

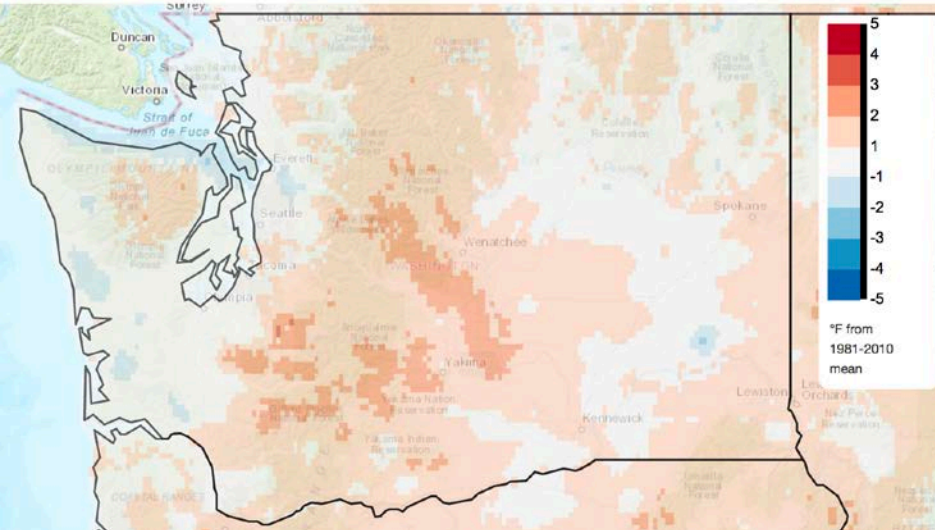
Regional Climate Perspective

Nick Bond & Karin Bumbaco
Office of the Washington State Climatologist
Joint Institute for the Study of Atmosphere and Ocean
University of Washington
29 June 2018

2018 Water Year

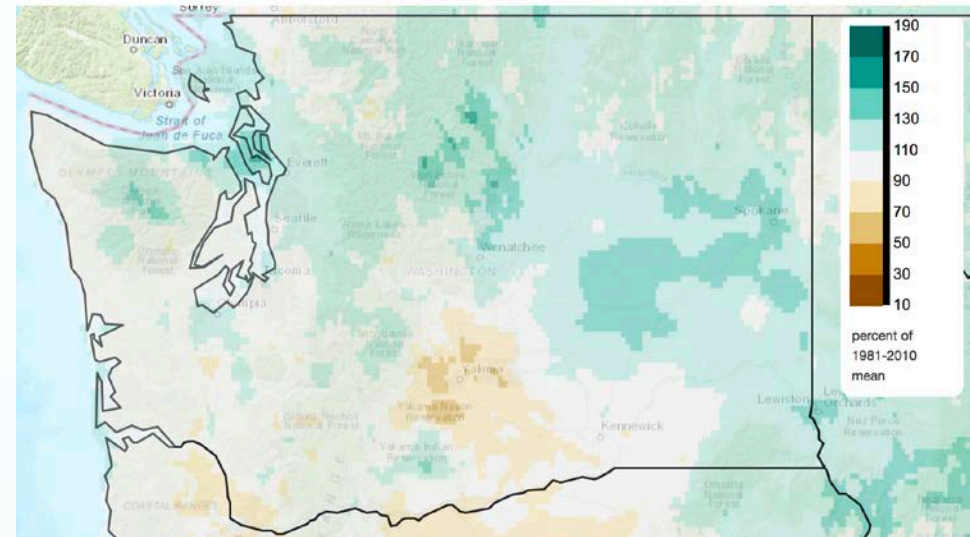
Temperature

Mean Daily Temperature Anomaly, Since Oct 1st
2017/10/01 - 2018/06/26



Precipitation

Total Precipitation Anomaly, Since Oct 1st
2017/10/01 - 2018/06/26



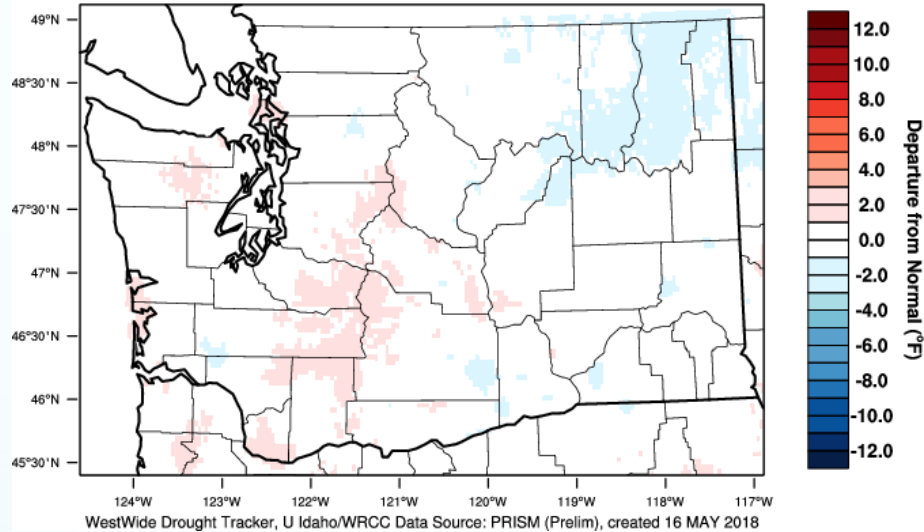
- Temperatures between 1 and 2°F above normal
 - Averaged statewide, Oct-May: 0.7°F above 1981-2010 normal
- Near-normal to above normal precipitation for most of the state with some exceptions
 - Averaged statewide, Oct-May: 4.08" above 1981-2010 normal

April Conditions

Temperature

Washington - Mean Temperature

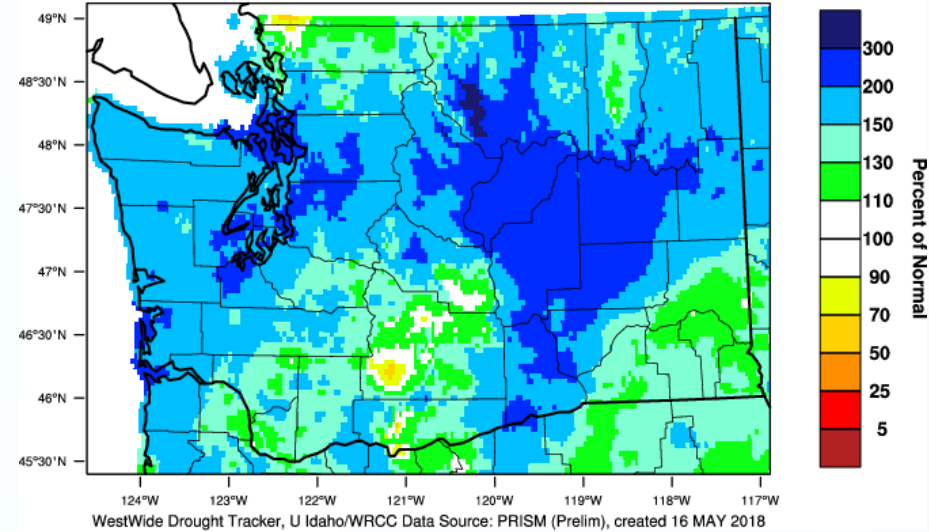
April 2018 Departure from 1981-2010 Normal



Precipitation

Washington - Precipitation

April 2018 Percent of 1981-2010 Normal



U.S. Drought Monitor Washington

April 3, 2018
(Released Thursday, Apr. 5, 2018)
Valid 8 a.m. EDT



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.

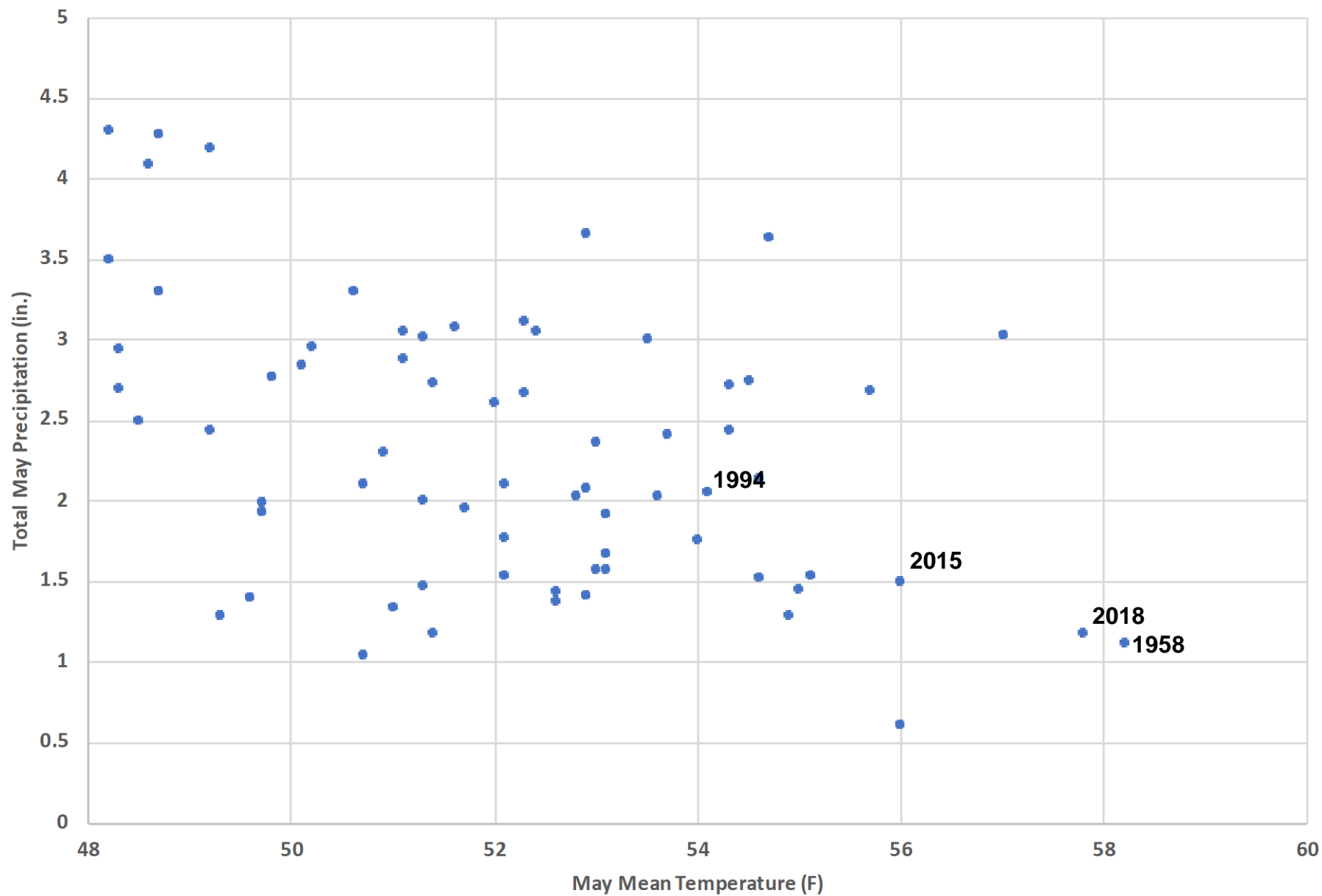
Author:

David Miskus
NOAA/NWS/NCEP/CPD



<http://droughtmonitor.unl.edu/>

May Temperature vs. Precipitation for WA State (1949-2018)



May Conditions

Station	May Temperature (Rank; Temperature in °F)	May Precipitation (Rank; Precipitation in inches)	Records Began
SeaTac	1; 61.0	1 (tie); 0.12	1945
Bellingham AP	3; 58.0	1; 0.17"	1949
Hoquiam	7; 55.7	2; 0.35"	1953
Olympia	4; 57.6	3; 0.24	1941
Wenatchee	1; 66.3	-	1959
Pullman	1; 59.2	-	1940
Republic	1 (tie); 57.6*	-	1899
Pasco	1; 66.1	-	1945
Spokane AP	5; 61.9	-	1881

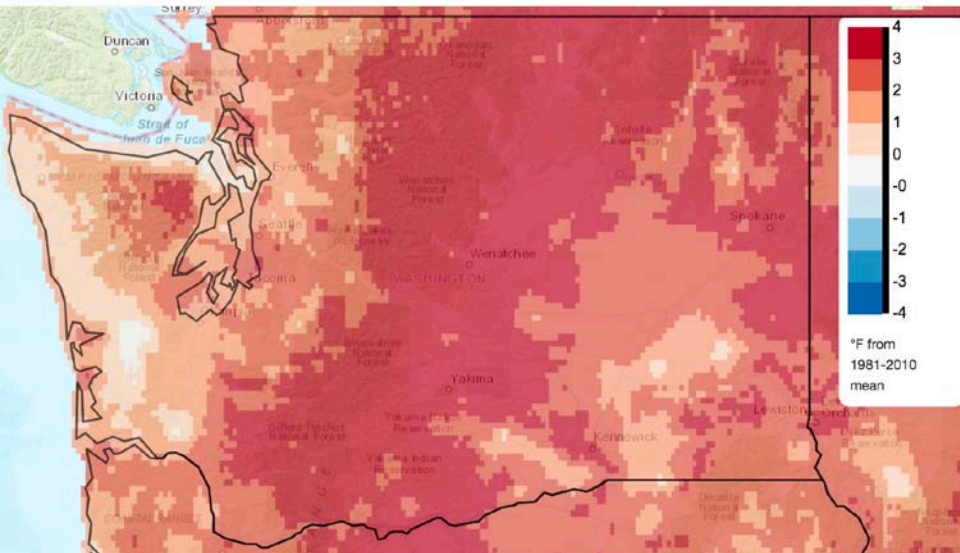
Table 1: Average May temperatures and rank (warmest to driest), total May precipitation and rank (dries to wettest), and the year that records began for selected WA stations. The precipitation rankings denoted by “-” were not among the top ten driest. *1 missing day.

- May temperatures more unusual than precipitation for the state as a whole

May-Jun Anomalies

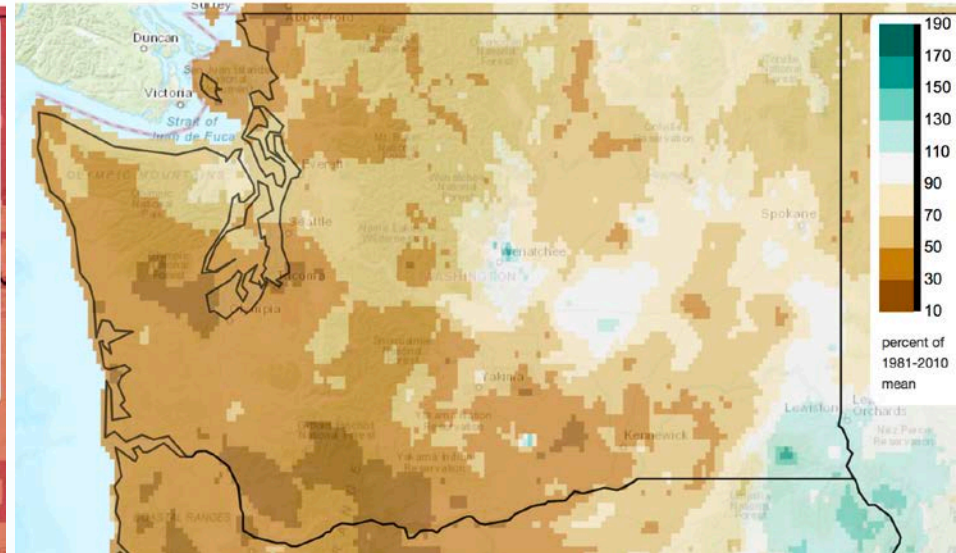
Temperature

Mean Daily Temperature Anomaly, Last 60 Days
2018/04/28 - 2018/06/26

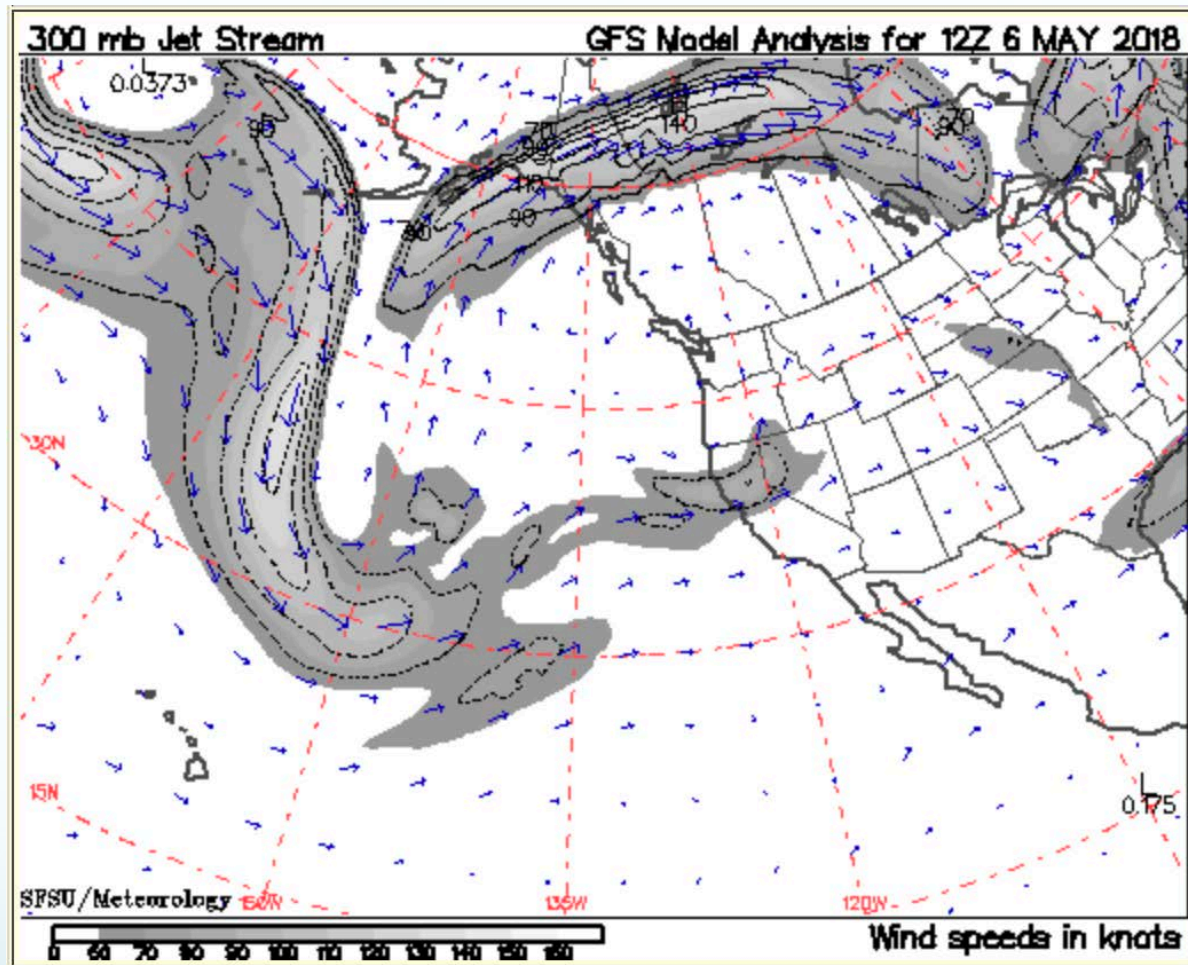


Precipitation

Total Precipitation Anomaly, Last 60 Days
2018/04/28 - 2018/06/26



- Temperatures much warmer than normal
 - Averaged statewide, 2nd warmest May on record (+5.6°F)
 - 1958 is the warmest
- Precipitation much below normal
 - The areas with near-normal precipitation in eastern WA had above normal May precipitation
 - Averaged statewide, tied for 12th driest May (since 1895)

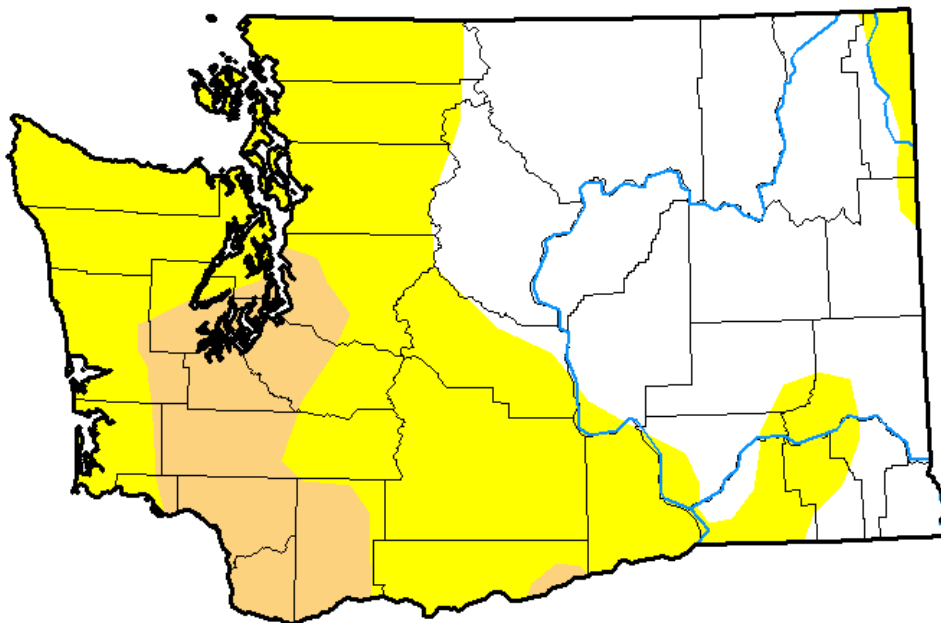


Animation available: http://squall.sfsu.edu/scripts/jet_pac_archloop.html

US Drought Monitor

U.S. Drought Monitor Washington

June 26, 2018
(Released Thursday, Jun. 28, 2018)
Valid 8 a.m. EDT



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:

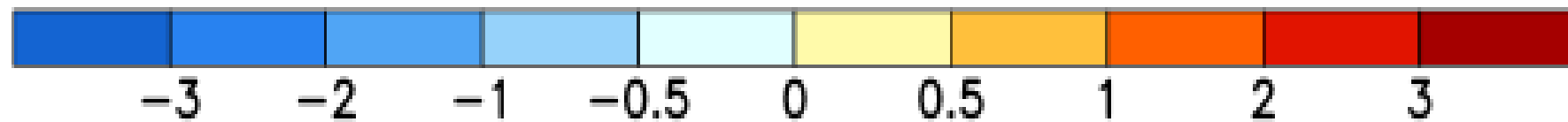
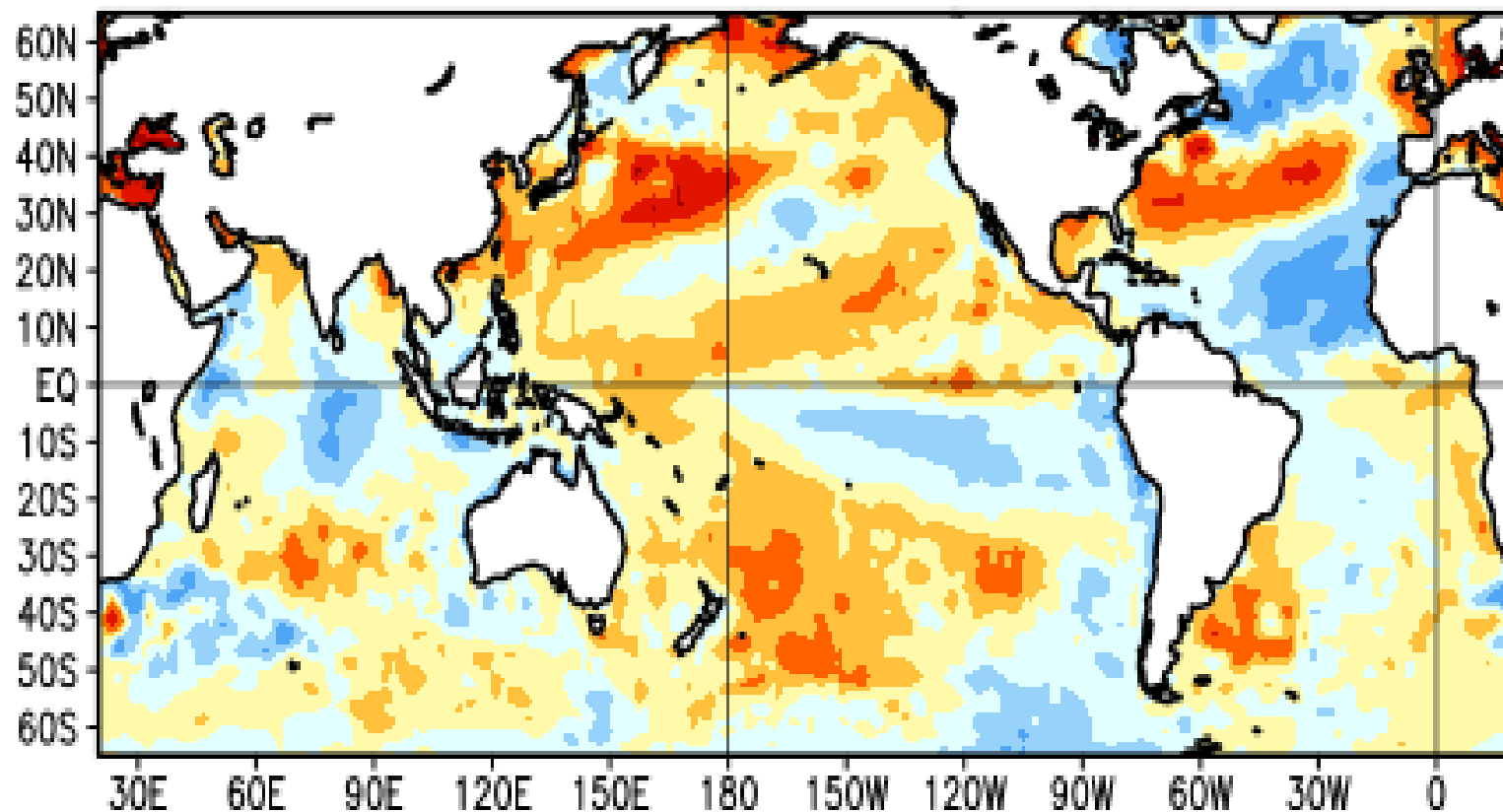
Richard Heim
NCEI/NOAA



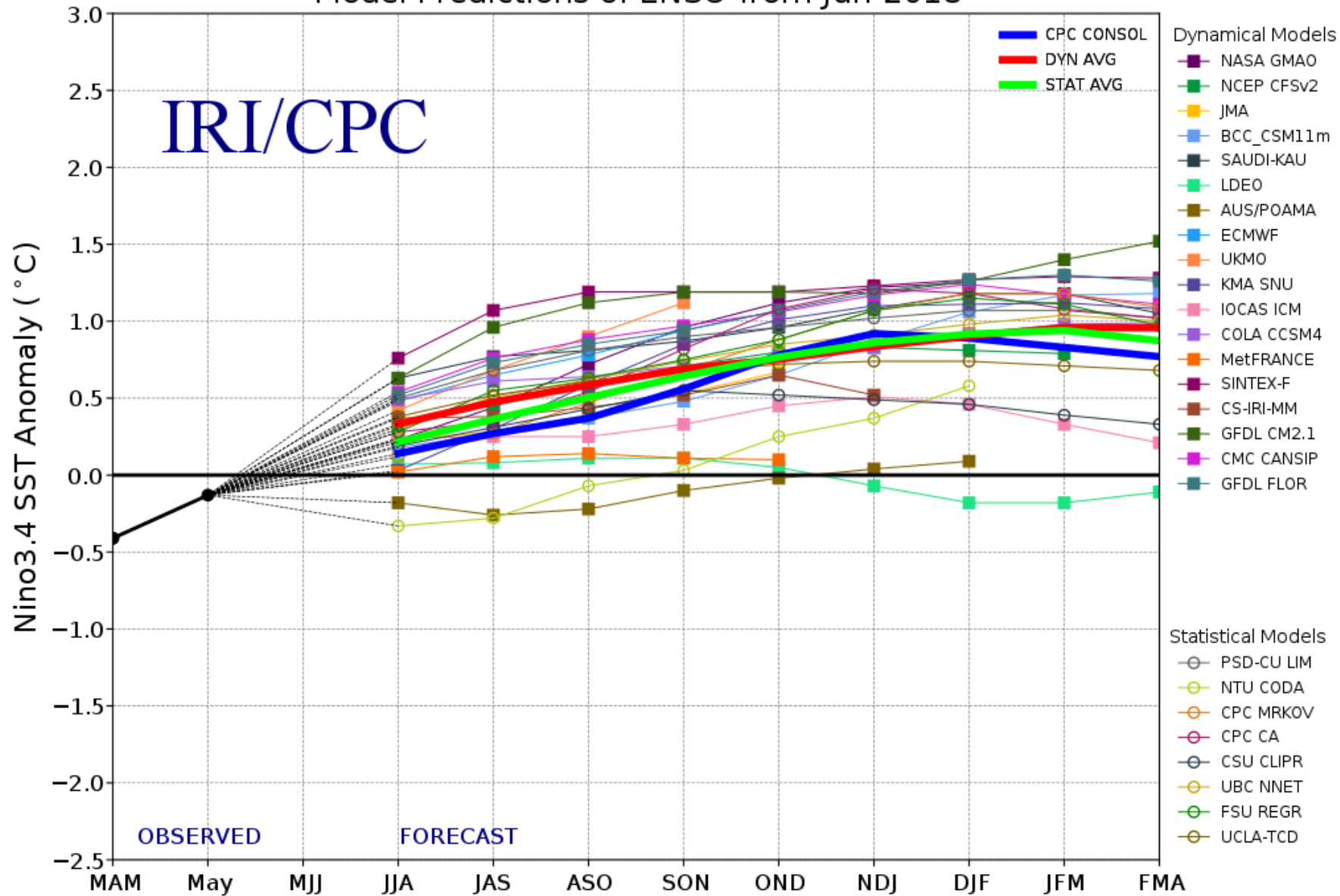
<http://droughtmonitor.unl.edu/>

Average SST Anomalies

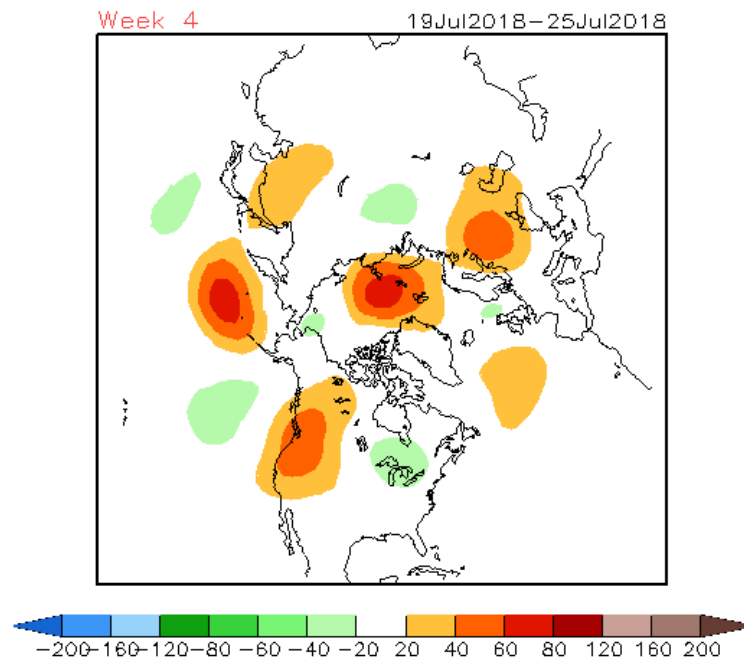
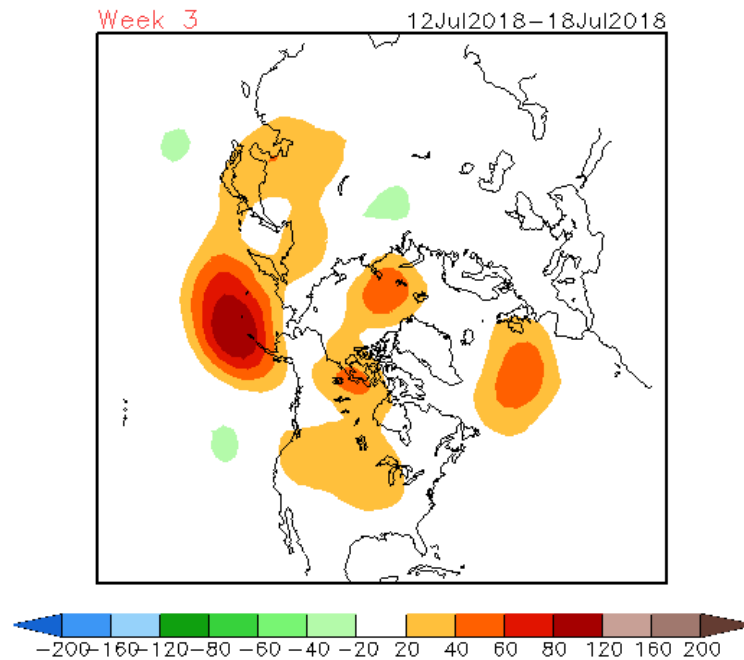
27 MAY 2018 – 23 JUN 2018



Model Predictions of ENSO from Jun 2018



CFSv2 Weeks 3 & 4 500 hPa Z Anomalies (m)
16 Member Ensemble Mean Forecast from 27Jun2018

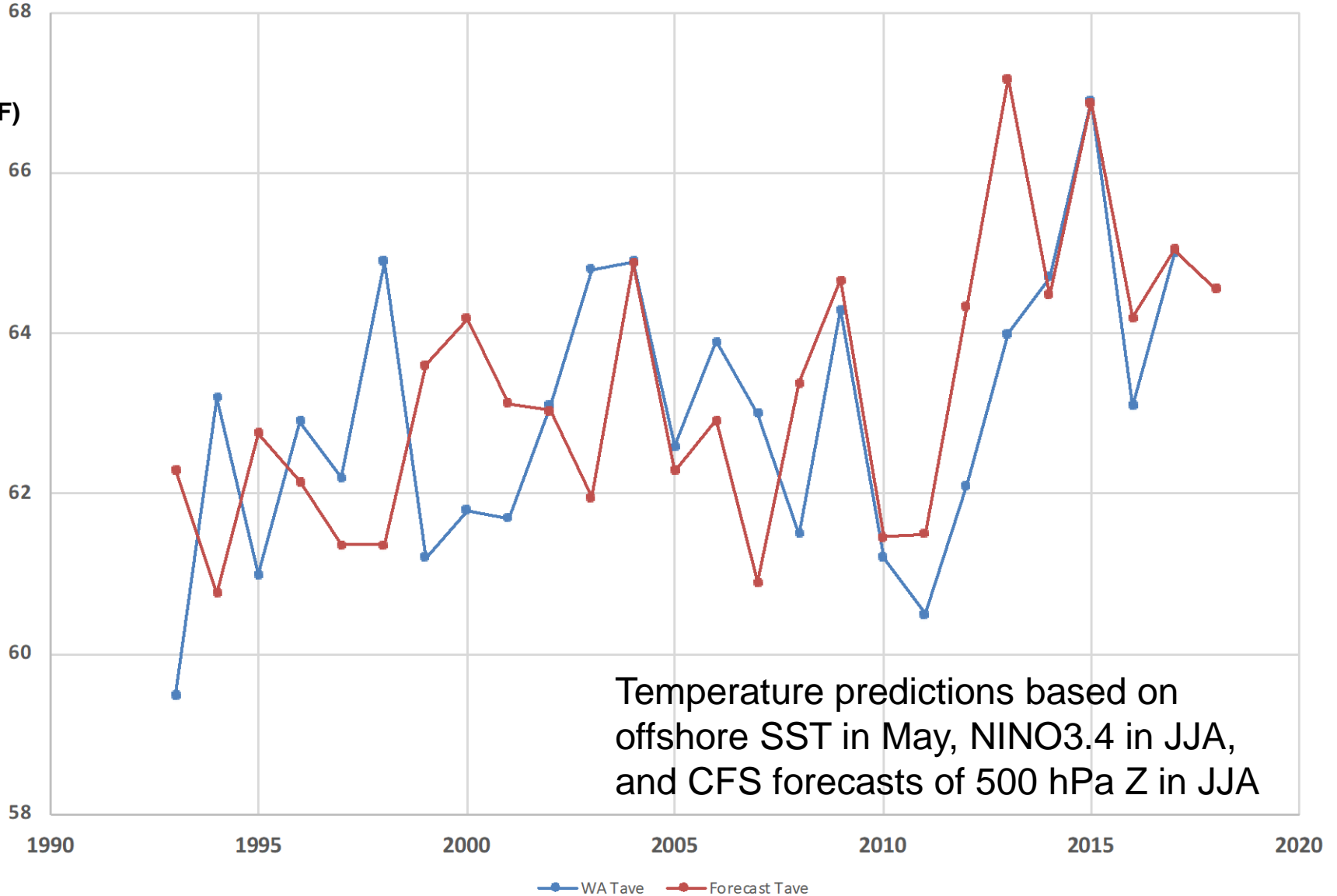


Latest Set of Week 3-4
Forecasts from CFSv2

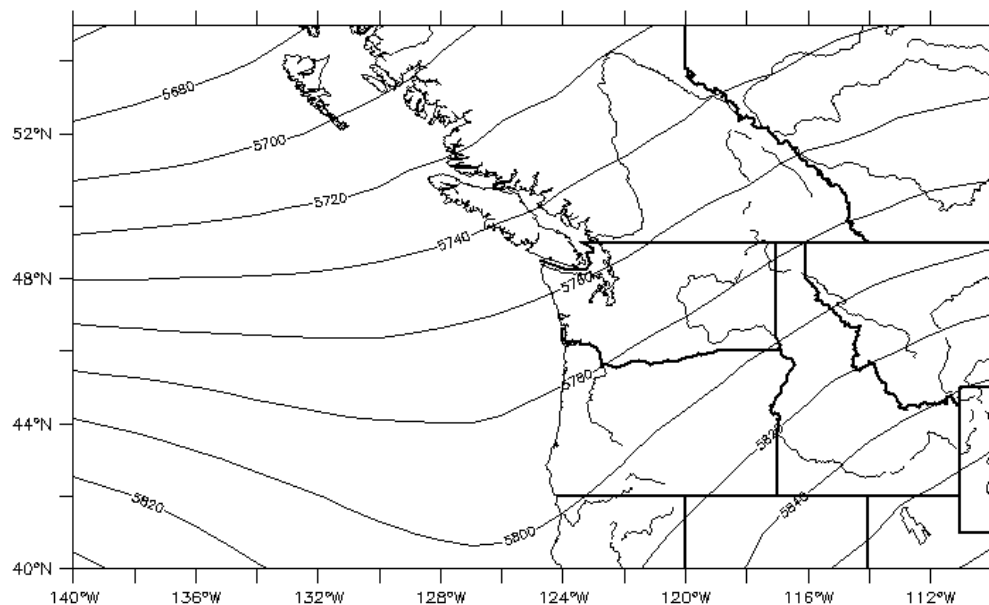
Anomalously high
500 hPa Z near the
Aleutian Islands and
Inland Pacific NW:
Mostly warmer than
normal for WA State,
with the prospect for
monsoonal moisture
from the desert SW
on the eastside

WA State Mean Summer Temperature Forecasts

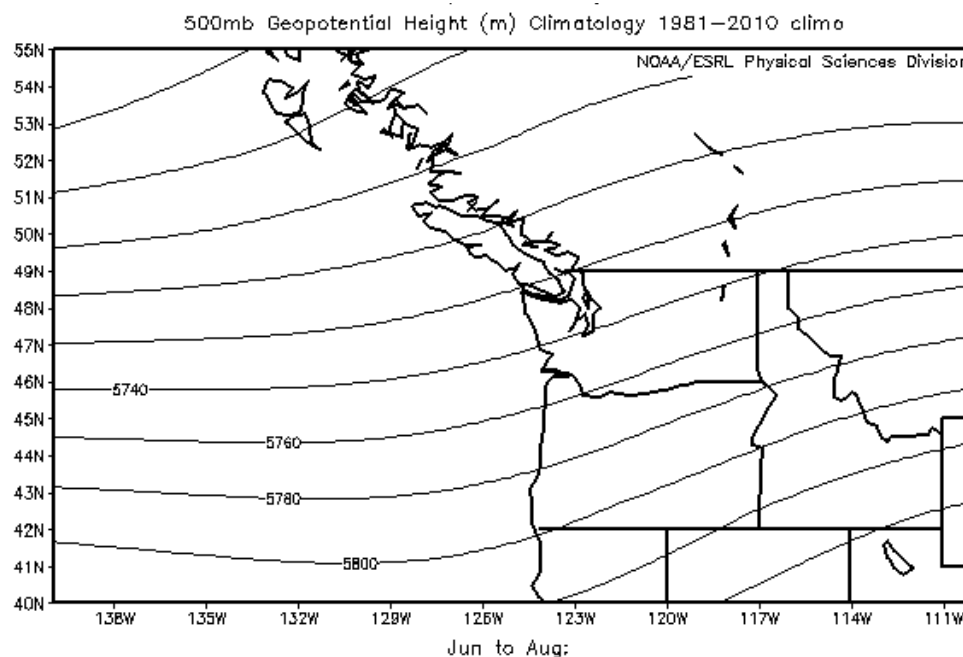
Mean
Temp (F)



500 hPa Geopotential Heights (Z)



CFS Forecast
for June-Aug
from
1 May 2018



Climatological
Mean

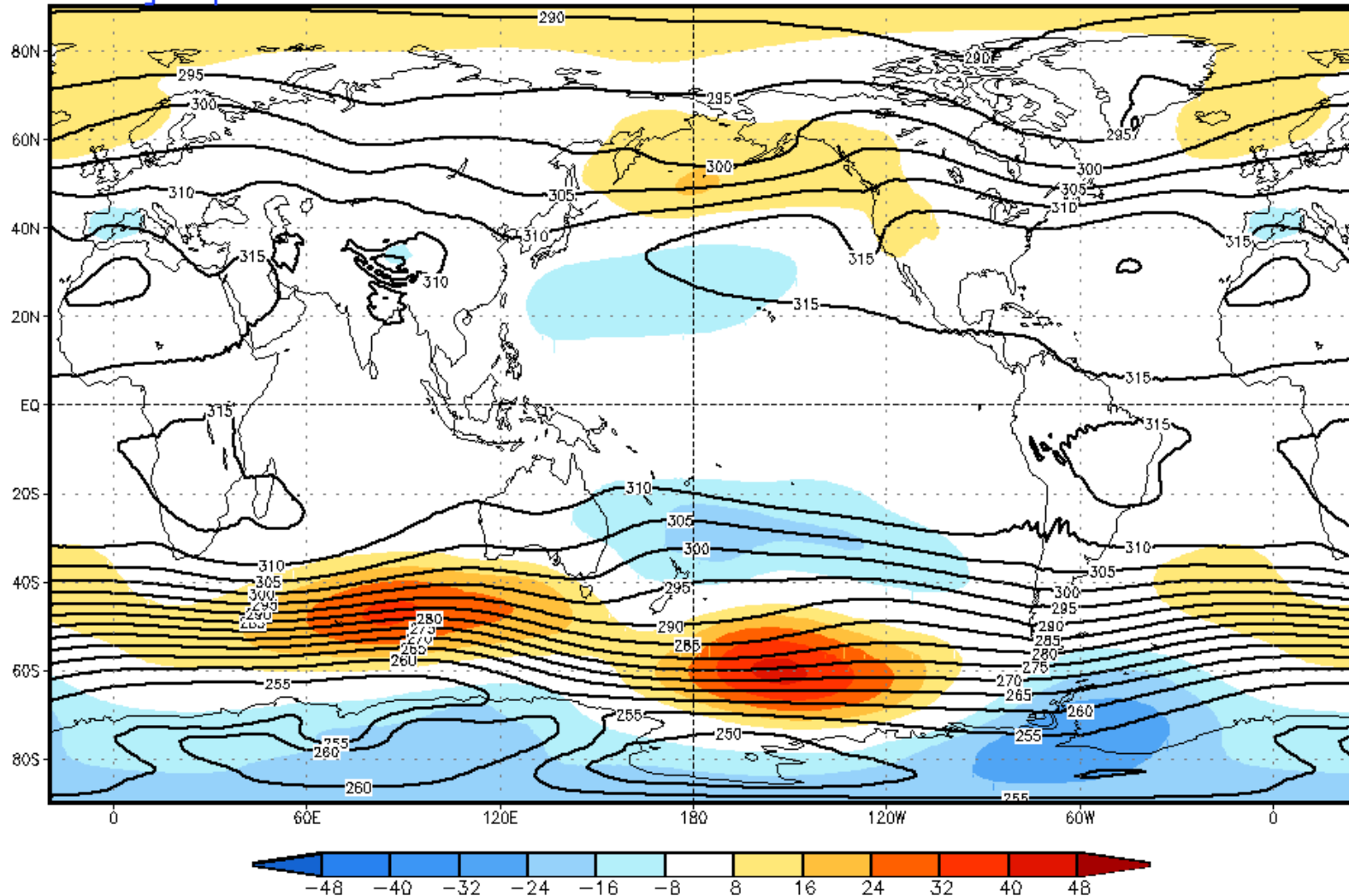


CFSv2 seasonal z700 anomalies (m; shaded) and total (dm; contours)

NWS/NCEP/CPC

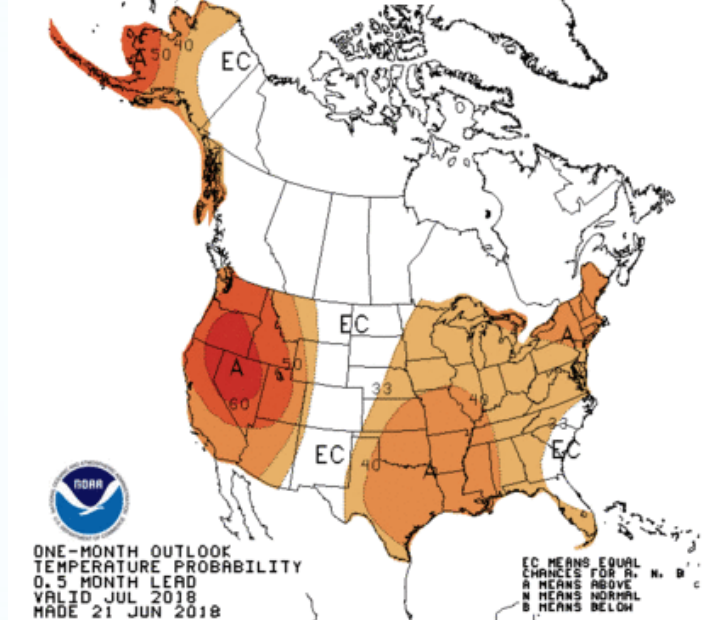
Jul-Aug-Sep 2018

Initial conditions: 18Jun2018-27Jun2018

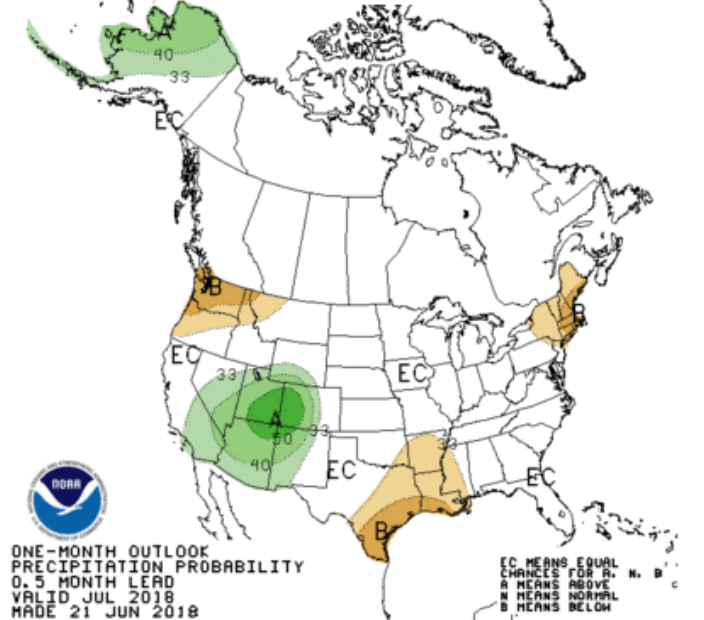


NOAA/CPC Forecasts

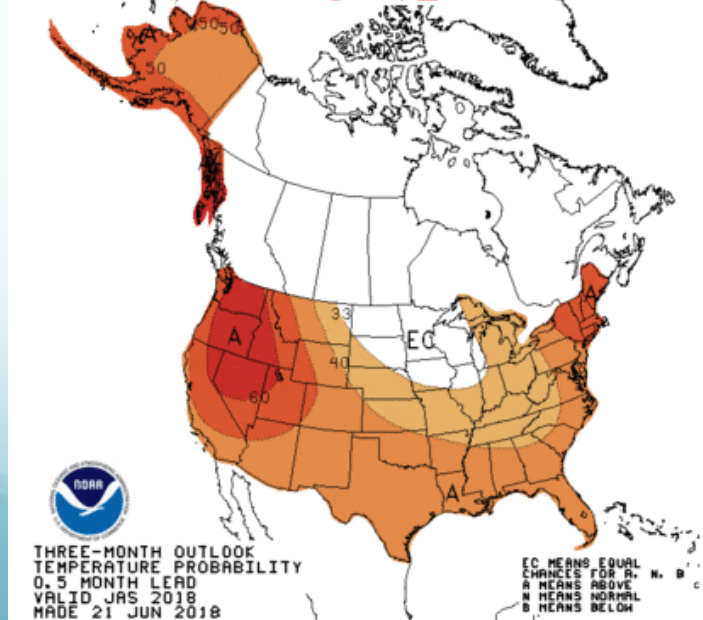
Jul_2018



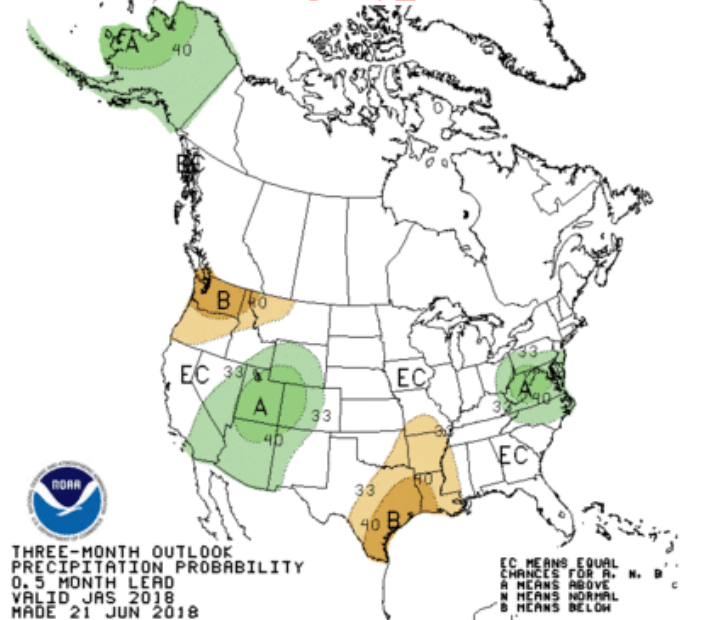
Jul_2018



Jul-Aug-Sep_2018

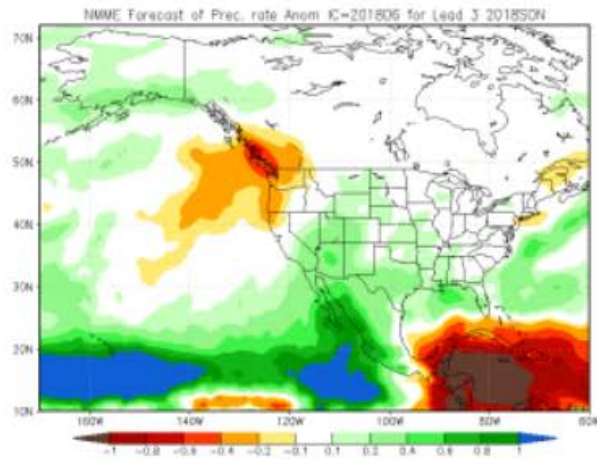


Jul-Aug-Sep_2018

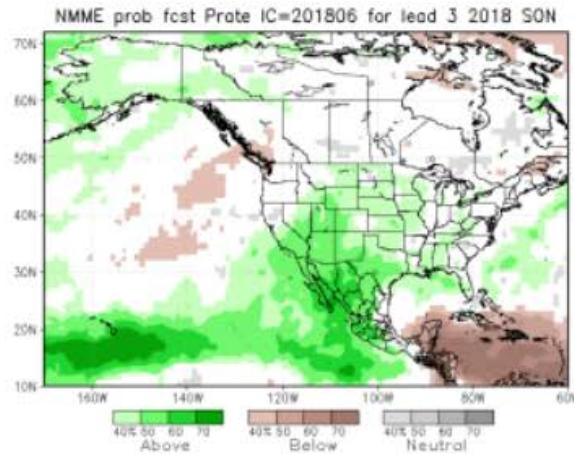


Climate Model Projections for Sep-Nov Precipitation

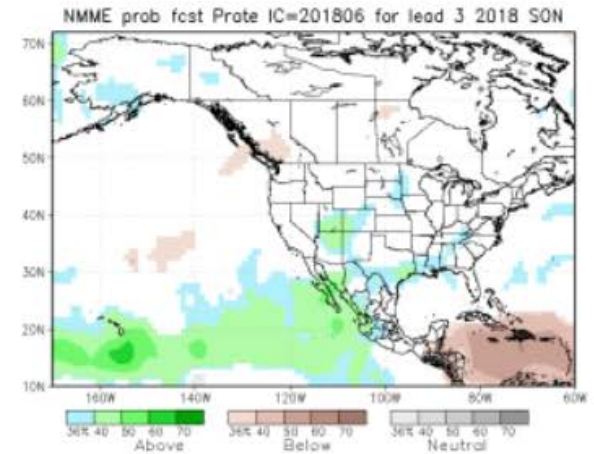
NMME



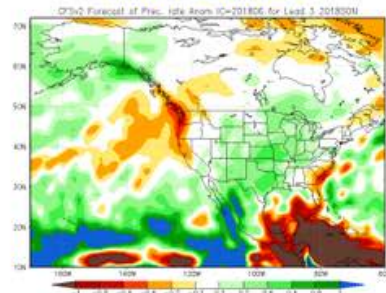
Prob fcst



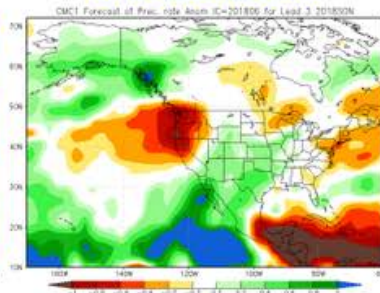
PAC calib. prob fcst



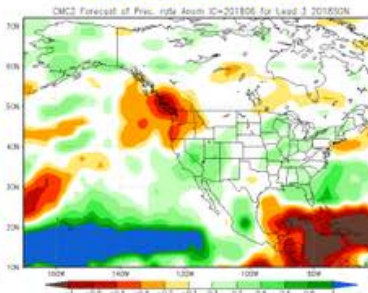
NCEP CFSv2



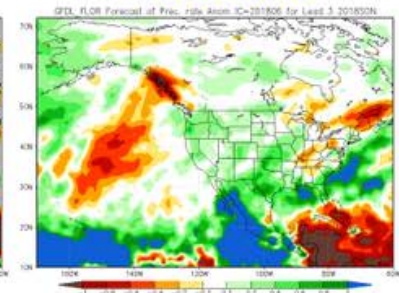
CMC1 CanCM3



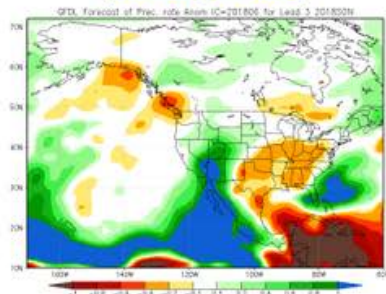
CMC2 CanCM4



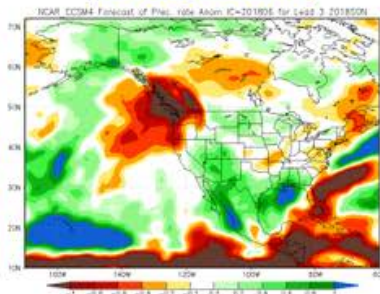
GFDL FLOR



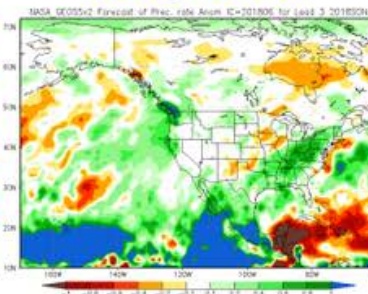
GFDL CM2.1



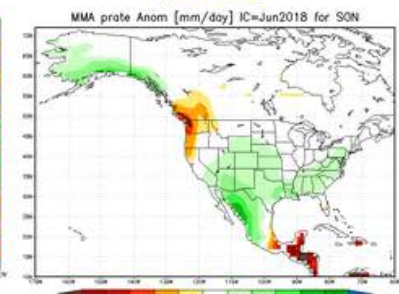
NCAR CCSM4



NASA GEOS5v2



IMME



Final Remarks

- Our spring weather matters
- This summer is apt to be warm and perhaps dry
- El Niño of weak-moderate intensity is increasingly likely by fall
- Conditions favor Jeff Marti keeping his job