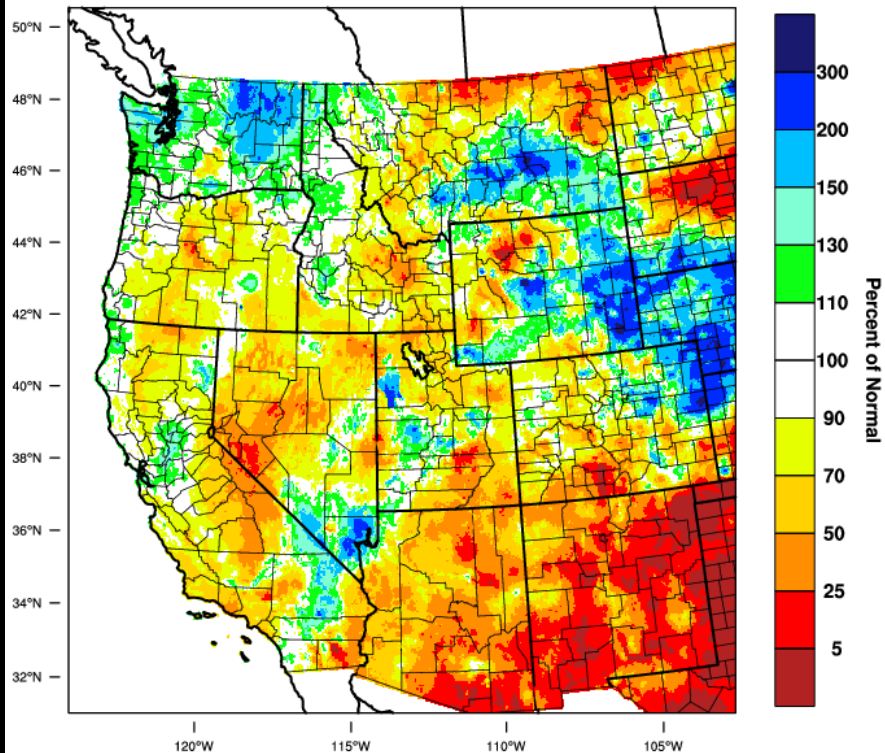
Record High Temperatures

<i>Where</i>	<i>Date</i>	<i>Record High</i>	<i>Old Record/Year</i>
Medford	15 th	60°	59° / 2010
	17 th	68°	65° / 1981
Klamath Falls	11 th	54°	Ties with 1979
	15 th	56°	53° / 2010
	17 th	57°	56° / 1961
Montague	4 th	58°	Ties with 2003
	5 th	60°	58° / 2006
	11 th	60°	Ties with 2010
	15 th	61°	58° / 2010
Alturas	14 th	58°	Ties with 1983

<i>Where</i>	<i>Date</i>	<i>Record High</i>	<i>Old Record/Year</i>
North Bend	14 th	63°	Ties with 1974
	17 th	67°	Ties with 1981
Roseburg	17 th	71°	62° / 2015
	28 th	64°	Ties with 2016 & 1998
Mt Shasta City	14 th	62°	61° / 1975

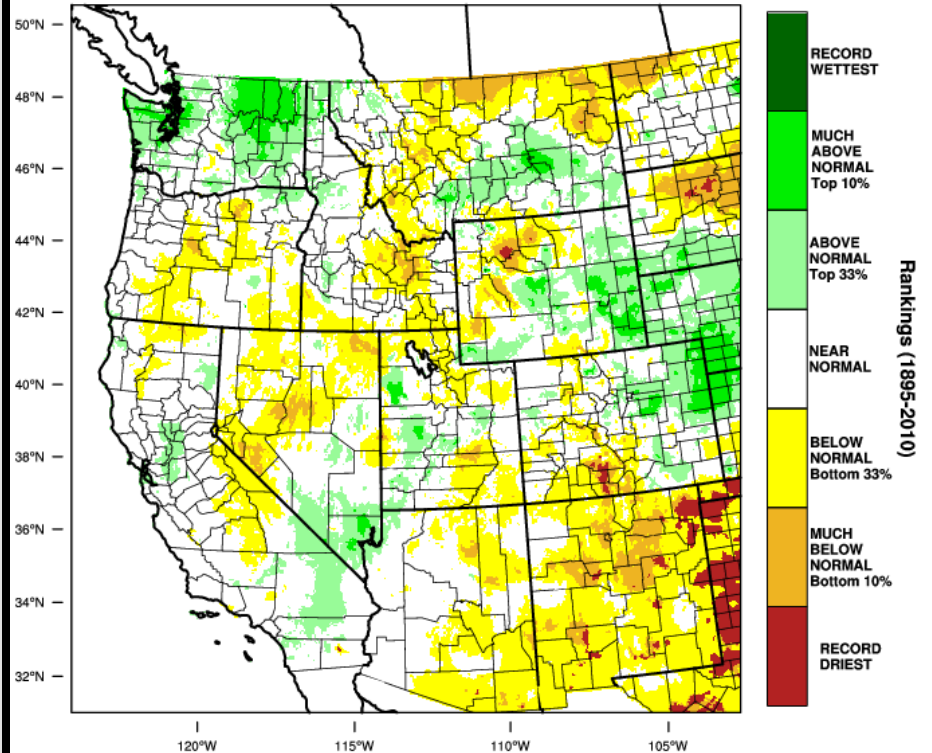
January 2018 Observed Precipitation

Western United States - Precipitation
January 2018 Percent of 1981-2010 Normal



WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 2 FEB 2018

Western United States - Precipitation
January 2018 Percentile



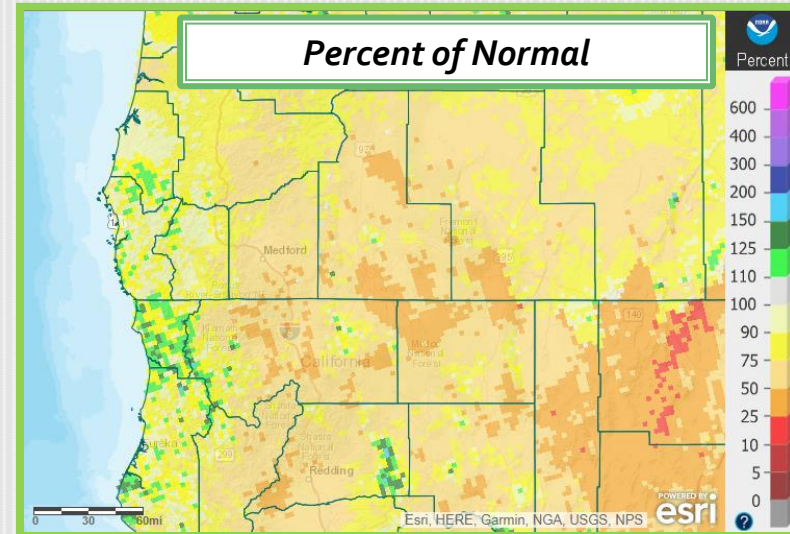
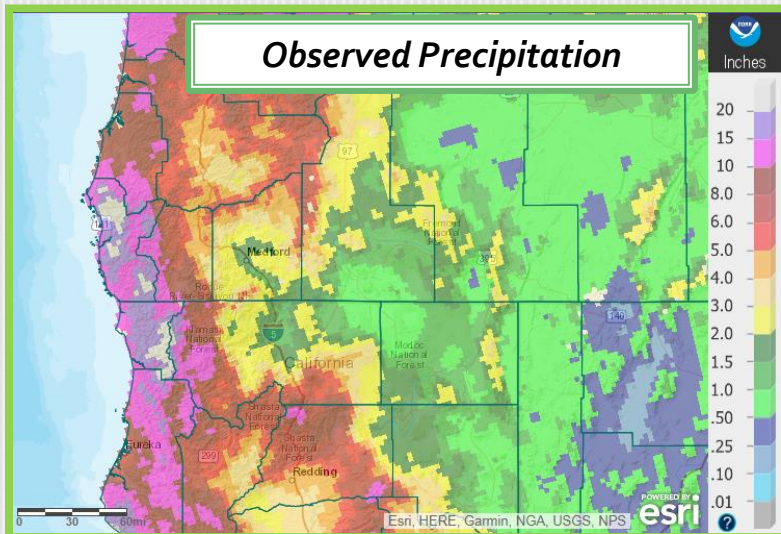
WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 2 FEB 2018

Precipitation

Record Daily Precipitation

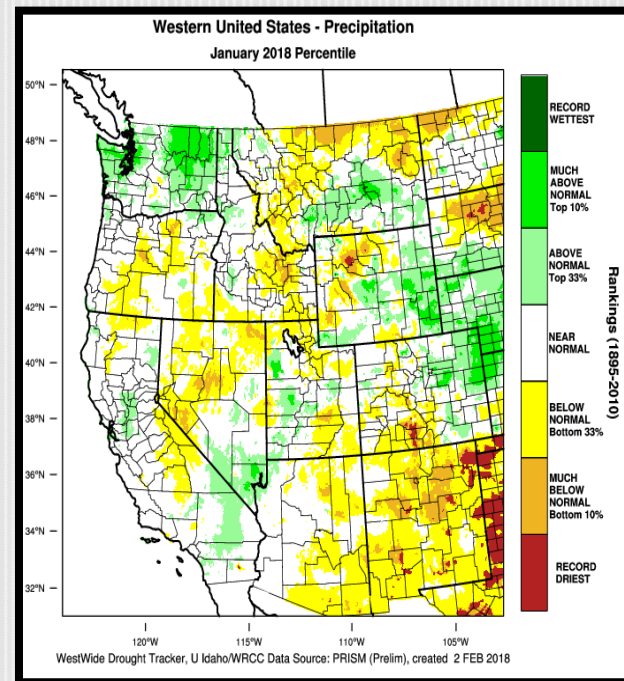
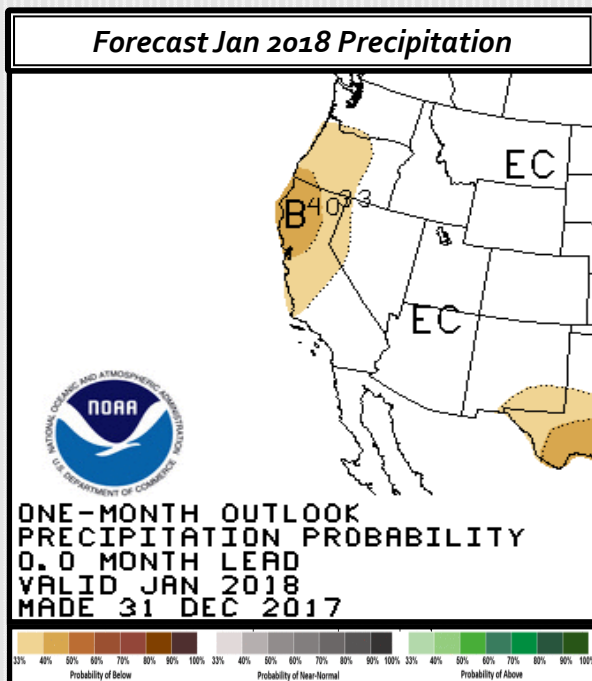
	New Record	Date	Old Record	Year
Alturas	0.53"	18 th	0.35"	2006

	Total	Departure from Normal	Greatest 24-hr Total	Date(s)
North Bend	7.83"	-2.36"	1.71"	24 th
Roseburg	3.15"	-1.94"	0.56"	24 th
Medford	1.60"	-0.83"	0.37"	18 th
Klamath Falls	0.66"	-1.19"	0.37"	18 th
Montague, CA	1.29"	-0.91"	0.50"	18 th
Mt. Shasta City, CA	4.28"	-2.78"	0.91"	24 th
Alturas, CA	1.33"	-0.32"	0.53"	18 th



A Look Back at the Jan 2018 Precipitation Outlook

- **Was the forecast anomaly correct?** Yes. CPC's forecast indicated increased chances of below average precipitation across the forecast area. Our localized forecast indicated that precipitation would end up close to climatology for January. While most of the area recorded below average precipitation, percentile rankings from WRCC indicate about half of the area saw near normal precipitation. The % anomaly maps indicate some above average precipitation, mainly in the far western and eastern portions of the forecast area.
- **Was the expected impact correct?** Yes. The cooler temperatures and wetter period identified for the latter half of the month indicated an increase in snowpack that would affect winter recreation. Ski areas were able to open late in the month and the snowpack did improve. Precipitation deficits were also lessened in some areas, though not enough to overcome deficits (which was also expected).
- **Did our forecast improve upon the CPC forecast?** Yes. We correctly identified "the possibility of a powerful jet stream reaching the West Coast between January 15th and 17th with a parade of storms likely to follow", with "local expectations are that precipitation across the area will end up close to climatology (normal) for the month". Thus, we provided more detail and accuracy.

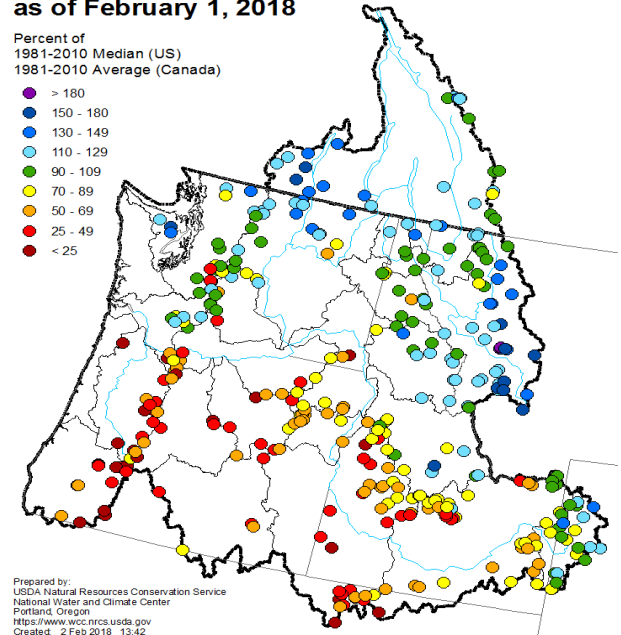


Snowpack Status

Columbia River and Pacific Coastal Basins Mountain Snowpack as of February 1, 2018

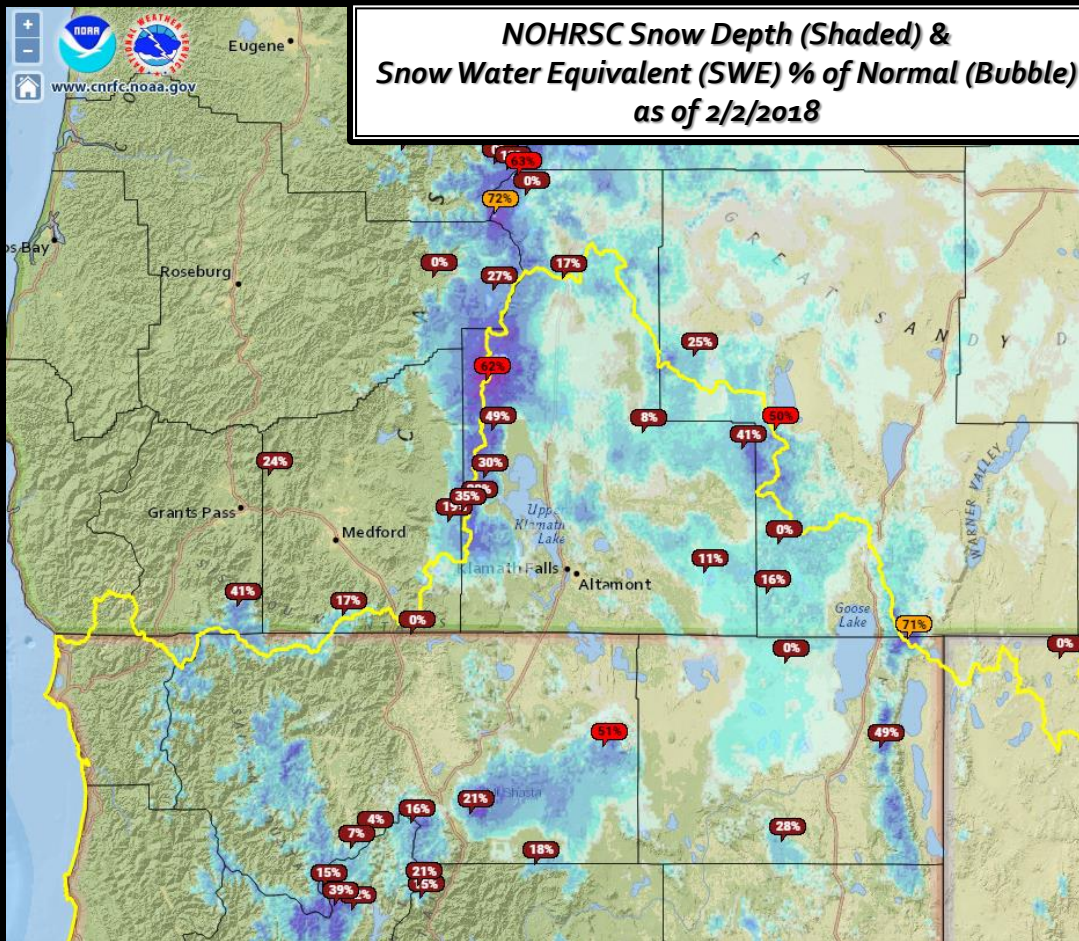
Percent of
1981-2010 Median (US)
1981-2010 Average (Canada)

- > 180
- 150 - 180
- 130 - 149
- 110 - 129
- 90 - 109
- 70 - 89
- 50 - 69
- 25 - 49
- < 25

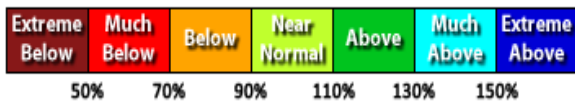


Prepared by:
USDA National Resources Conservation Service
National Water and Climate Center
Portland, Oregon
<https://www.wcc.nrcs.usda.gov>
Created: 2 Feb 2018 13:42

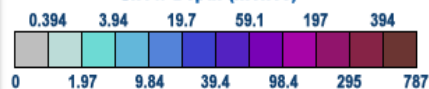
NOHRSC Snow Depth (Shaded) & Snow Water Equivalent (SWE) % of Normal (Bubble) as of 2/2/2018



Percent of Normal



Snow Depth (Inches)



Oregon SNOTEL Current Snow Water Equivalent (SWE) % of Normal

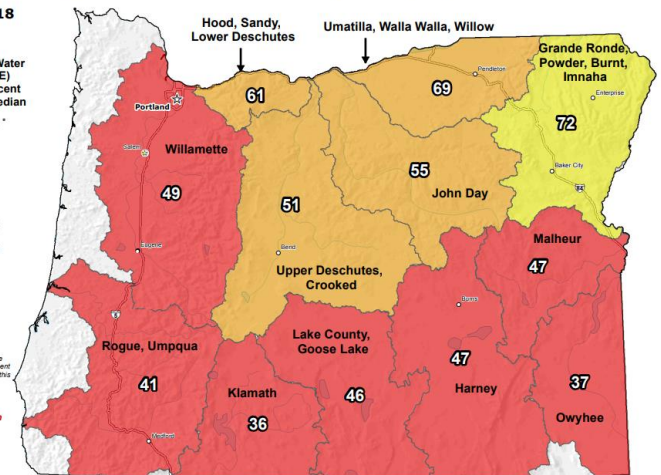
Feb 02, 2018

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).

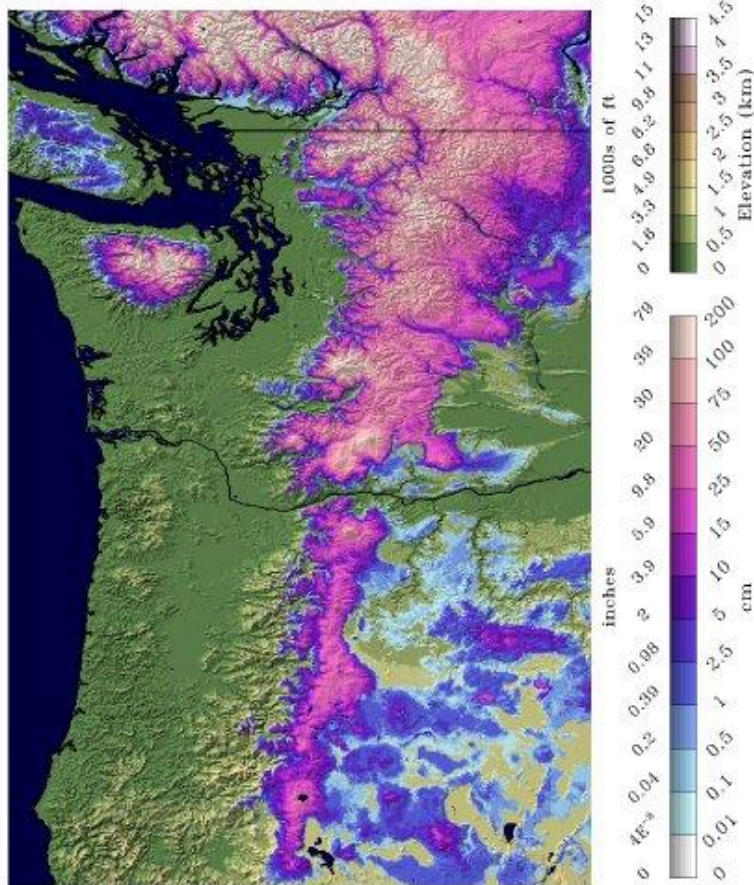
0 10 20 40 60 80 100 Miles

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

PacNW SWE & Snow Depth as of 2/2/17

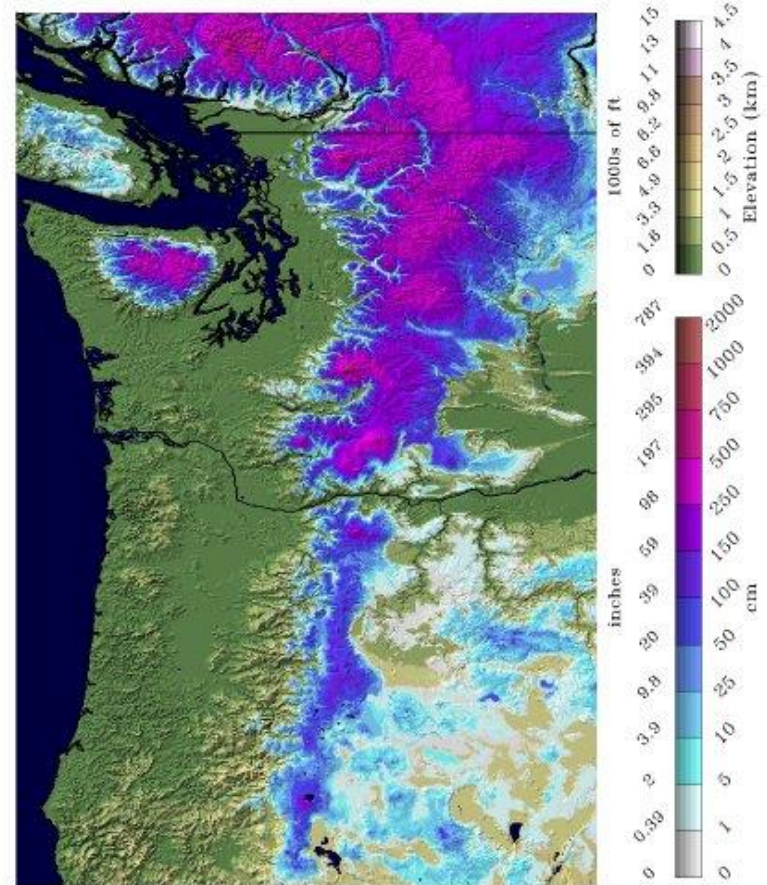
Snow Water Equivalent

2018-02-02 06 UTC



Snow Depth

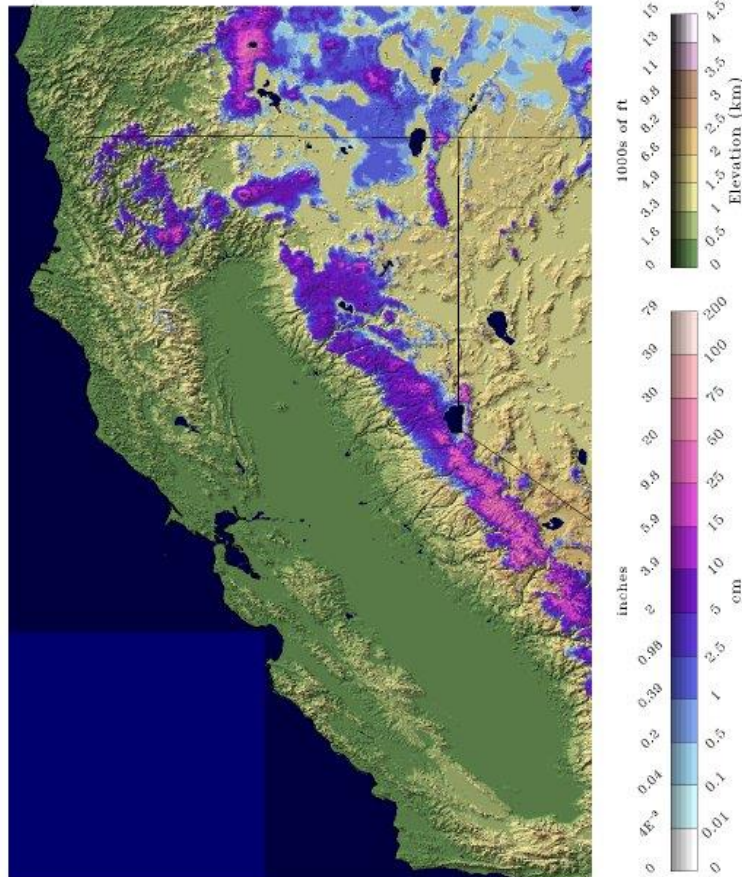
2018-02-02 06 UTC



California SWE & Snow Depth as of 2/2/17

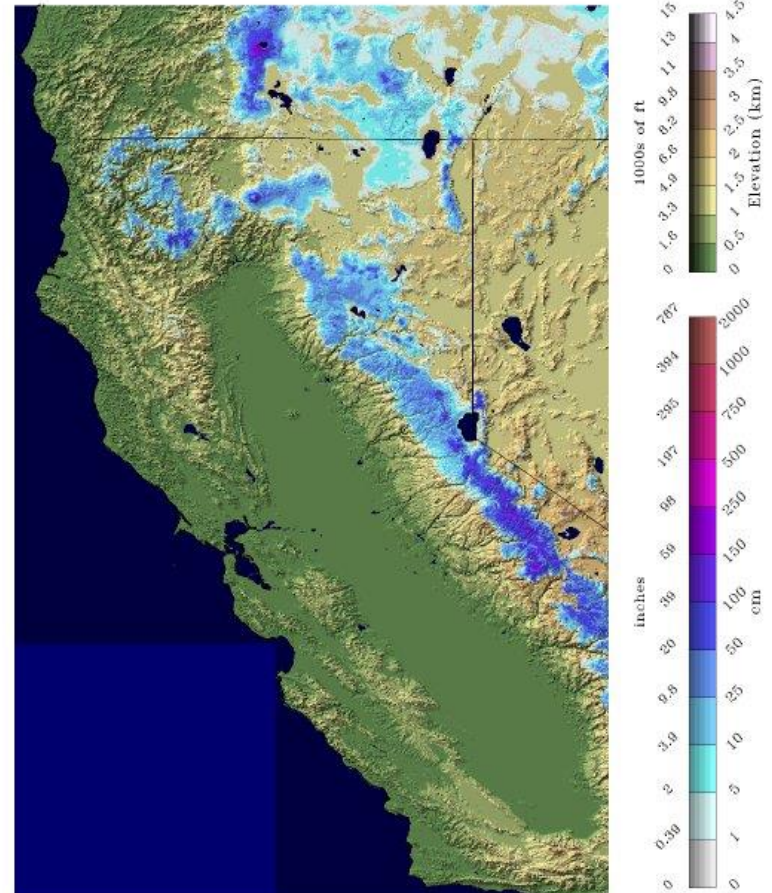
Snow Water Equivalent

2018-02-02 06 UTC



Snow Depth

2018-02-02 06 UTC



Crater Lake

Image Courtesy: NPS

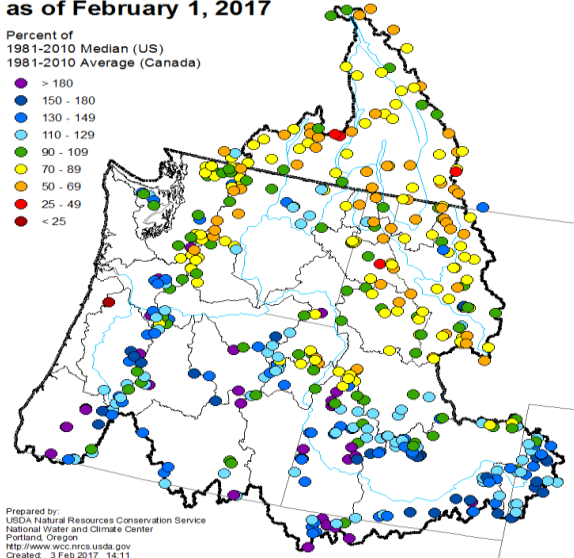
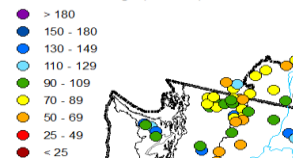


	<i>Average Max Temp (°F)</i>	<i>Average Min Temp (°F)</i>	<i>Total Precipitation</i>	<i>Total Snowfall</i>	<i>Snow Depth as of: 01/31/18</i>	<i>Highest Max/ Lowest Min</i>
<i>January</i>	35.3°	23.2°	9.25"	56.5"	55"	51° on 4 th / 14° on 23 rd
<i>Normal (1981-2010)</i>	34.4°	18.4°	9.41"	87.4"	91"	N/A

Jan 2017 vs Jan 2018

Columbia River and Pacific Coastal Basins Mountain Snowpack as of February 1, 2017

Percent of 1981-2010 Median (US) 1981-2010 Average (Canada)



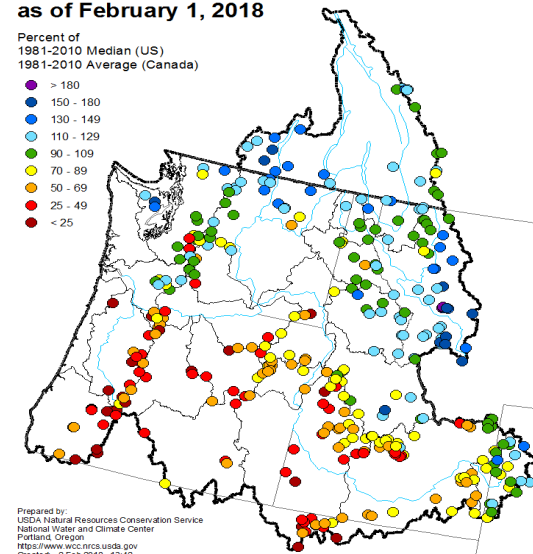
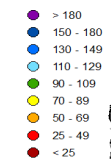
Prepared by: USDA Natural Resources Conservation Service National Water and Climate Center Portland, Oregon
<http://www.wcc.nrcs.usda.gov>
 Created: 3 Feb 2017 14:11

Last year, a southern shifted jet under a La Nina pattern brought significant precipitation and low snow levels to the west coast, leaving the area with above normal snowpack containing above normal snow water equivalent. (left)

This year, conditions look drastically different (right). Although La Nina conditions are present once again, a persistent ridge over the eastern Pacific has essentially blocked the storm track, pushing it well north of the area into Washington, the Northern Rockies, and Canada.

Columbia River and Pacific Coastal Basins Mountain Snowpack as of February 1, 2018

Percent of 1981-2010 Median (US) 1981-2010 Average (Canada)



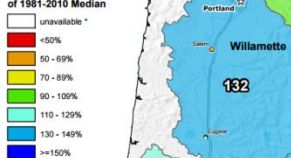
Prepared by: USDA Natural Resources Conservation Service National Water and Climate Center Portland, Oregon
<http://www.wcc.nrcs.usda.gov>
 Created: 3 Feb 2018 13:42

Canada.

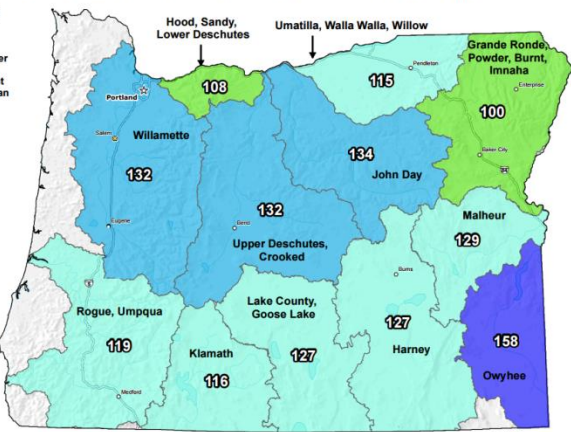
Oregon SNOTEL Current Snow Water Equivalent (SWE) % of Normal

Feb 03, 2017

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



* 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 (usually 00:00).

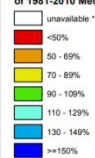
Prepared by: USDANRCS National Water and Climate Center Portland, Oregon
<http://www.wcc.nrcs.usda.gov>

This year, the area is well below normal in terms of snowpack and snow water equivalent, having negative effects on the winter recreation industry, concerns on the severity of fire season, and water usage and/or shortages during the dry summer months.

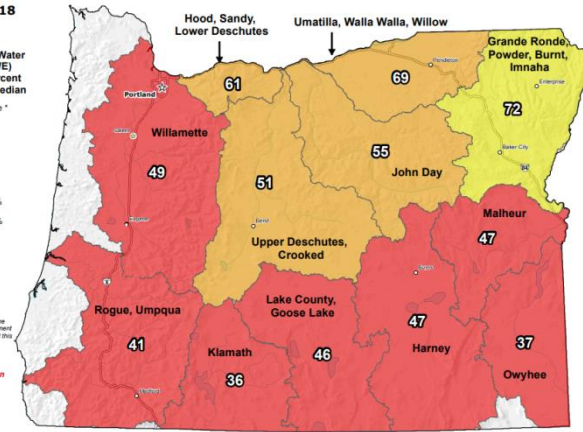
Oregon SNOTEL Current Snow Water Equivalent (SWE) % of Normal

Feb 02, 2018

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



* Data unavailable at time of posting or measurement is not representative at this time of year
 Provisional Data Subject to Revision

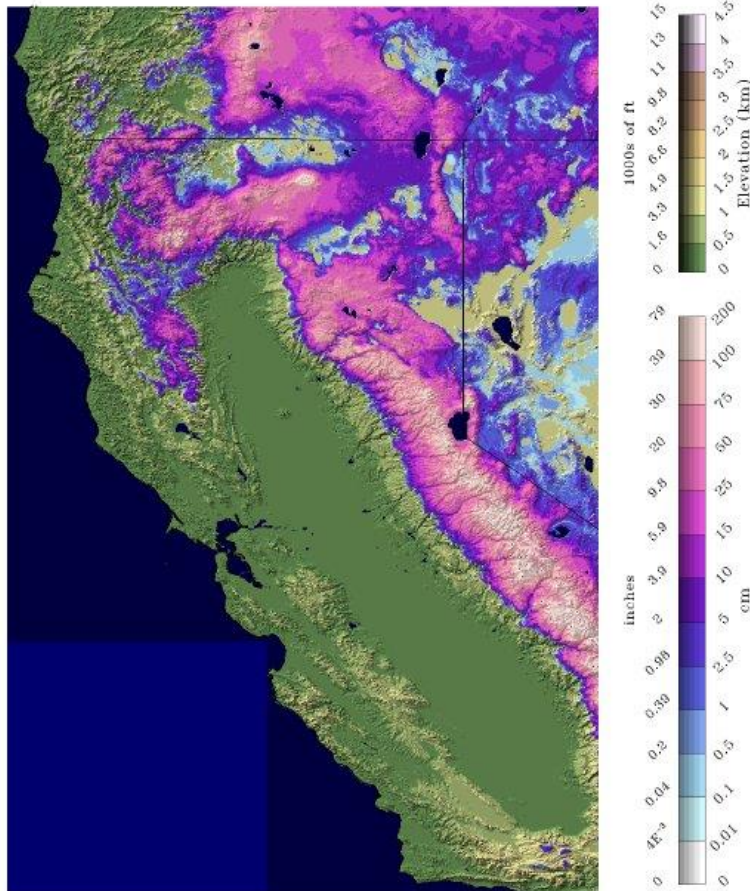


The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (usually 00:00).

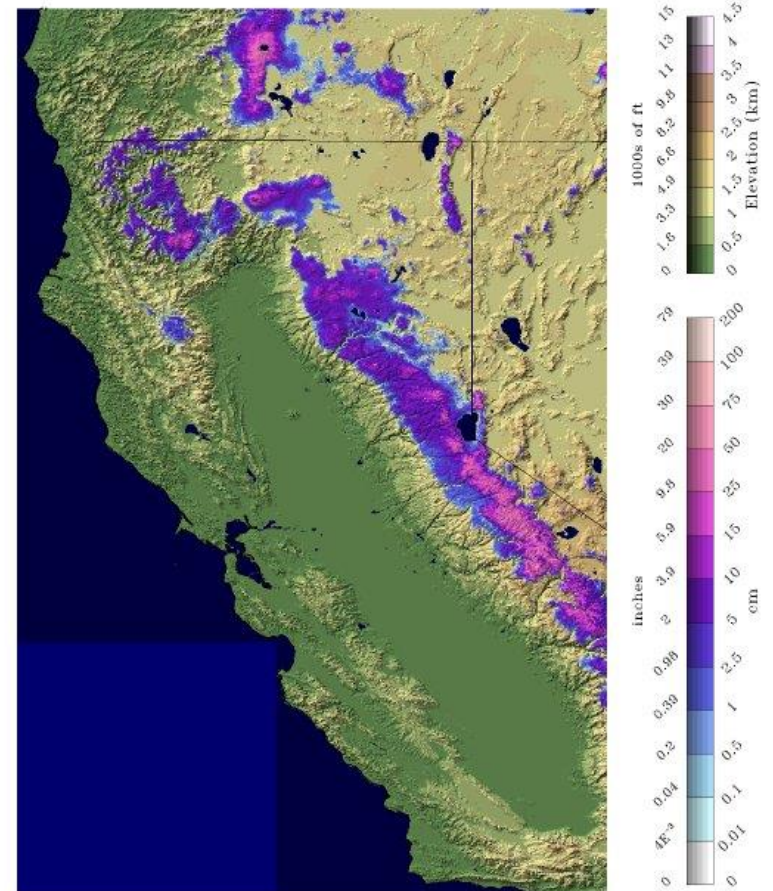
Prepared by: USDANRCS National Water and Climate Center Portland, Oregon
<http://www.wcc.nrcs.usda.gov>

1/31 SWE 2017 (left) vs 2018 (right)

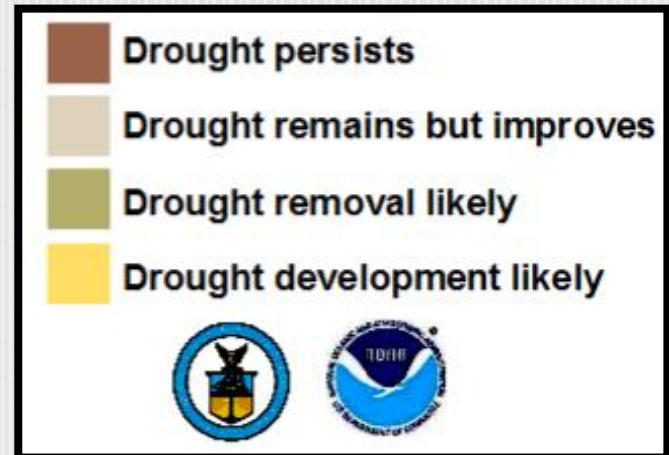
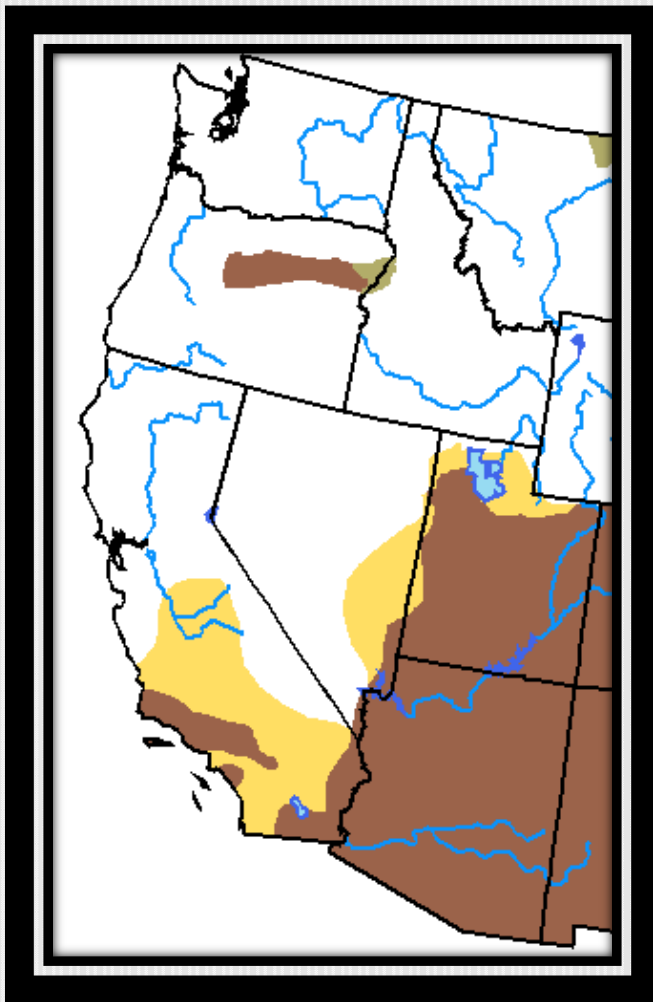
Snow Water Equivalent
2017-01-31 06 UTC



Snow Water Equivalent
2018-01-31 06 UTC



Drought Outlook: February



***Valid for February 2018
Released January 31, 2018***

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, Siskiyou, 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, Siskiyou, 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..

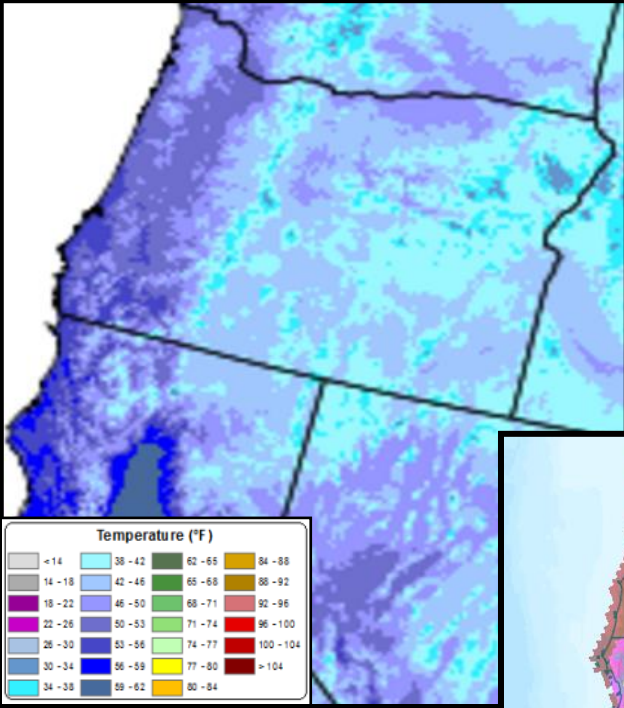
Precipitation: For most of the forecast area, February is certainly still a wet month, but not as wet as November through January and, in some areas, March. Interestingly, however, data indicates that February is the second wettest month of the year for Klamath Falls and Mount Shasta City and is the 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 Siskiyou, 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.

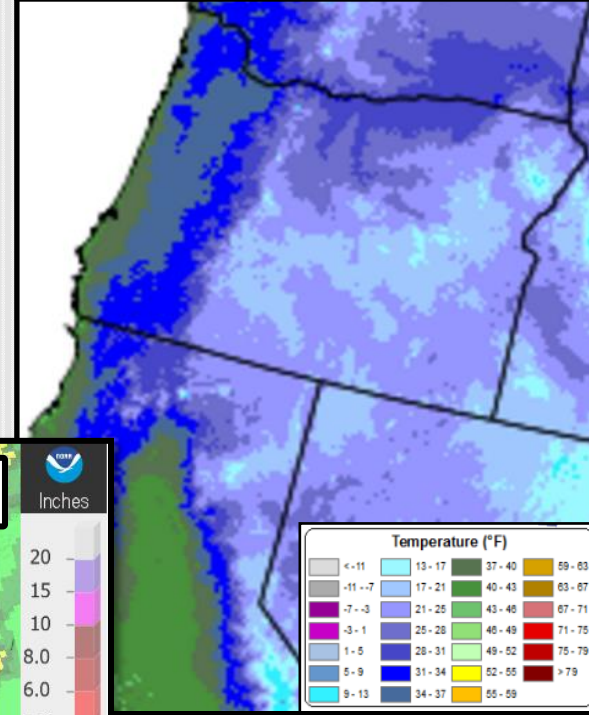
Much of this water typically falls as snow above about 5,000-6,000 feet MSL. For instance, the 1981-2010 average February snowfall for Crater Lake National Park Headquarters is 71.3". The average snow depth there is usually 88 inches on February 1st and 106 inches on the last day of the month.

Normals for February (1981-2010)

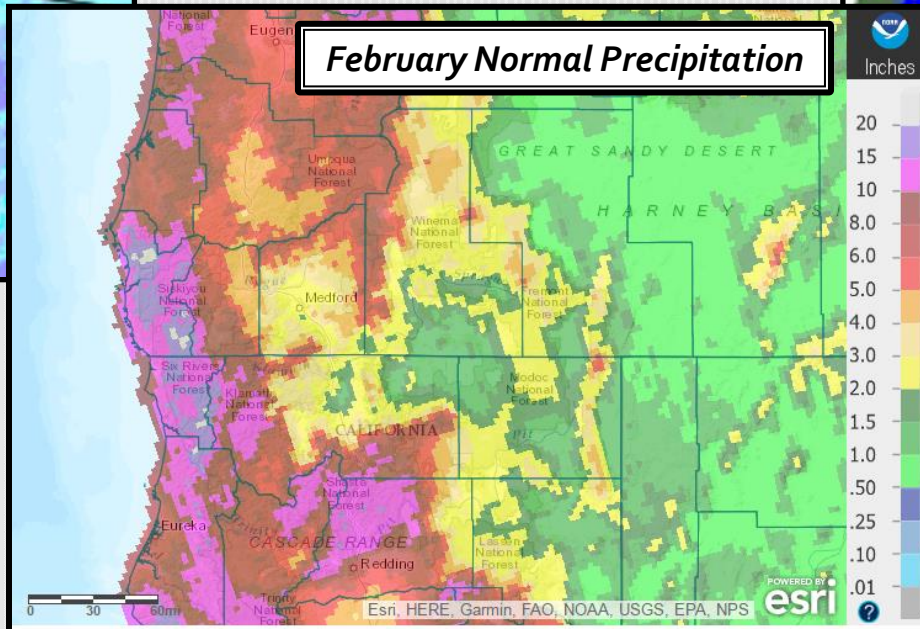
Average Maximum Temperatures



Average Minimum Temperatures



February Normal Precipitation



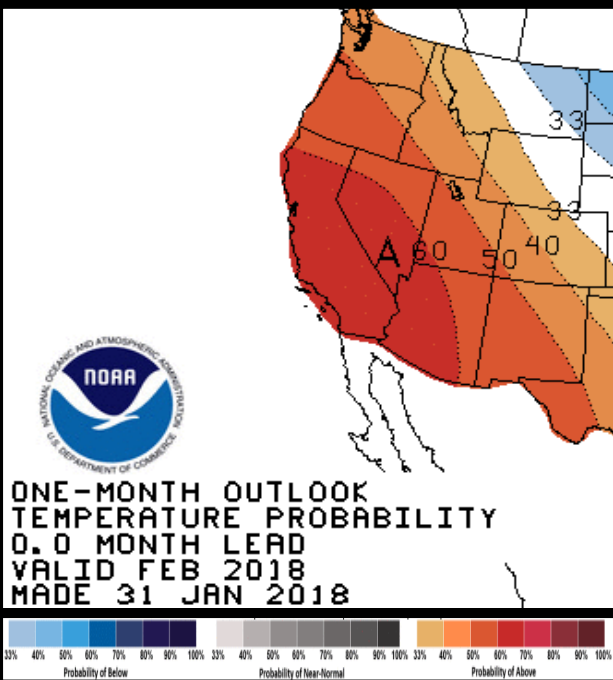
February 2018 Outlook

The official CPC forecast calls for increased chances for above average temperatures (50-60%) and increased chances for below average precipitation (35-45%). As of Feb 6th, deterministic and ensemble model data still strongly support this forecast. Anomalous strong high pressure is expected to be centered in the Eastern Pacific Ocean between the Gulf of Alaska and the West Coast through about the 20th of this month. This strong high pressure ridging is expected to peak at 2 to 2.5 standard deviations above normal Wed, Feb 7th to Thu Feb 8th per the GEFS. Between Feb 9th and 14th model guidance is indicating three inside slider type of low pressure systems moving in from the N, resulting in brief cool downs and a possibility of light precipitation over northern and western portions of the forecast area. The 500MB high pressure ridge axis on the GEFS remains along or west of the coast through the 20th. After that date, increasing ensemble member spread and weaker ridging are being indicated, hinting that some frontal system activity is possible. Beyond the 20th, European Center model guidance also indicates that an active MJO moving from phase 1 to 3 could result in a turn toward wetter conditions. However, correlations of temperature and precipitation anomalies to the MJO this winter have not been as reliable as normal. The CFSv2 does also hint at a possible shift in the pattern to somewhat wetter and less mild during approximately than last week of the month, so we expect a possibility of change then.

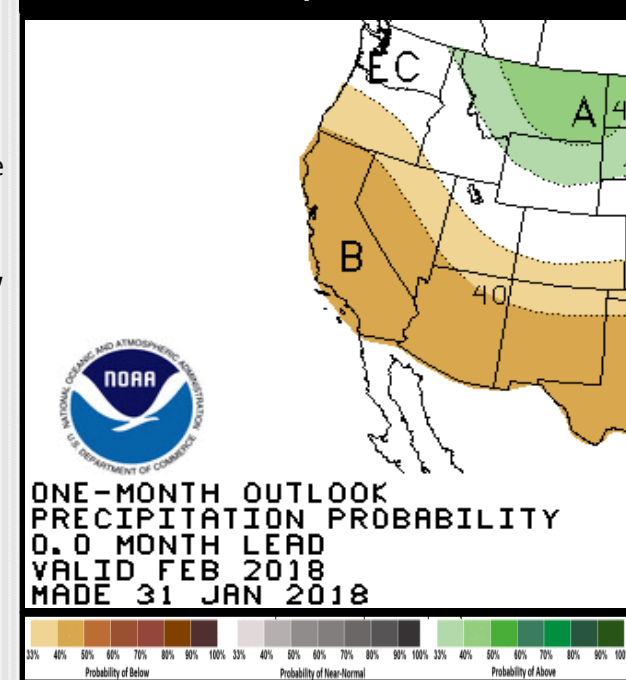
Expected Impact, February 2018:

Since the winter, thus far, has been abnormally warm and dry resulting in well below normal snowpack across the forecast area, a general continuation of warm and dry weather will only worsen relative snowpack conditions. Primary negative impacts are expected to be to ski areas and winter recreation, while spring time activities and businesses, such as those associated with biking and gardening, are likely to see a boost from the expected weather. In the longer term, pending the outcome of March and April, the deficits already incurred this winter are likely to result in diminished stream flows and run-off this spring through the dry season. This, in turn, is likely to lead to reservoir deficits and at least some water shortages. Thus, drought designation is possible later this month or in March unless the pattern changes substantially the last week of this month and into March. While the timing of spring/summer precipitation and lightning are critical, the current dryness yields some early concern for the severity of the 2018 fire season.

Temperatures



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 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: 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