Seasonal Climate Forecast
Issued: November 19, 2020

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Photo by Sherry Rose (ODF, John Day, OR)
The August – October 2020 Oceanic Niño Index (ONI) cooled further into the La Niña range (-0.9°C).

The ONI lags real-time sea-surface temperatures (SSTs), which have cooled into the moderate La Niña range across the tropical Pacific.

NOAA’s Climate Prediction Center (CPC) has issued a La Niña Advisory and expects La Niña to continue at least through this winter.

Tropical Pacific SSTs are much colder than they were the past two autumns. El Niño conditions developed both of those winters.


The analog-years (1959-60; 1970-71; 1995-96) are unchanged from last month. Both 1970-71 & 1995-96 had La Niña events, during the late-fall and winter periods, but 1959-60 stayed ENSO-neutral.

Higher-than-normal amplitude in the upper-air patterns is likely, which greatly increases the chances of Arctic outbreaks and valley snow. Expect periods of significant storminess with ample mountain snowfall.

December may start out relatively mild and stormy, but the chances for cold weather increase greatly after about Christmas.

Important note: Prepare for markedly more volatile weather than we had the past two winters, which were tempered by El Niño conditions.

IMPORTANT NOTE: This forecast is based on past and current weather data and is not associated with CPC predictions (see “Forecasting Methods…” at: https://oda.direct/Weather) nor the official CPC “Three-Month Outlooks,” which are available here: https://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=1
Tropical Pacific SSTs have cooled further into La Niña territory.
Tropical Pacific Ocean
La Niña Conditions Present

Current SSTs are in the moderate La Niña range.

Courtesy: https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/ensostat/sstweek_c.gif
Tropical Pacific Ocean

ONI* values from the top "analog years" compared with the current period (2019-20) (1958-59; 1969-70; 1994-95)

Aug. – Oct. analog ONIs ranged from ENSO-neutral to La Niña

Aug. – Oct. ONI (-0.9°C) cooled further into La Niña range

*ONI explanation via “Forecasting Methods...” at https://oda.direct/Weather
Tropical Pacific Ocean

SOI* values from the top "analog years" compared with the current period (2019-20)

(1958-59; 1969-70; 1994-95)

Oct. SOI (0.5) dropped slightly, falling into the ENSO-neutral range

Oct. analog SOIs ranged from La Niña to ENSO-neutral

La Niña

ENSO-neutral

El Niño

*SOI explanation via "Forecasting Methods..." at https://oda.direct/Weather
North Pacific Ocean
(Poleward of 20°N Latitude)

Oct. PDO values from the top "analog years" compared with the current period (2019-20)
(1958-59; 1969-70; 1994-95)

Oct. PDO (-0.70) stayed on the cool side of "Neutral" to "Cool"

Oct. PDO analogs ranged from “Neutral” to “Cool”

*To see PDO explanation, go to https://oda.direct/Weather and click on "Forecasting Methods."
The SST anomalies from the October analog composite (left) and from October 2020 (right) have similar (cool) patterns. They show varying strengths of La Niña across the tropical Pacific.
December 2020 Forecast

Mean Upper-Air Pattern

Anomalous troughing is likely to set up just offshore, leading to lower-than-average snow levels over Oregon.

Upper-Air Anomalies

The above pattern favors increased storminess, especially for western Oregon, but it may have too much westerly flow for Arctic intrusions.
**December 2020 Forecast**

**Temperatures**

Analogs have high variability but generally show near or above-average temperatures (severe cold snaps are not indicated).

**Precipitation**

Near or above-average precipitation. Elevated chances for high-wind events, especially along the coast and across the western zones.
The analog years all had negative temperature anomalies over western Canada, which opens the door for Arctic intrusions into Oregon.

An enhanced jet stream and below-average upper-air temperatures favors ample mountain snowfall & coastal wind/heavy-rain events.
Above-average precipitation and near or above-average mountain snow. Increased chances for windstorms, especially along the coast.

Temperature forecast is less certain, with possible transitions between stormy and cold periods. Western valley snow event(s) likely.
Analogs still have considerable variation but favor negative temperature anomalies over the Pacific Northwest.

An enhanced jet stream and below-average snow levels should lead to near or above-average mountain snowpacks.
February 2021 Forecast

Temperatures

- Above-average storminess likely. Heightened chance of heavy rain events and flooding for western zones.

- Rapid transitions from cold/dry to mild/wet periods possible. Overall, temperatures should be near or slightly below average.
Upper-level ridging will be more westward than usual, which will open the door for cold air masses to drop southward, from the Arctic, into the eastern Gulf of Alaska, western Canada, and the Pacific NW.

- A wide variety of weather patterns are likely during the period.
Colder than average, especially after Christmas. Wetter than normal.

- Elevated chances for heavy rain, strong winds, above-average mountain snow, cold-air outbreaks, and valley snow events, especially in January.
Could it be the...?

U.S. WEATHER FORECASTERS PREDICT...

COLDEST WINTER SINCE '78!

TWENTY-TWO YEARS AGO, AMERICANS SUFFERED THROUGH ONE OF THE WORST WINTERS IN HISTORY... PREPARE FOR ANOTHER RECORD BREAKER, WARN EXPERTS!

Your National Weather Forecast for November, December, January, February & March
Winter 2020-21 Highlights

- Perhaps it won’t be the ‘Coldest Winter Since ‘78!,” but…
- Unlike the past two years, this winter should have stormy period with some “extreme” weather events.
- Expect relatively-mild temperatures in late fall, with a transition to colder weather, relative to average, by January.
- Analogs favor at least one cold-air outbreak, with some snowfall in the Willamette Valley, especially in January.
- Mountain snowfall should be near or above normal.
- Heightened chances for windstorms and flooding across western Oregon, especially along the coast.
Seasonal Climate Forecast

The Seasonal Climate Forecast offers a three-month look at Oregon weather and is provided courtesy of Oregon Department of Forestry meteorologist Pete Parsons.

Seasonal Climate Forecast (PDF), issued October 15, 2020
Seasonal Climate Forecast (PowerPoint), issued October 15, 2020
See a video by Pete Parsons discussing his Seasonal Climate Forecast, issued October 15, 2020

Verification of Climate Forecast (PDF), issued October 15, 2020
Verification of Climate Forecast (PowerPoint), issued October 15, 2020
See a video by Pete Parsons discussing his forecast verification, issued October 15, 2020

Forecasting Methods (PDF), revised December 18, 2019
Forecasting Methods (PowerPoint), revised December 18, 2019

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Forecast Resources

- CPC Official US Three-Month Forecasts (Graphics):

- CPC US 30-Day & 90-Day Forecasts (Discussions):
  https://www.cpc.ncep.noaa.gov/products/predictions/long_range/fxus07.html

- CPC Weekly & Monthly ENSO Discussions:
  https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory

- Australian Government Climate Model Summary:

- Australian Government ENSO Wrap-Up:

- IRI ENSO Quick Look:
  https://iri.columbia.edu/our-expertise/climate/forecasts/enso/current/

- ODA Seasonal Climate Forecast Home:
  http://www.oregon.gov/ODA/programs/NaturalResources/Pages/Weather.aspx
Water Supply Information

- **NDMC U.S. Drought Monitor:**
  https://droughtmonitor.unl.edu/

- **NIDIS North American Drought Portal:**
  https://www.drought.gov/nadm/content/percent-average-precipitation

- **NRCS Snow Water Equivalent Oregon Map:**

- **NRCS Snow Water Equivalent Products:**

- **NRCS Weekly Water and Climate Update:**
  https://www.wcc.nrcs.usda.gov/cgibin/water/drought/wdr.pl

- **NRCS Western Snowpack Data & Water Supply Forecast:**
  https://www.wcc.nrcs.usda.gov/cgibin/westsnowsummary.pl

- **WRCC WestWideDroughtTracker:**
  https://www.wrcc.dri.edu/wwdt/
Updated Monthly
(Around the 20th)

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https://www.flickr.com/photos/canonshott/sets/7215765424242713168