Seasonal Climate Forecast Verification
February – April 2020
Issued: May 21, 2020

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Photo by Sherry Rose
A side-by-side comparison of the “Seasonal Climate Forecast” vs. what (Actually Occurred) is done for both the 1-month & 3-month forecasts.*

The accuracy of each forecast is reviewed, and the need for analog-year updates is examined.

This is part of an ongoing assessment of the utility of this forecast method.**

*Utilizes 1981-2010 long-term averages

**See “Forecasting Methods…” at: https://oda.direct/Weather
Positive anomalies were both predicted (left panel) and observed (right panel) over the Pacific Northwest. However, the observed positive anomalies were centered over the eastern Pacific, rather than over SW Canada. *A “partial forecast hit.”*
February 2020

(Forecast Issued January 16, 2020) / (Actual)

Forecast Temperatures

Actual Temperatures

Data courtesy of the National Centers for Environmental Information (NCEI)
February 2020
(Forecast Issued January 16, 2020)/(Actual)

Forecast Precipitation

Actual Precipitation

Data courtesy of the National Centers for Environmental Information (NCEI)
February 2020
(Forecast Issued January 16, 2020)/(Actual)

- Anomalous upper-level ridging over the western U.S. with a split-flow jet stream pattern emerging. (There was splitting of the jet stream along the west coast and anomalous ridging over Oregon.) *A “forecast hit.”*

- Above-average temperatures. Near-to-below-average precipitation. (Temperatures ranged from slightly-below average west to above average central and east. Precipitation was below average, except for the NE.) *Mostly a “forecast hit.”*

- Snowpacks holding steady or declining, relative to average. (Snowpacks held steady in the north and declined, relative to average, in the south…see next 2 slides.) *A “forecast hit.”*
Oregon SNOTEL Current Snow Water Equivalent (SWE) % of Normal

Feb 01, 2020

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

- unavailable *
- <50%
- 50 - 69%
- 60 - 79%
- 70 - 89%
- 80 - 99%
- 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).

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, 2020

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

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Prepared by:
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The predicted (left) upper-level trough/ridge anomalies were actualized (right) slightly west of their expected positions...putting weak anomalous troughing over Oregon. A forecast “miss.”
March 2020

(Forecast Issued February 20, 2020) / (Actual)

Forecast Temperatures

Actual Temperatures

Data courtesy of the National Centers for Environmental Information (NCEI)
March 2020
(Forecast Issued February 20, 2020) / (Actual)

Forecast Precipitation

Actual Precipitation

Data courtesy of the National Centers for Environmental Information (NCEI)
Temperatures slightly-above average west and near-to-slightly_below average east. (The major pattern shift predicted by April arrived, but a little sooner than expected, reversing temperature trends.) *A “forecast miss.”*

Below-average precipitation west…closer to average east. (Precipitation was below average statewide…especially west.) *A “forecast hit.”*

Decrease in snowpacks, relative to average. (Due to the major pattern shift noted above, snowpacks held steady or increased slightly…see next slide.) *A “forecast miss.”*
Oregon SNOTEL Current Snow Water Equivalent (SWE) % of Normal

Apr 01, 2020

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

- unavailable *
- <50%
- 50 - 60%
- 60 - 70%
- 70 - 80%
- 80 - 90%
- 90 - 100%
- 100 - 110%
- 110 - 120%
- 120 - 130%
- 130 - 140%
- >=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).
Strong positive “warm” anomalies were both predicted (left) and observed (right) in the Gulf of Alaska. However, the observed anomalies are shifted just far enough eastward to significantly affect Oregon (warmer). *Forecast “slightly out-of-phase.”*
April 2020
(Forecast Issued March 19, 2020)/(Actual)

Forecast Temperatures

Actual Temperatures

Data courtesy of the National Centers for Environmental Information (NCEI)
April 2020
(Forecast Issued March 19, 2020) / (Actual)

Forecast Precipitation

Actual Precipitation

Data courtesy of the National Centers for Environmental Information (NCEI)
Below-average temperatures, which should help to slow the annual mountain snowmelt. (The “cool-down” experienced during the second half of March extended into the first week of April, but then a shift to warmer conditions prevailed for the remainder of the month. Snowpacks declined, relative to average, more than expected…next slide) A “forecast miss.”

Below-average precipitation. (Precipitation was below average statewide.) A “forecast hit.”
Positive anomalies in the Gulf of Alaska (right) were much greater than predicted (left), but the general anomaly pattern over the Pacific Northwest was correctly indicated by the analogs. *Mostly a “forecast hit.”*
February – April 2020
(Forecast Issued January 16, 2020)/(Actual)

Forecast Temperatures

Actual Temperatures

February 2020 - April 2020 Forecast Temperature Anomalies (°F)
Based on 1970; 1978; 1981 Analog Years
Versus 1981-2010 Long-term Average

February 2020 - April 2020 Actual Temperature Anomalies (°F)
Versus 1981-2010 Long-term Average

Data courtesy of the National Centers for Environmental Information (NCEI)
February – April 2020
(Forecast Issued January 16, 2020)/(Actual)

Forecast Precipitation

Actual Precipitation

Data courtesy of the National Centers for Environmental Information (NCEI)
Above-normal temperatures in late-winter, transitioning to below-average temperatures in early spring. The net effect should yield only small 3-month departures from average. (A mild February gave way to a cool March, with a rebound to warmer weather in April. The 3-month anomalies were minimal.)  Generally a “forecast hit.”

Progressively drier conditions, relative to average, in February and March, with some rebound in April. Overall, below-average precipitation expected west and near-average precipitation east. (Precipitation was generally below average, except for NE Oregon, in February.)  Mostly a “forecast hit.”
Updated Mid-Month

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