

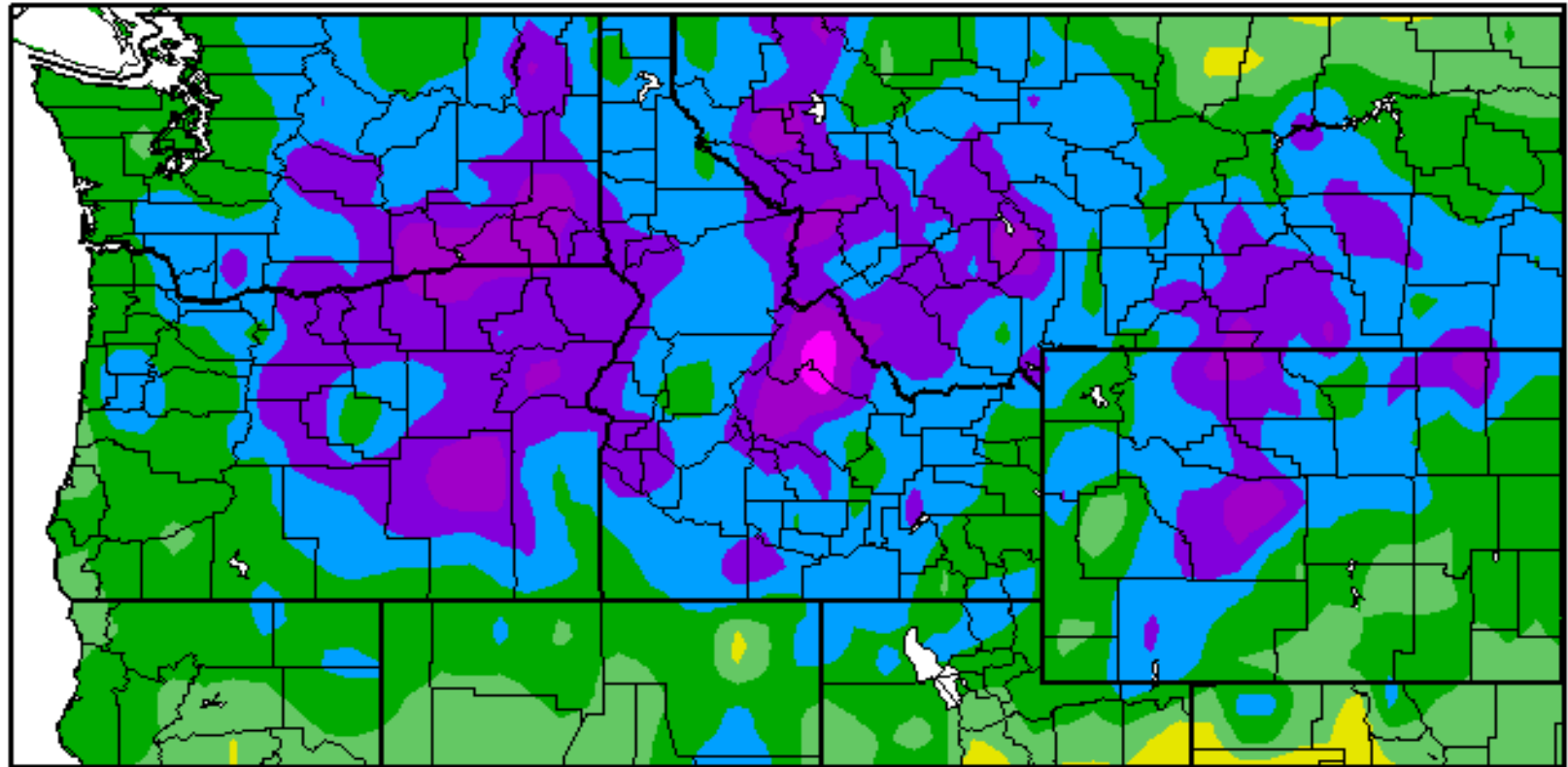


The Month In Review

January 2017

National Weather Service
Pendleton, Oregon

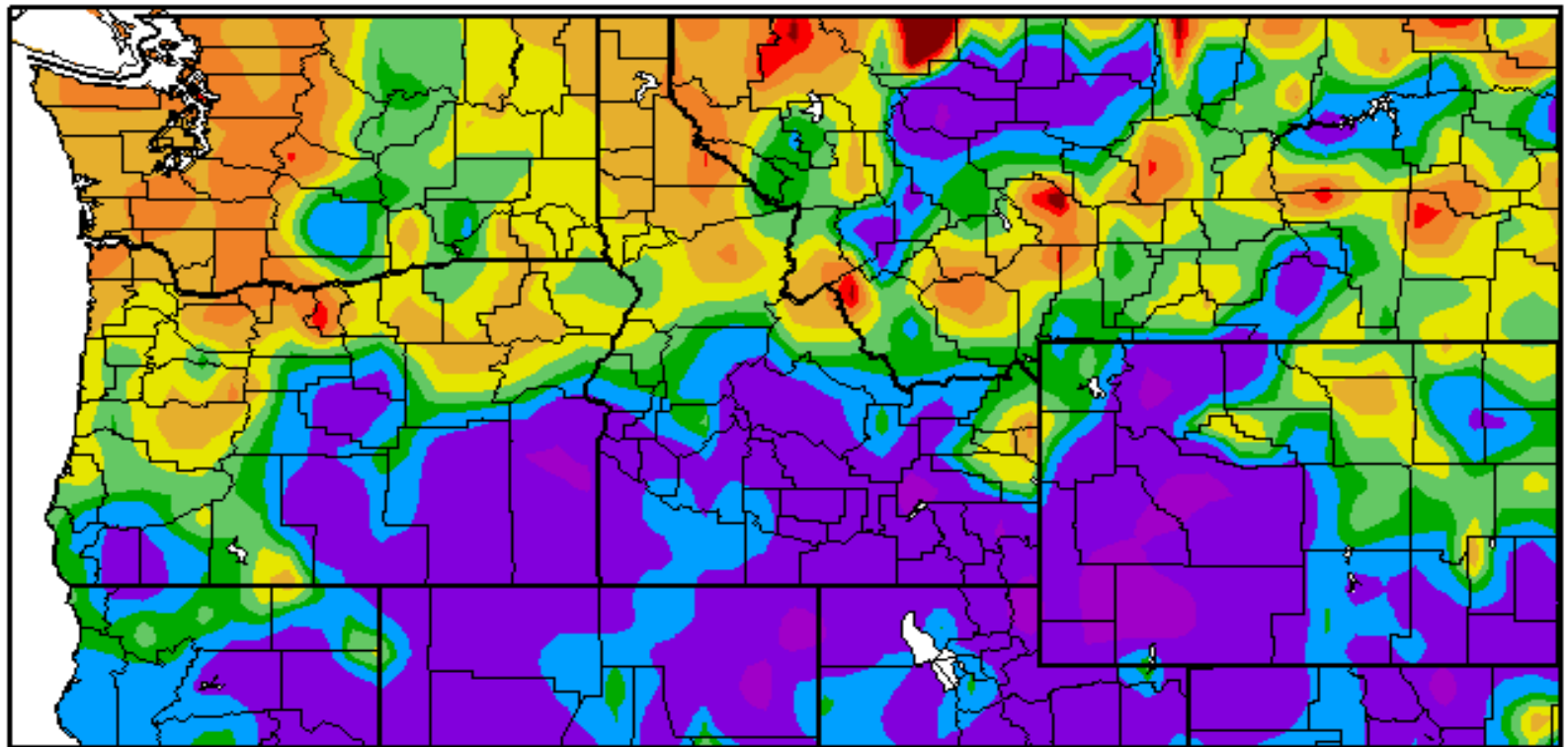
Departure from Normal Temperature (F) 1/1/2017 - 1/31/2017



Generated 2/5/2017 at HPRCC using provisional data.

Regional Climate Centers

Percent of Normal Precipitation (%) 1/1/2017 – 1/31/2017



Generated 2/5/2017 at HPRCC using provisional data.

Regional Climate Centers

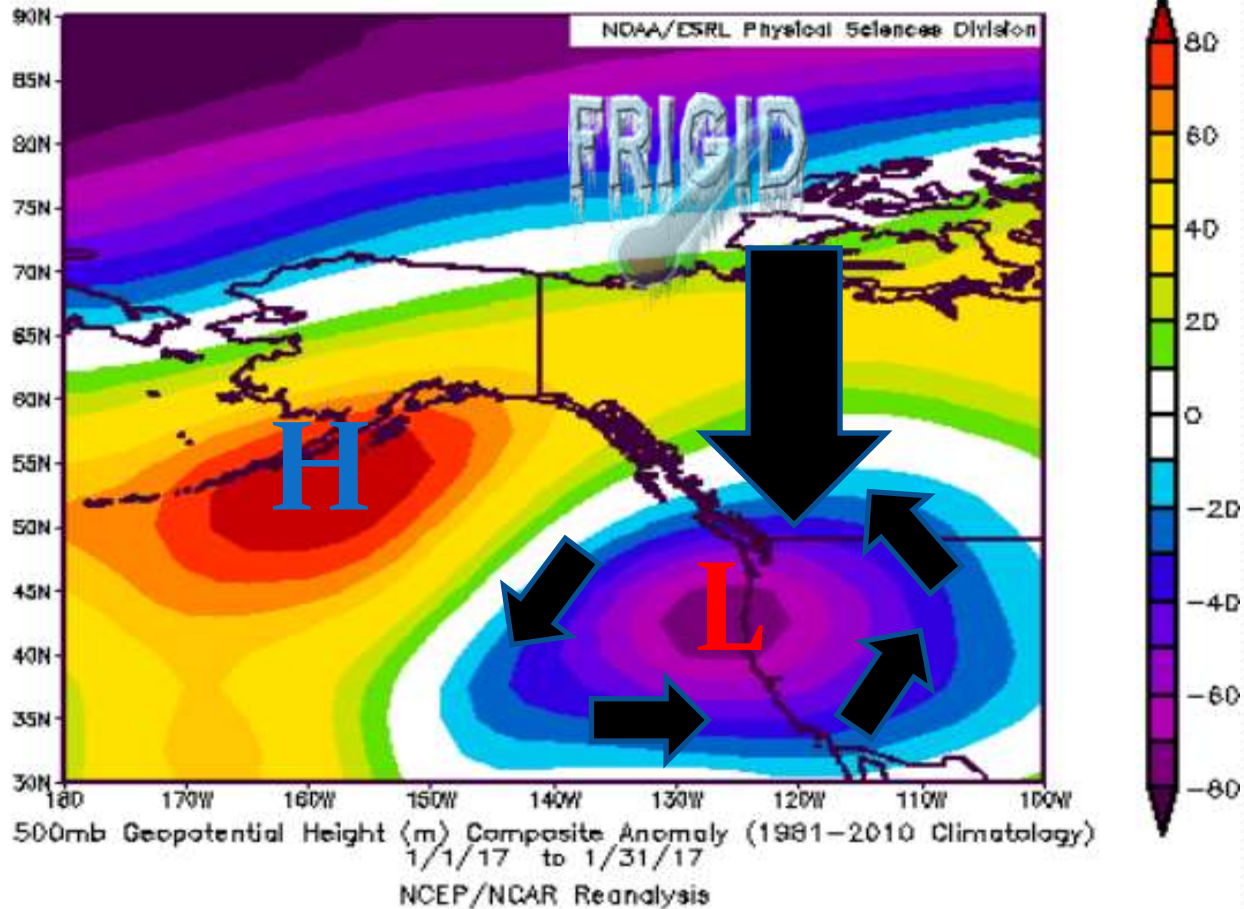
Select January Averages and Departures

	Max T	Max T D	Min T	Min T D	Ave T	Ave T D	PCPN	PCPN D	SnowFall	Avg Sn	SnowFall Departure
Yakima	29.8	-8.8	16.6	-6.7	23.2	-7.8	2.16	1.02	14.7	7.6	7.1
Kennewick	28.8	-12.7	18.5	-11	23.7	-11.9	1.54	0.46	15.3	4.0	11.3
Walla Walla	28.2	-12.7	16.2	-13.9	22.2	-13.3	1.51	-1.02	9.0	5.2	3.8
The Dalles	29.9	-12.3	20.5	-10.5	25.2	-11.4	1.15	-1.35	M	M	M
Redmond	31.2	-11.2	13.0	-10.1	22.1	-10.6	1.62	0.65	28.6	5.5	23.1
Pendleton Airport	29.1	-12.7	16.0	-12.8	22.6	-12.8	1.65	0.22	18.5	6.1	12.4
La Grande	30.0	-8.4	13.6	-10.9	21.8	-9.6	1.62	-0.01	9.1	6.5	2.6





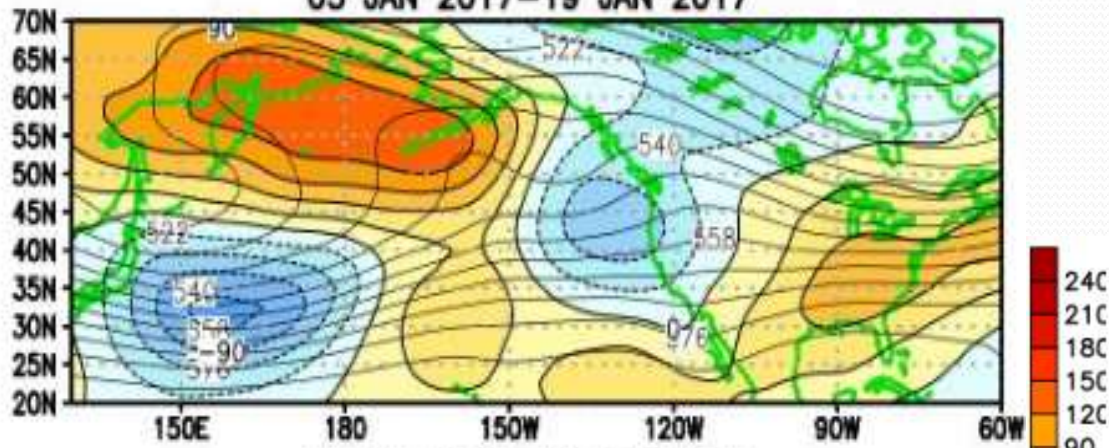
January 2017 Weather Pattern



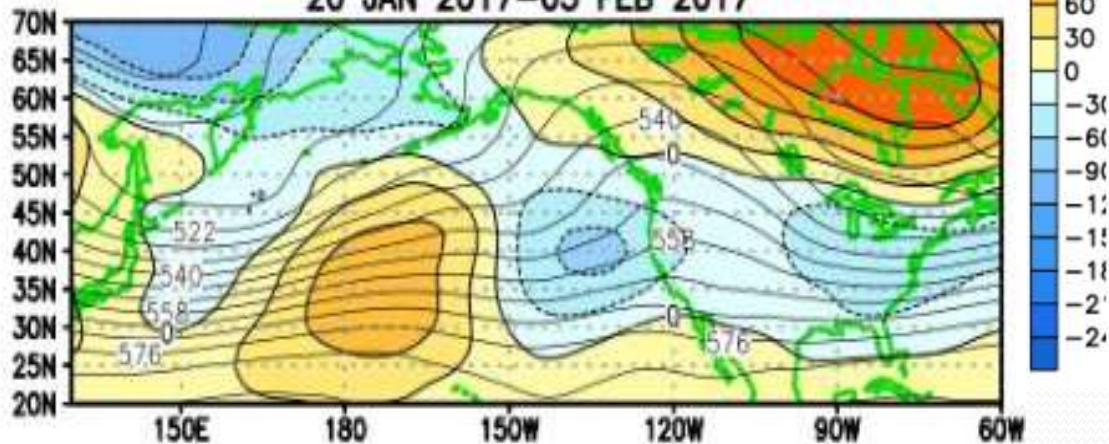
The mean synoptic pattern for the month of January 2017 was characterized by a deep trough of abnormally low pressure over the Pacific Northwest. A piece of this upper level trough also extended to the south along the entire West Coast. A large ridge of high pressure was also evident across the Aleutian Islands and western Alaska. This is the classic setup for cold weather in the Northwest, as a north or northeasterly flow of air develops. January ended very cold, with much below normal temperatures in eastern Washington and Oregon. Precipitation amounts were near to above normal for much of the area. Snowfall was also near to above average for much of the area. The snowpack continued to grow deeper in the mountains through the month. Most of the lowlands were also covered in snow for the majority of the month, especially in Washington.

January 2017 Detailed Upper Level Pattern Analysis

05 JAN 2017–19 JAN 2017



20 JAN 2017–03 FEB 2017



- ❖ The first two to three weeks of January featured a large ridge of high pressure over western Alaska and into northern Asia. With a trough of lower pressure in place across southern Canada and the Northwest US. This brought very cold and snowy weather to our area.
- ❖ For the last ten days of the month, the offshore ridge broke down slightly. This allowed some milder Pacific air into our region at times. Temperatures were not as cold, but precipitation continued at times, including snow and ice events.



Top 10 Coldest Daily January Lows

City	Rank	Jan 2017 Daily Low	Current or Previous Jan Record Daily Low
Hermiston	#1	-12 on 1/13	-7 on 1/04/2004
Meacham	#2	-28 on 1/05	-31 on 1/05/2004
Whitman Mission	#2	-17 on 1/14	-21 on 1/05/2004
Pasco	#3	-8 on 1/05	-19 on 1/04/2004
Sisters	#4	-20 on 1/06	-28 on 1/22/1962
Pelton Dam	#4	-9 on 1/07	-12 on 1/22/1962
Dayville	#5	-5 on 1/06	-12 on 1/07/1979
La Grande	#8	-9 on 1/06	-17 on 1/31/1996



Top 10 Coldest Daily January Max T

City	Rank	Jan 2017 Daily High	Current or Previous Jan Record Daily High
Hermiston	#1	10 on 1/13	21 on 1/15/2005
Pasco	#1	8 on 1/13	9 on 1/05/2004
Pelton Dam	#1	8 on 1/06	9 on 1/07/1979
Dayville	#2	15 on 1/06	12 on 1/06/1979
Whitman Mission	#3(T)	4 on 1/14	-2 on 1/31/1996
Long Creek	#3	4 on 1/06	0 on 1/11/1963
La Grande	#4(T)	10 on 1/06	6 on 1/05/2004
Sisters	#4	10 on 1/08	6 on 1/6/2004
Easton	#5(T)	18 on 1/05	4 on 1/20/1935
Walla Walla	#10	5 on 1/13	-4 on 1/29/1950



Top 5 Coldest Average January Monthly Max T

City	Rank	Jan 2017 Avg Max T	Current or Previous Coldest Jan Avg Max T
Pasco	#1	28.1	36.2 in 2004
Dayville	#1	36.7	41.2 in 1988
Hermiston	#1	28.6	37.8 in 2013
Pelton Dam	#2	31.5	27.6 in 1979
La Grande	#3	30.0	28.3 in 1979
Richland	#3	26.9	22.6 in 1979
Seneca	#3	25.5	22.5 in 1937
Long Creek	#3	31.2	29.6 in 1979
Meacham	#4(T)	28.5	20.5 in 1949
John Day	#4	33.8	28.9 in 1979
The Dalles	#5	29.9	24.8 in 1979
Walla Walla	#5	28.2	24.2 in 1950



Top 7 Coldest Average January Monthly Min T

City	Rank	Jan 2017 Avg Min T	Current or Previous Coldest Jan Avg Min T
Hermiston	#1	14.3	22.2 in 2007
Pasco	#1	14.8	22.5 in 2007
Dayville	#1	19.4	20.8 in 1991
La Grande	#2	13.6	11.4 in 1979
Pelton Dam	#2	16.2	9.3 in 1979
Meacham	#3	10.4	4.3 in 1949
Long Creek	#3	13.9	6.0 in 1979
Walla Walla	#5	16.2	8.5 in 1950
Ellensburg	#6	13.3	-5.0 in 1949
Grizzly	#6	13.0	2.9 in 1979
Richland	#6	17.6	2.3 in 1949
The Dalles	#7	20.5	12.1 in 1979



Top 7 Coldest Average January Monthly Temperature

City	Rank	Jan 2017 Avg T	Current or Previous Coldest Jan Avg T
Hermiston	#1	21.4	30.5 in 2007
Pasco	#1	21.5	30.3 in 2007
Dayville	#1	28.1	32.4 in 1991
Sisters	#2	21.0	19.7 in 1993
Long Creek	#2	22.6	17.9 in 1979
Pelton Dam	#2	23.9	18.4 in 1979
La Grande	#2	21.8	19.8 in 1979
Meacham	#4	19.5	12.4 in 1949
Walla Walla	#5	22.2	16.5 in 1950
The Dalles	#6	25.2	18.5 in 1979
Ellensburg	#6	20.2	6.3 in 1950
Goldendale	#7	20.5	12.7 in 1930
Seneca	#7	12.4	6.4 in 1937



Top 10 Monthly Snowfall Records for January

City	Rank	Jan 2017 Snowfall	Current or Previous Highest Jan Snowfall
Redmond	#1	30.1"	28.8" 1950
Pelton Dam	#1	20.5"	19.1" in 1960
Madras	#2	27.5"	28.0" in 1950
Sunriver	#2	31.4"	34.0" in 2008
Antelope	#4	25.0"	41.5" in 1969
Yakima	#5	19.1"	26.6" in 1950
Goldendale	#6	29.1"	60.4" in 1950



Top 10 Monthly Snowfall Records for January (Cont'd)

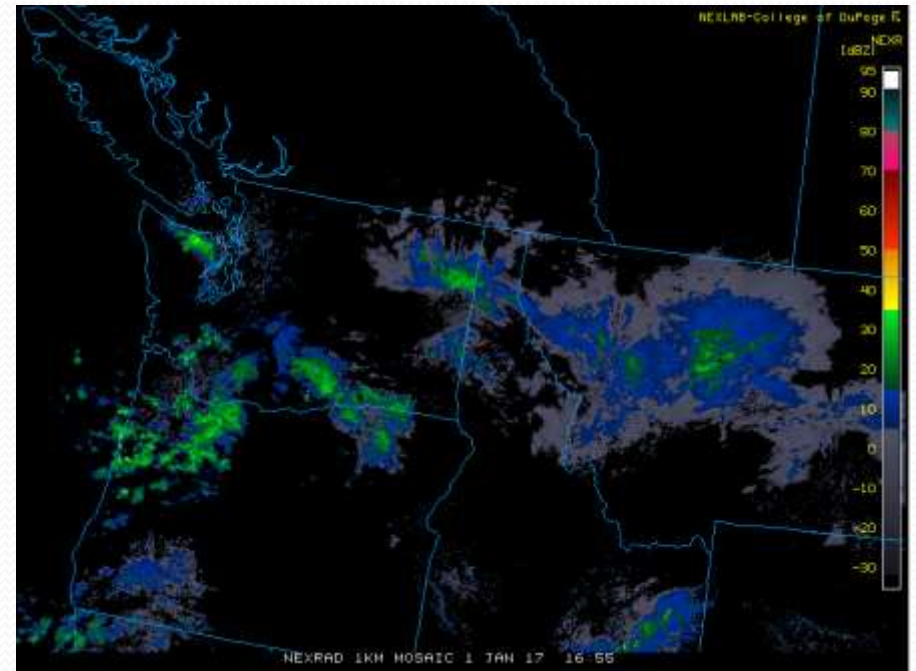
City	Rank	Jan 2017 Snowfall	Current or Previous Highest Jan Snowfall
Seneca	#6	35.2"	52.3" in 1936
Bend	#7	31.0"	56.5" in 1950
Kennewick	#7	15.3"	29.0" in 1969
Satus Pass	#7	24.5"	66.0" in 1969
Walla Walla	#8	13.5"	29.3" in 1969
Pendleton	#8	18.5"	41.6" in 1950



January Significant Weather

January 1 – 5th Very Cold and Snowy

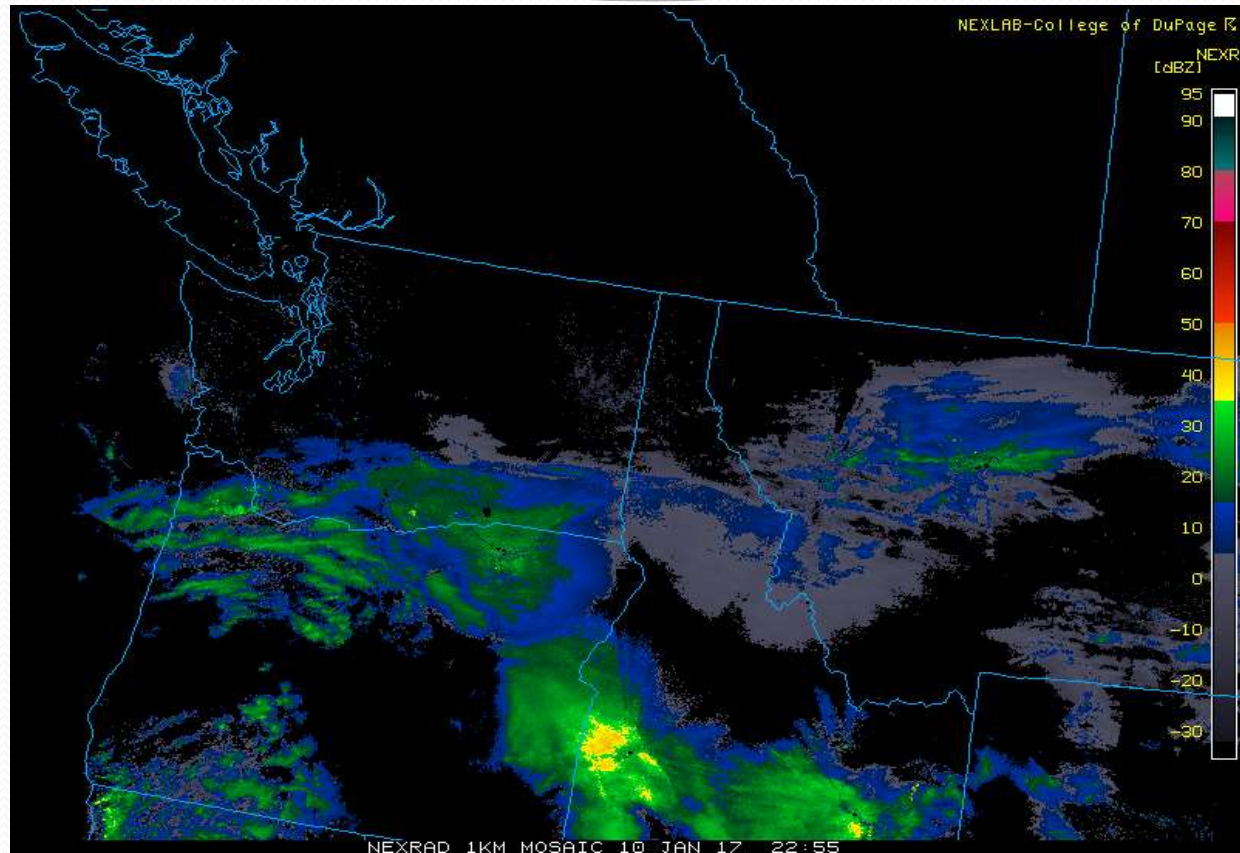
Location	Total Snow	Lowest Temp
Pendleton, OR	1.7"	0°
Meacham, OR	3.5"	-28°
Redmond, OR	13.6"	-14°
Pasco, WA	6"	-8°
Walla Walla, WA	1.5"	1°
Yakima, WA	6.1"	-2°
Hermiston, OR	3.0"	-4°
Ellensburg, WA	0.2"	-1°
Bend, OR	8.5"	3°
John Day, OR	6.0"	M
Heppner, OR	6.5"	-2°
Seneca	7.0"	-33°



A deep and very cold trough of low pressure moved into the area on January 1st and 2nd. Then a warm frontal system brought Pacific moisture northward, bringing heavy snow to Central Oregon on January 3rd and 4th. Very cold, record breaking cold followed on January 5th for much of the area.

January 7 – 11th Cold & Very Snowy

Location	Total Snow	Lowest Temp
Pendleton	10.6"	-1°
Meacham	12.3"	-1°
Redmond	15.0"	-5°
Pasco	8.1"	-5°
Walla Walla	7.3"	-1°
Yakima	7.2"	-3°
Hermiston	7.4"	-4°
Ellensburg	8.3"	-2°
Heppner	8.0"	-2°
Easton	8.0"	14°
Madras	10.2"	-5°
Bend	22.5"	4°
Dayville	3.6"	0°
Condon	9.4"	0°
Mitchell	2.7"	8°
La Grande	1.0"	2°



From January 7th through the 11th multiple weather systems pushed warm fronts through the area. This brought periods of snow, some heavy at times to much of the area. Some sleet and freezing rain also mixed in, mainly on January 9th. Additional very cold air moved back into the region with the final system on January 10th and 11th. Snow totals ranged from 7 to 20 inches across the area during this time period.

January 12 – 15th Extreme Cold

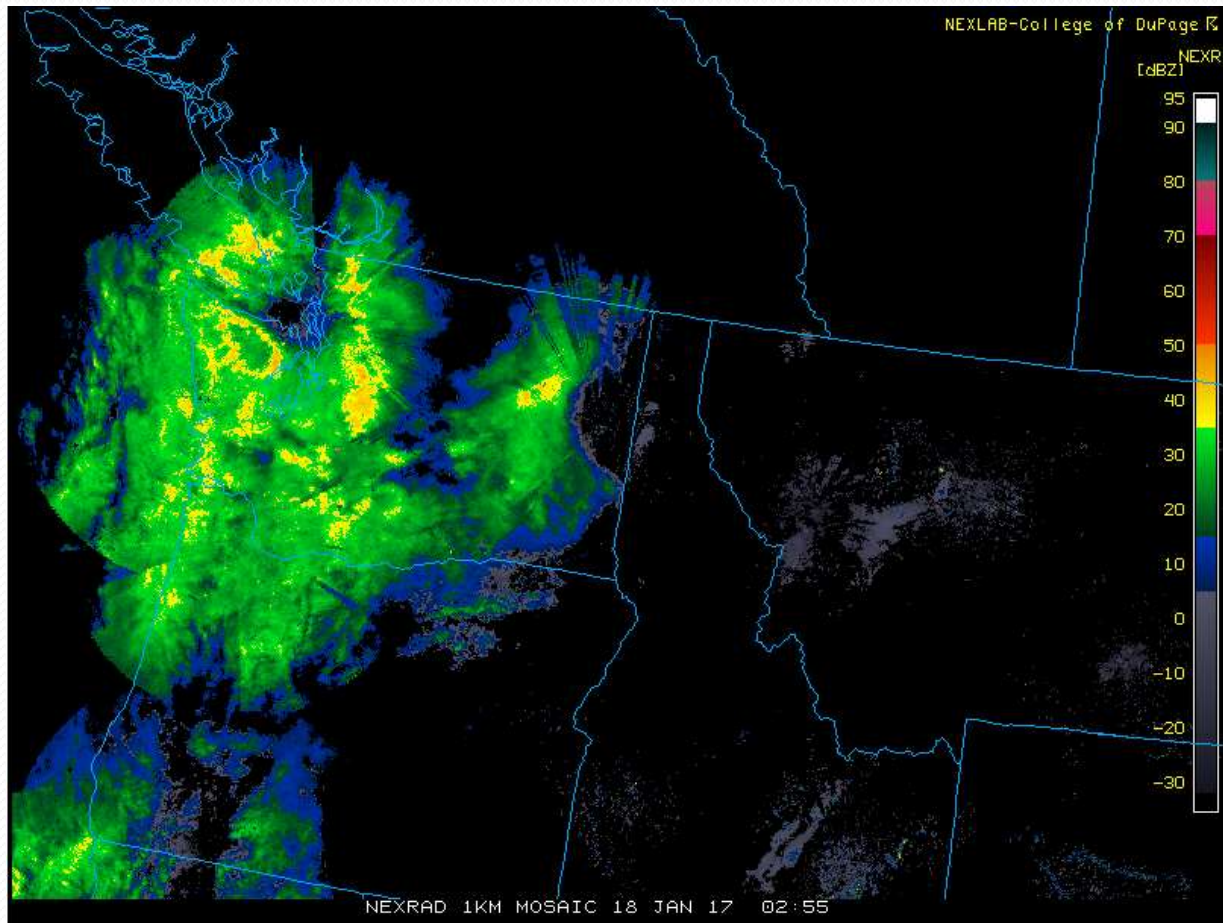
Location	Lowest Temp
Pendleton	-8°
Meacham	-12
Redmond	-8
Pasco	-7
Walla Walla	-6
Yakima	-1
Hermiston	-12
Ellensburg	-13
Condon	-1
Cle Elum	-13
Heppner	-2
Seneca	-15



Behind the departing snow storm an area of high pressure moved over the region. This allowed for clear skies and light winds over the fresh, deep snow pack. Temperatures plummeted to record cold levels during this period for many locations.

January 17 – 20th Snow and Ice

Location	Total Snow	Frz Rain?
Pendleton	T	Y
Meacham	0.4"	Y
Redmond	0.5"	N
Pasco	0.1"	Y
Walla Walla	T	Y
Yakima	0.9"	Y
Hermiston	0.0"	Y
Ellensburg	0.3"	Y
Goldendale	1.0"	Y
Easton	1.0"	Y
Heppner	0.0"	Y
Boardman	2.0"	Y



A storm system moved through the area bringing a mixture of snow, sleet, freezing rain and some rain. Snowfall was very wet and slick. Numerous accidents were reported on area roadways due to the wintry mix.

January 31st Snowy Finish

Location	Total Snow
Pendleton	4.6"
Meacham	5.0"
Redmond	Trace
Pasco	0.5"
Walla Walla	4.5"
Yakima	3.7"
Hermiston	2.0"
Ellensburg	3.0"
Condon	1.1"
Dayton	1.5"
Echo	3.3"
Joseph	4.8"



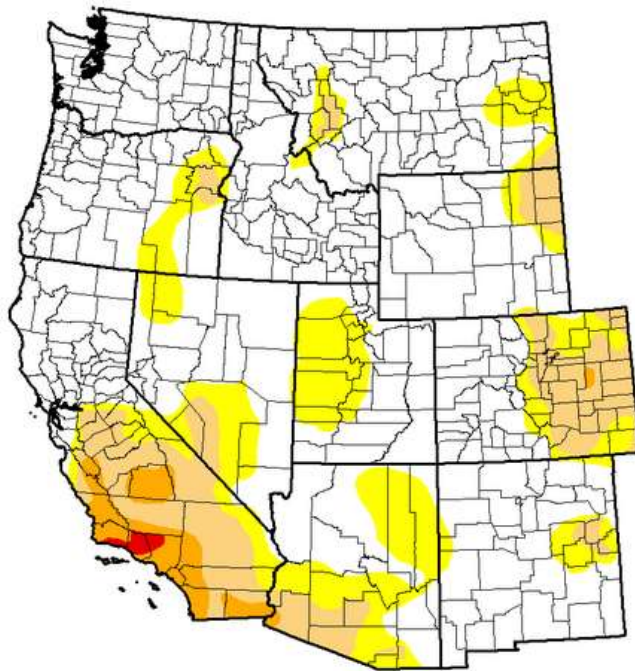
A storm system moved through the area bringing periods of light to moderate snow. The steadiest snow fell along the Oregon/Washington border, as well as in the Yakima and Kittitas Valley region. Temperatures warmed into the lower and mid 30s during the day, making for a wetter snowfall in most areas.

Drought Continues to Improve

U.S. Drought Monitor West

January 31, 2017
(Released Thursday February 2, 2017)
Valid 7 a.m. EST

Statistics type: Traditional Percent Area Export table:   








Week	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current 2017-01-31	70.84	29.16	13.38	2.83	0.25	0.00
Last Week 2017-01-24	69.26	30.74	14.37	4.00	0.29	0.00
3 Months Ago 2016-11-01	44.71	55.29	25.26	11.18	5.73	2.81
Start of Calendar Year 2016-12-27	52.19	47.81	22.47	9.10	5.43	2.44
Start of Water Year 2016-09-27	27.78	72.22	30.95	13.45	5.77	2.81
One Year Ago 2016-02-02	37.77	62.23	38.46	21.39	11.69	5.70

Estimated Population in Drought Areas: **30,490,611**

[View More Statistics](#)

Intensity:

-  D0 (Abnormally Dry)
-  D2 (Severe Drought)
-  D4 (Exceptional Drought)
-  D1 (Moderate Drought)
-  D3 (Extreme Drought)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying [text summary](#) for forecast statements.

Author(s):

David Simeral, Western Regional Climate Center

Download:   

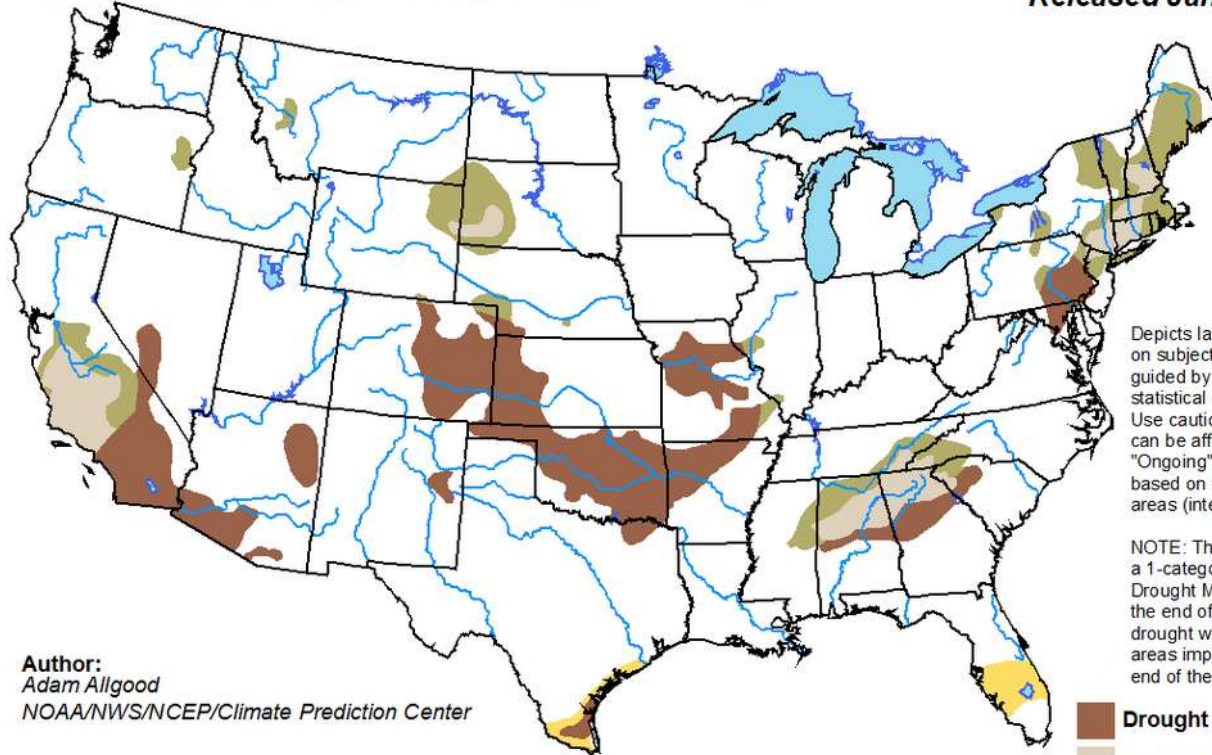
The latest drought monitor shows improvement over much of the region. Some D0 and even a very small area of D1 drought is lingering over eastern, and especially in Baker County. The substantial October rainfall, periods of rain through November, and periods of snow and rain in recently allowed much of the area to be removed from any drought categories.



February Drought Outlook

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



Valid for February 2017
Released January 31, 2017

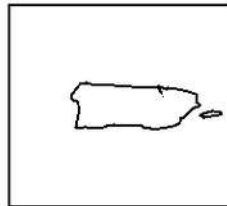
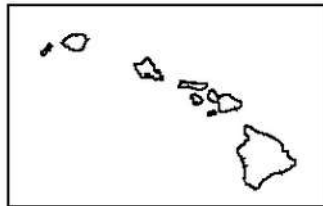
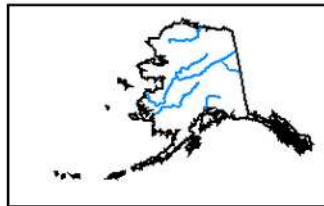


Author:
Adam Allgood
NOAA/NWS/NCEP/Climate Prediction Center

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

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

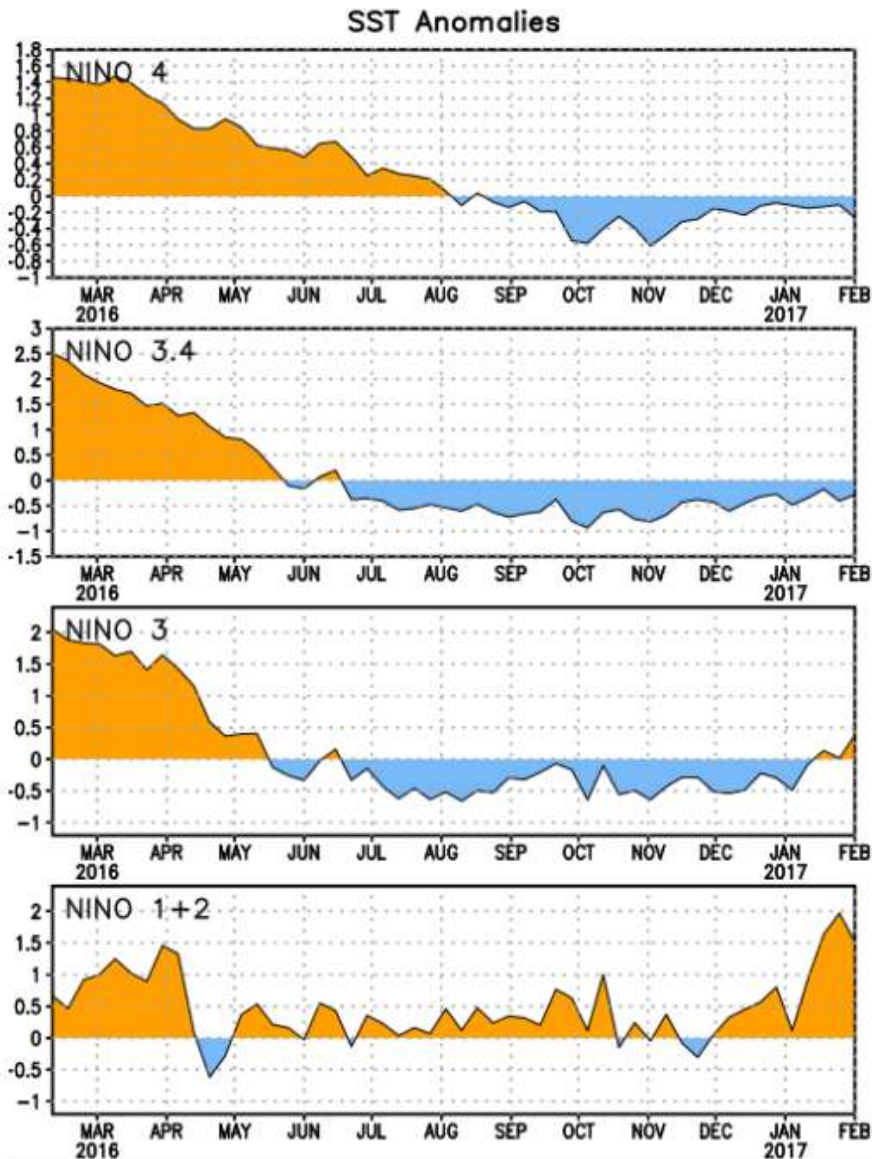


<http://go.usa.gov/3eZGd>

The monthly drought outlook for February from CPC indicates drought removal likely across most of eastern Oregon. A deep mountain snow pack has developed.



La Niña Ends

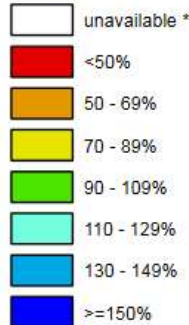


- ❖ Currently, cooler than average sea surface temperatures were observed in Niño regions 3.4 and 4. Niño 1,2 and 3 are now running above average.
- ❖ The La Niña advisory has been allowed to end, as the colder sea surface temperatures fade.
- ❖ A transition to ENSO Neutral conditions is expected to continue through the month.
- ❖ The previous weak La Nina could still have a lingering impact on the atmospheric weather patterns through the end of winter.

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

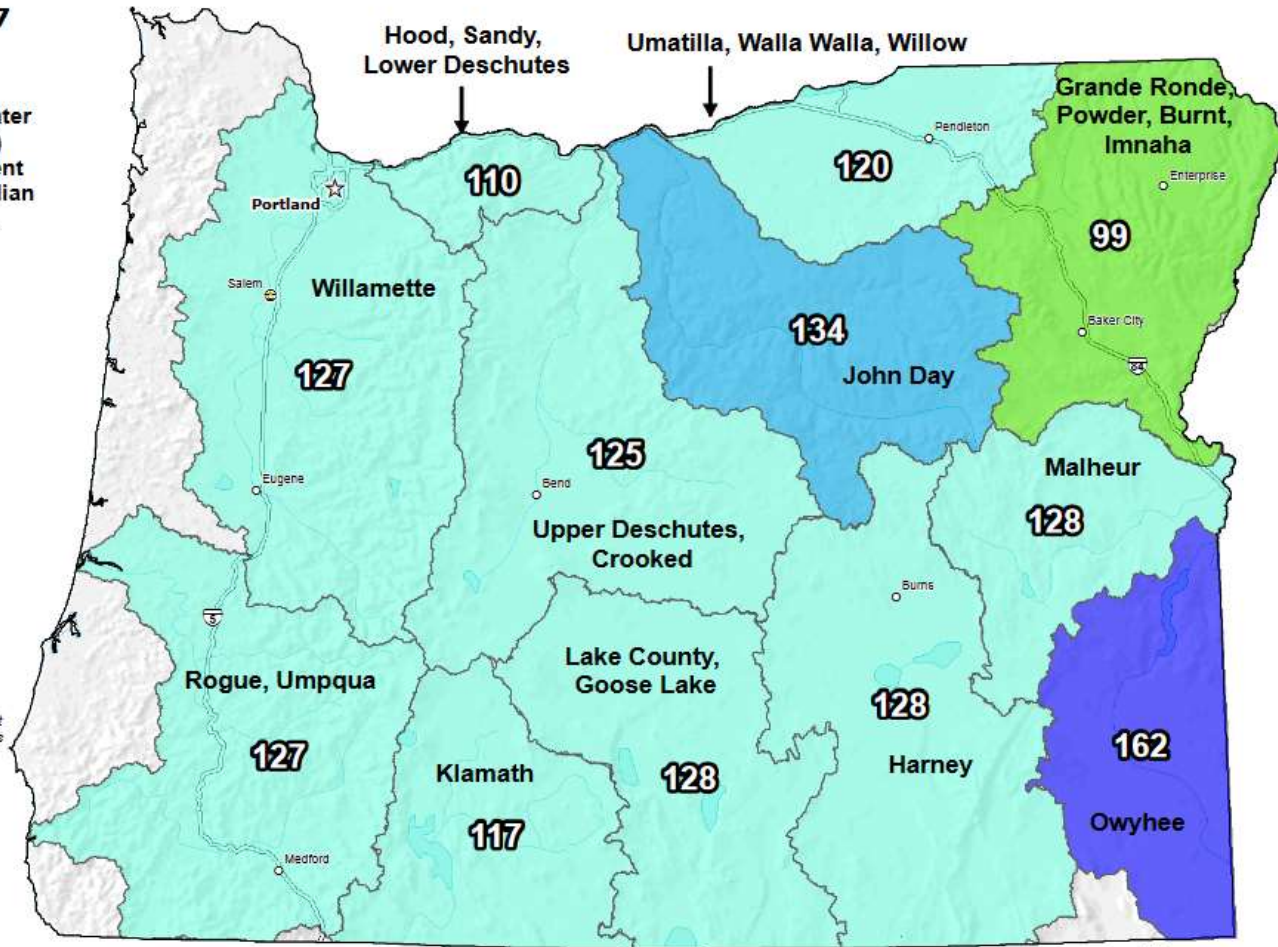
Feb 01, 2017

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 (typically 00:00).

0 10 20 40 60 80 100 Miles

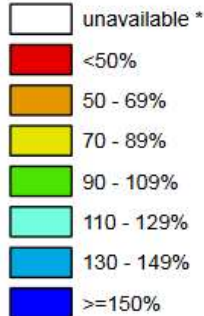
Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
<http://www.wcc.nrcs.usda.gov>

Snow pack is running between about 100 to 160 percent of normal across Oregon as of February 1st 2017. Additional snow has already fallen in the first few days of February, and more is expected through the month, especially in the mountains.

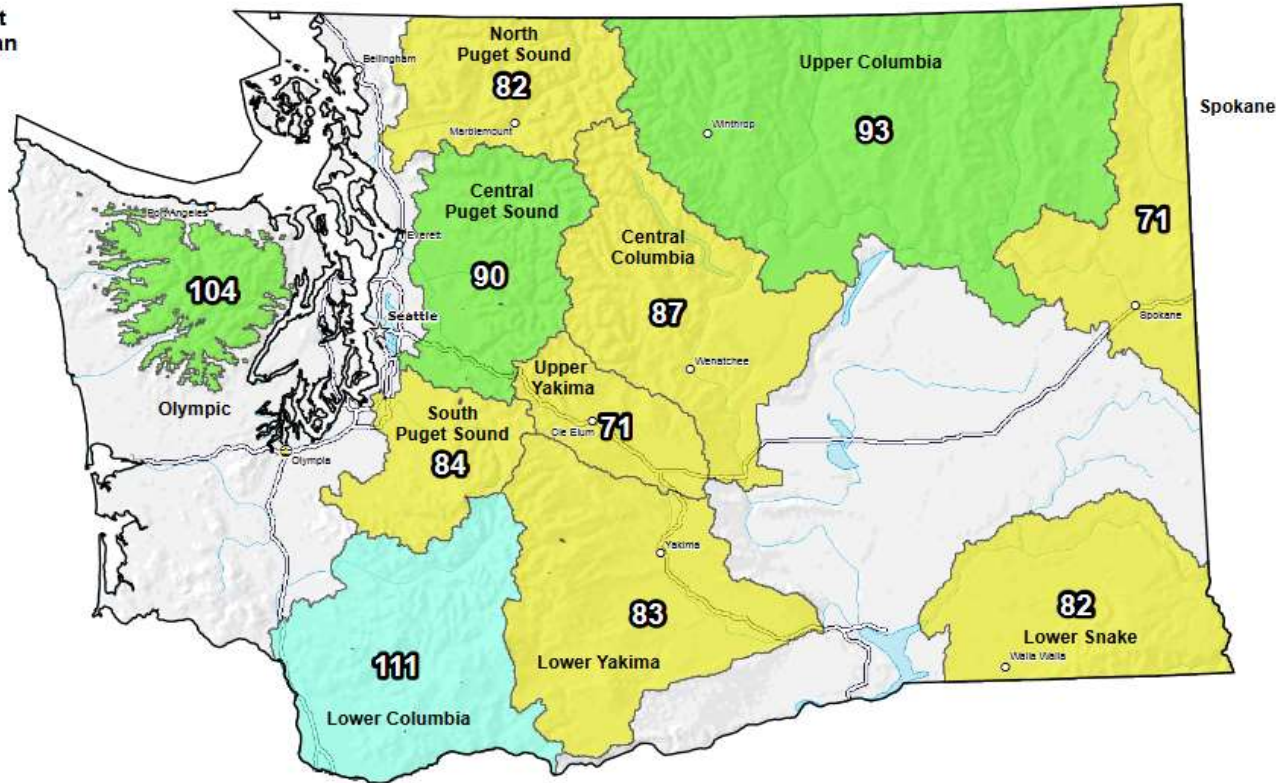
Washington SNOTEL Current Snow Water Equivalent (SWE) % of Normal

Feb 01, 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 (typically 00:00).



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

The snow pack has leveled off slightly in Washington, and is now running between 70 to 110 percent of normal across the state. Additional snowfall is likely through February, especially in the mountains.

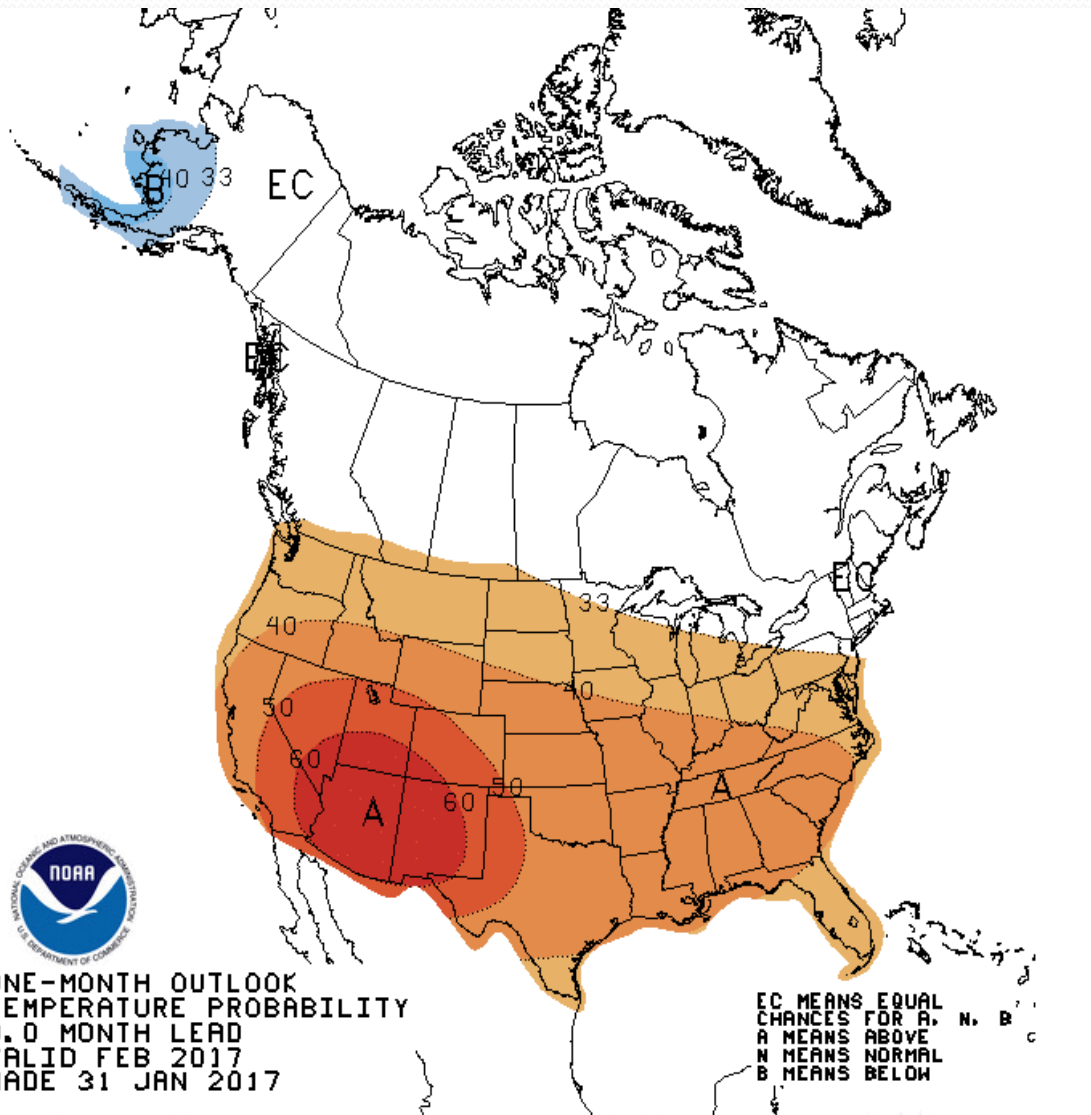


February Outlook

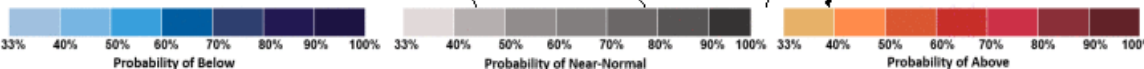
February Temperature Outlook

This graphic is issued by the Climate Prediction Center or CPC and is the Temperature Outlook for the month of February. The cool colors indicate a greater chance of below normal temperatures and the warm colors represent a greater chance of above normal temperatures. The time period for the normals runs from 1981-2010.

There are higher odds of above normal temperatures through February across most of the lower 48, including the Pacific Northwest. The only area that has higher chances for below normal temperatures in February is western Alaska.

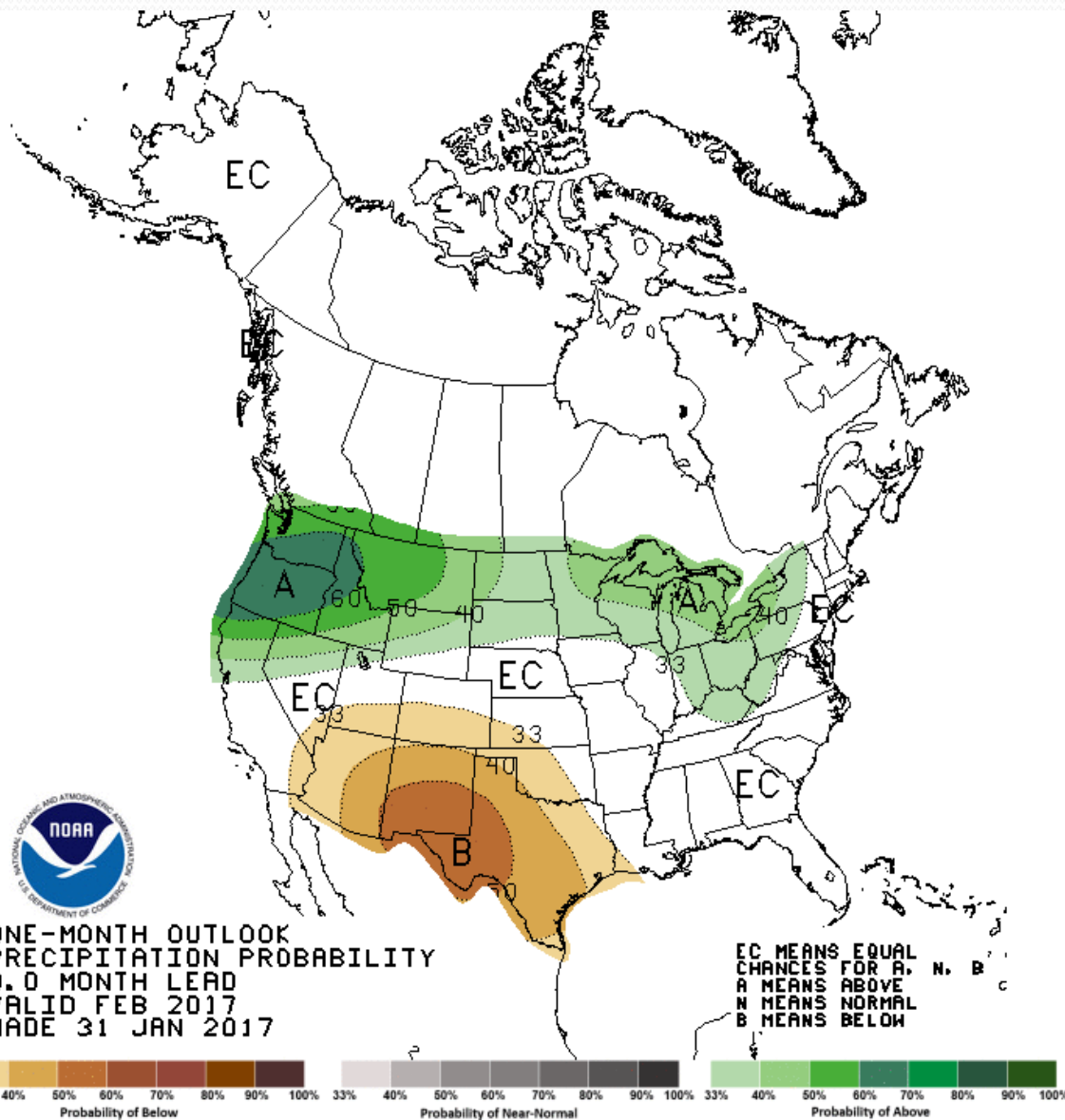


ONE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
0.0 MONTH LEAD
VALID FEB 2017
MADE 31 JAN 2017



February Precipitation Outlook

This graphic is CPC's Precipitation Outlook for the month of February. The green colors represent a greater chance of above normal precipitation, and the brown colors represent a greater chance of below normal precipitation. All of eastern Washington and eastern Oregon have higher probabilities for above average precipitation totals in February. This area of favored above average precipitation extends across the northern portion of the US into the Great Lakes. Below average precipitation totals are favored across Texas and the Southwest.





Thank You!