Seasonal Climate Forecast Verification
Dec. 2016 – Feb. 2017

Issued: March 15, 2017

Contact: Pete Parsons, ODF Meteorologist
503-945-7448 or peter.gj.parsons@oregon.gov

Oregon Dept. of Agriculture (ODA) - Oregon Dept. of Forestry (ODF).
ODA Production support from Diana Walker and Andy Zimmerman

Format and Purpose:

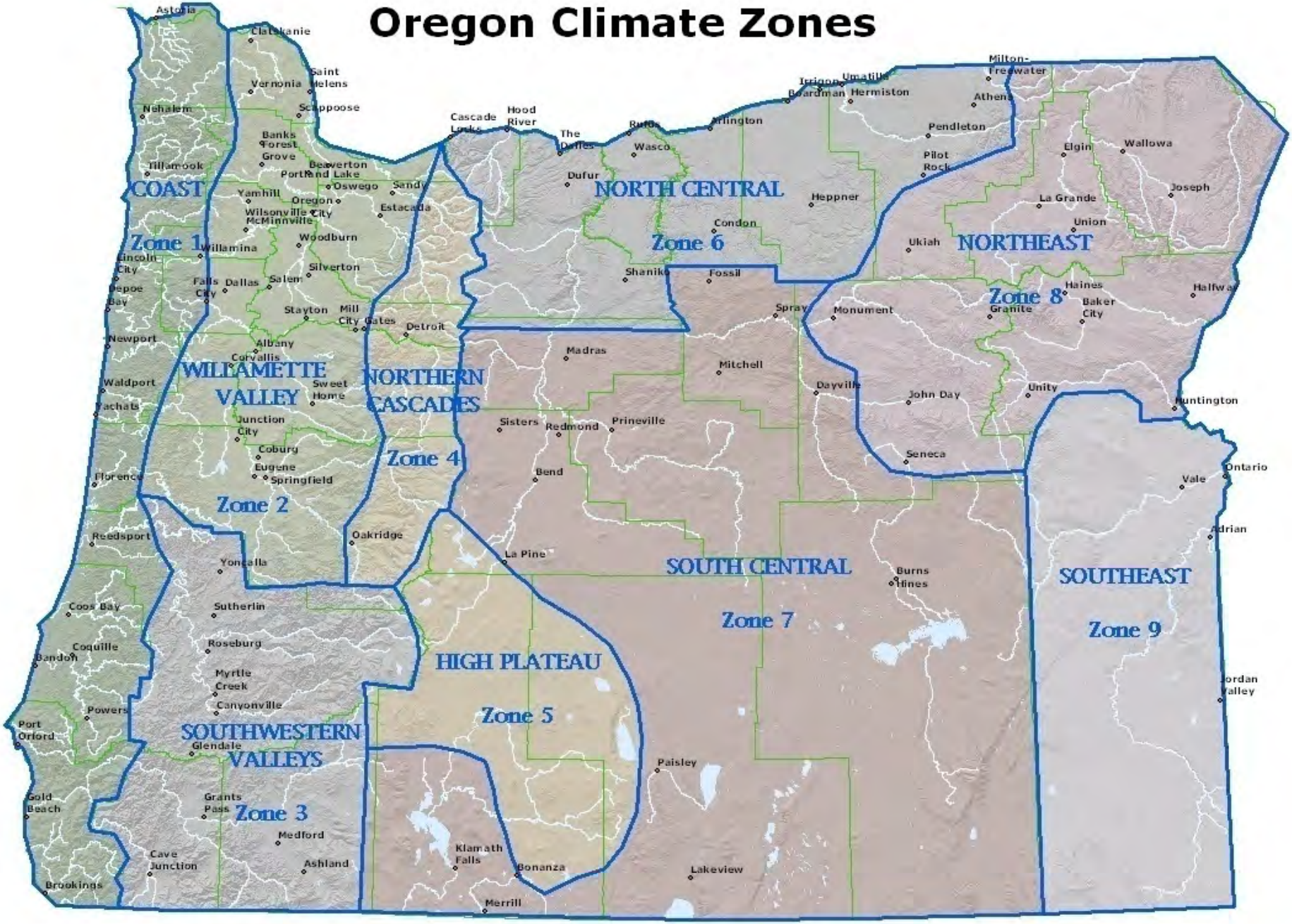
- A side-by-side comparison of the "Seasonal Climate Forecast" vs. what **(Actually Occurred)** is done for both the 1-month & 3-month forecasts.*
- To assess the utility of this forecast and form a basis for "adjustments" to the forecast method.**

**Utilizes 1981-2010 long-term averages*

**See "Forecasting Methods…" at:

http://www.oregon.gov/ODA/programs/NaturalResources/Pages/Weather.aspx

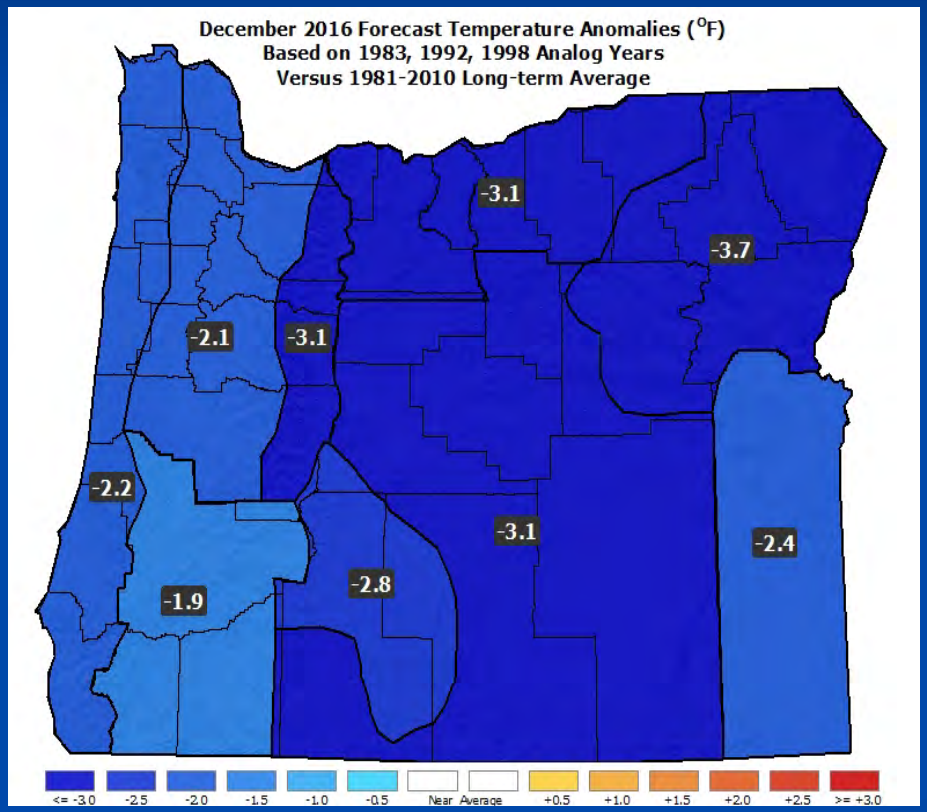
Oregon Climate Zones



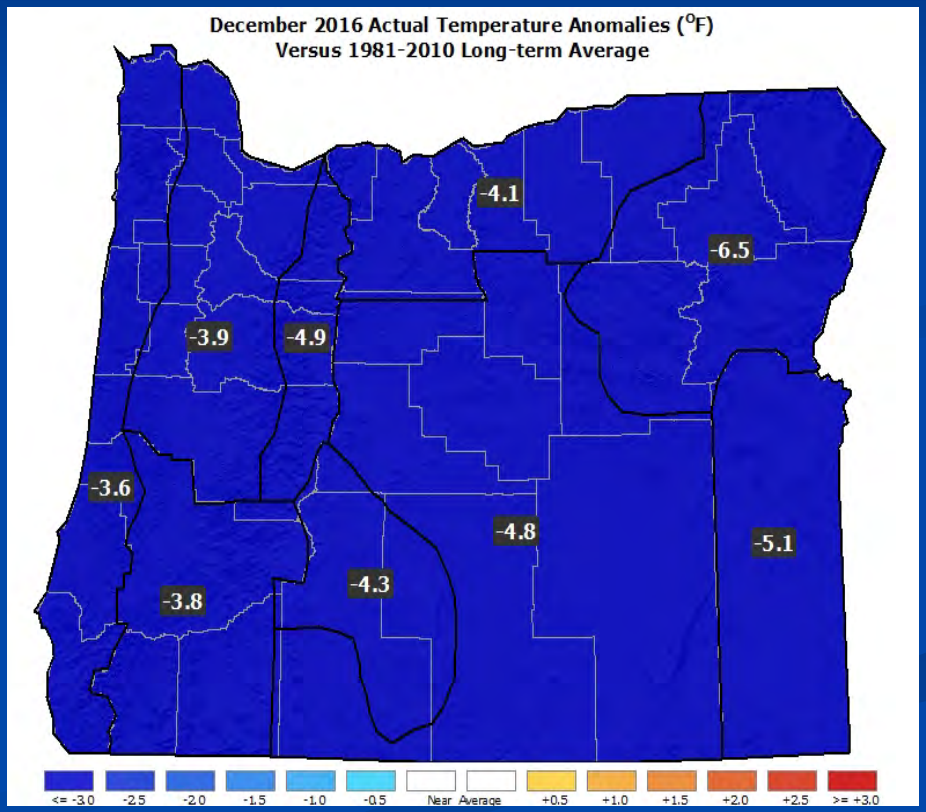
December 2016

(Forecast Issued November 17, 2016)/(Actual)

Forecast Temperatures



Actual Temperatures

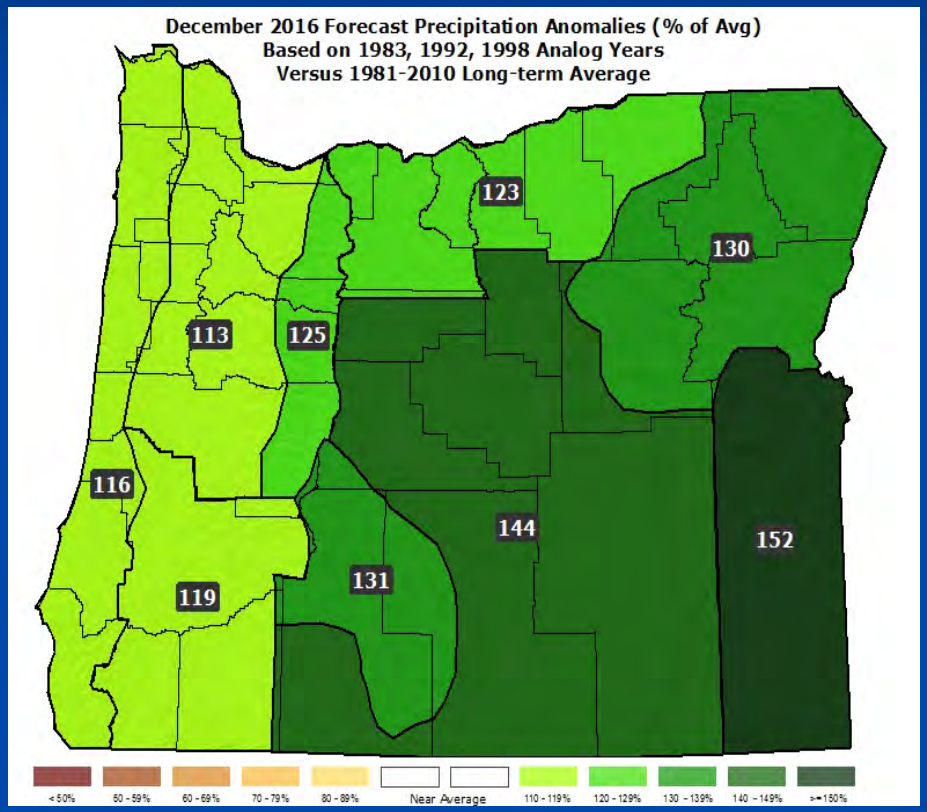


Data courtesy of the National Centers for Environmental Information (NCEI)

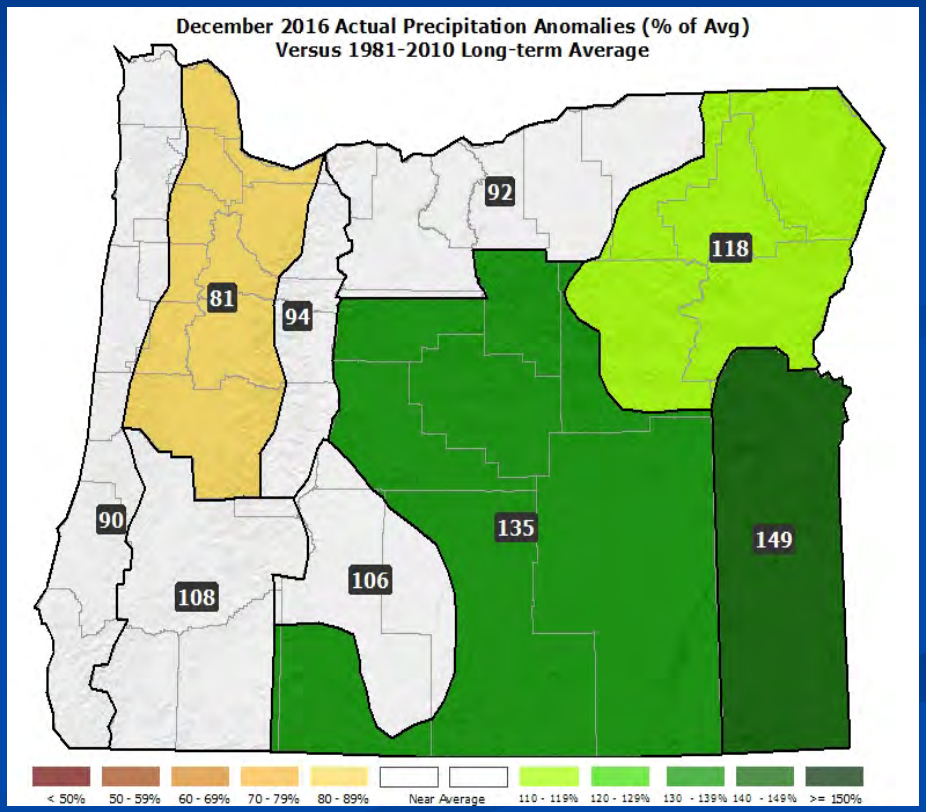
December 2016

(Forecast Issued November 17, 2016)/(Actual)

Forecast Precipitation



Actual Precipitation



Data courtesy of the National Centers for Environmental Information (NCEI)

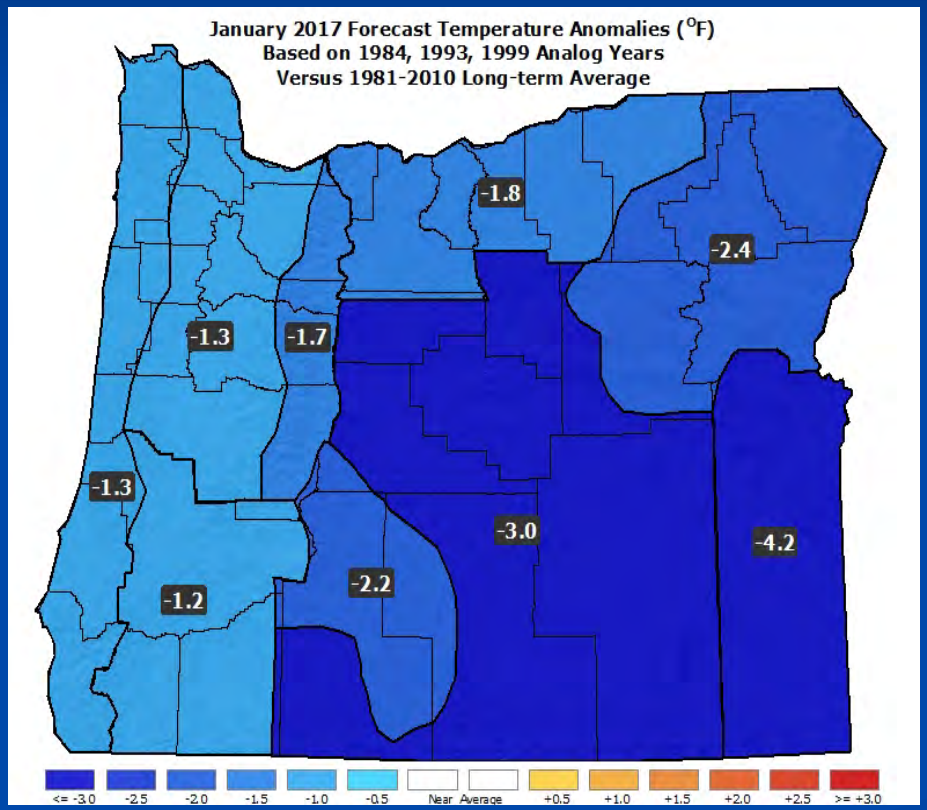
December 2016
(Forecast Issued November 17, 2016)/(Actual)

- Cooler and wetter than average with below normal snow levels. **(December was an exceptionally cold month statewide. Temperature departures ranged from 3.6°F below average along the coast to 6.5°F below average in NE Oregon. Precipitation ranged from near average across the western zones to well above average, mostly as snow, across the eastern zones. Mountain snowfall was generally above average with heavy snow late in the month, especially north.)**
- Arctic event likely with well-above average chances for western valley & coastal snow/ice. **(A mid-month Arctic air intrusion led to widespread snow and ice, including across the Willamette Valley and some northern coastal locations.)**

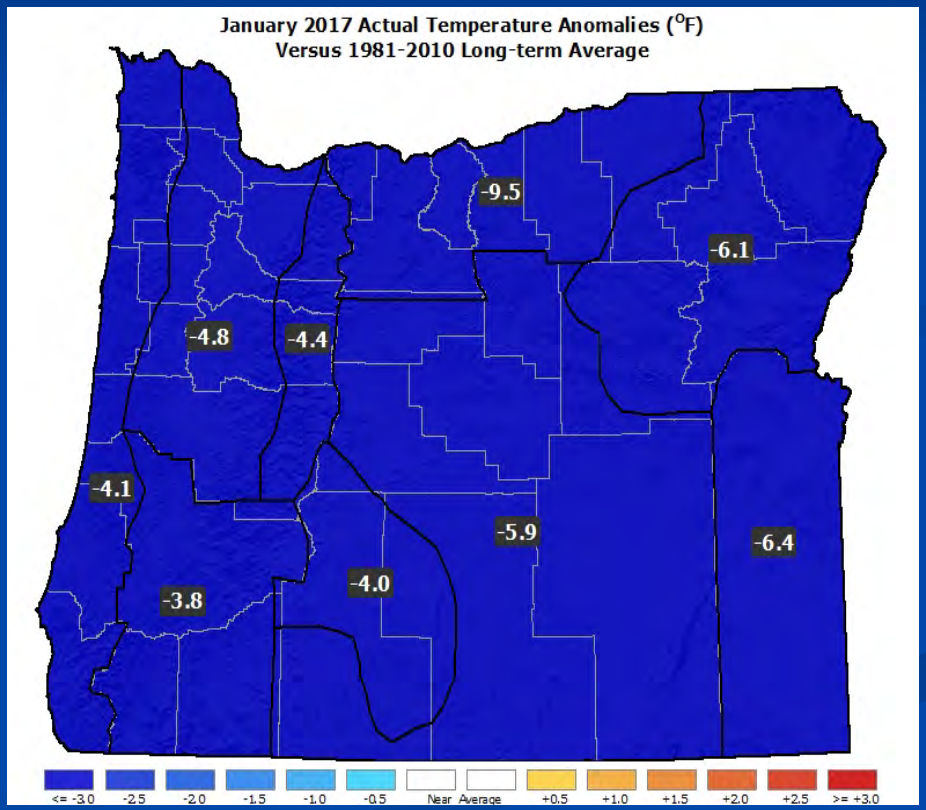
January 2017

(Forecast Issued December 22, 2016)/(Actual)

Forecast Temperatures



Actual Temperatures

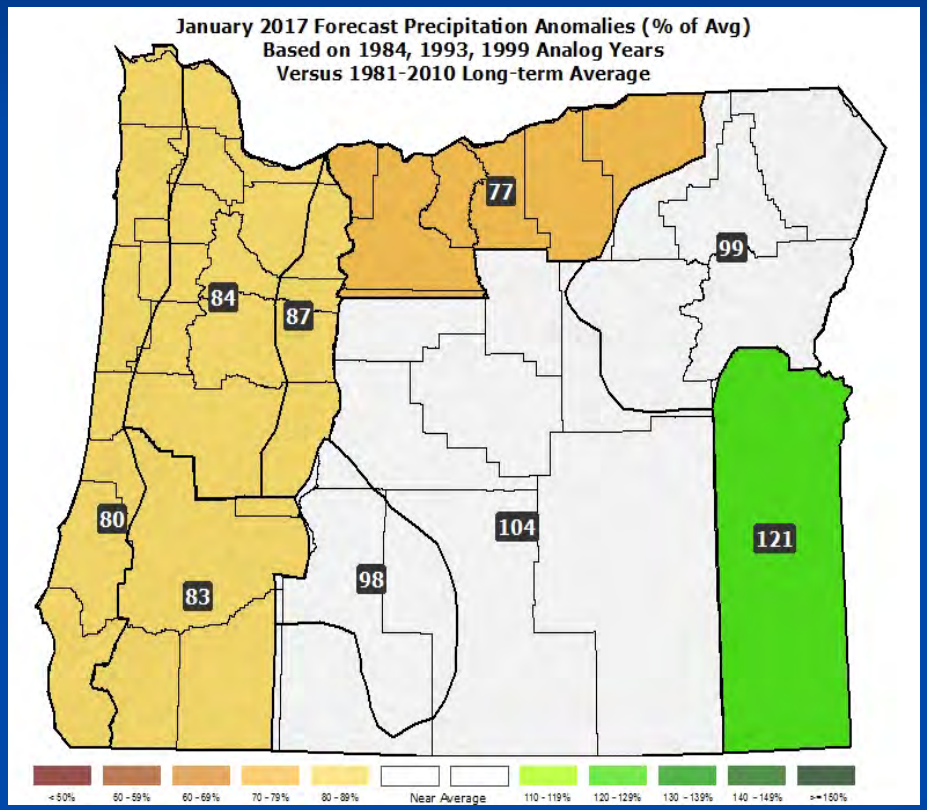


Data courtesy of the National Centers for Environmental Information (NCEI)

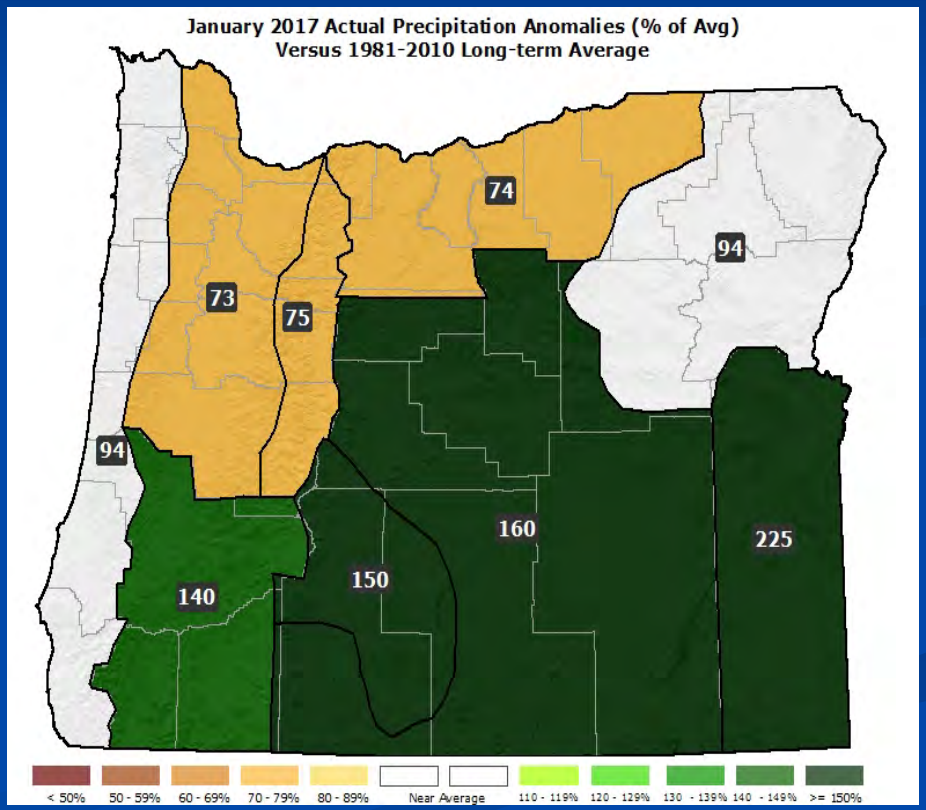
January 2017

(Forecast Issued December 22, 2016)/(Actual)

Forecast Precipitation



Actual Precipitation

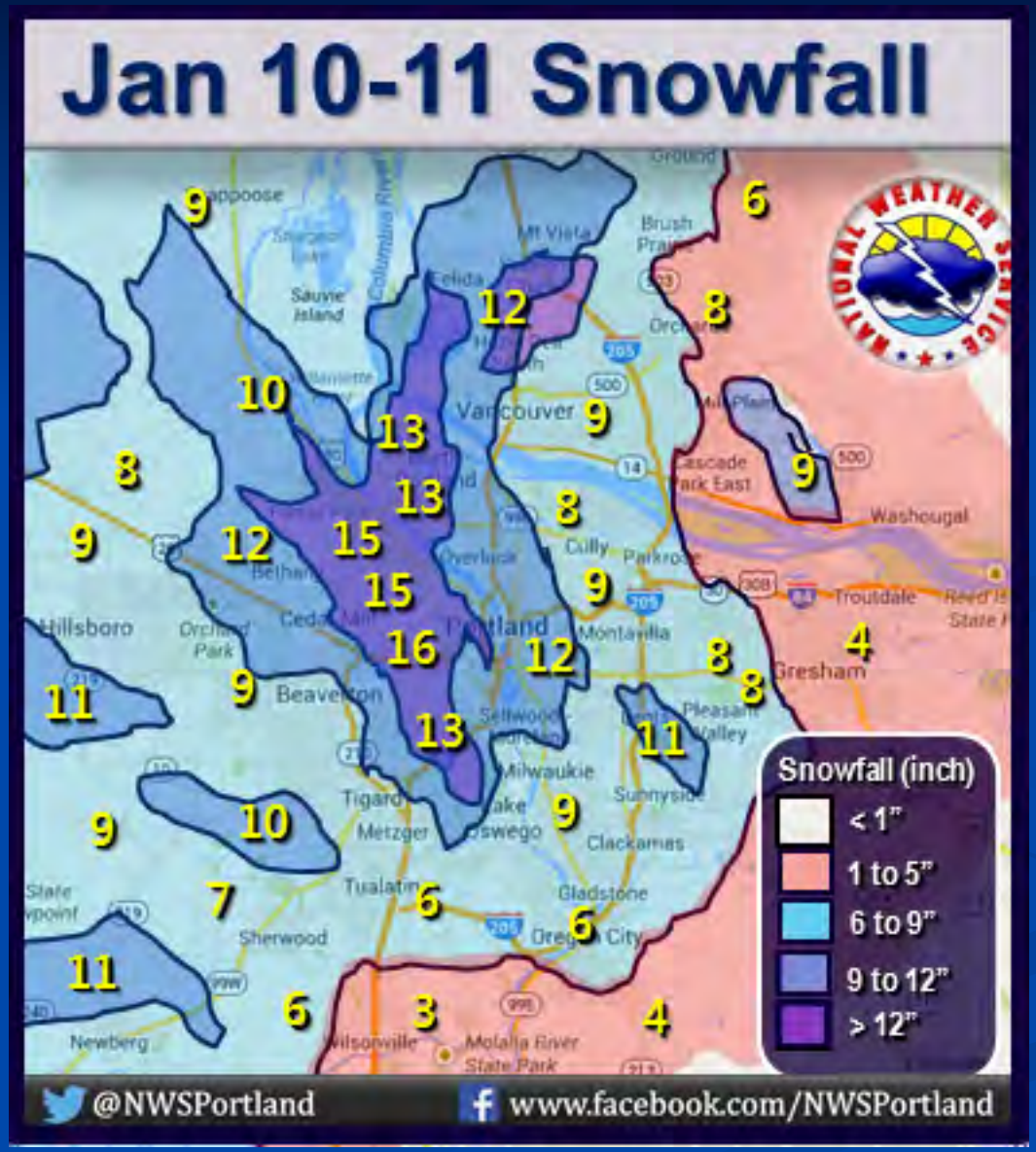


Data courtesy of the National Centers for Environmental Information (NCEI)

January 2017
(Forecast Issued December 22, 2016)/(Actual)

- Below-average temperatures, especially east, with a heightened chance of Arctic intrusions. **(Temperatures were well-below average with Arctic air bringing periods of record cold to much of the state.)**
- Precipitation close to average…slightly below west. Elevated chances for western valley snow.
  (Precipitation ranged from slightly below average NW to well above average SE. Multiple snow and ice storms ravaged virtually the entire state, with high impacts extending into the Columbia Gorge and the western valleys. A winter storm dumped more than a foot of snow in Portland on the 10th - 11th (next slide), followed by a week of record cold temperatures.

January 2017

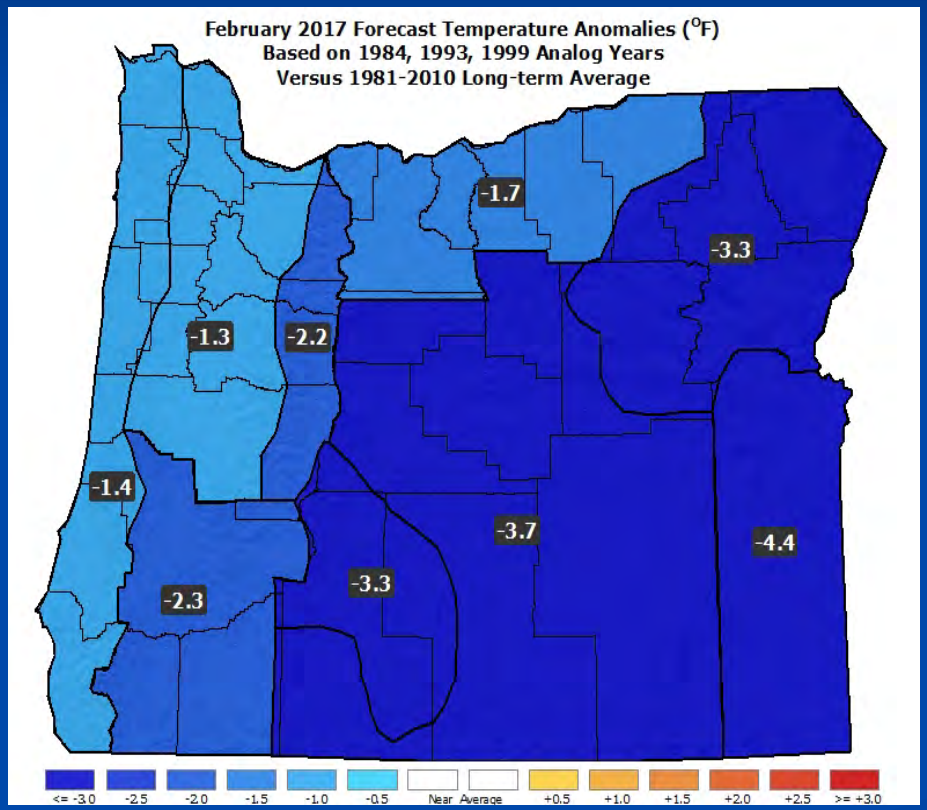


Graphic courtesy of the National Weather Service (Portland, Oregon)

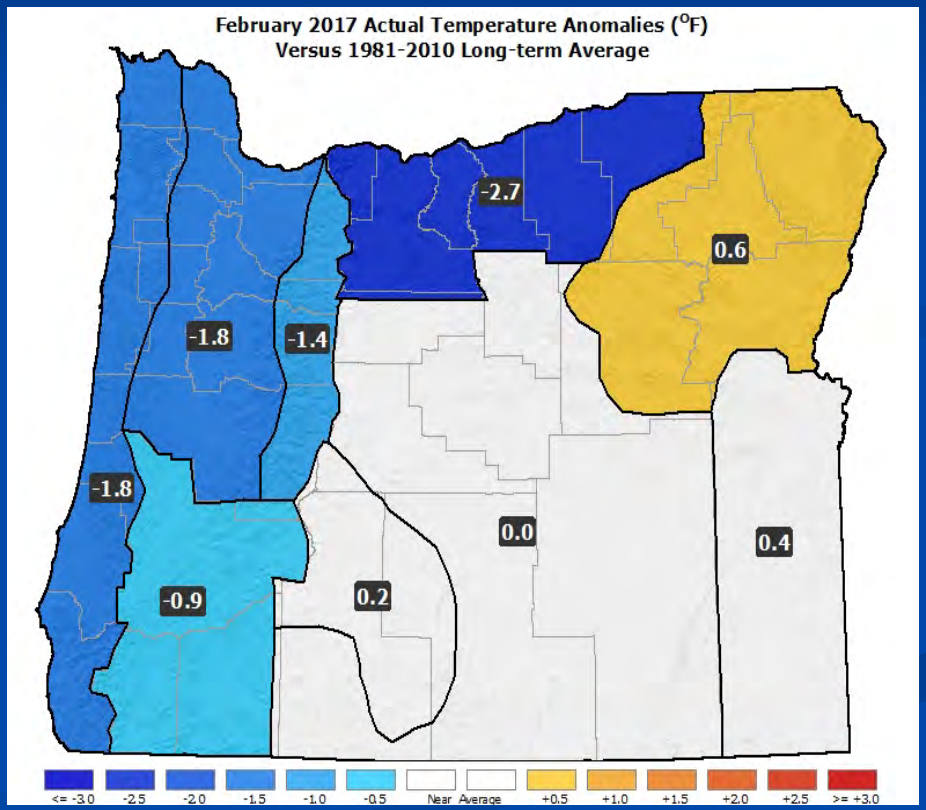
February 2017

(Forecast Issued January 19, 2017)/(Actual)

Forecast Temperatures



Actual Temperatures

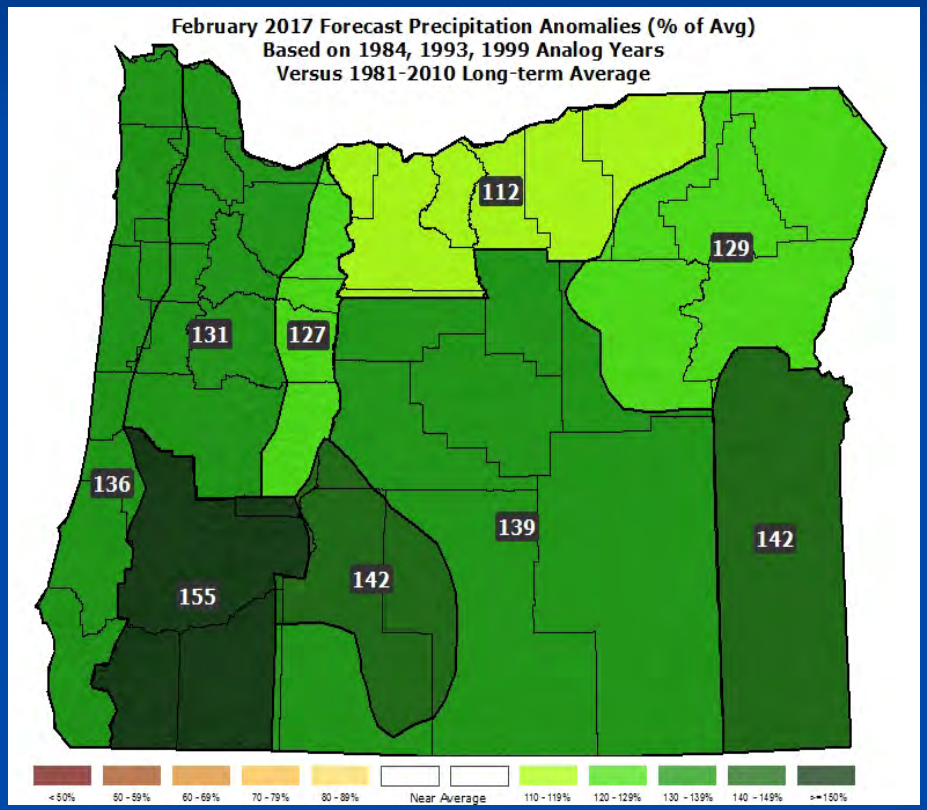


Data courtesy of the National Centers for Environmental Information (NCEI)

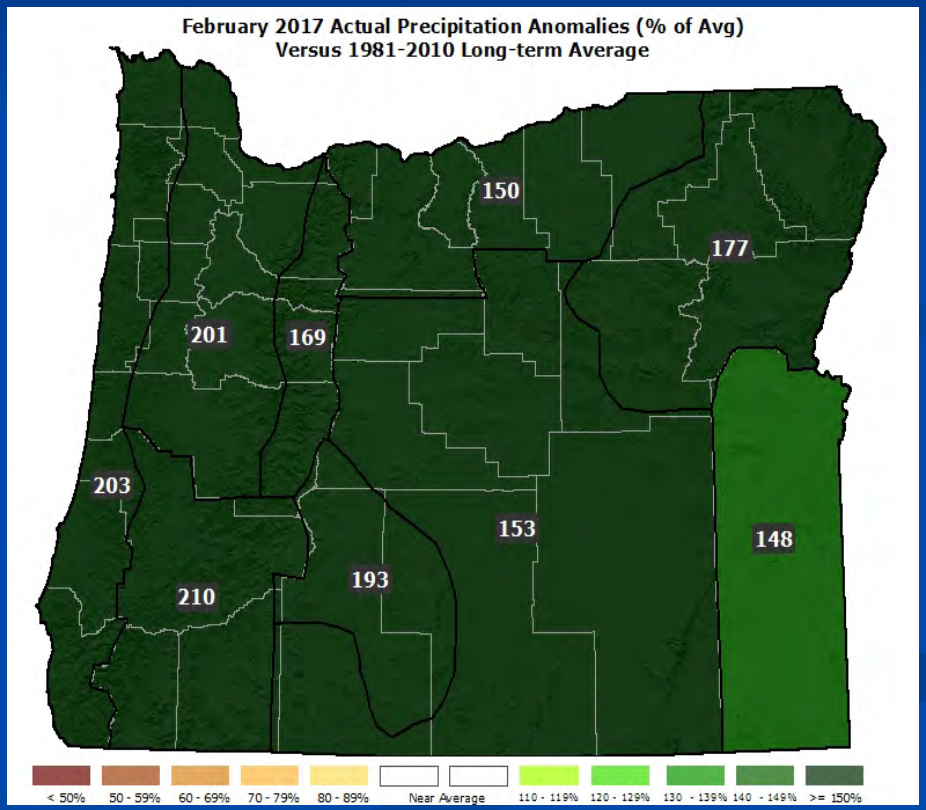
February 2017

(Forecast Issued January 19, 2017)/(Actual)

Forecast Precipitation



Actual Precipitation



Data courtesy of the National Centers for Environmental Information (NCEI)

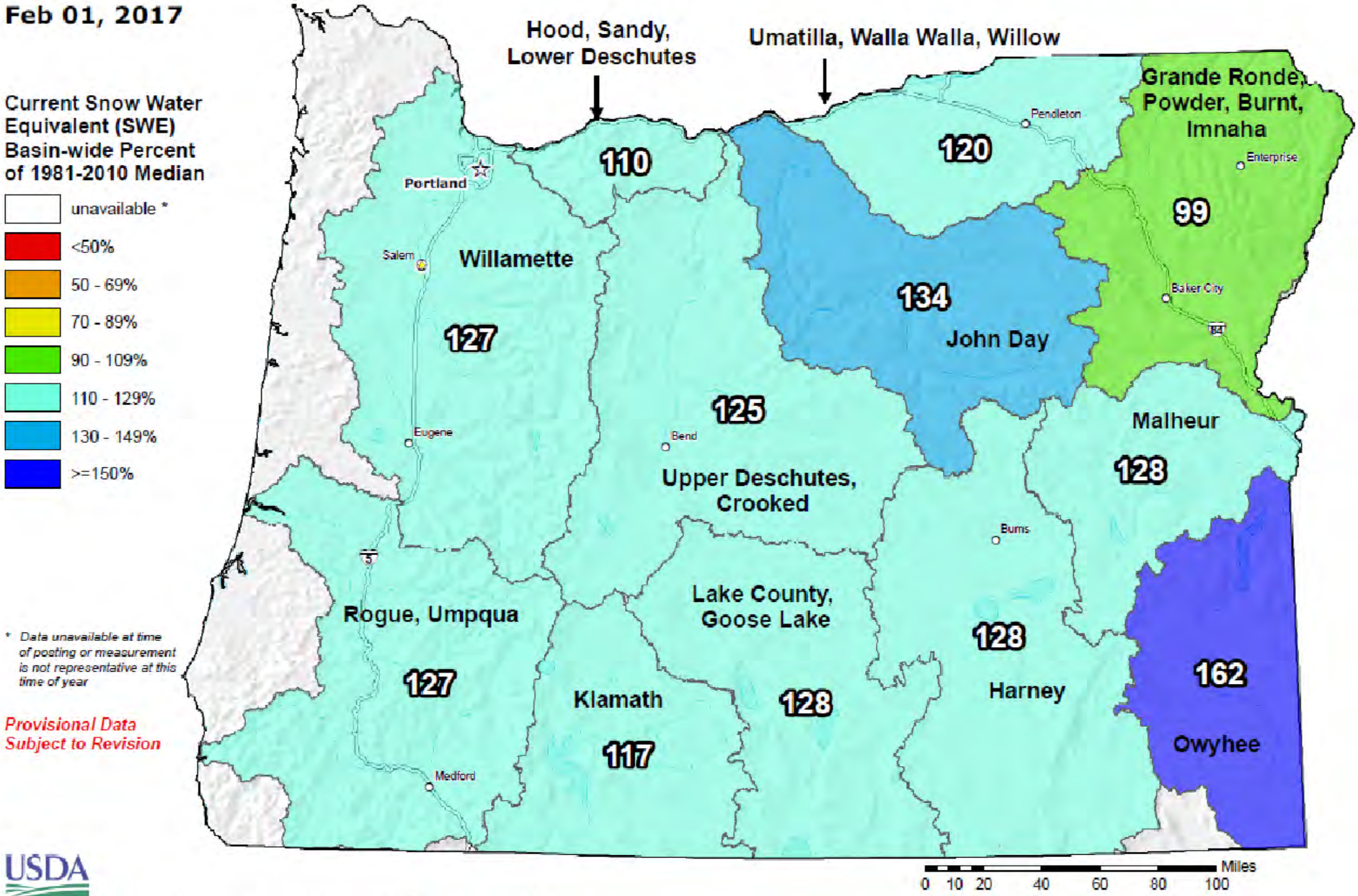
February 2017

(Forecast Issued January 19, 2017)/(Actual)

- Above-average storminess, below-average snow levels, and slightly-elevated chances for cold outbreaks and valley snow/ice. **(A stormy month brought periods of heavy rain and wind, with abundant snow falling in the mountains. Sticking snow extended to quite low elevations at times, even to coastal regions.)**
- Above-average to well-above-average precipitation and mountain snow; below-average temperatures. **(Precipitation was well above average, especially west of the Cascades. Temperatures ranged from 1.8°F below average at the coast and in the Willamette Valley to just above average near the eastern border. Snowpacks increased, relative to average, across all but the SE corner of the state…see next two slides.)**

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

Feb 01, 2017



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

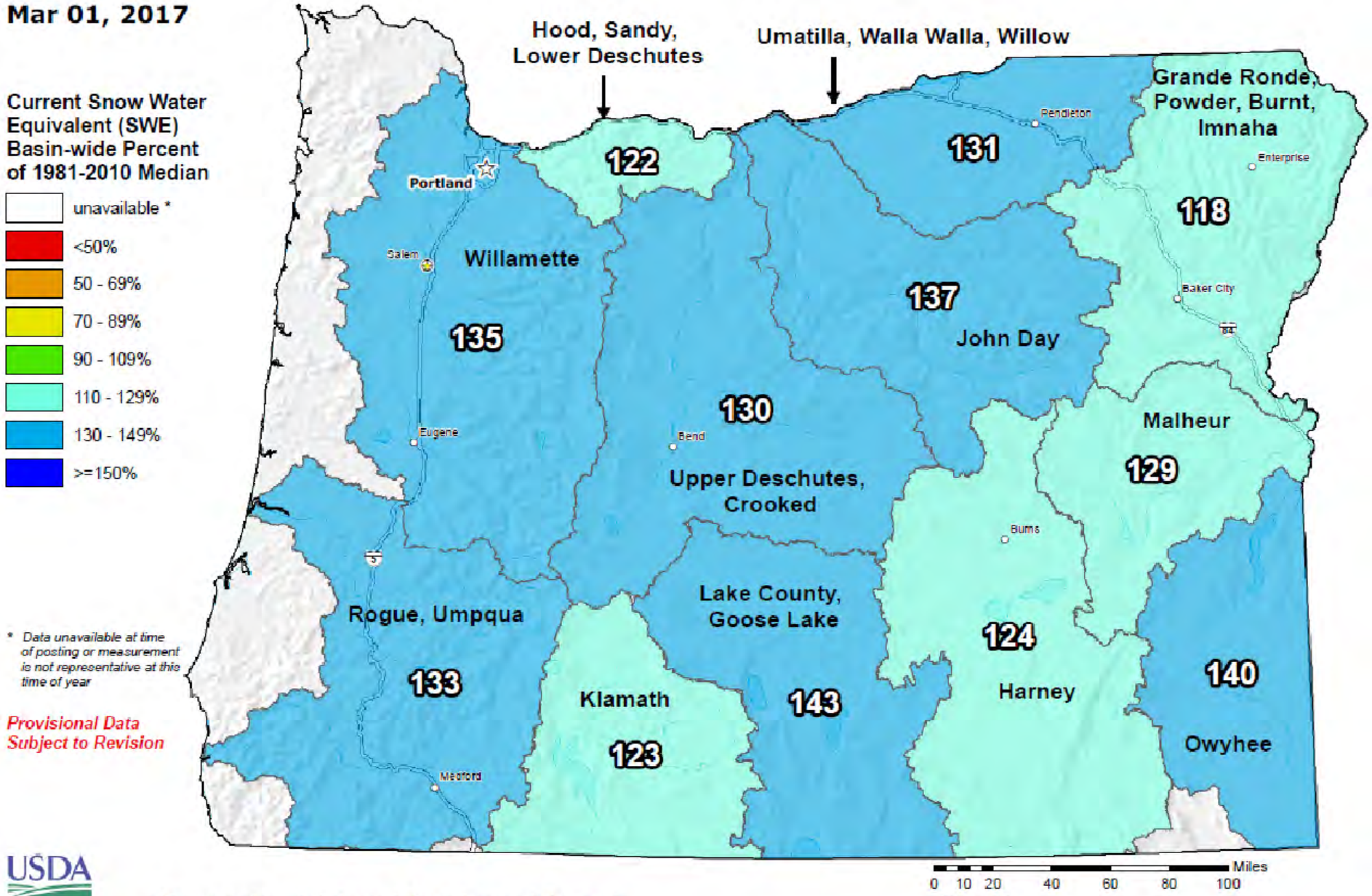
Provisional Data Subject to Revision

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

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

Mar 01, 2017



USDA NRCS

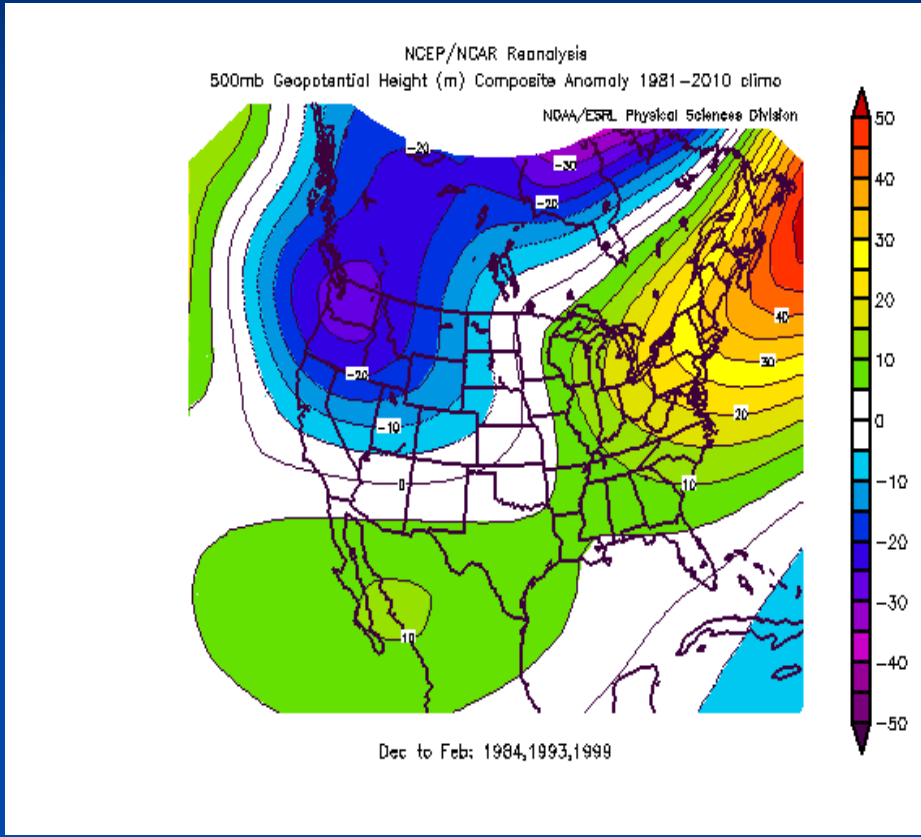
The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

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

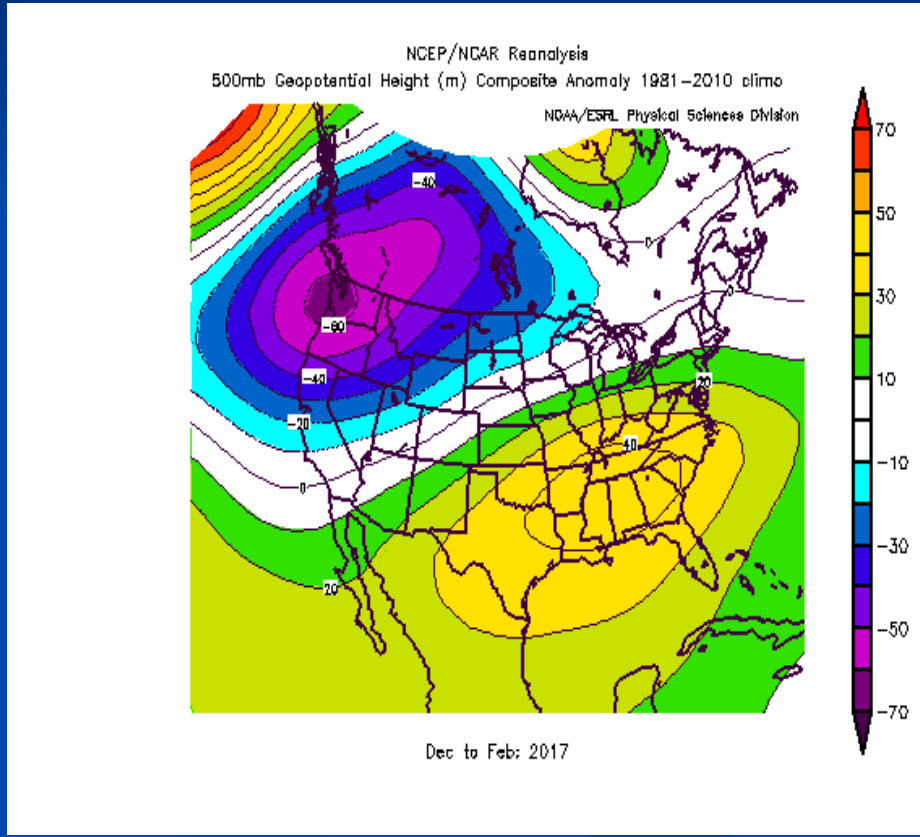
Dec. 2016 – Feb. 2017

(Forecast Issued November 17, 2016)/(Actual)

Forecast Upper-Air Anomalies



Actual Upper-Air Anomalies

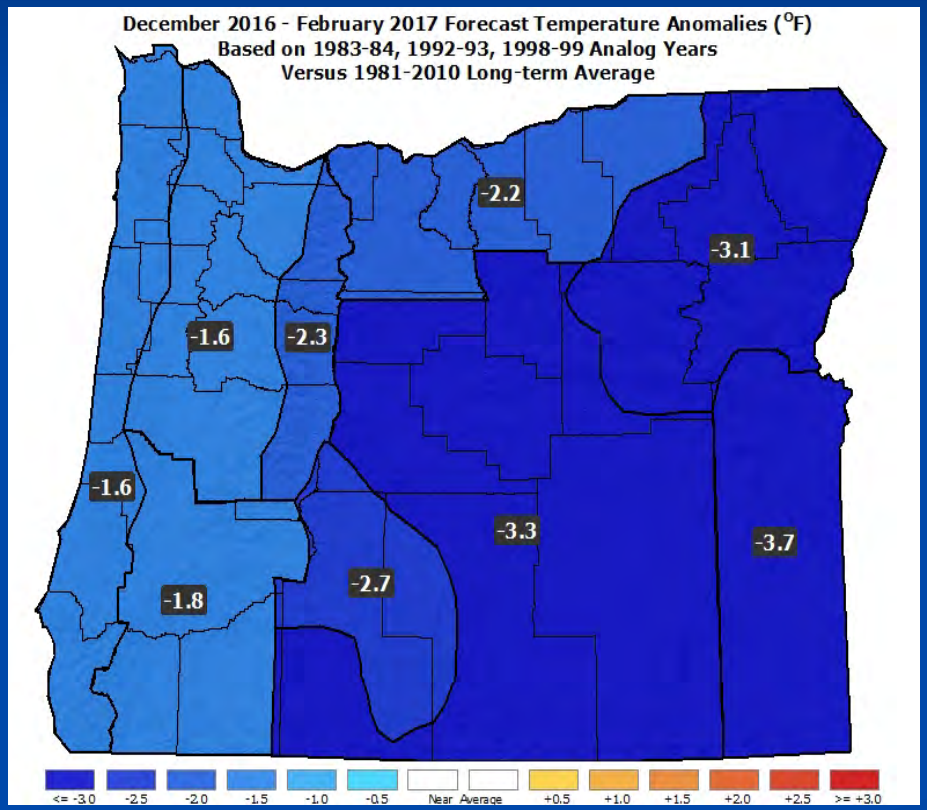


- The analog years accurately advertised a highly-unusual jet steam pattern.
- The observed mean negative upper-air anomaly was slightly more intense than predicted, but its placement was amazingly accurate.

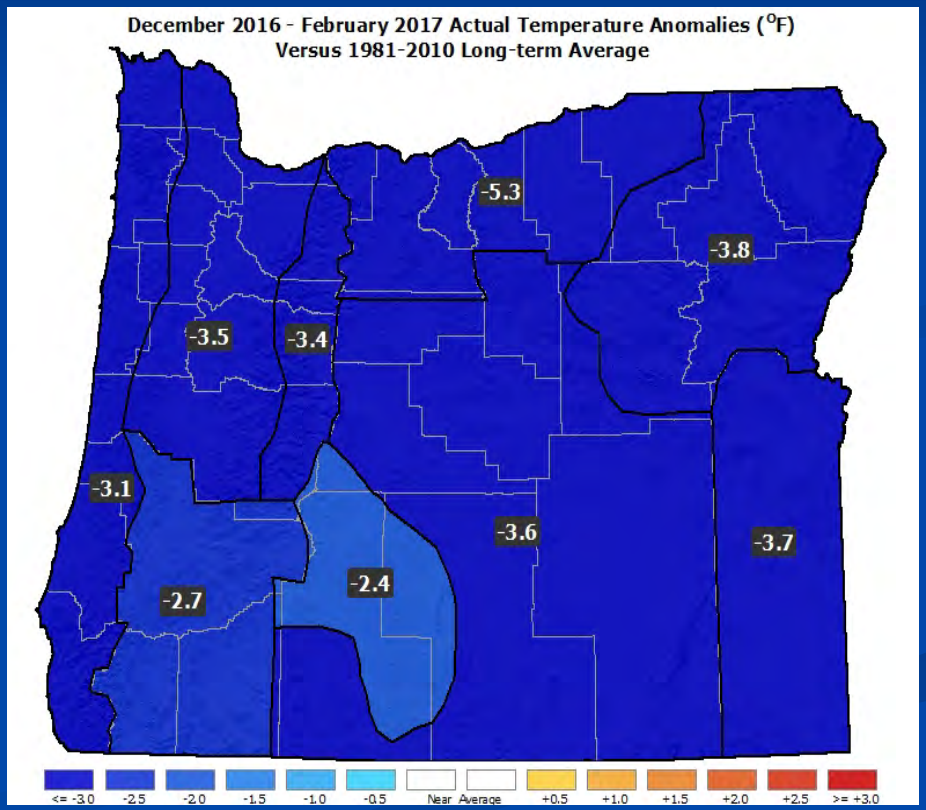
Dec. 2016 – Feb. 2017

(Forecast Issued November 17, 2016)/(Actual)

Forecast Temperatures



Actual Temperatures

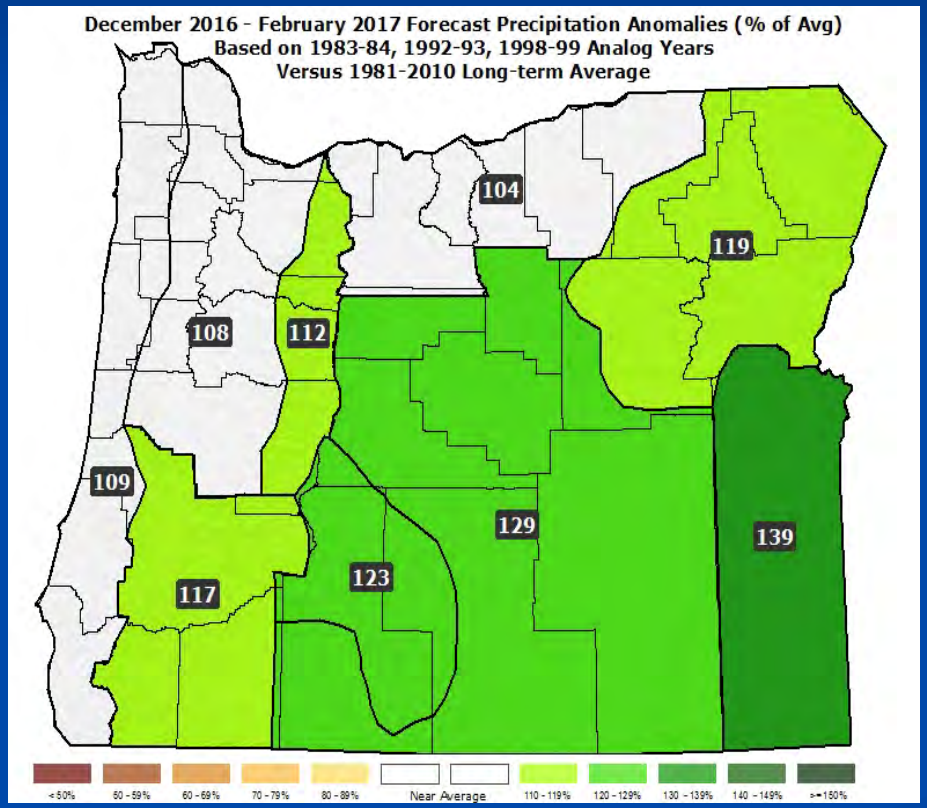


Data courtesy of the National Centers for Environmental Information (NCEI)

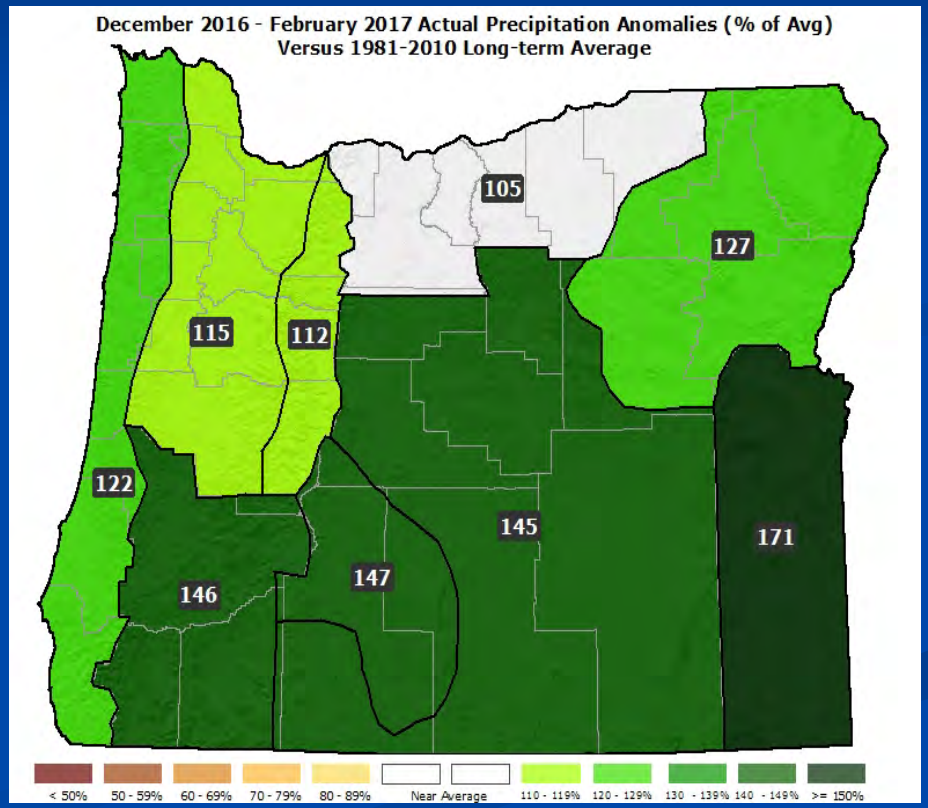
Dec. 2016 – Feb. 2017

(Forecast Issued November 17, 2016)/(Actual)

Forecast Precipitation



Actual Precipitation



Data courtesy of the National Centers for Environmental Information (NCEI)

Dec. 2016 – Feb. 2017

(Forecast Issued November 17, 2016)/(Actual)

- Below-average temperatures with at least one Arctic intrusion. **(An extremely cold December-January moderated somewhat during a very wet February. Multiple intrusions of Arctic air, beginning in mid-December, skewed the 3-month averages to well-below average statewide.)**
- Above-average precipitation and mountain snowfall. Elevated chances for heavy snow in the western valleys. **(Precipitation and mountain snowfall were above average. Virtually all of the western valleys experienced multiple snow and/or ice events. The Columbia Gorge, Portland, and Medford areas were hit especially hard.)**

Updated Mid-Month

Your Feedback is Welcome!

Sign-up for Email notification of updates at:
http://listsmart.osl.state.or.us/mailman/listinfo/seasonalclimateforecast

Contact: Pete Parsons, ODF Meteorologist
at 503-945-7448 or peter.gj.parsons@oregon.gov