

Winter Outlook 2020-2021

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WASHINGTON COUNTY WINTER PREP



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Winter Outlook 2020-2021

What's ahead?

- 1) Winter 2019-20 in review
- 2) La Niña for this fall & winter
- 3) Winter 2020-21 outlook
- 4) Ways to stay informed

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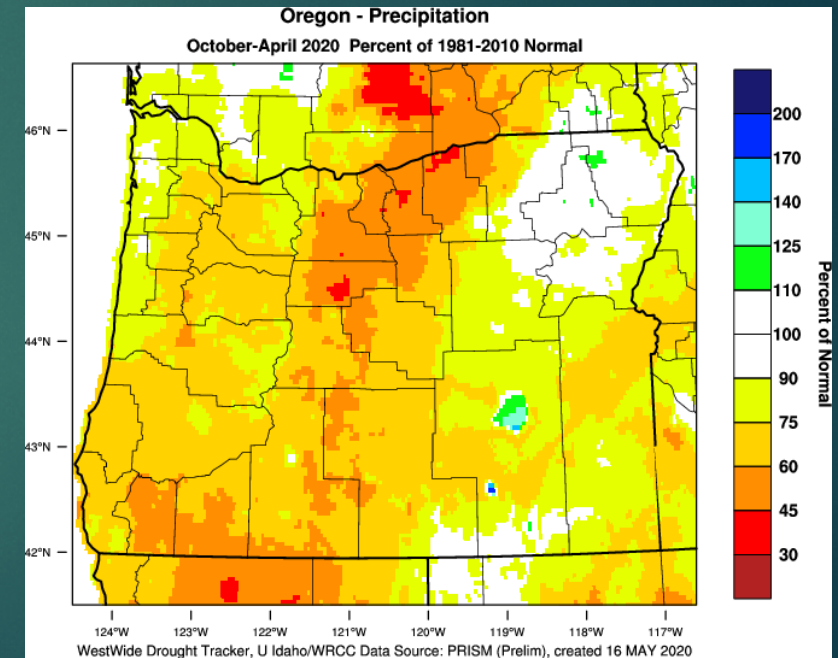
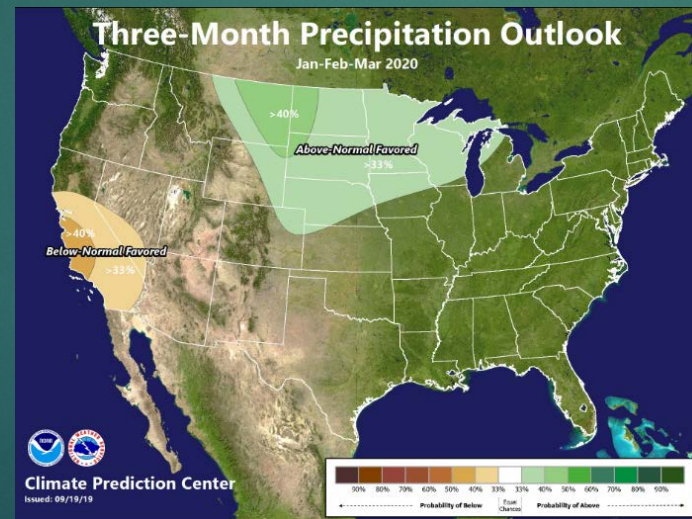
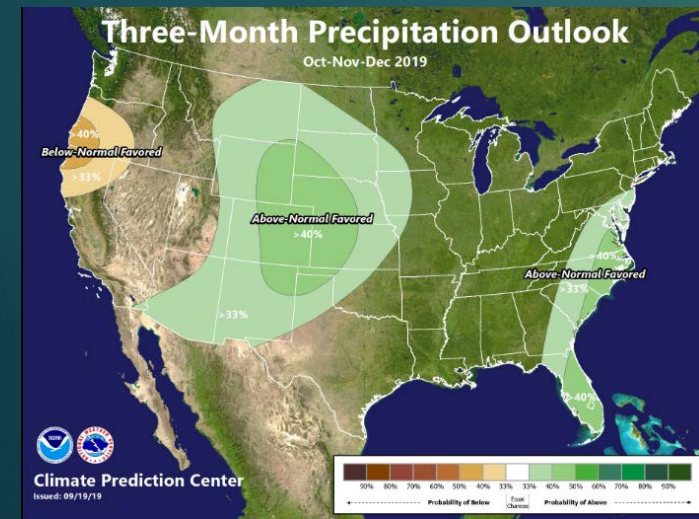
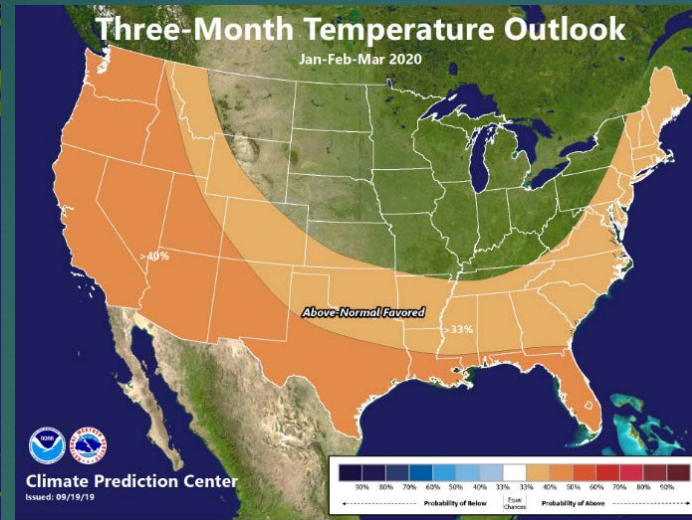
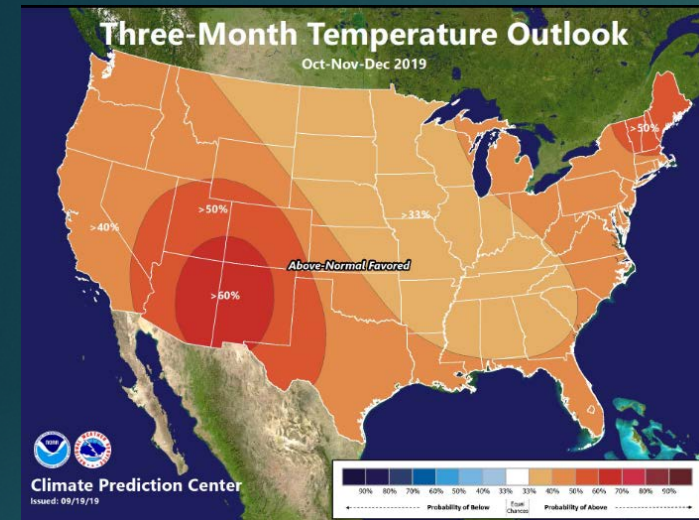
Winter 2019-2020 Review

Our outlook from last fall:

What happened at Hillsboro:

Temp (Dep) Precip (Dep) PDX Snow

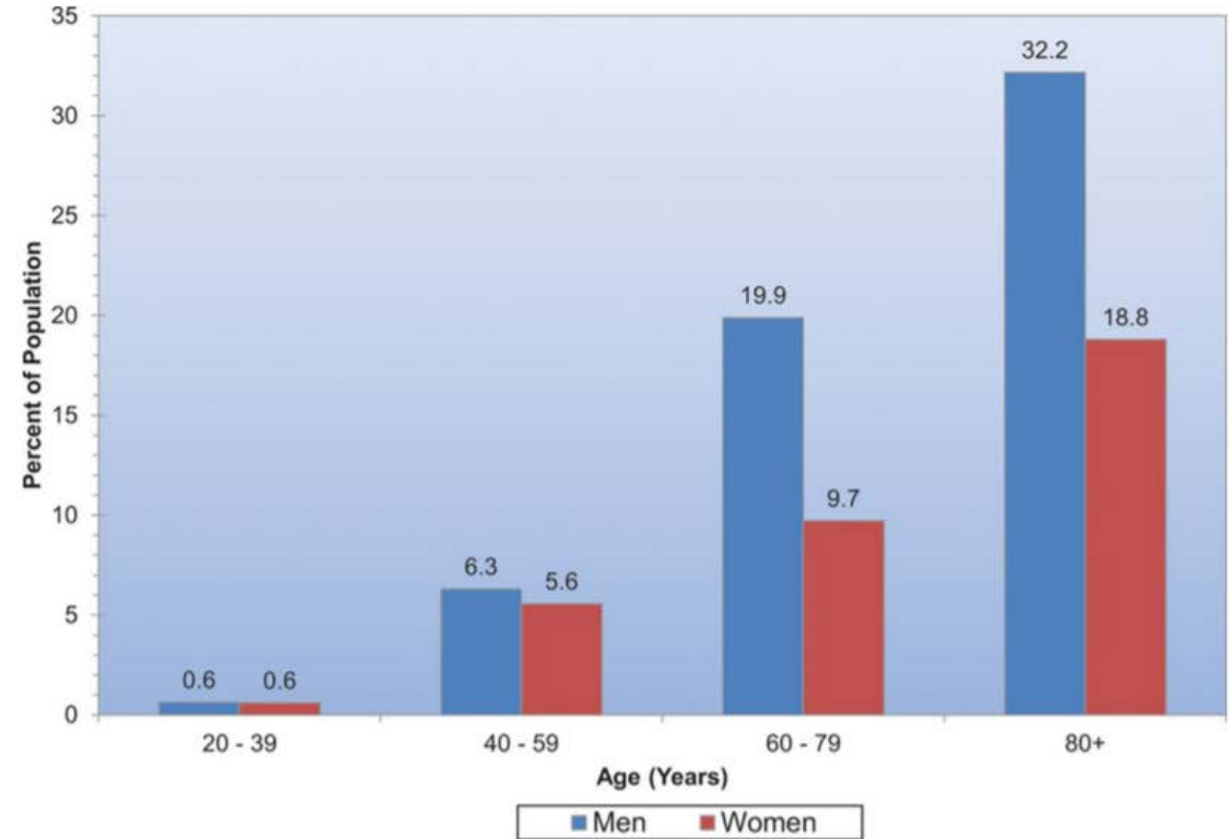
	Temp (Dep)	Precip (Dep)	PDX Snow
OCT	48.2° (-3.3°)	1.51" (-1.67")	none
NOV	44.5° (+0.1°)	1.16" (-5.31")	Trace
DEC	41.5° (+3.0°)	5.22" (-1.52")	Trace
JAN	44.2° (+4.1°)	7.18" (+1.12")	Trace
FEB	41.7° (-0.6°)	1.49" (-2.92")	Trace
MAR	44.1° (-2.0°)	2.12" (-1.61")	0.5"
APR	51.5° (+1.5°)	0.88" (-2.13")	none



Thoughts about Winter Outlooks

- 1) Probability of Occurrence
- 2) In other words, less/more likely than usual?
- 3) Outlook \neq Forecast
- 4) Be "weather-ready" if/when it happens!

Prevalence of coronary heart disease by age and sex



National Health and Nutrition Examination Survey: 2009–2012.

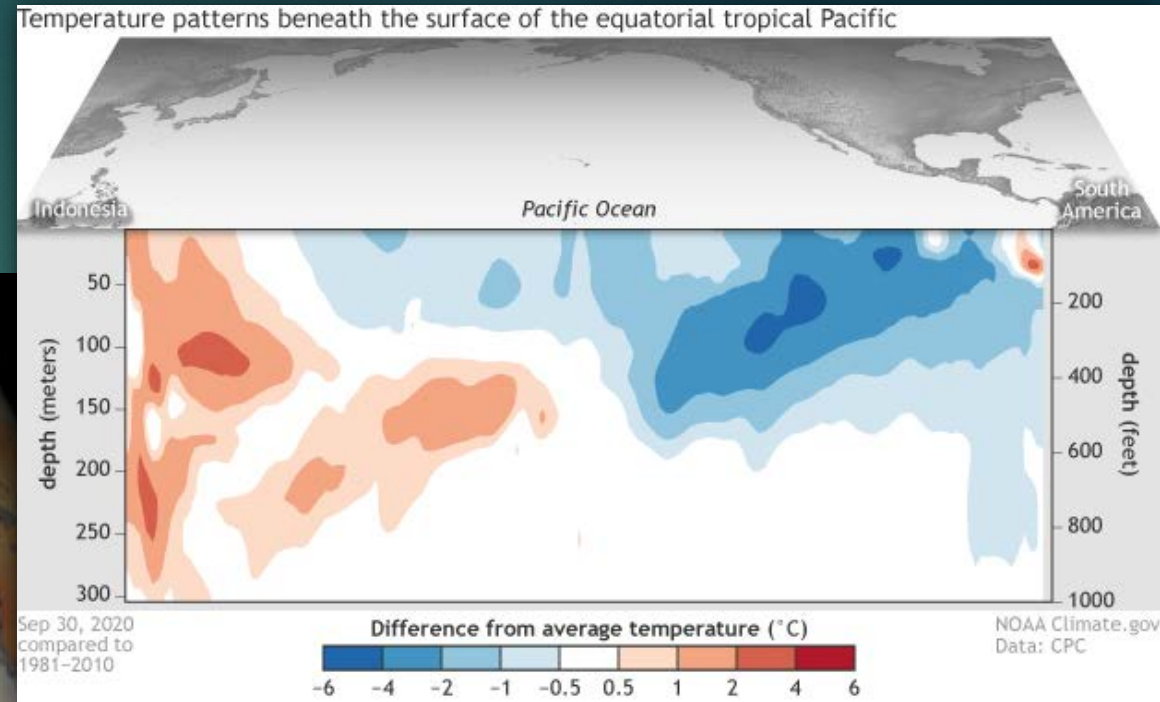
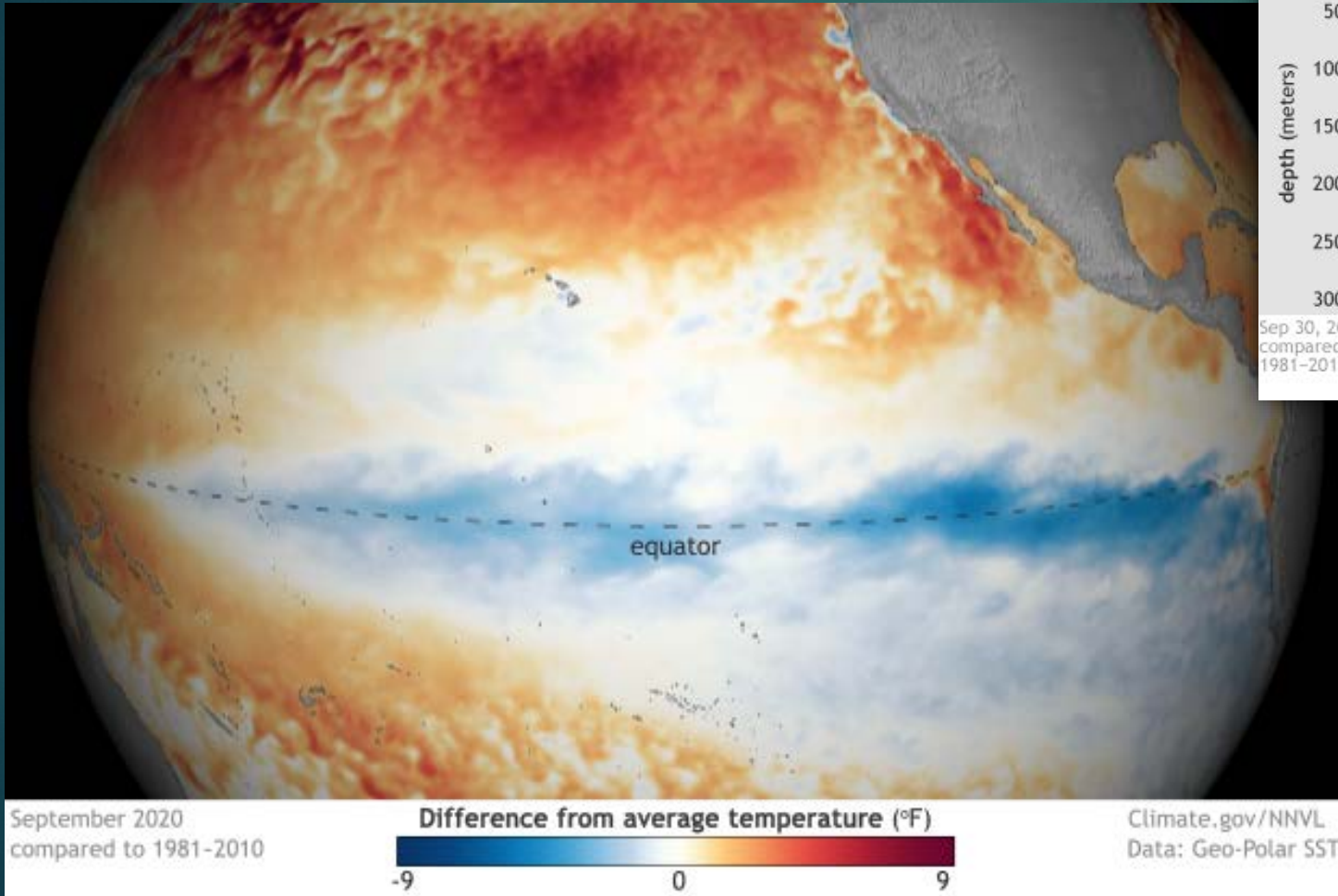


Mozaffarian D et al. *Circulation*. 2015;131:e29-e322

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ENSO Status: La Niña this fall & winter



Moderate La Niña conditions to continue through winter and likely trend toward ENSO-Neutral in spring



Historical View:

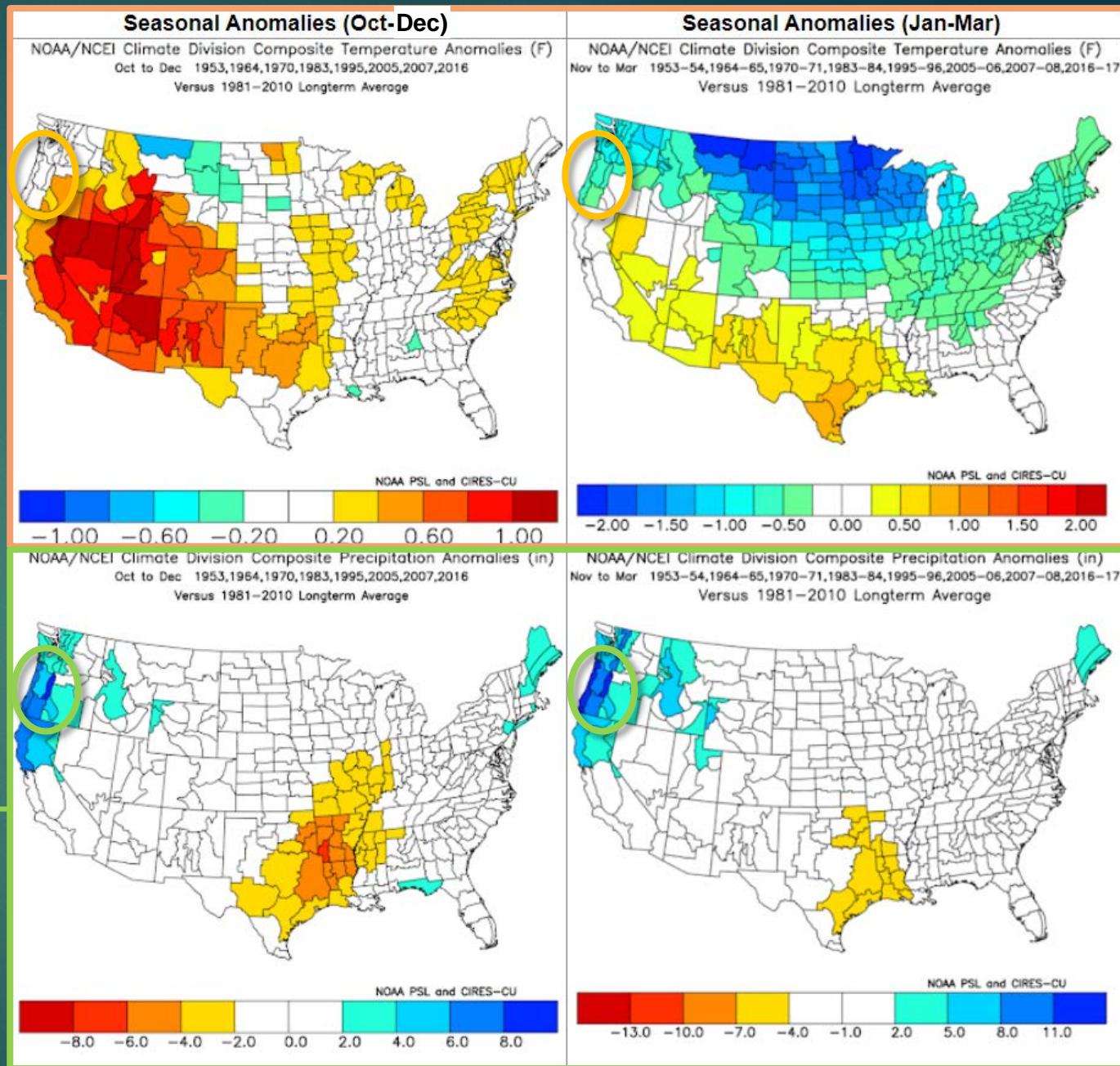
Temperatures & Precipitation during La Niña

Temperatures

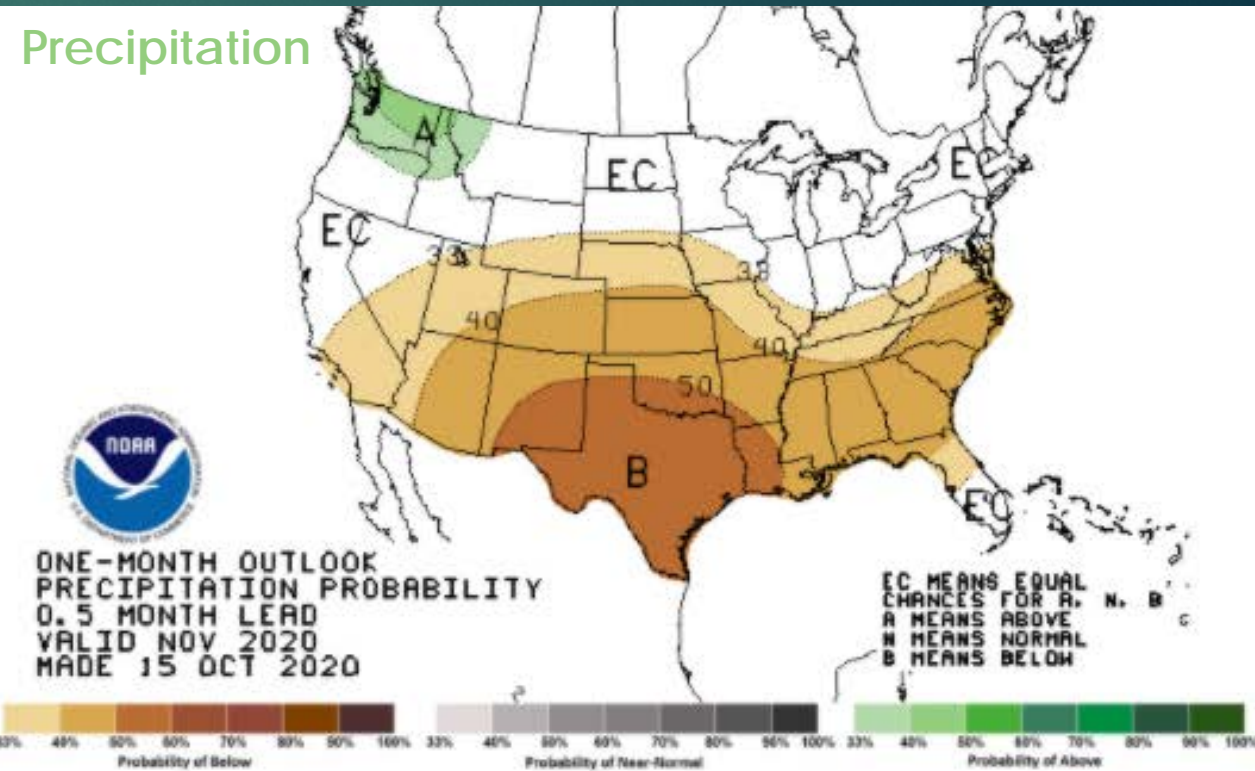
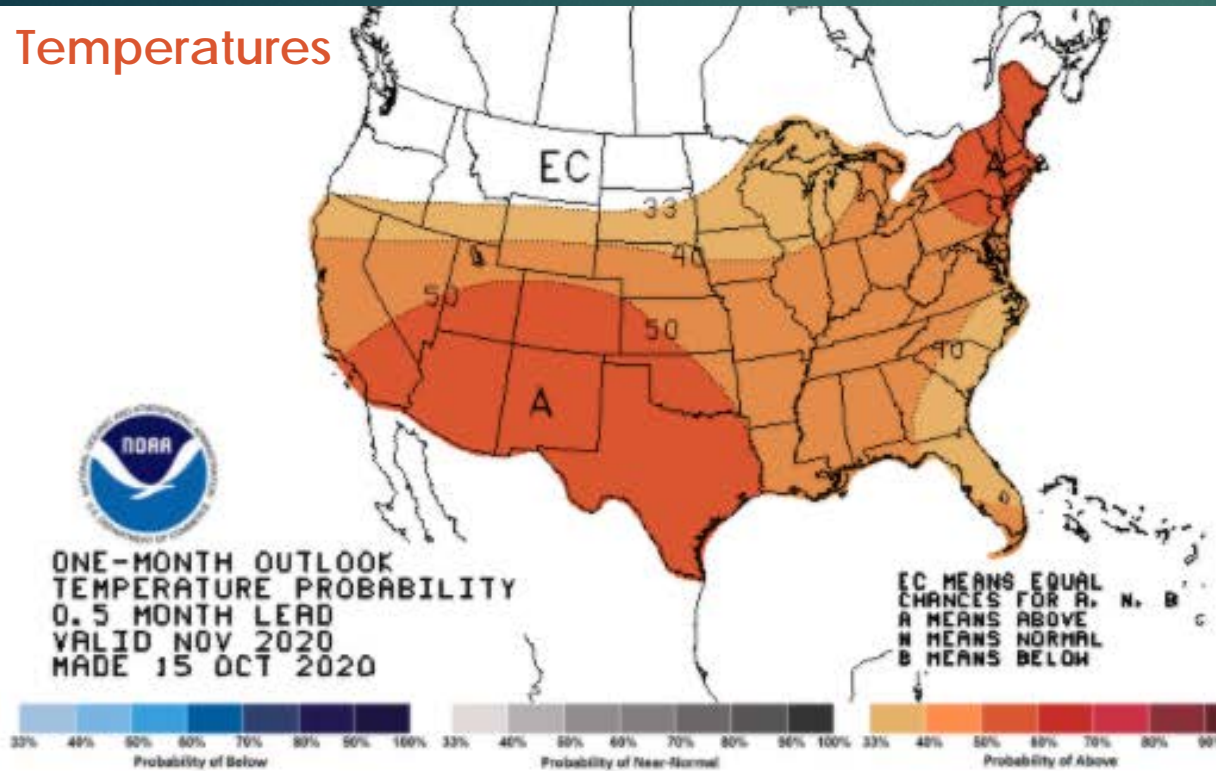
Overall cooler than average in the late winter

Precipitation

Generally above average Oct - Mar



Winter 2020-2021 Outlook: November Temperatures & Precipitation



Climate Prediction Center www.cpc.ncep.noaa.gov



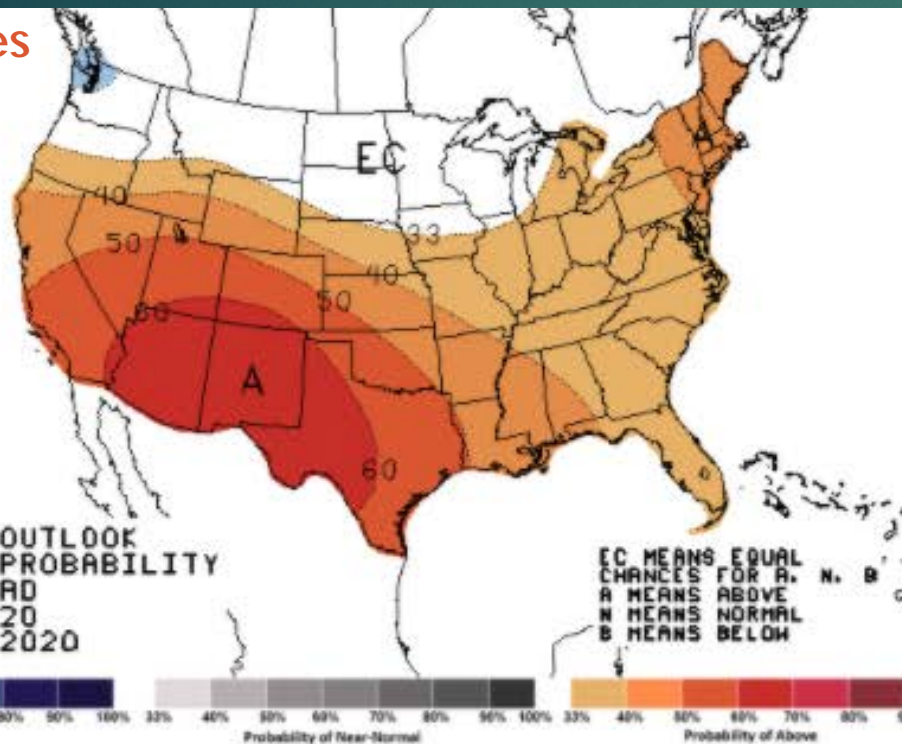
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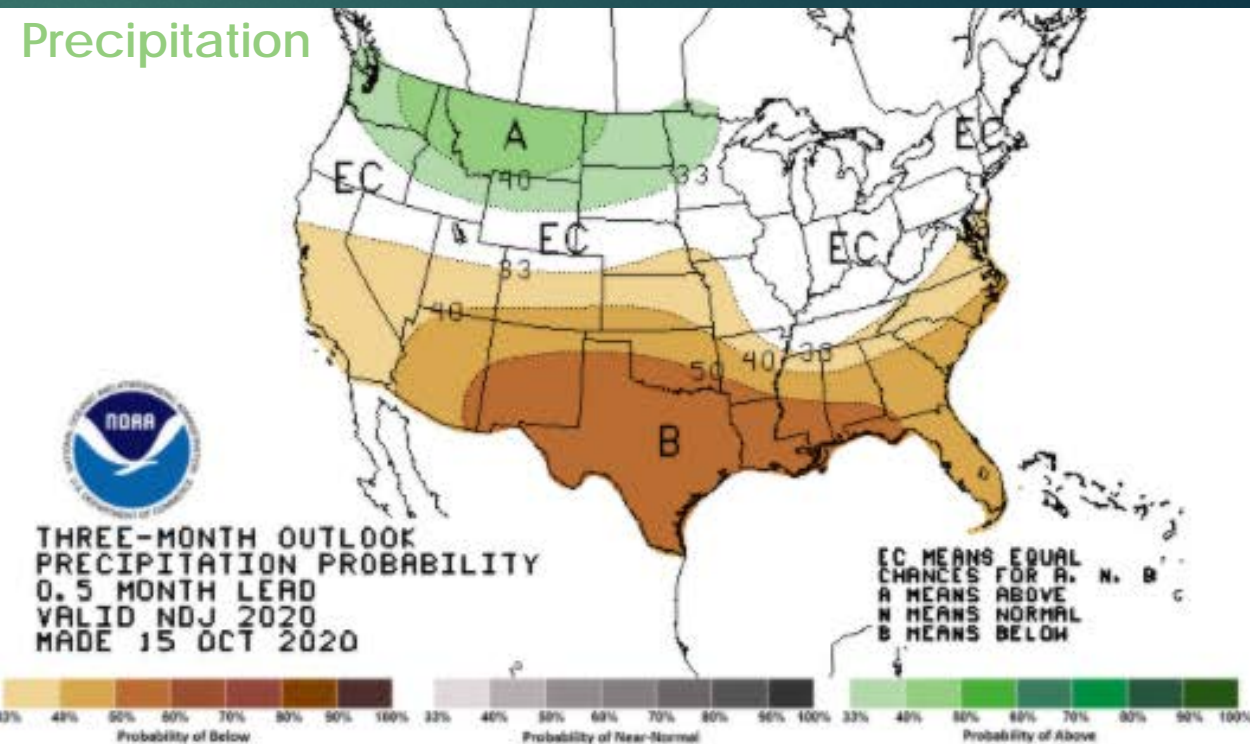
Winter 2020-2021 Outlook: Nov - Jan

Temperatures & Precipitation

Temperatures



Precipitation



Climate Prediction Center www.cpc.ncep.noaa.gov

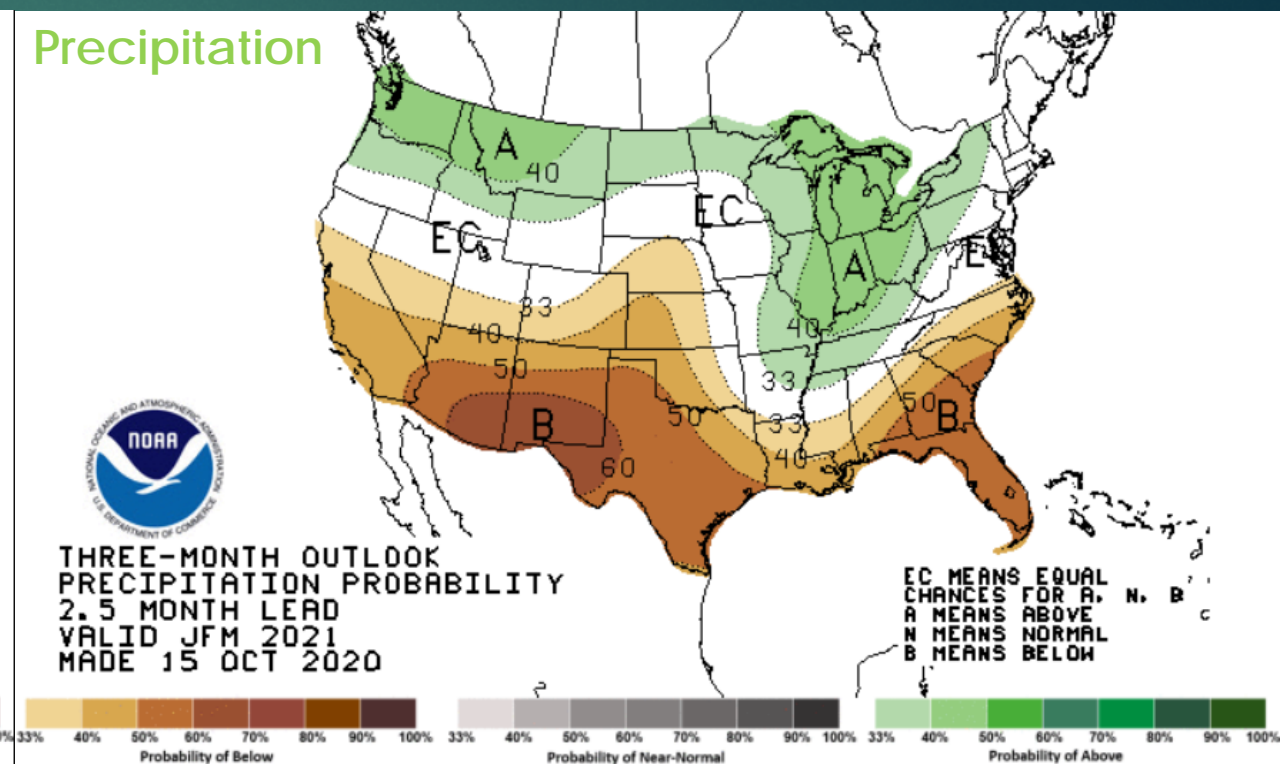
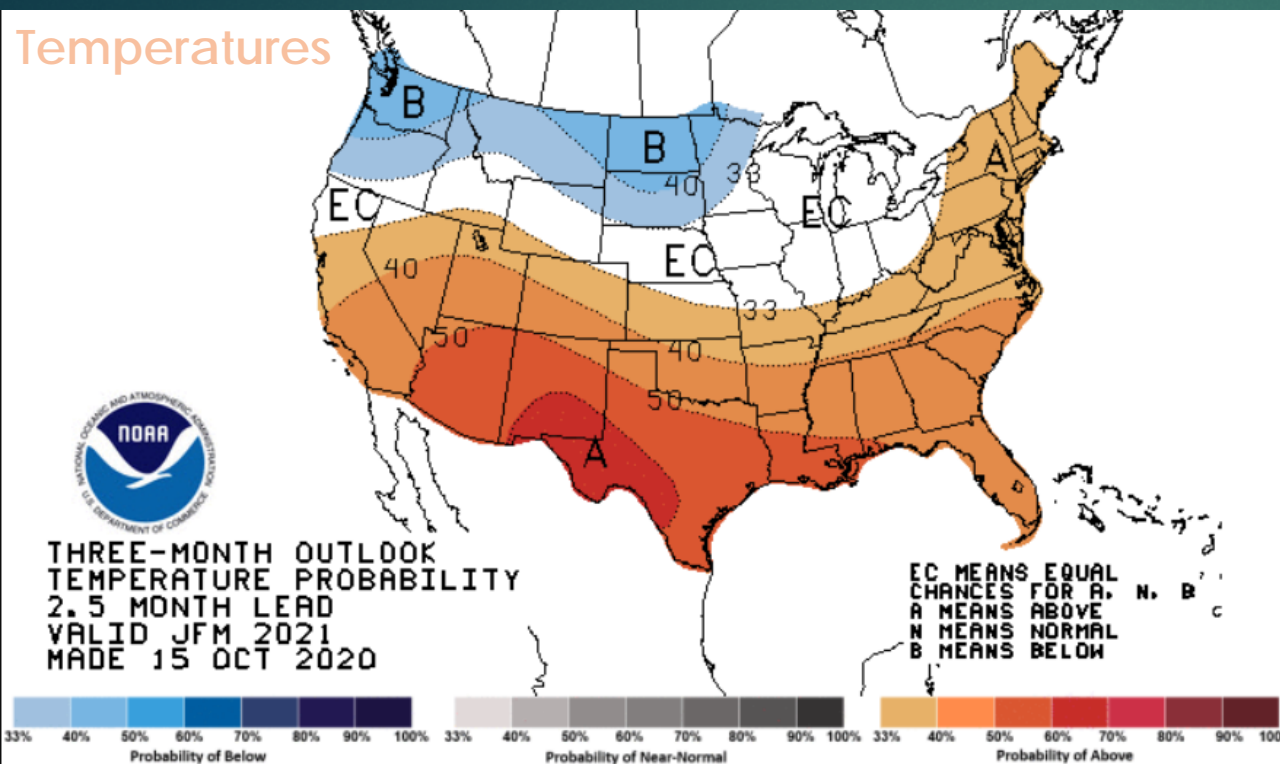


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Winter 2020-2021 Outlook: Jan - Mar

Temperatures & Precipitation



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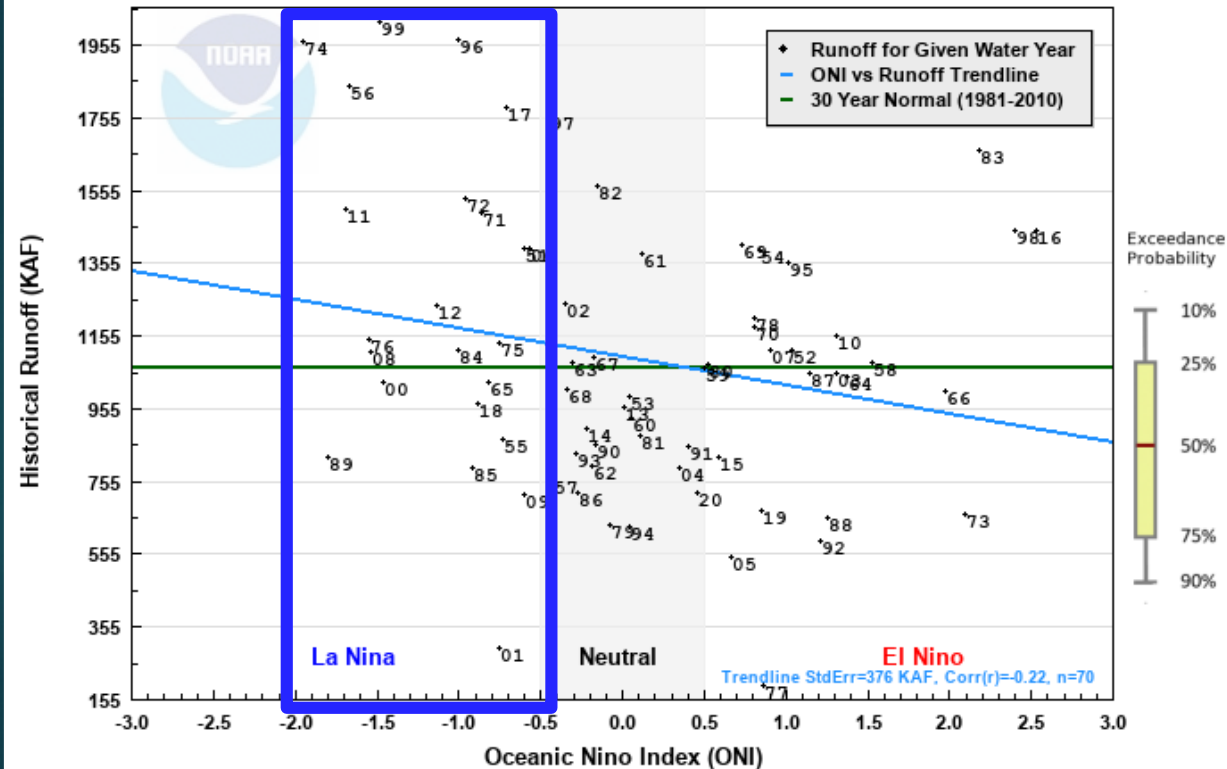
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Streamflow in La Niña Years

Water Year total runoff vs. Oceanic Niño Index

OCT-DEC Oceanic Niño Index vs OCT-SEP Historical Natural Runoff
(WSLO3) TUALATIN - AT WEST LINN (1951-2020)

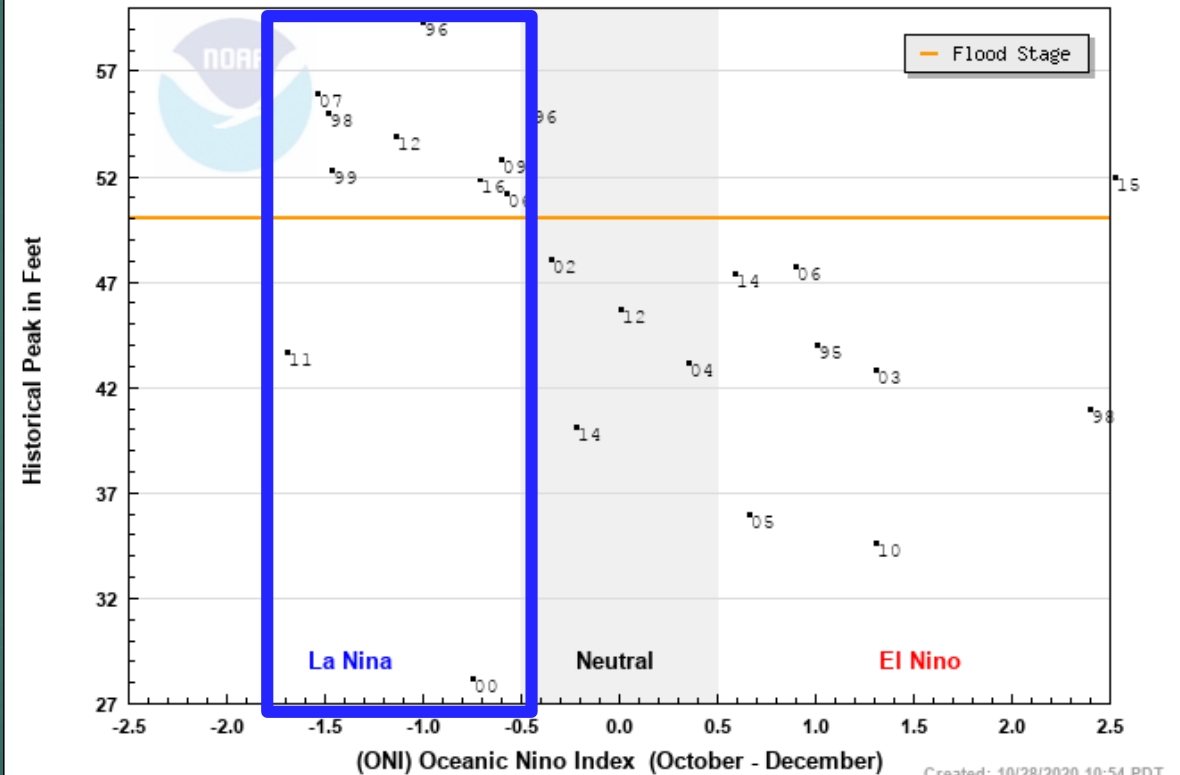


Latest Available ONI Index for OND:11/01/2019

Created: 10/28/2020 10:49 PDT

Peak River Stage vs. Oceanic Niño Index

Comparison of Historical Peaks to (ONI) Oceanic Niño Index
(MCMO3) S YAMHILL-AT MCMINNVILLE



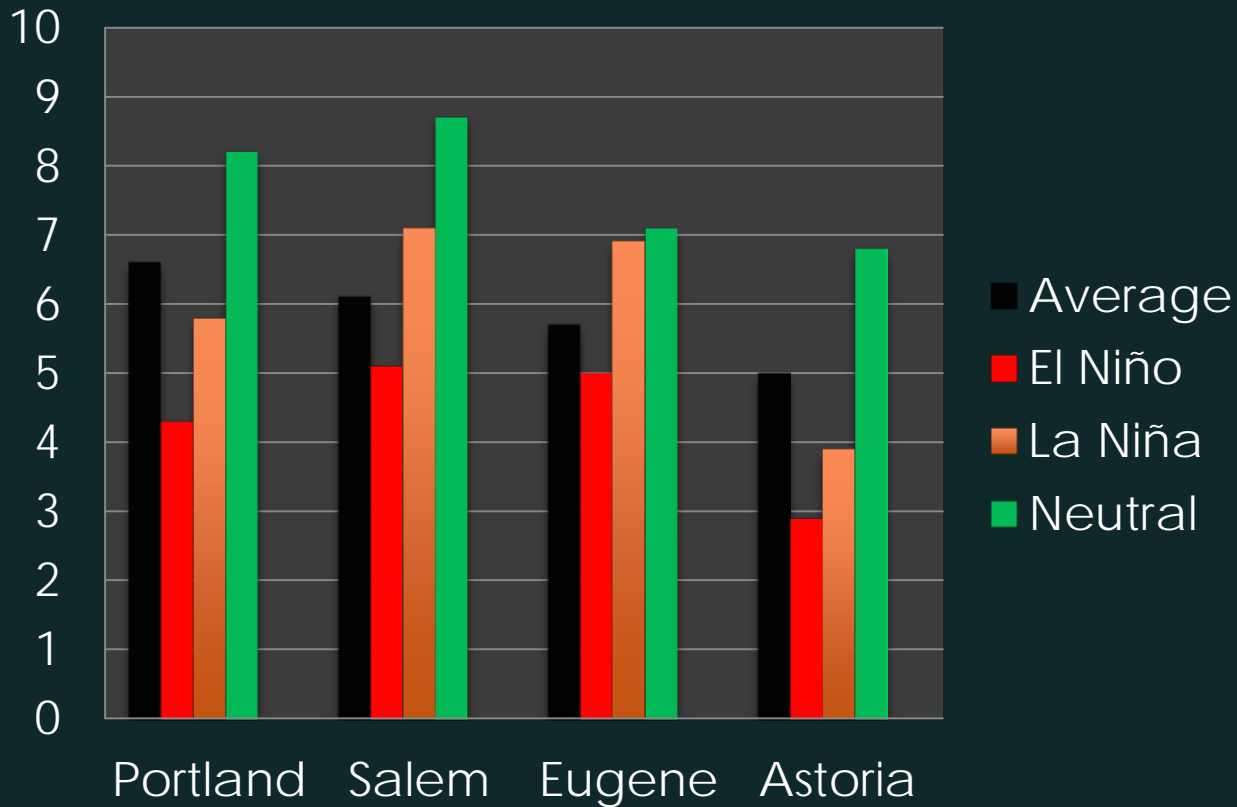
Created: 10/28/2020 10:54 PDT

(only available for watersheds with no reservoir regulation)



Low-Elevation Snow Outlook

Winter Season Snowfall (inches)



Top 10 snowiest winters:

- 34.0" 1968-69 El Niño
- 24.2" 2008-09 ENSO Neutral
- 22.4" 1955-56 La Niña
- 20.3" 1959-60 ENSO Neutral
- 17.4" 1992-93 ENSO Neutral
- 16.3" 1979-80 ENSO Neutral
- 14.7" 1970-71 La Niña
- 13.4" 1964-65 ENSO Neutral
- 12.0" 1994-95 El Niño
- 10.5" 1953-54 ENSO Neutral

60% were ENSO Neutral
 20% were La Niña
 20% were El Niño

20 snow-shutout winters: (Trace or 0 snowfall)

9 were El Niño winters
 8 were ENSO Neutral winters
 3 were La Niña winter

45% were El Niño
 40% were ENSO Neutral
 15% were La Niña



Winter Outlook Summary

Temperatures likely *below average*, especially in late winter

Precipitation likely *above average*

October through March

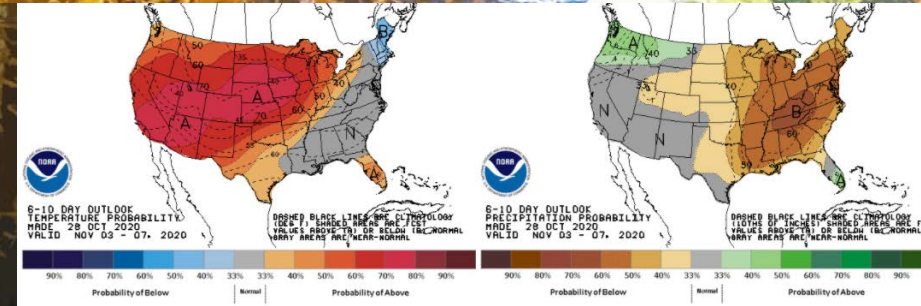
Flooding – higher likelihood than usual

Low-elevation Snow – likely to have some

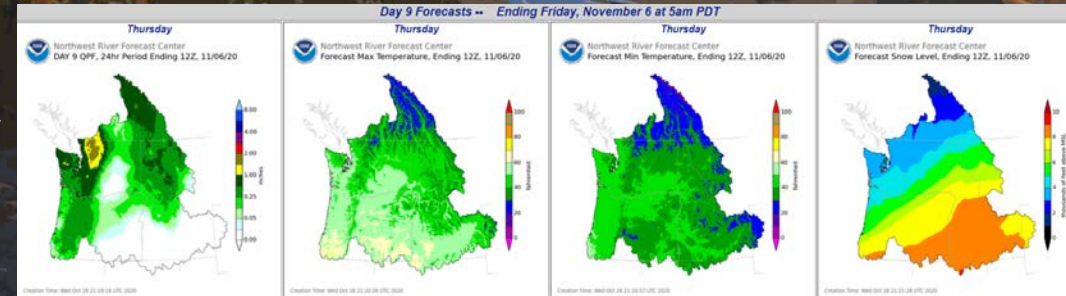


Ways to Stay Informed: Watching the Forecast

Climate Prediction Center
8-14 & 6-10 day Outlooks
(updated daily)
cpc.ncep.noaa.gov



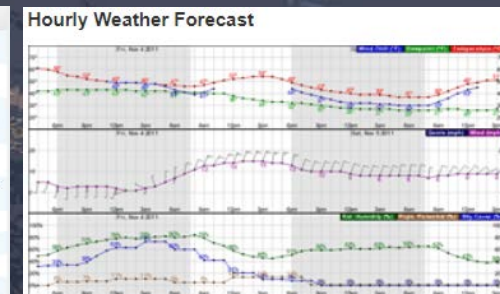
NWRFC 10-day Graphics
Precip & Temperatures for each day
(updated daily)
www.nwrfc.noaa.gov/weather.10_day.cgi



NWS Portland 7-day Forecast
Text, graphs, & tables
(updated multiple times per day)
weather.gov/portland & mobile.weather.gov

Detailed Forecast

Today	Areas of fog before 7pm. Otherwise, cloudy through mid morning, then gradual clearing, with a high near 63. Calm winds.
Tonight	A 30 percent chance of rain after 5am. Patchy fog after 11pm. Otherwise, increasing clouds, with a low around 43. Calm wind.
Friday	Rain likely before 11am, then a chance of showers between 11am and 2pm. Patchy fog before 8am. Otherwise, cloudy, then gradually becoming mostly sunny, with a high near 58. Calm wind becoming south around 6 mph in the morning. Chance of precipitation is 70%.
Friday Night	Patchy fog after 5am. Otherwise, partly cloudy, with a low around 37. West northwest wind around 6 mph becoming calm in the evening.
Saturday	Patchy fog before 9am. Otherwise, mostly sunny, with a high near 59. Calm wind becoming north northeast around 6 mph in the afternoon.
Saturday Night	Patchy fog after 2am. Otherwise, mostly clear with a low around 34.
Sunday	Sunny, with a high near 62.
Sunday Night	Patchy fog after 2am. Otherwise, mostly clear with a low around 38.
Monday	Patchy fog before 8am. Otherwise, partly sunny with a high near 62.

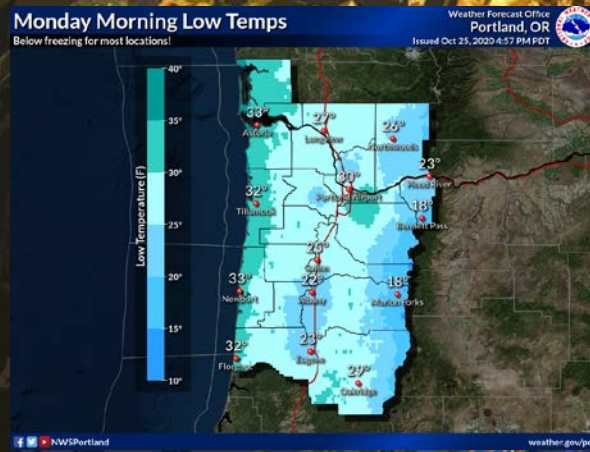


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Ways to Stay Informed: Social Media

Facebook
NWSPortland



Change in the Weather this weekend...

COOL & WET

Rain likely starting Saturday
Highs around 60

BOATERS
Potential for hazardous seas on the coastal waters this weekend

HUNTERS & CAMPERS
Cold and rainy in the Coast Range & Cascades
Snow level ~5000'

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Warm Week Ahead

Willamette Valley
Highs in the 80s

Coast
Upper 70s to low 80s (Mon & Tue)
Mid 60s to low 70s (Wed-Fri)

10-15° Above Normal!

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Twitter
@NWSPortland

Pleasant Fall Weather The Remainder Of This Week

Day	High	Low	Clouds
Wed	61°	42°	0%
Thu	61°	43°	0%
Fri	61°	44°	15%

NW OR & SW WA Valleys

NWS Portland @NWSPortland
Expect rather pleasant fall weather for the remainder of the work week. There will be far less late night/early morning frost and freezing temperatures than recent days. Late night/early morning valley fog should increase during the second half of the work week. #pdxwx #pnw #weax

The Science of Wind Chill

NO WIND
98.6°F
Average temperature of the human body

WINDY
95°F
Hypothermia begins when our body temperature drops two to four degrees

Under calm conditions, the body radiates heat, creating a layer of warmth between our skin and the cold surroundings.

But when it's windy, the moving air breaks up this insulating layer. It speeds up heat loss by whisking away the warmth from our skin.

Heat is moved away from our bodies.

weather.gov/winter

NWS Portland @NWSPortland
The sun may be out today, but you might be feeling a bit chilly outside! Why? The wind moves heat away from our body leaving us susceptible to the cooler air. Check out the Science of Wind Chill for more information! #pnw #waxw #weather.gov/winter



Ways to Stay Informed: Communication Tools

iNWS

Text Message and/or Email Alert

inws.ncep.noaa.gov



NWS Chat

Instant Messaging w/ NWS staff

www.nwschat.weather.gov

Webinars & Email Briefings

For weather events with potential for high impacts

NWS Briefing

on the

Heavy Rain and Flood Potential
Expected this Weekend (Dec 11-13)



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