Regional Climate Perspective

Nick Bond & Karin Bumbaco
Office of the Washington State Climatologist
Joint Institute for the Study of Atmosphere and Ocean
University of Washington
28 February 2020
2020 Water Year

Temperature

- Mainly near-normal temperatures with a tendency to be on the warmer side
  - Oct-Jan statewide avg temps in top third*

Precipitation

- Distinction in precipitation percent of normal between western and eastern WA
  - Oct-Jan statewide avg precip near-normal

*records since 1895
January 2020

- Much above normal temperatures in eastern WA; tied as the 16th warmest averaged statewide (+2.4°F)
- Averaged statewide, 4th wettest January on record (+4.19”; 169% of normal)
February 2020

- Above normal Feb temperatures in eastern WA; overall temperature pattern similar to January
- Rain shadows fairly evident in precipitation percent of normal
Early Feb. Flooding

CW3E Event Summary: 4–8 Feb 2020

NWS 7-day Stage IV Precipitation: Valid 1200 UTC 10 Feb

72-h Interpolated Snowfall: Valid 1200 UTC 8 Feb

- Total estimated precipitation over the 7-day period ending 1200 UTC (4 AM PST) 10 Feb exceeded 5 inches over portions of western WA and northwestern OR, with the highest amounts (> 10 inches) over the WA Cascades
- Inland penetration of AR conditions also supported heavy snowfall (1–3 feet) across the higher terrain in the interior Pacific Northwest and Rocky Mountains

Source: NOAA/NWS NOHRSC, https://www.nohrsc.noaa.gov/
SWE Difference

SWE Difference from Average (SNODAS)
2020-02-24 to 2020-02-24, Mean, vs. 2019 - 2019

Climate Engine
Sea Surface Temperature Anomalies 23 February 2020

Daily SST Anomaly

NOAA/ESRL/PSD

Base Period: 1971-2000

-4 -3.5 -3 -2.5 -2 -1.5 -1 -0.5 0 0.5 1 1.5 2 2.5 3 3.5 4 °C
El Niño/La Niña Forecasts Indicate Elevated Odds of Near-Neutral Conditions through Summer 2020

Mid-February 2020 IRI/CPC Model-Based Probabilistic ENSO Forecasts

ENS0 state based on NINO3.4 SST Anomaly
Neutral ENSO: -0.5 °C to 0.5 °C

- La Niña Forecast Probability
- Neutral Forecast Probability
- El Niño Forecast Probability
- La Niña Climatology
- Neutral Climatology
- El Niño Climatology

Model Predictions of ENSO from Feb 2020

IRI/CPC
Latest Set of Week 3-4 Forecasts from CFSv2

Anomalously low 500 hPa Z over WA late: Near-normal weather early but then cooler and wetter than normal late.
NOAA/CPC Forecasts for Mar-May 2020

THREE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
0.5 MONTH LEAD
VALID MAR 2020
MADE 20 FEB 2020

THREE-MONTH OUTLOOK
PRECIPITATION PROBABILITY
0.5 MONTH LEAD
VALID MAR 2020
MADE 20 FEB 2020
Climate Model Ensemble Projections for MAM Precipitation

NMME forecast of Prec., rate anom IC=202002 for Lead 1 2020MAM

IMME

IMME
Warmer than normal temperatures for May-July and July-Aug (not shown)
CFSv2 Weeks 3 & 4 500 hPa Z Anomalies (m)  
16 Member Ensemble Mean Forecast from 22Jan2020

Better Overall – Fairly good for PNW

Week 3  6Feb2020–12Feb2020

Week 4  13Feb2020–19Feb2020
A Fine Forecast
A Real Stinker of a Forecast

Week 3
13 Feb 2018 – 21 Feb 2018

Week 4
22 Feb 2018 – 28 Feb 2018

CFSv2 Weeks 3 & 4 500 hPa Z Anomalies (m)
16 Member Ensemble Mean Forecast from 31 Jan 2018
Validation Summary

24 Cool Season (Oct-Apr) and 14 Warm Season (May-Sept) forecasts using a 3-Tier System (Below, Near-Normal, Above) with respect to:

- 500 hPa Geopotential Heights (Z)
- 500 hPa Zonal Wind (U)
- 500 hPa Meridional Wind (V)

### Hits

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Total: 44 vs. 38 by chance

### Category 1 Errors

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Total: 52 vs. 51 by chance

### Bad Misses

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Total: 18 vs. 25 by chance
Final Remarks

- Water year 2020 warmer than normal for most of the state, but dry east of the Cascades
- Overall wet conditions for the rest of the state improved high elevation snow and Drought Monitor conditions
- ENSO not liable to be a significant player in the climate system during the next 6 months
- Expecting temperatures to run moderately above normal for spring but even warmer for May-July and July-Aug
- Spring precipitation may be on the drier side
- I plan on putting my tomato plants out early this spring