

# Regional Climate Perspective

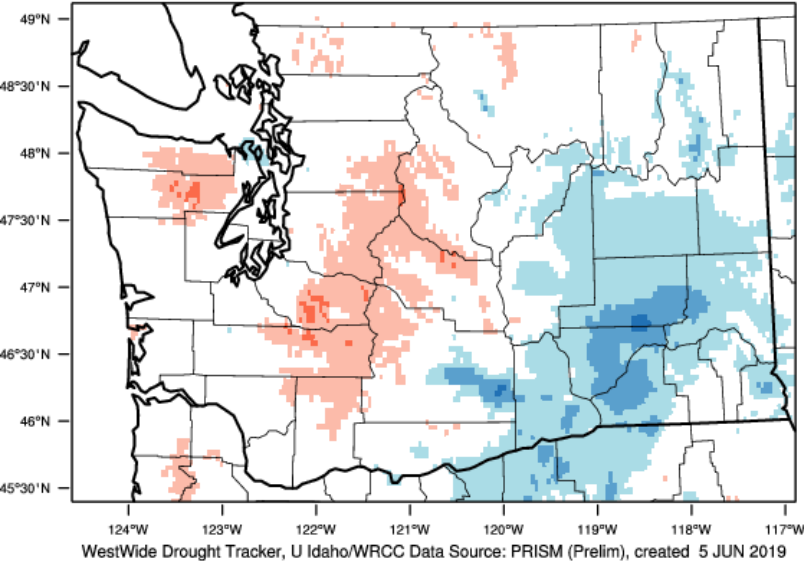
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Office of the Washington State Climatologist  
Joint Institute for the Study of Atmosphere and Ocean  
University of Washington  
7 June 2019

# 2019 Water Year

## Temperature

### Washington - Mean Temperature

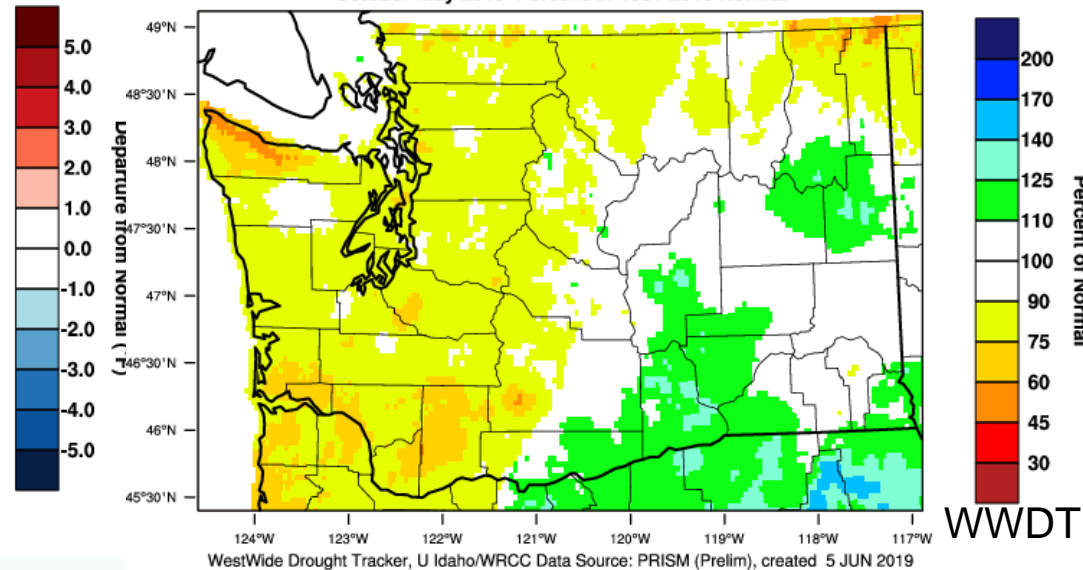
October-May 2019 Departure from 1981-2010 Normal



## Precipitation

### Washington - Precipitation

October-May 2019 Percent of 1981-2010 Normal



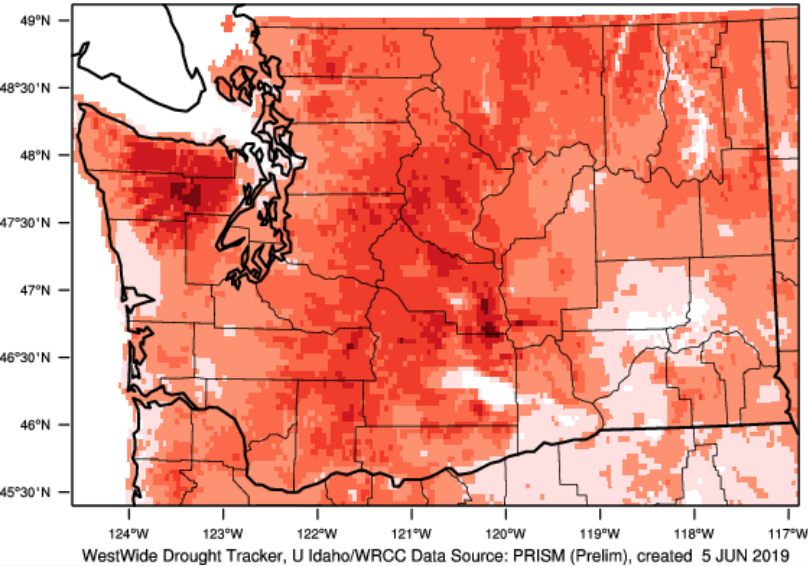
- Average Oct-May temperatures statewide near-normal ( $-0.1^{\circ}\text{F}$ ) with regional variability
- Below normal Oct-May precipitation averaged statewide ( $-5.69''$  below normal); ranks in the bottom third

# May 2019

## Temperature

Washington - Mean Temperature

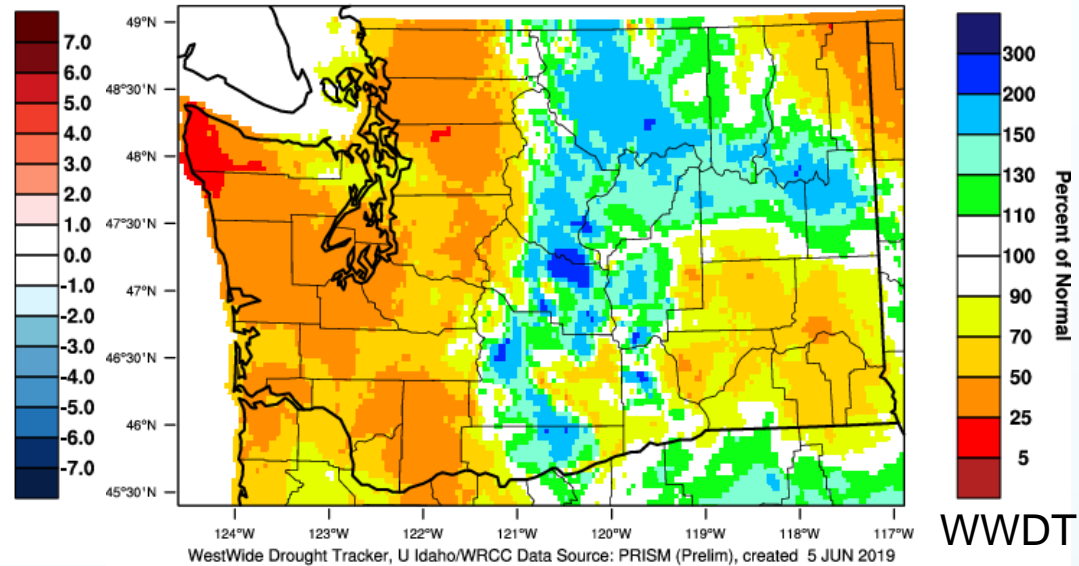
May 2019 Departure from 1981-2010 Normal



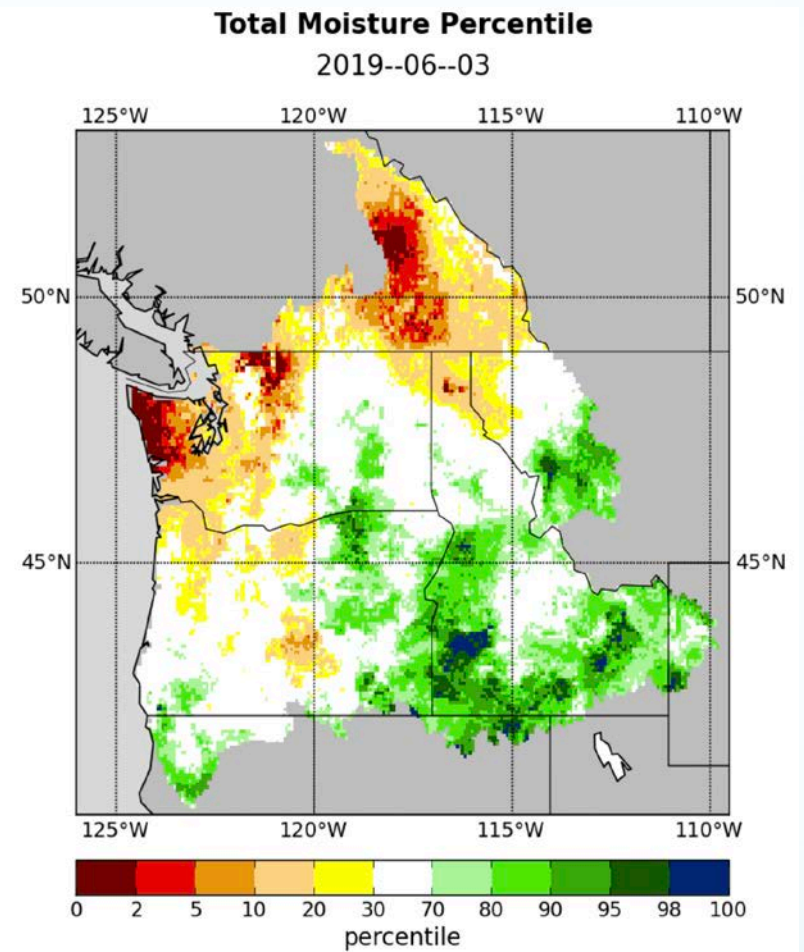
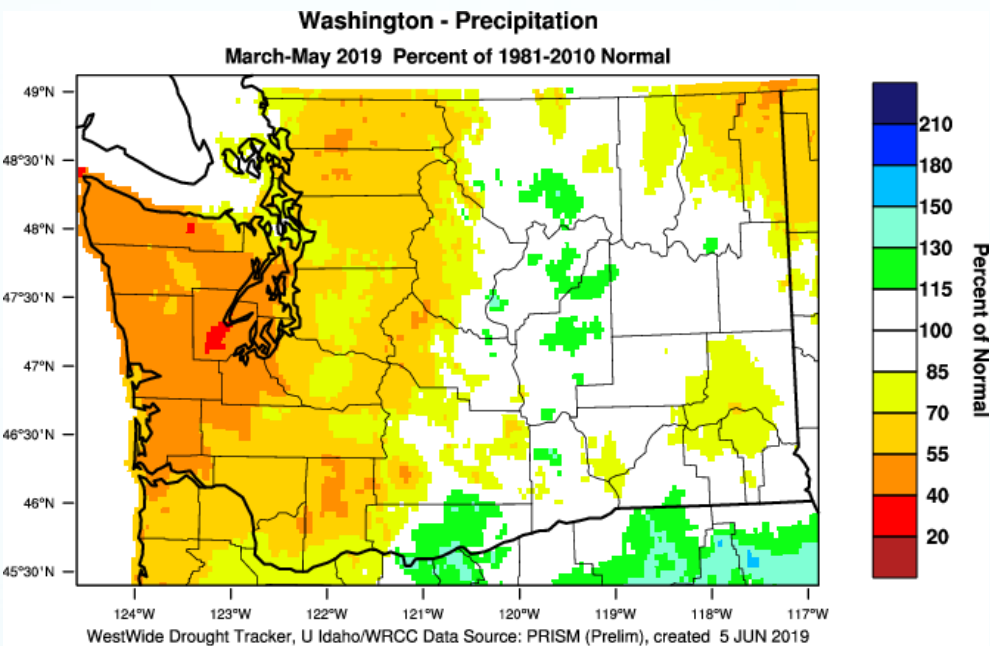
## Precipitation

Washington - Precipitation

May 2019 Percent of 1981-2010 Normal

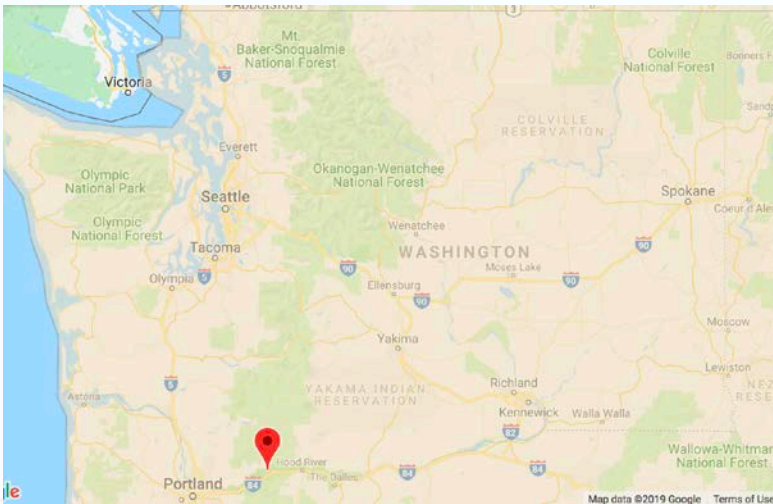


- Statewide: tied as 9<sup>th</sup> warmest May on record (+3.5°F)
  - ties 1936 and 1957; just behind 2015 (+3.8°F)
- Lots of variability in May precipitation



- Tied for 13<sup>th</sup> driest March-May on record (-3.21"; since 1895) but lots of regional variability
- Continuation of extremely low percentiles of total moisture on coast and north central WA

# Stevenson Precipitation



## Climate Dashboard

Stevenson, WA (45.6957° N, 121.8845° W)

(since Oct 1)  
Current Water Year

**Total  
Precipitation**  
59.7 inches

DEPARTURE FROM NORMAL (PERCENT OF NORMAL)

-13.2 inches (81.9 %)

PERCENTILE

Much below normal  
(Bottom 10%)

(since Jan 1)  
Current Calendar Year

**Total  
Precipitation**  
31.9 inches

DEPARTURE FROM NORMAL (PERCENT OF NORMAL)

-8.1 inches (79.8 %)

PERCENTILE

Below normal  
(Bottom 33%)

(since Mar 7)  
Last 90 Days

**Total  
Precipitation**  
13.3 inches

DEPARTURE FROM NORMAL (PERCENT OF NORMAL)

-4.5 inches (74.9 %)

PERCENTILE

Below normal  
(Bottom 33%)

(since Apr 6)  
Last 60 Days

**Total  
Precipitation**  
10.1 inches

DEPARTURE FROM NORMAL (PERCENT OF NORMAL)

+0.1 inches (100.8 %)

PERCENTILE

Near Normal

NW Climate Toolbox, Data Source: gridMET

Bonneville: 79% of normal

Bonneville: 75% of normal  
Stevenson AWN: 65% of normal



# Ryderwood Precipitation



## Climate Dashboard

ryderwood, wa (46.3765° N, 123.0437° W)

(since Oct 1)  
Current Water Year

**Total  
Precipitation**  
41.1 inches

DEPARTURE FROM NORMAL (PERCENT OF NORMAL)

-12.1 inches (77.2 %)

PERCENTILE

Much below normal  
(Bottom 10%)

(since Jan 1)  
Current Calendar Year

**Total  
Precipitation**  
20.6 inches

DEPARTURE FROM NORMAL (PERCENT OF NORMAL)

-8.3 inches (71.3 %)

PERCENTILE

Much below normal  
(Bottom 10%)

(since Mar 7)  
Last 90 Days

**Total  
Precipitation**  
8.3 inches

DEPARTURE FROM NORMAL (PERCENT OF NORMAL)

-4.8 inches (63.4 %)

PERCENTILE

Much below normal  
(Bottom 10%)

(since Apr 6)  
Last 60 Days

**Total  
Precipitation**  
5.9 inches

DEPARTURE FROM NORMAL (PERCENT OF NORMAL)

-1.5 inches (79.3 %)

PERCENTILE

Below normal  
(Bottom 33%)

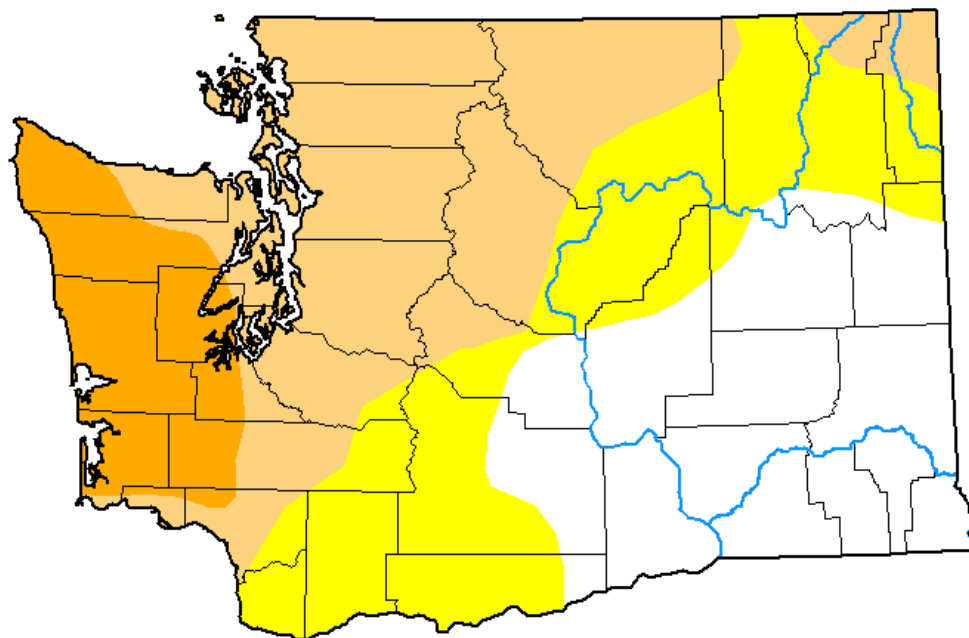
# US Drought Monitor

## U.S. Drought Monitor Washington

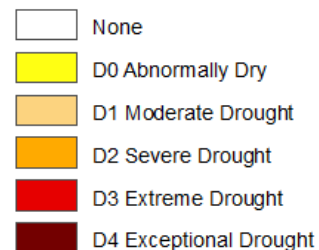
**June 4, 2019**

*(Released Thursday, Jun. 6, 2019)*

Valid 8 a.m. EDT



### Intensity:



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

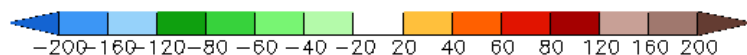
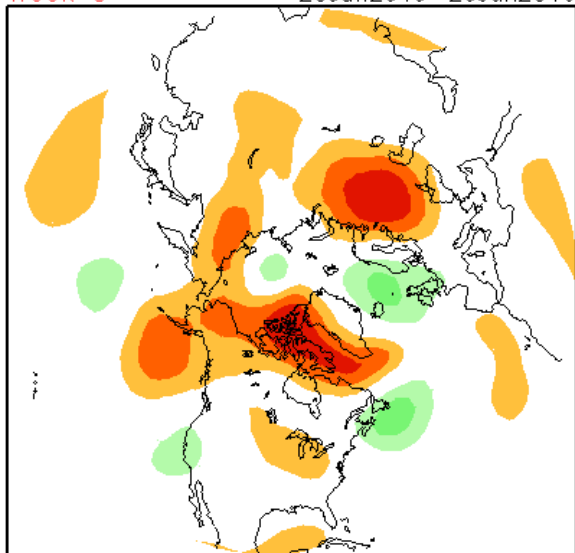
### Author:

David Simeral  
Western Regional Climate Center

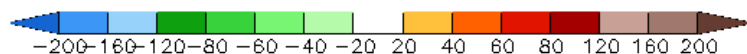
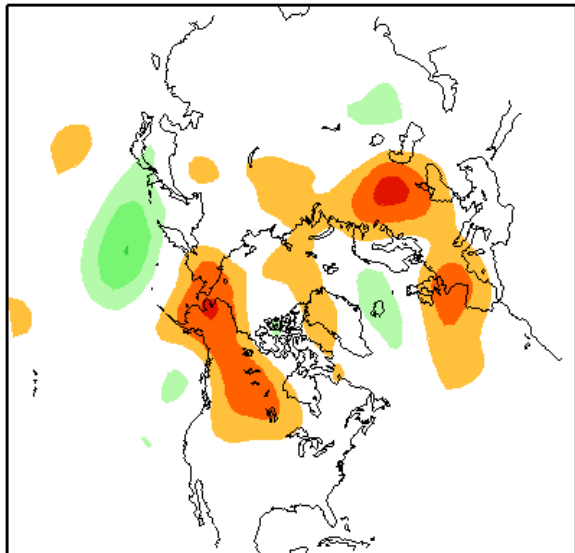


[droughtmonitor.unl.edu](http://droughtmonitor.unl.edu)

Week 3 20Jun2019–26Jun2019



Week 4 27Jun2019–3Jul2019



Latest Set of Week 3-4  
Forecasts from CFSv2

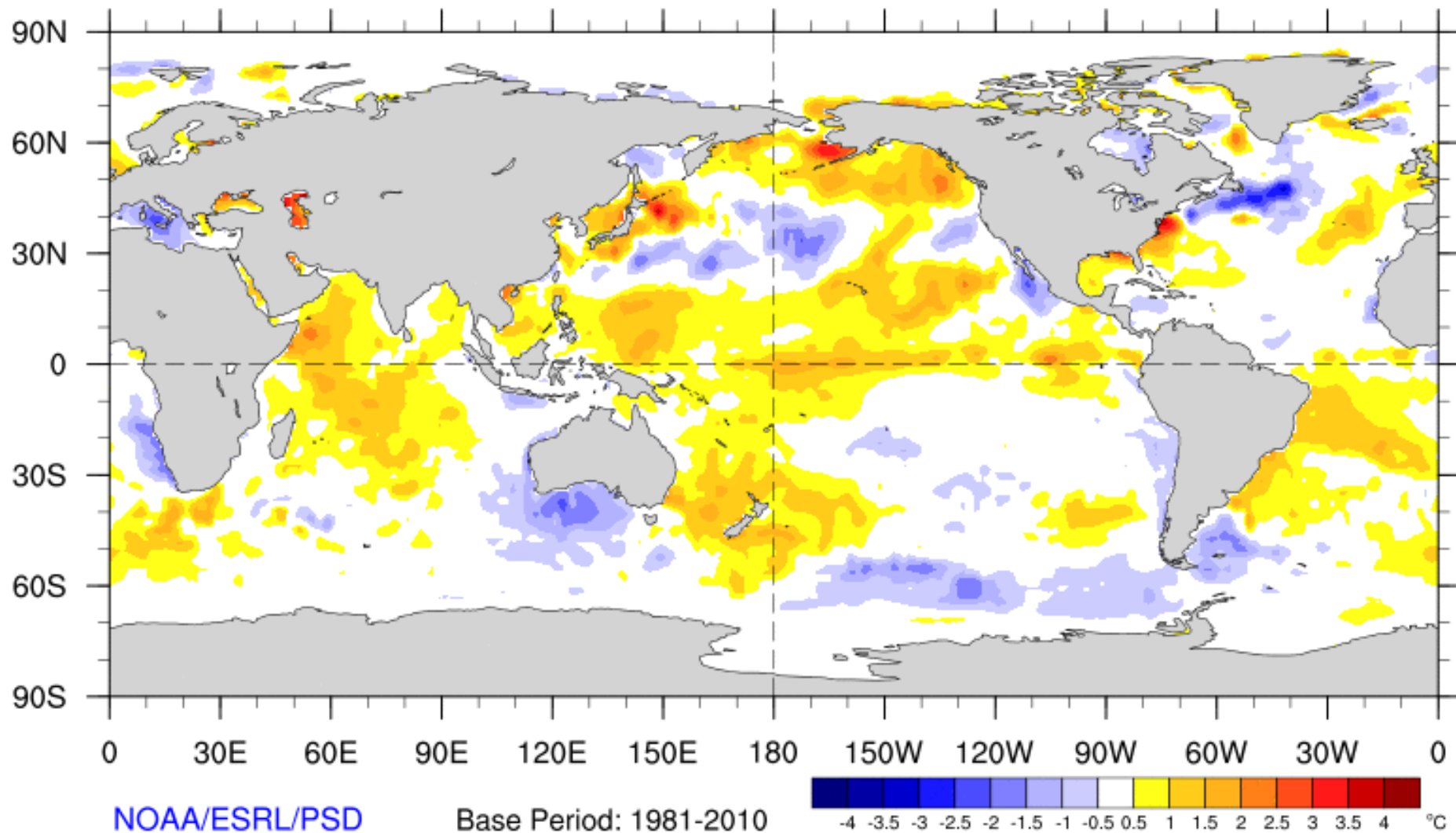
Anomalously high 500 hPa Z  
over GOA early and over AK  
and western Canada late:  
For WA state mostly warmer  
than normal especially late,  
and perhaps on the dry side  
for western WA



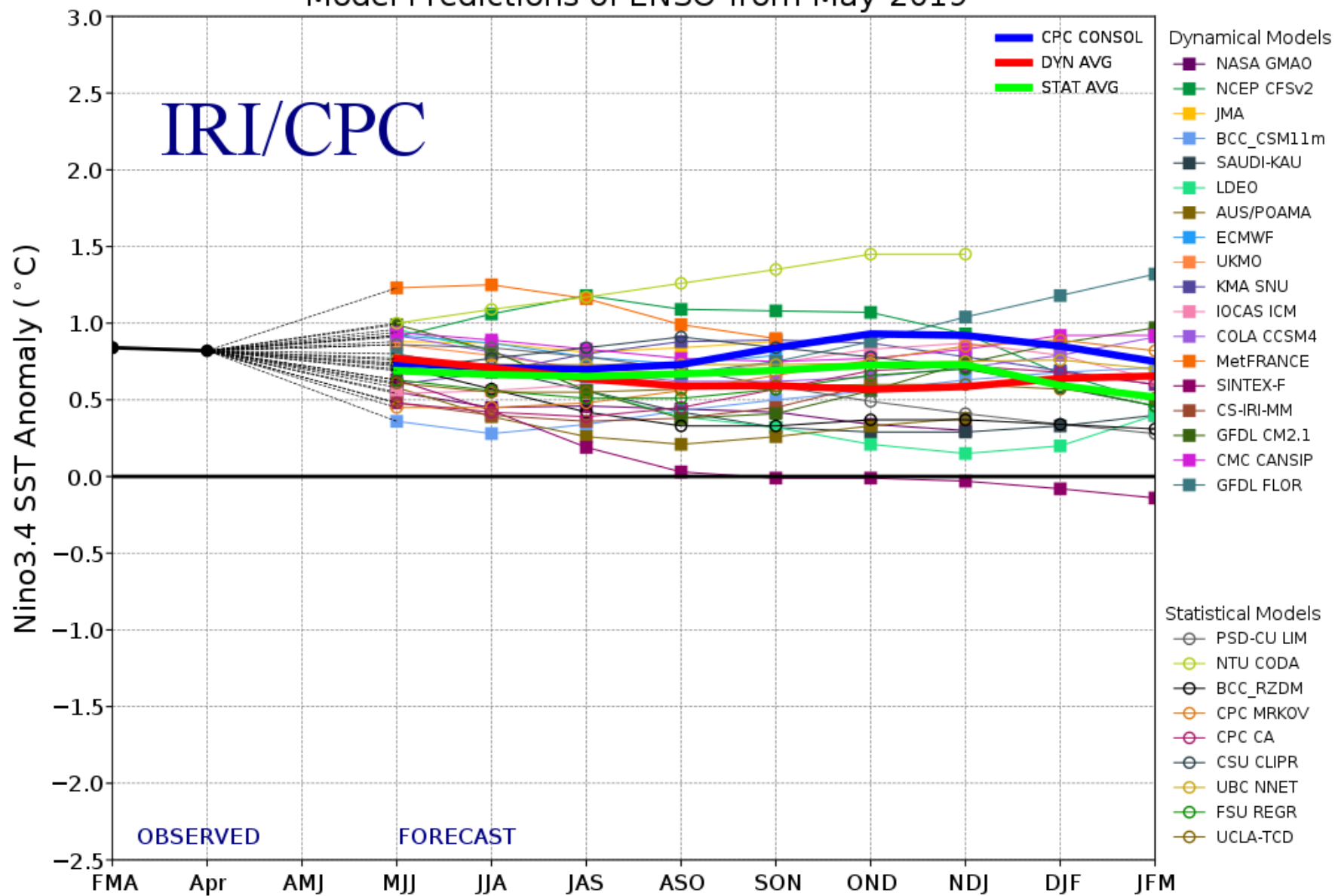
# Recent SST Anomalies

Weekly SST Anomaly

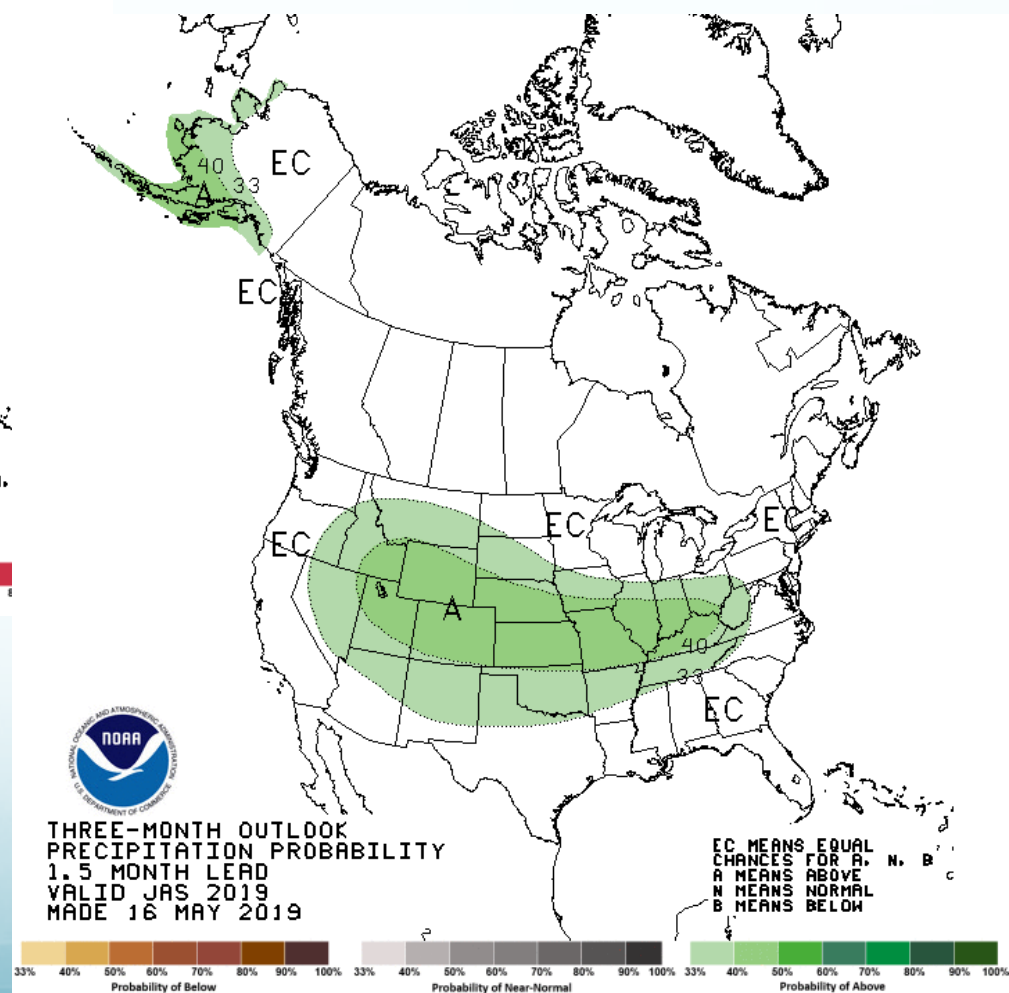
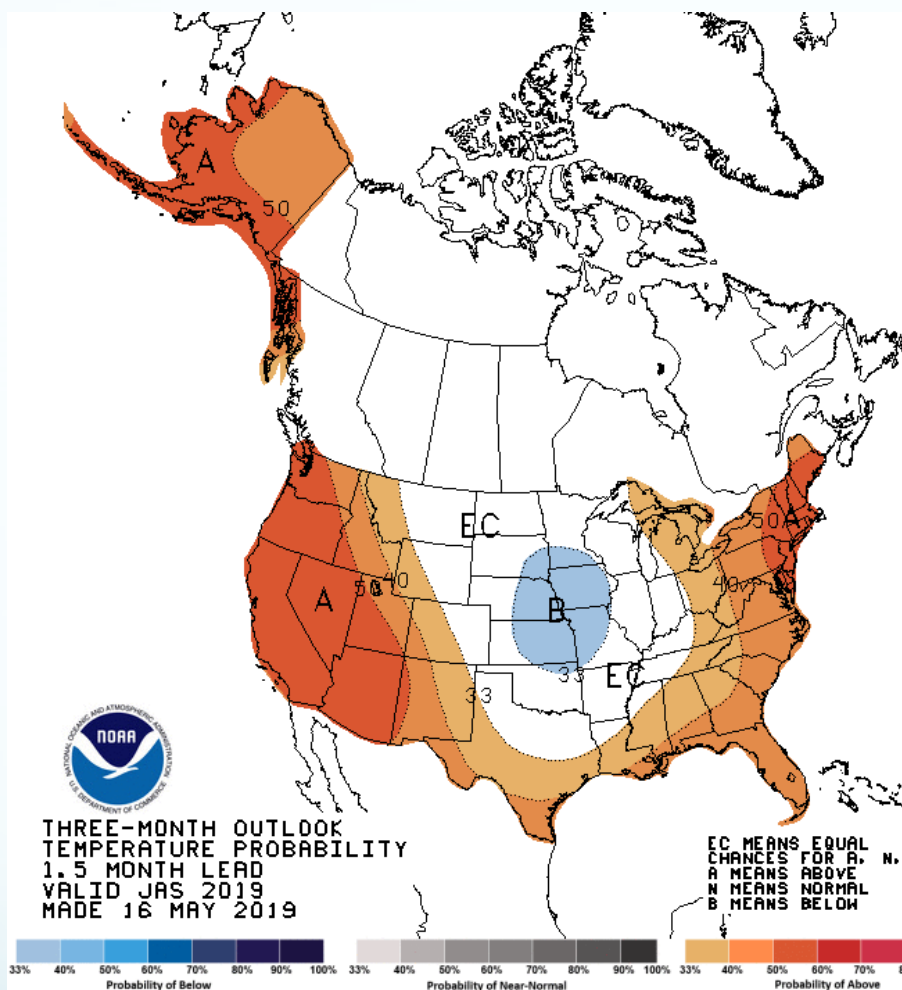
2019/05/26 - 2019/06/01



# Model Predictions of ENSO from May 2019



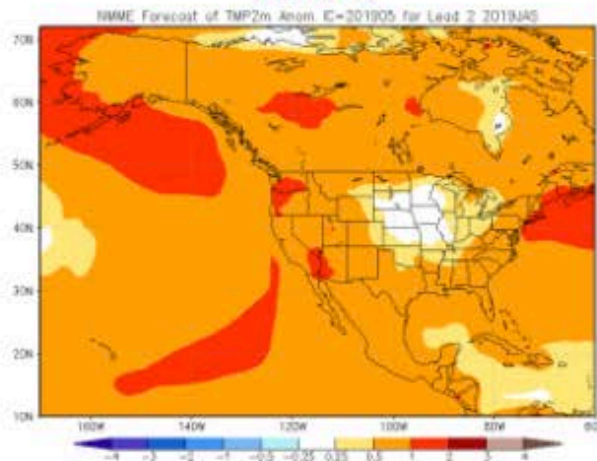
# NOAA/CPC Forecasts for Jul-Sep



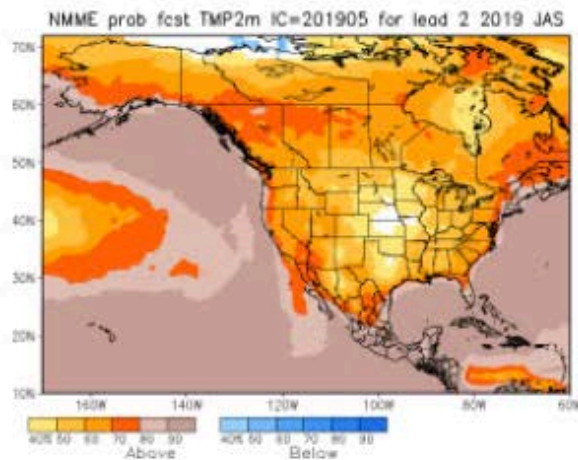


# Climate Model Projections for JAS 2019 Temperature

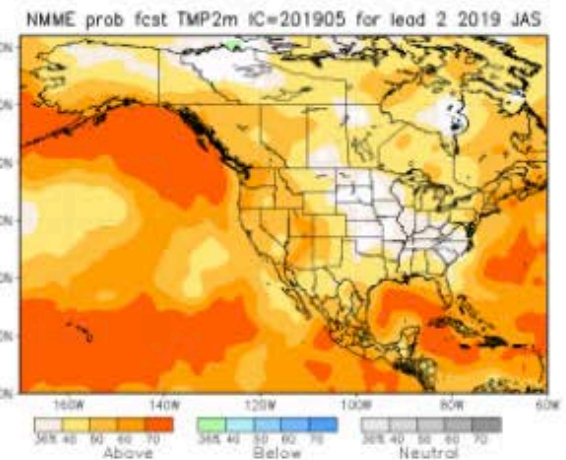
NMME



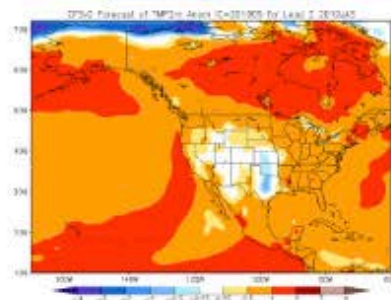
Prob fct



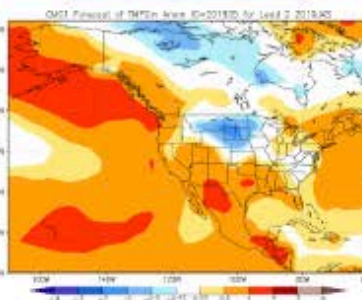
PAC calib. prob fct



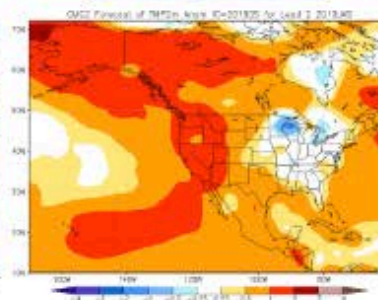
NCEP CFSv2



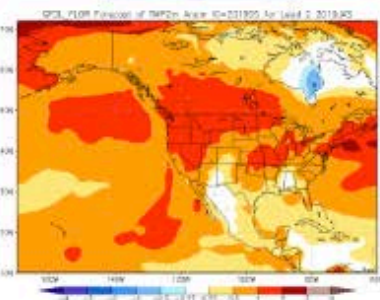
CMC1 CanCM3



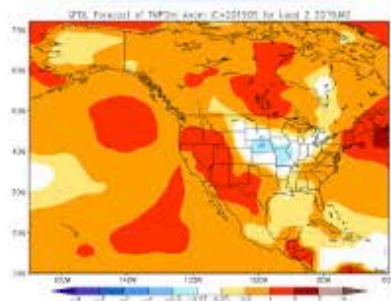
CMC2 CanCM4



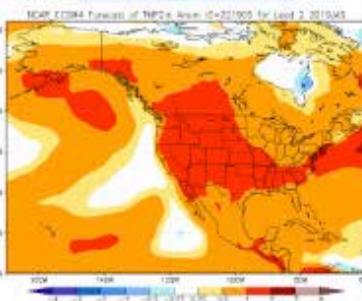
GFDL FLOR



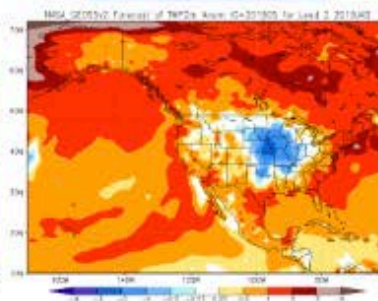
GFDL CM2.1



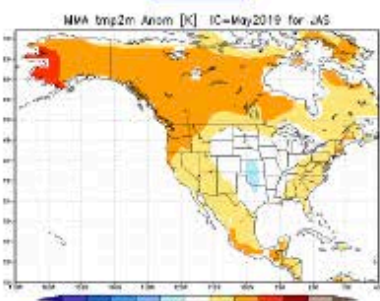
NCAR CCSM4



NASA GEOS5v2



IMME



# NOAA's CFS Model No Longer Projects a Circulation Pattern with Enhanced Delivery of Monsoonal Moisture from the Desert SW to the Pacific NW

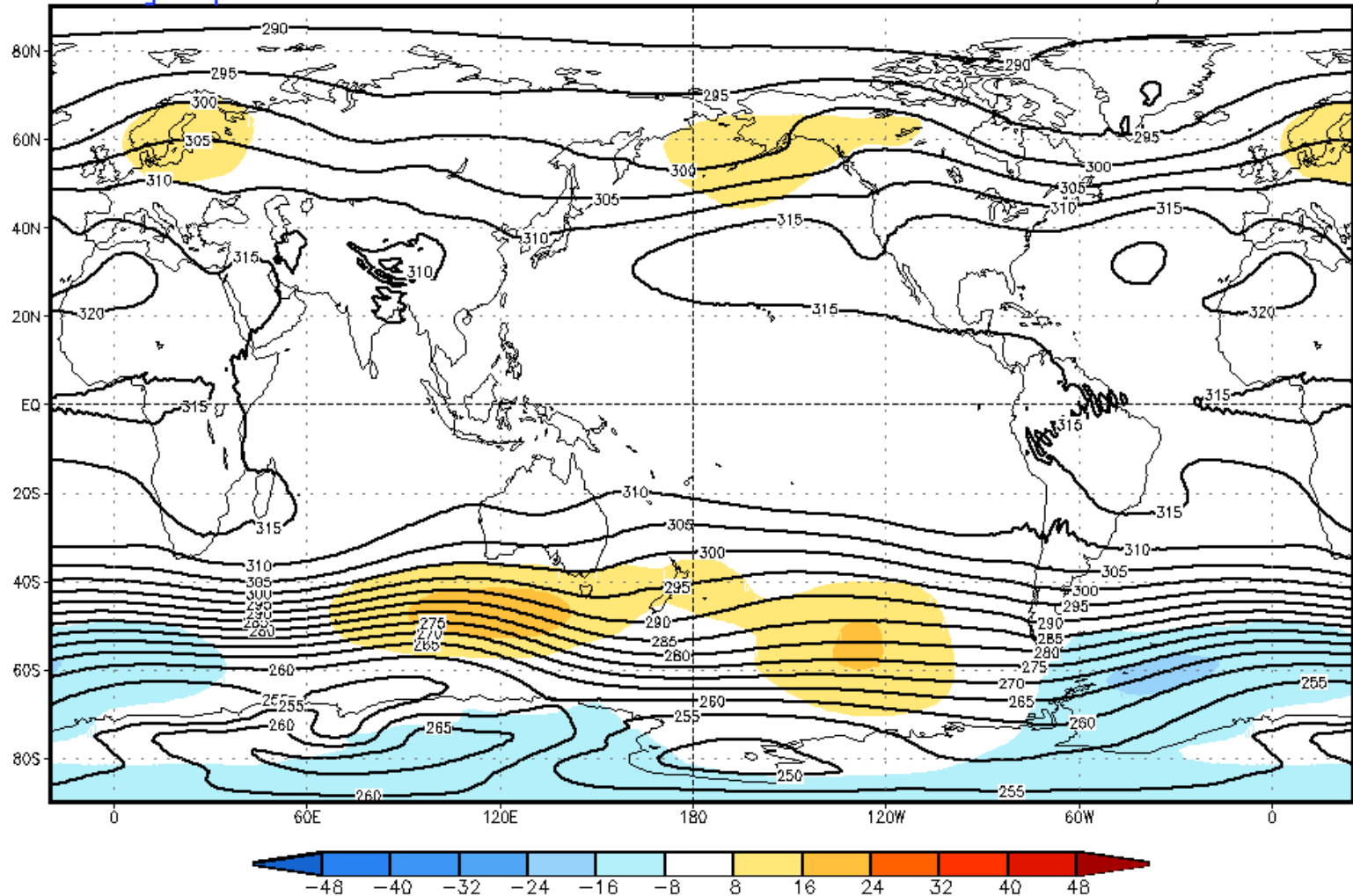


CFSv2 seasonal z700 anomalies (m; shaded) and total (dm; contours)

NWS/NCEP/CPC

Jul-Aug-Sep 2019

Initial conditions: 26May2019-4Jun2019





# Final Remarks

- Some of my tomato plants have set fruit; harvest expected to begin in early July!
- Spring was tied as the 13<sup>th</sup> driest on record, with western WA especially dry
- Heat wave next week with daily maximum temperature records likely in some locations. June apt to be warm.
- Weak El Niño conditions likely to continue, with the possibility of strengthening still possible.
- Still anticipating a summer on the warm side due to multi-year trends and climate model output; no clear signal with respect to precipitation.