Regional Climate Perspective

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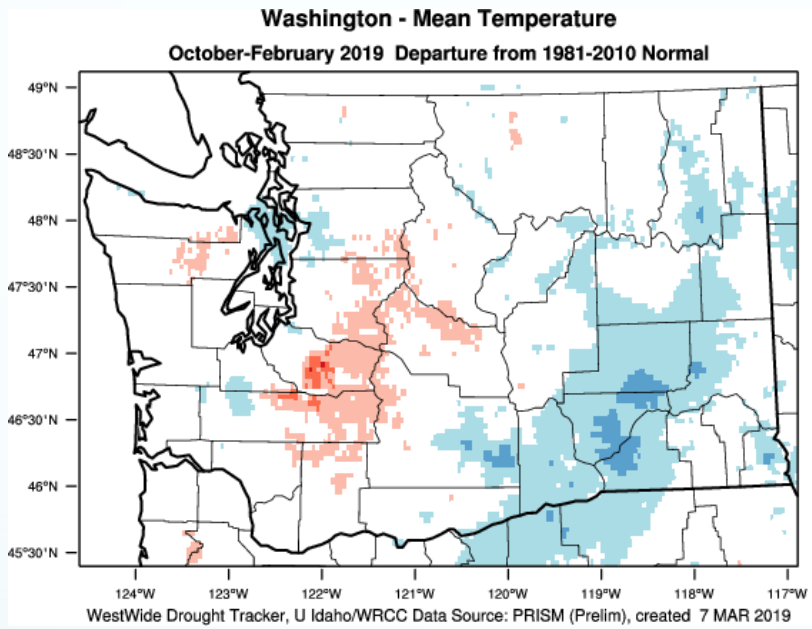
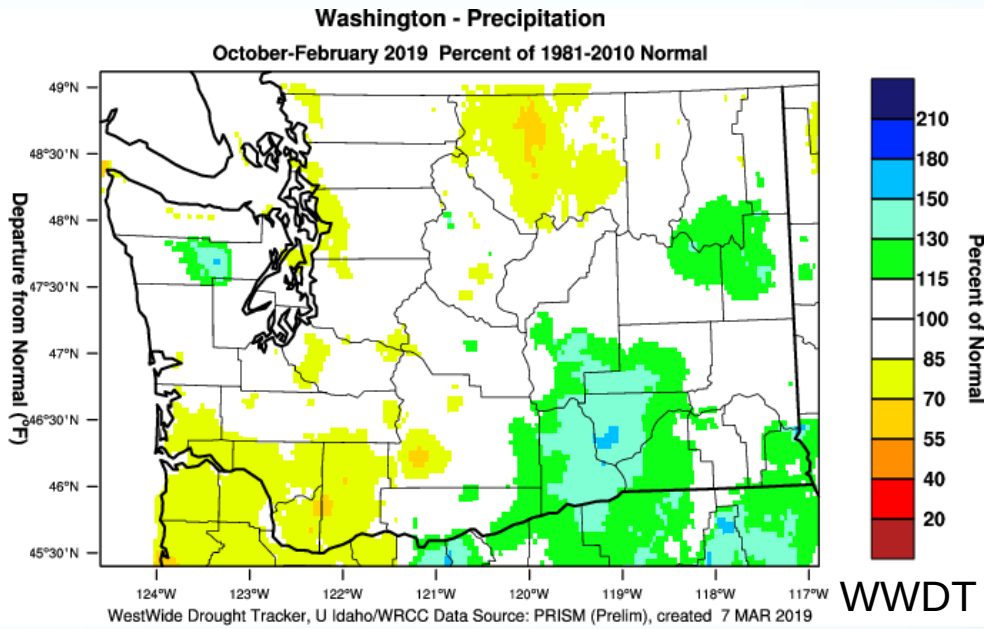
Joint Institute for the Study of Atmosphere and Ocean
University of Washington
8 March 2019

2019 Water Year

Temperature



Precipitation

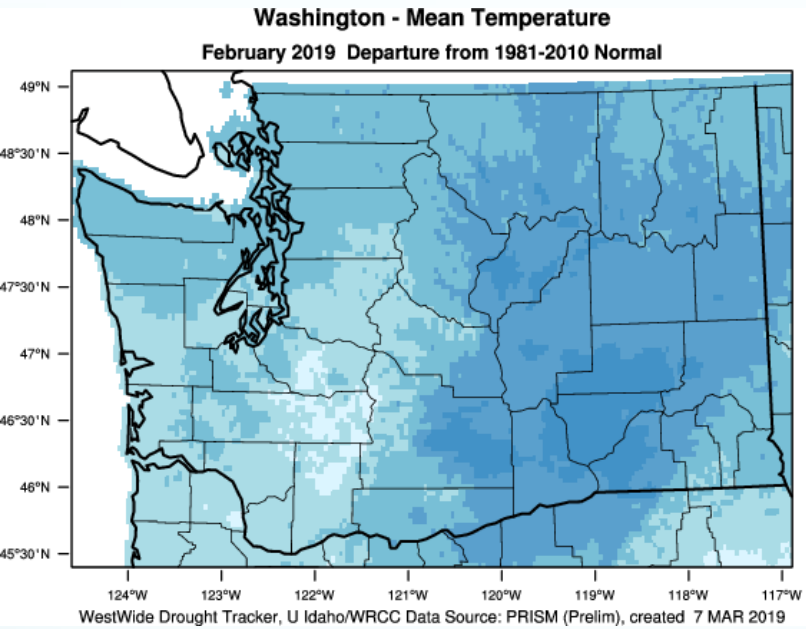


WWDT

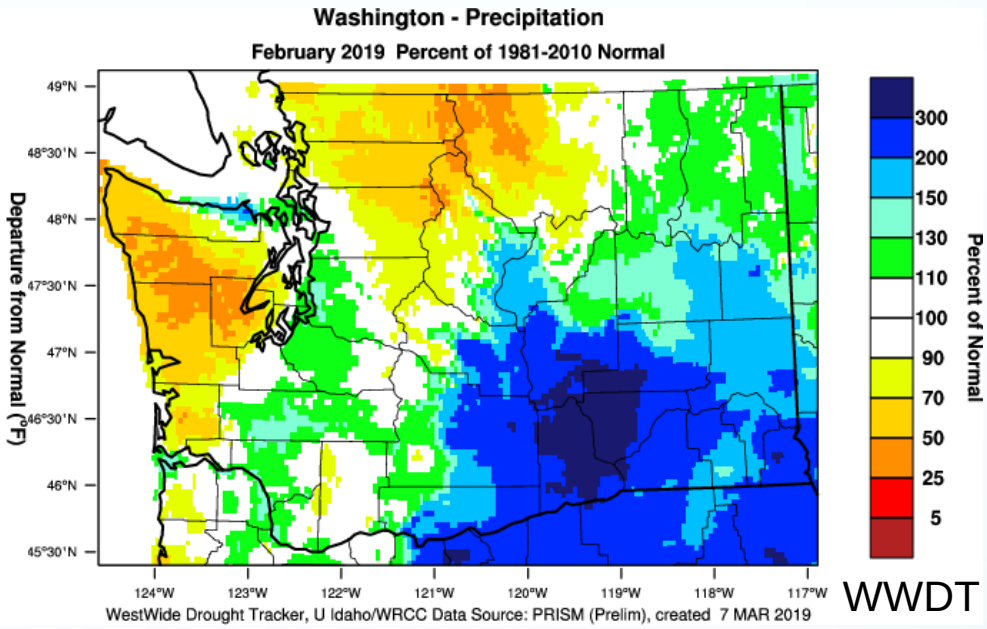
- Average Oct-Feb temperatures now tied for 76th coldest WY (since 1895): -0.2°F below normal
  - Ties 1919, 1975, 1978
  - Note that Oct-Jan was 12th warmest
- Middle of the pack in terms of precipitation: -2.30” below normal averaged statewide

February 2019

Temperature

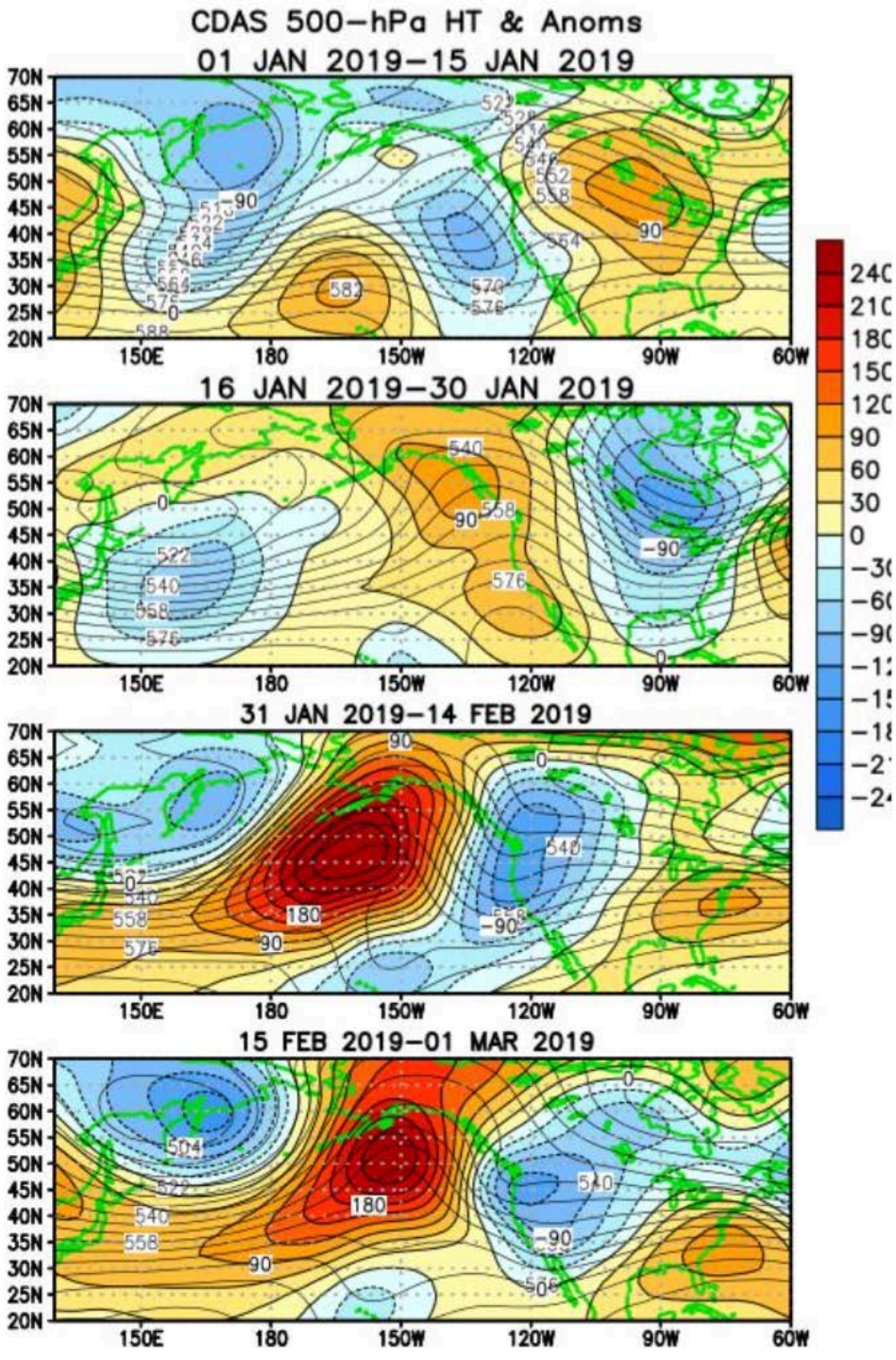


Precipitation



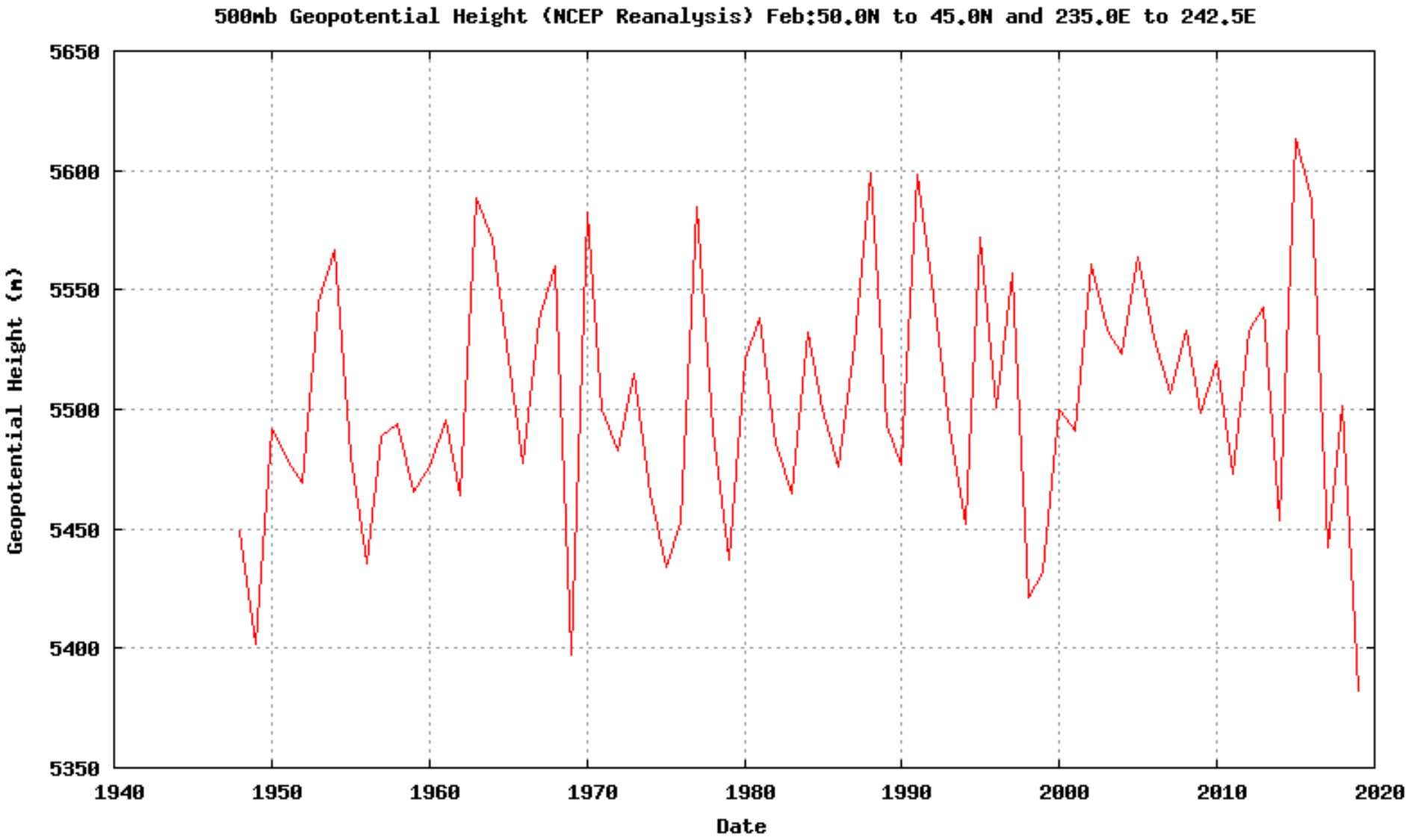
WWDT

- Average February temperatures tied (with 1989) for 5th coldest: -8.9°F below normal
  - Colder Februarys: 1936, 1929, 1956, 1933
- February precipitation near-normal when averaged statewide (+0.05”) but clear regional differences

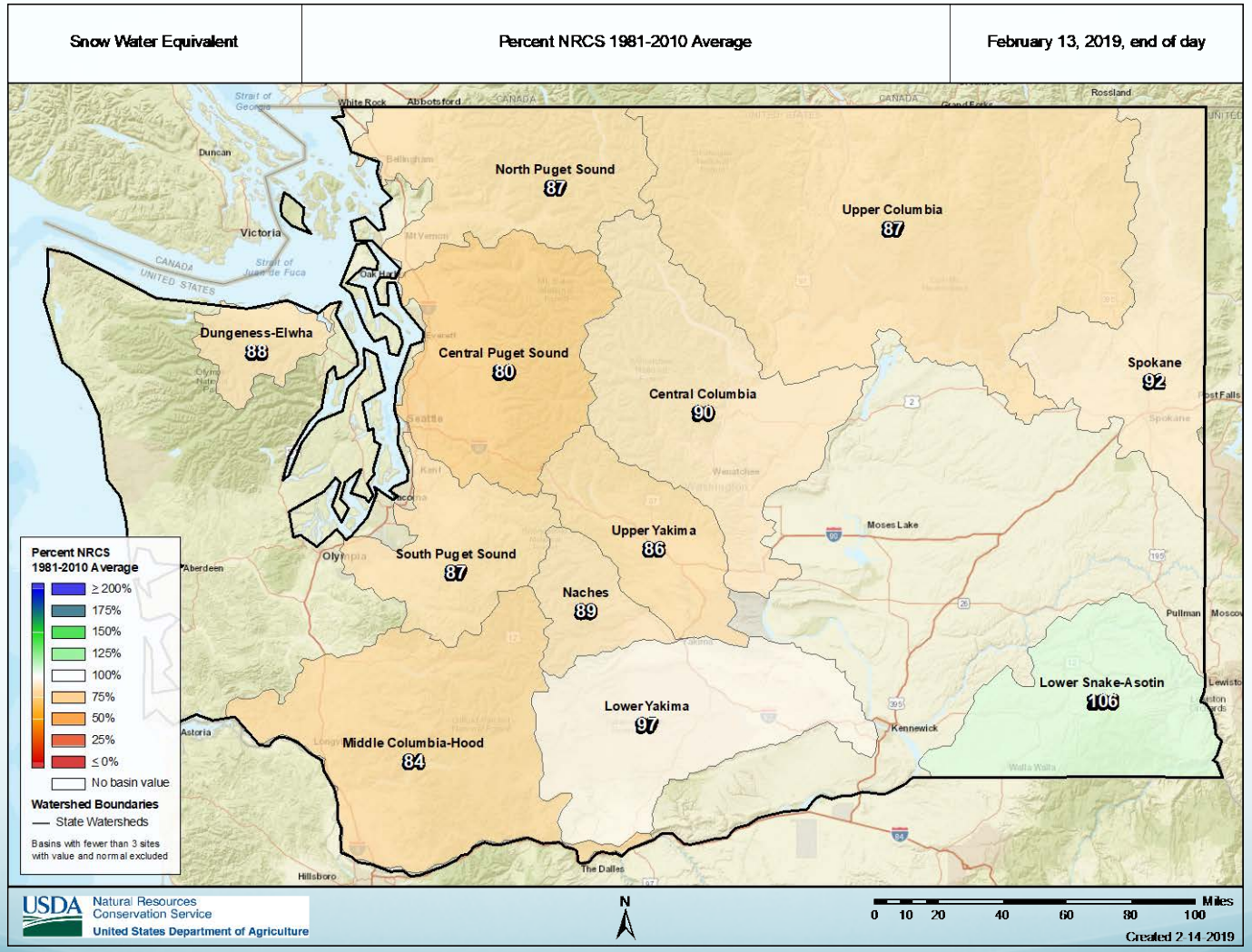


Evolution of the 500 hPa Z Anomalies over the North Pacific and North America during Jan-Feb 2019

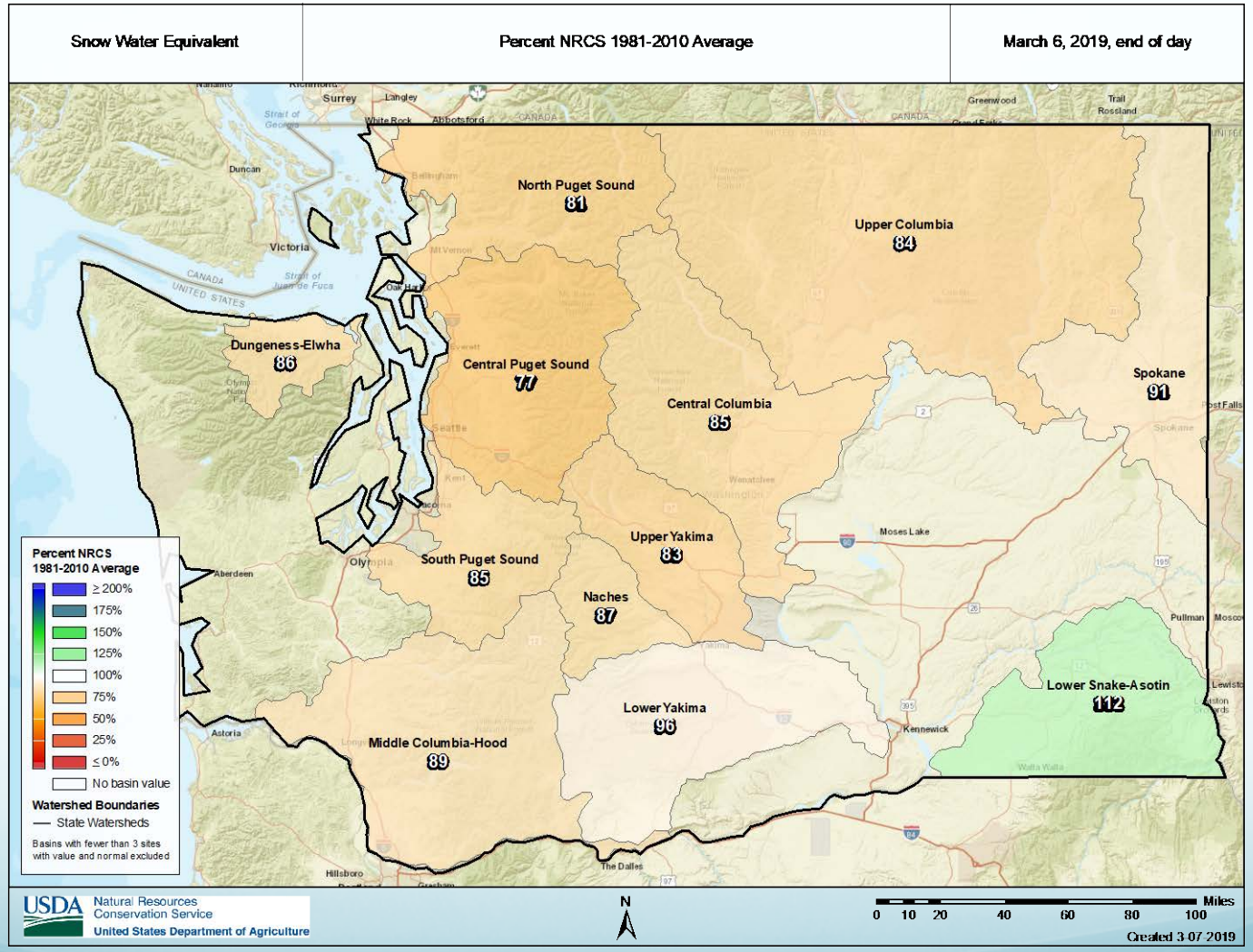
Mean February 500 hPa Geopotential Heights over WA state



Feb 13 SWE


Snow Water Equivalent
Percent NRCS 1981-2010 Average
February 13, 2019, end of day
North Puget Sound
87
Upper Columbia
87
Dungeness-Elwha
88
Central Puget Sound
80
Central Columbia
90
Spokane
92
Upper Yakima
86
South Puget Sound
87
Naches
89
Lower Yakima
97
Lower Snake-Asotin
106
Middle Columbia-Hood
84
Percent NRCS
1981-2010 Average
≥ 200%
175%
150%
125%
100%
75%
50%
25%
≤ 0%
No basin value
Watershed Boundaries
State Watersheds
Basins with fewer than 3 sites
with value and normal excluded
USDA
Natural Resources
Conservation Service
United States Department of Agriculture
N
0 10 20 40 60 80 100
Miles
Created 2-14-2019

March 6 SWE


Snow Water Equivalent
Percent NRCS 1981-2010 Average
March 6, 2019, end of day
North Puget Sound
81
Upper Columbia
84
Dungeness-Elwha
86
Central Puget Sound
77
Spokane
91
Central Columbia
85
Upper Yakima
83
South Puget Sound
85
Naches
87
Lower Snake-Asotin
112
Lower Yakima
96
Middle Columbia-Hood
89
Percent NRCS
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No basin value
Watershed Boundaries
State Watersheds
Basins with fewer than 3 sites with value and normal excluded
USDA Natural Resources Conservation Service
United States Department of Agriculture
N
0 10 20 40 60 80 100
Miles
Created 3 07 2019

US Drought Monitor

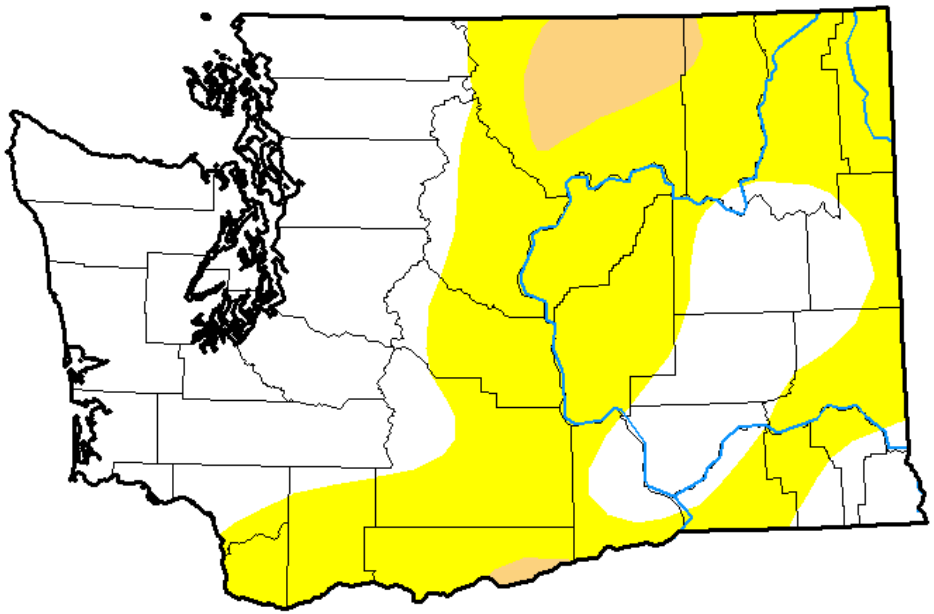
U.S. Drought Monitor

Washington

March 5, 2019

(Released Thursday, Mar. 7, 2019)

Valid 7 a.m. EST



Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

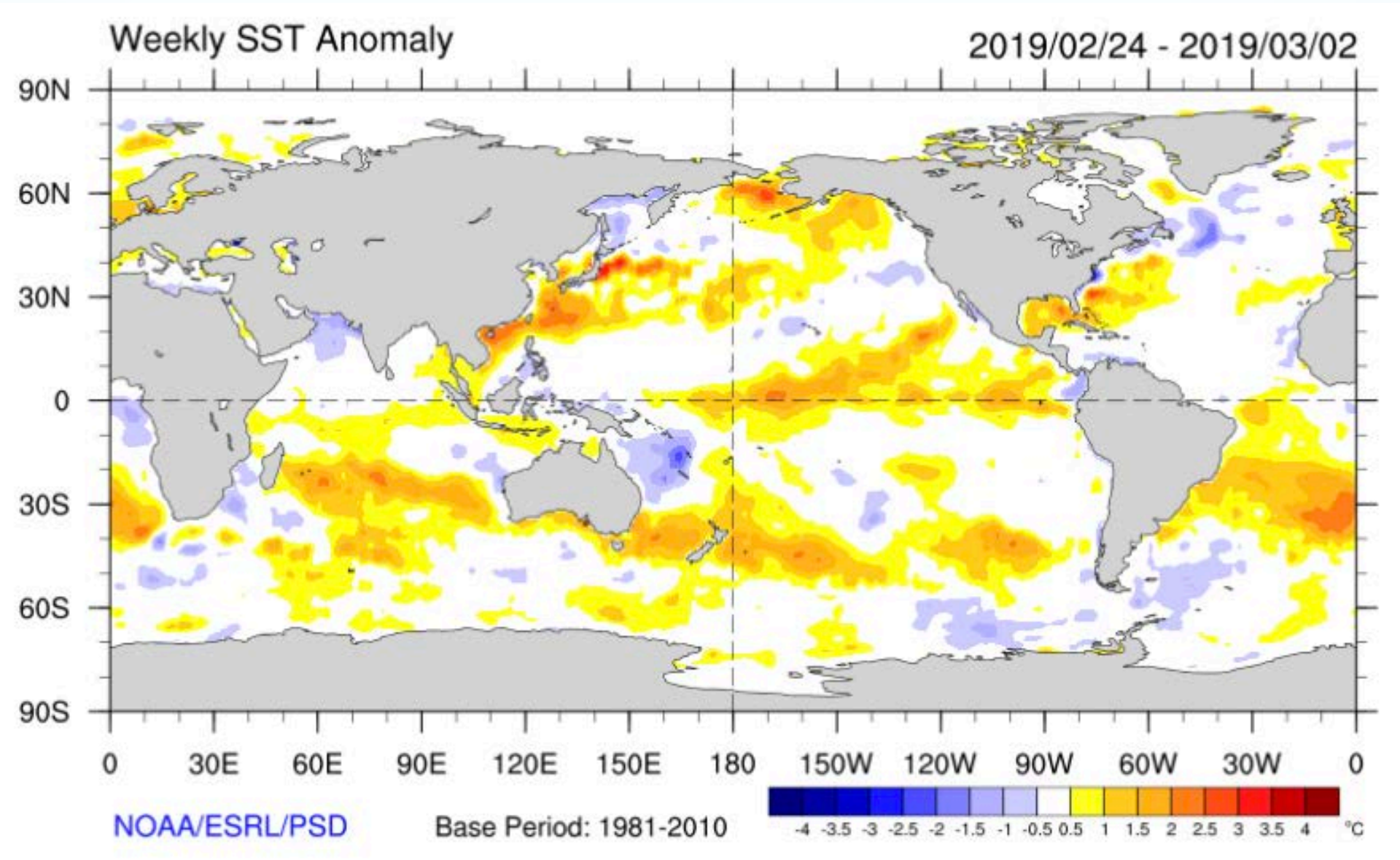
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

Eric Luebehusen
U.S. Department of Agriculture

http://droughtmonitor.unl.edu/

Recent Global SST Anomalies



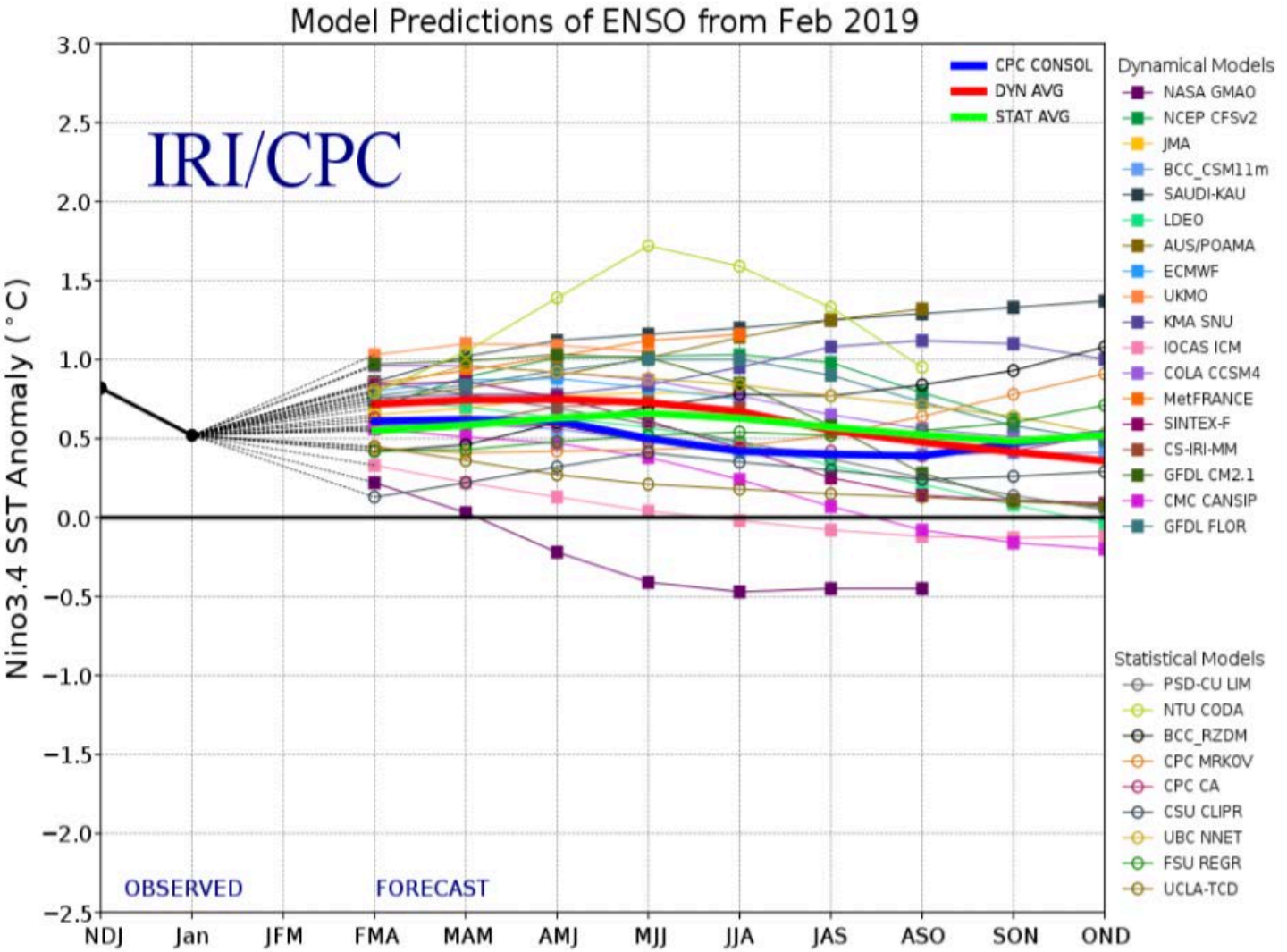
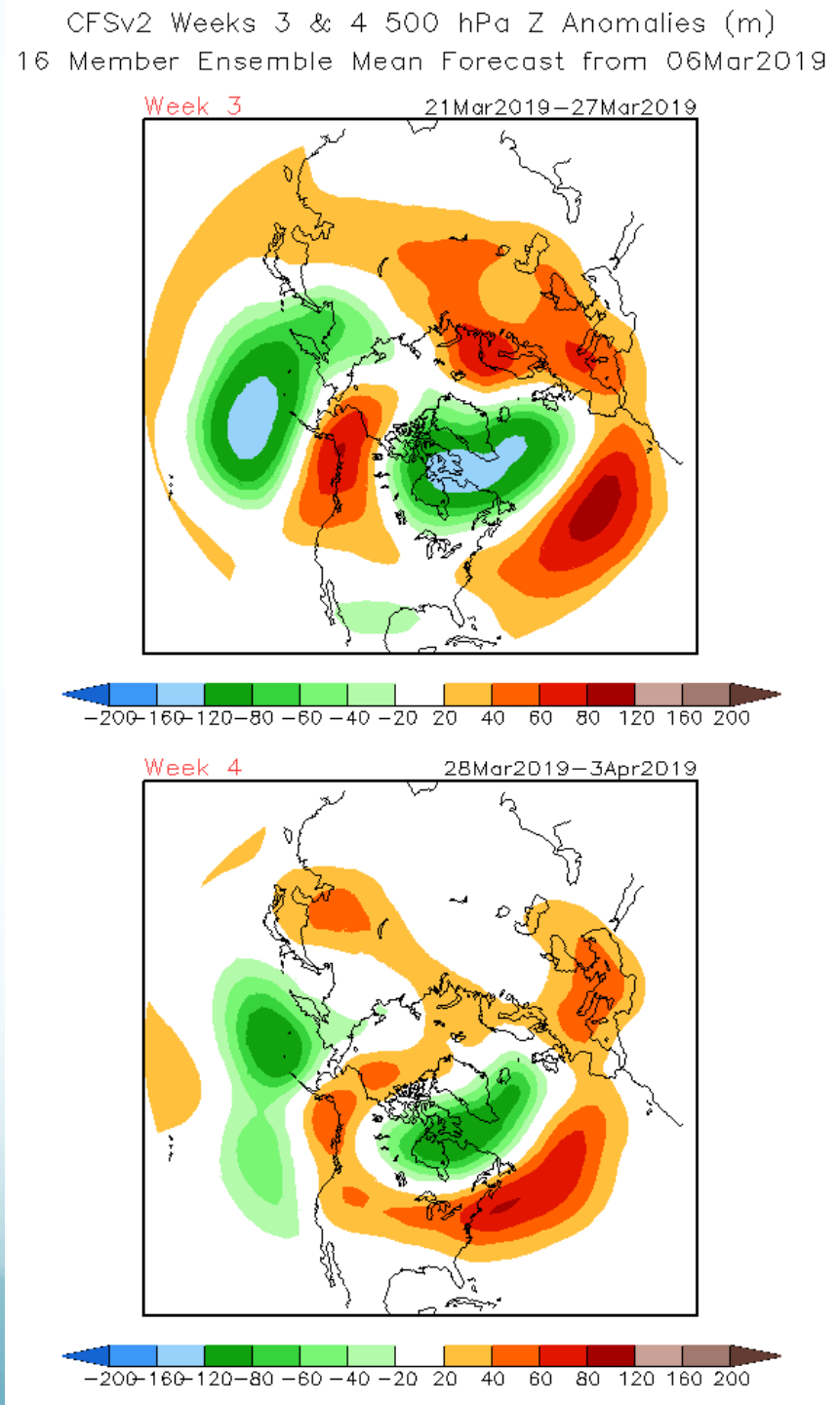


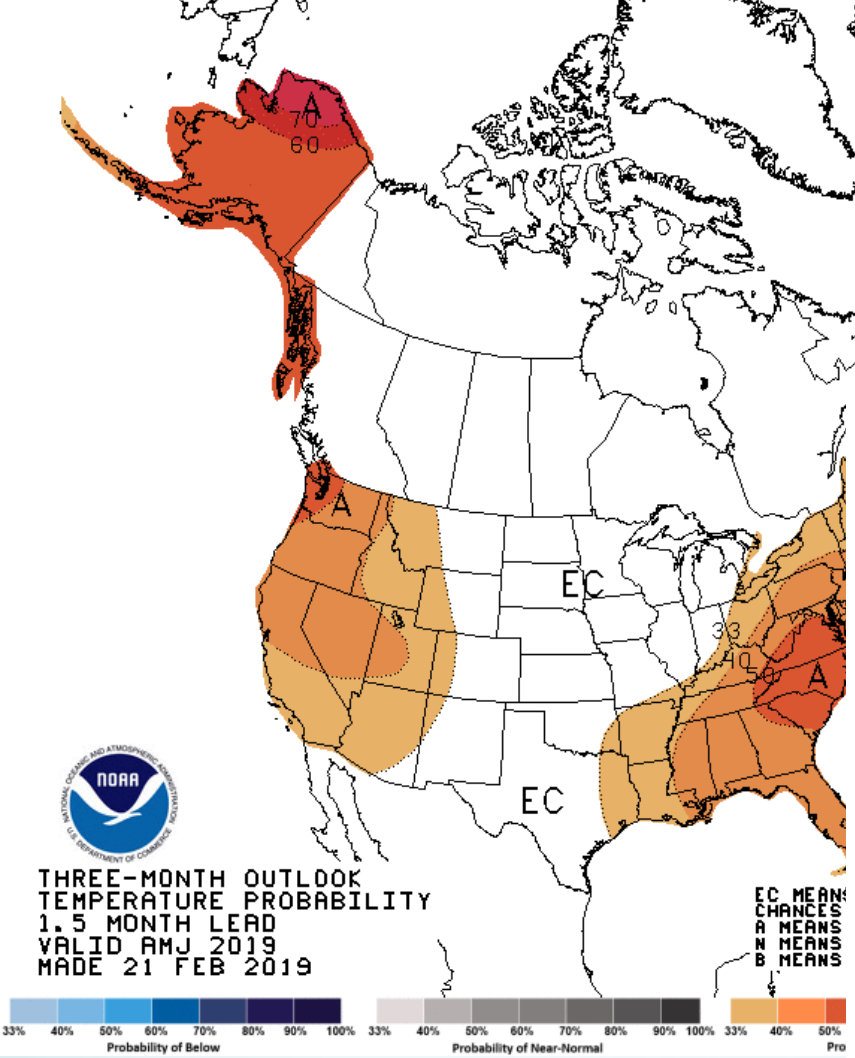
Figure provided by the International Research Institute (IRI) for Climate and Society (updated 19 February 2019).

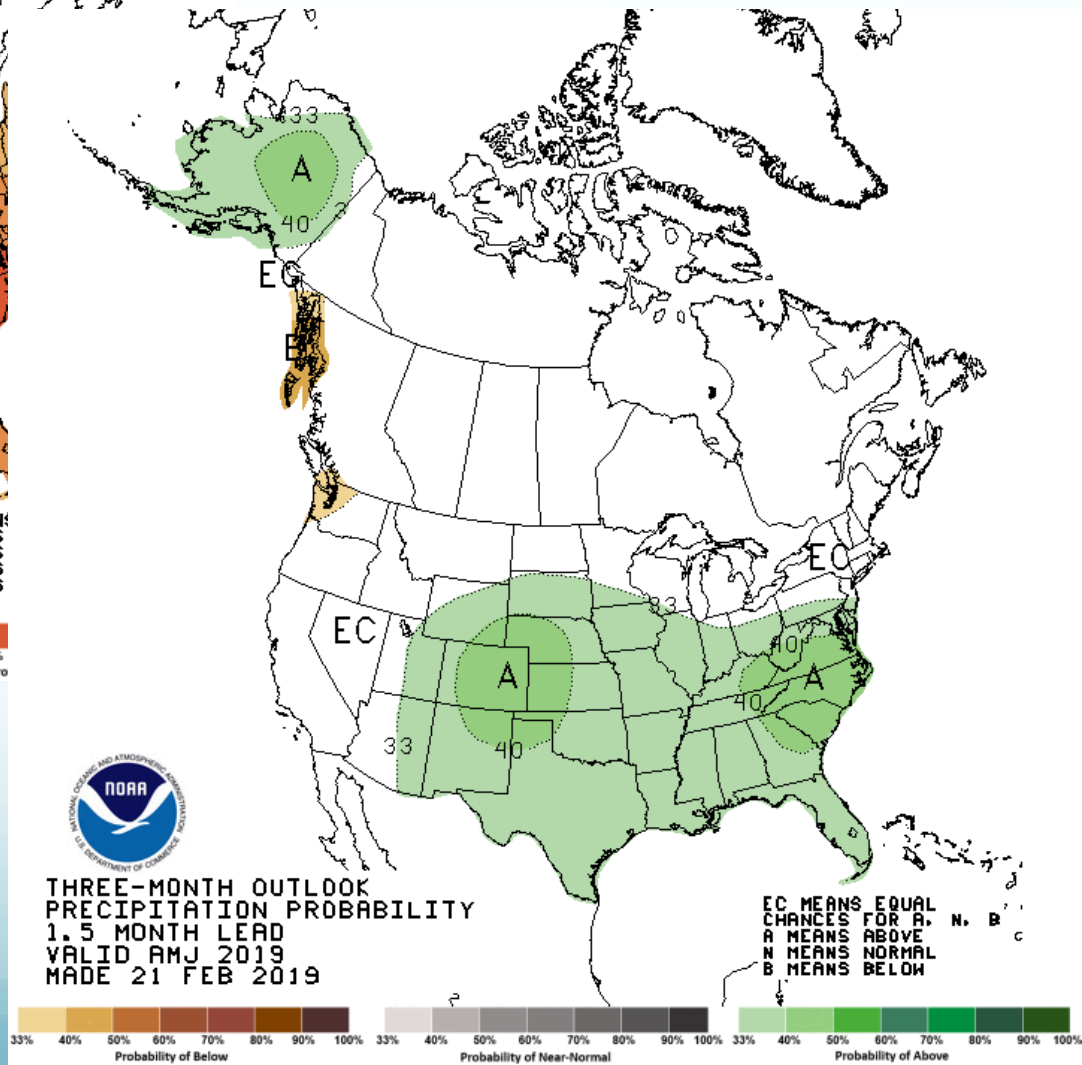


Latest Set of Week 3-4 Forecasts from CFSv2

Anomalously high 500 hPa Z over SE AK extending across northern tier of continental US: On the warm & dry side for WA state, with high uncertainty late in the period

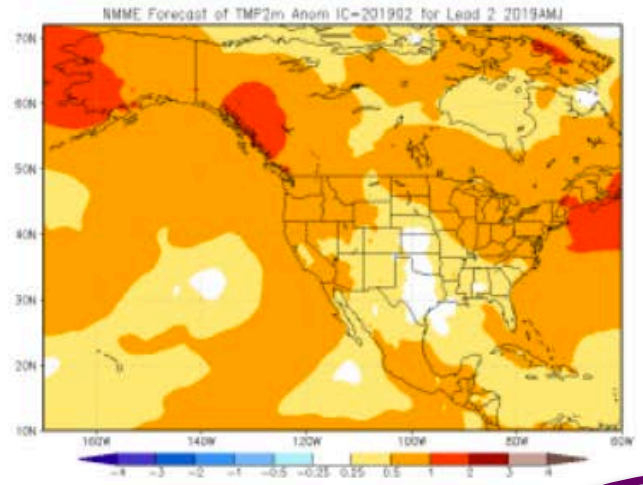
NOAA/CPC Forecasts for Apr-Jun 2019



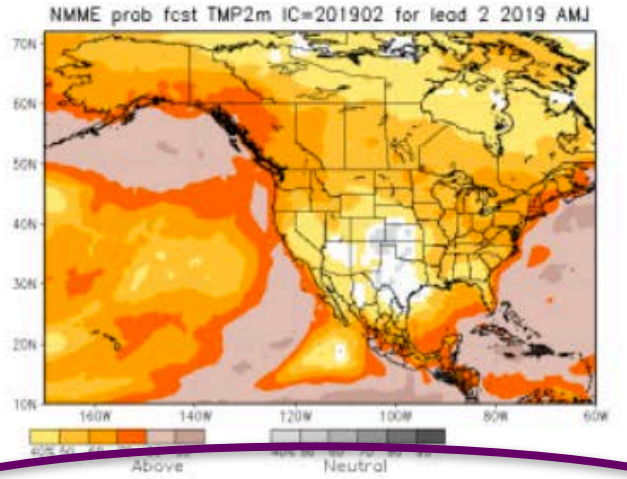


Climate Model Projections for AMJ 2019 Temperature

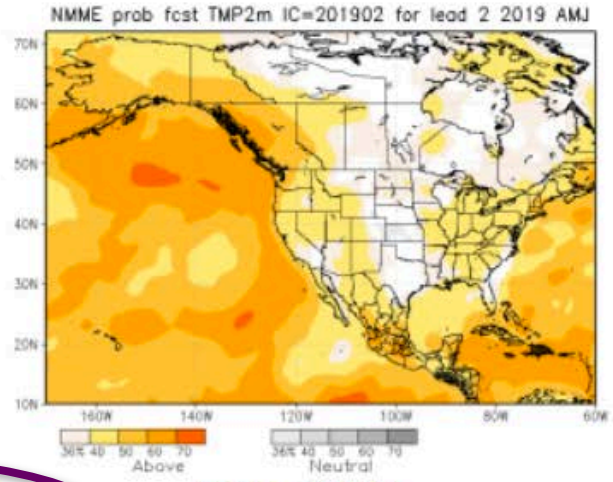
NMME



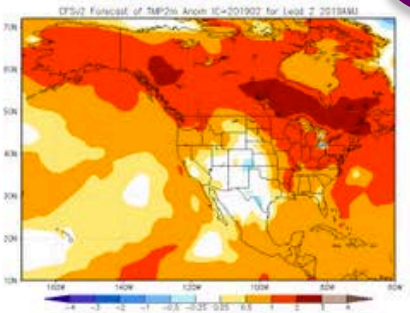
Prob fcst



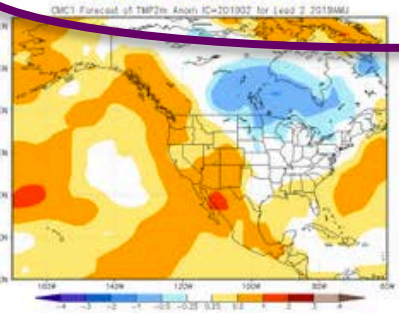
PAC calib. prob fcst



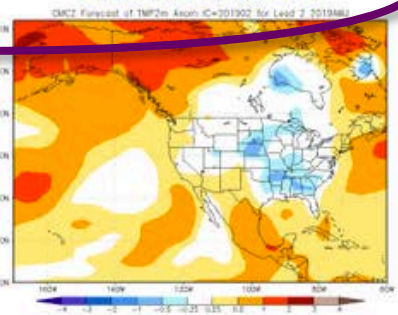
NCEP_CFSv2



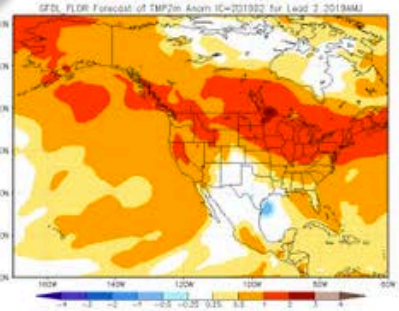
CMC1_CanCM3



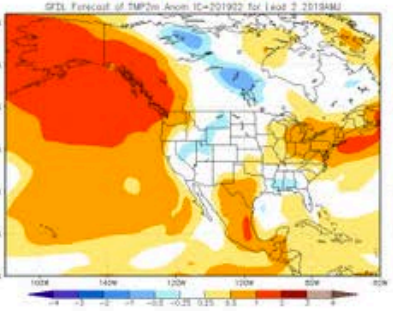
CMC2_CanCM4



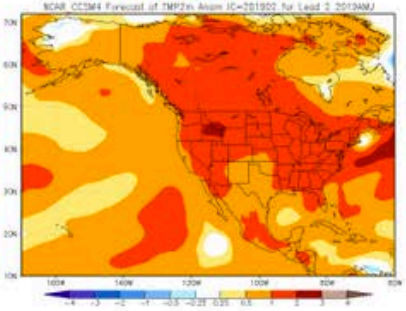
GFDL_FLOR



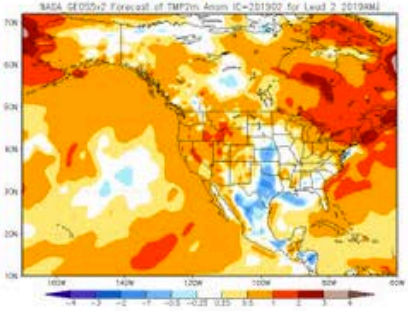
GFDL_CM2.1



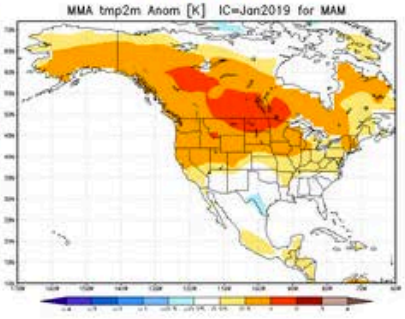
NCAR_CCSM4



NASA_GEOS5v2



IMME



Final Remarks

- 2019 water year is noteworthy for its sub-seasonal variability
- The snowpack has recovered nicely during the last month or so (especially in Oregon)
- El Niño finally got going to an extent, but does not seem to have been responsible for our unusual weather during the last month
- The past period of cold does not have any long-term portents; anomalous warmth quite likely in spring and summer of 2019
- I wish I had a nickel for every time somebody has pointed out how bad my forecasts were for late winter