Seasonal Climate Forecast Verification
Issued: March 11, 2020

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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.*
- 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
The upper-level trough/ridge anomaly couplet predicted (left) over the eastern Pacific Ocean and the western US, respectively, was actualized slightly eastward (right). *Generally a forecast “hit.”*
December 2019
(Forecast Issued November 21, 2019)/(Actual)

Forecast Temperatures

Actual Temperatures

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

Actual Precipitation

December 2019
(Forecast Issued November 21, 2019)/(Actual)

Data courtesy of the National Centers for Environmental Information (NCEI)
December 2019
(Forecast Issued November 21, 2019)/(Actual)

- **Well-above normal temperatures.** (After a chilly first few days, unseasonably-mild conditions prevailed for the remainder of the month. *A “forecast hit.”*)

- **Above-average precipitation with possible flooding for the coastal and western zones.** (Precipitation was below average. However, a mid-month “Atmospheric River” clipped the NW corner of Oregon and brought flooding rains to western Washington.) *A “forecast miss,” but if the aforementioned “Atmospheric River” would have been displaced slightly south, then much of western Oregon would have experienced flooding and much greater monthly rainfall totals.*
Weak anomalous troughing was both predicted (left) and observed (right) over most of Oregon. However, the two patterns were somewhat “out-of-phase.” A “partial forecast hit.”
January 2020
(Forecast Issued December 19, 2019)/(Actual)

Forecast Temperatures

Actual Temperatures

Data courtesy of the National Centers for Environmental Information (NCEI)
January 2020
(Forecast Issued December 19, 2019)/(Actual)

Forecast Precipitation

Actual Precipitation

Data courtesy of the National Centers for Environmental Information (NCEI)
Above-average temperatures, but still a threat of a cold spell, especially early. (Temperatures were above average statewide. Arctic air did penetrate southward, into Washington, at mid-month. Cold air briefly pushed across much of eastern Oregon and into the Columbia Gorge but did not directly make it into western Oregon.) **A “forecast hit.”**

Precipitation ranging from near average west to above average central and east with a solid start to the winter’s mountain snowpacks. (Precipitation was above average statewide. Mountain snowpacks recovered from mostly below average, at the start of the month, to near or above average by month’s end…see next two slides.) **Mostly 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%
- 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).

Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
http://www.wcc.nrcs.usda.gov
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)
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 or 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 two slides.) *A “forecast hit.”*
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Feb 01, 2020

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

Mar 01, 2020

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

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Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
http://www.wcc.nrcs.usda.gov
Predicted anomalies (left) were generally out-of-phase with the observed anomalies (right). However, near-average upper-air temperatures were both predicted and observed over much of Oregon. *A “partial forecast hit.”*
(Forecast Issued November 21, 2019)/(Actual)

Forecast Temperatures

Actual Temperatures

Data courtesy of the National Centers for Environmental Information (NCEI)
(Forecast Issued November 21, 2019) /(Actual)

Forecast Precipitation

Actual Precipitation

Data courtesy of the National Centers for Environmental Information (NCEI)
Above-normal temperatures. Arctic intrusions, if any, are most likely early in the period. They should be brief and not penetrate too far southward. (Temperatures were mild overall. December and January were quite mild, but Arctic air briefly penetrated into central and eastern Oregon in mid-January, mainly north. February was slightly cool west but warmer than average central and east.) A “forecast hit.”

A wet December will be countered by drier weather, relative to average, by February. (After a bone-dry November, conditions turned progressively wetter in December and January, then drier in February. Mountain snowpacks finished the period slightly-below normal west and central but slightly-above normal east.) A “partial forecast hit.”
Updated Mid-Month

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