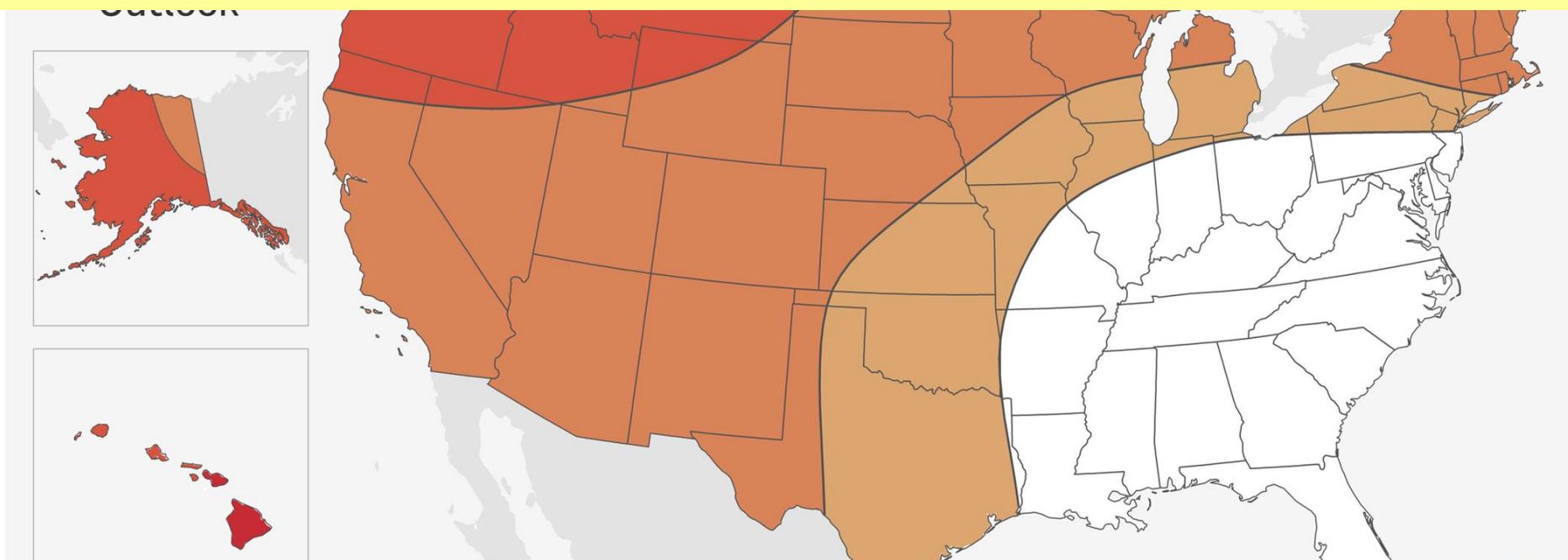


Winter 2018-2019 Climate Forecast and Validation



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Weather, Climate and Climate Change—What the Data Tell Us

21 May 2019 updated 15 Oct 2019



National Oceanic and Atmospheric
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Winter Outlook favors warmer temperatures for much of U.S.

Wet southern states to contrast drought in West

Weather | forecasts winter

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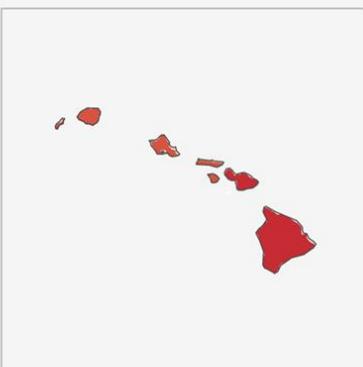
October 18, 2018 —

October 18, 2018 –

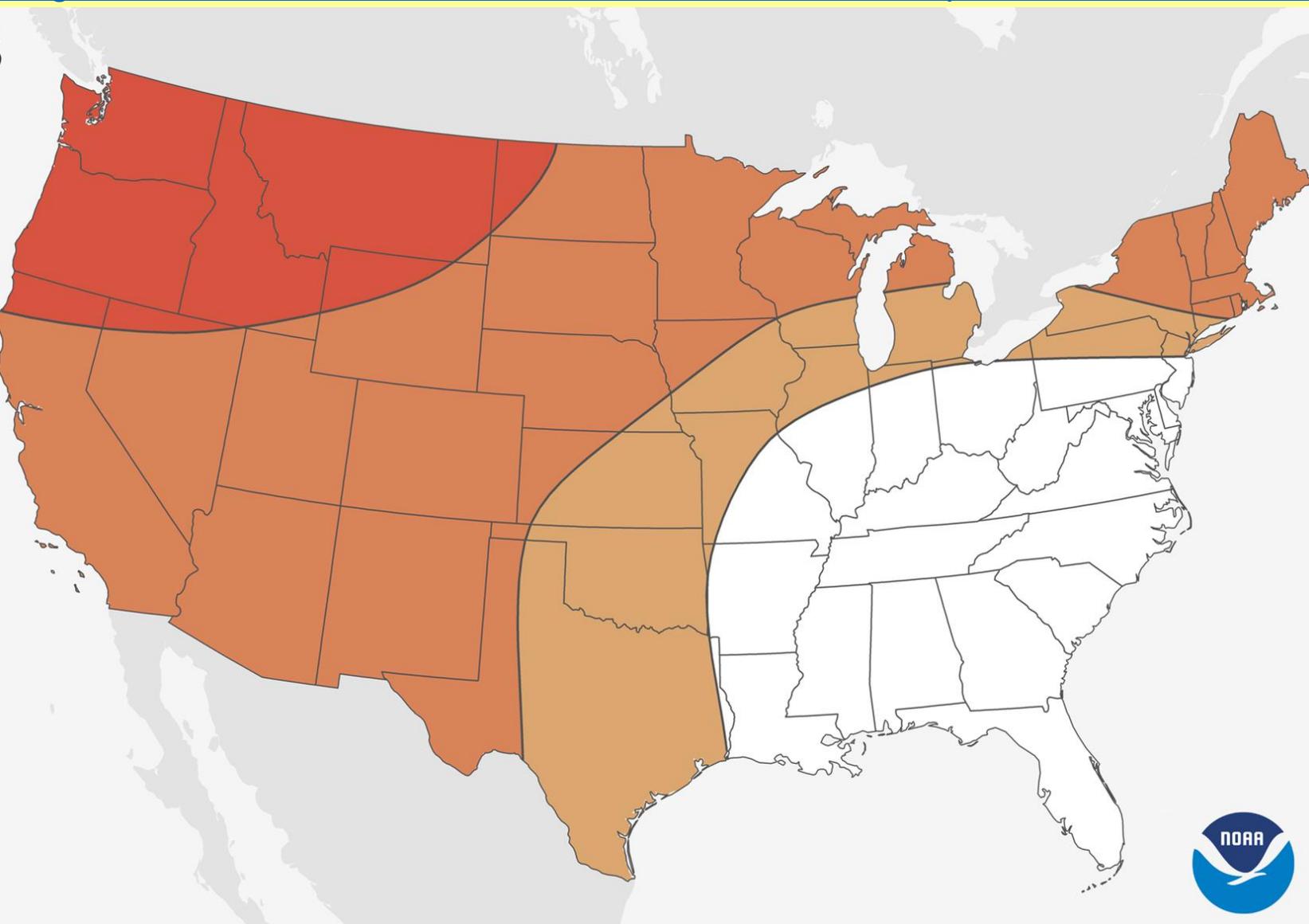
A mild winter could be in store for much of the United States this winter according to NOAA's Climate Prediction Center. In the U.S. Winter Outlook for December through February, above-average temperatures are most likely across the northern and western U.S., Alaska and Hawaii.

Winter 2018

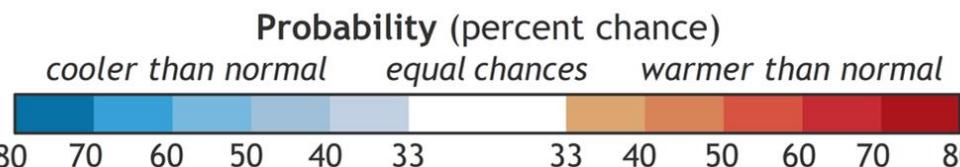
U.S. Temperature Outlook



AK and HI not to scale



Temperature Outlook
for Dec 2018 – Feb 2019
Issued 18 October 2018

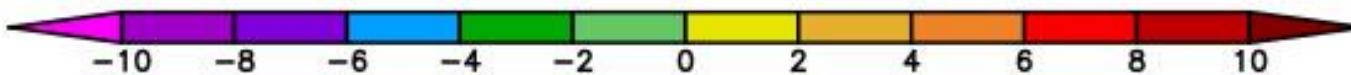
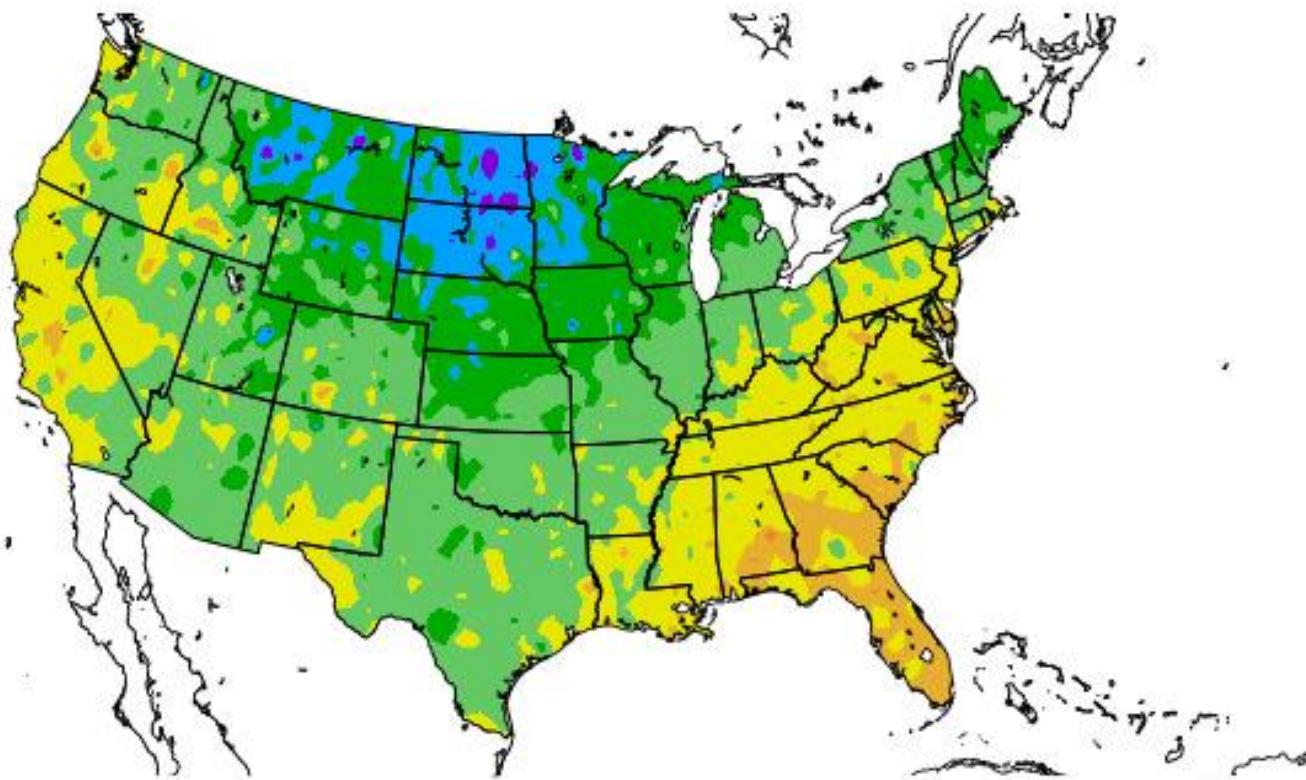


NWS Climate Prediction Center
Map by NOAA Climate.gov

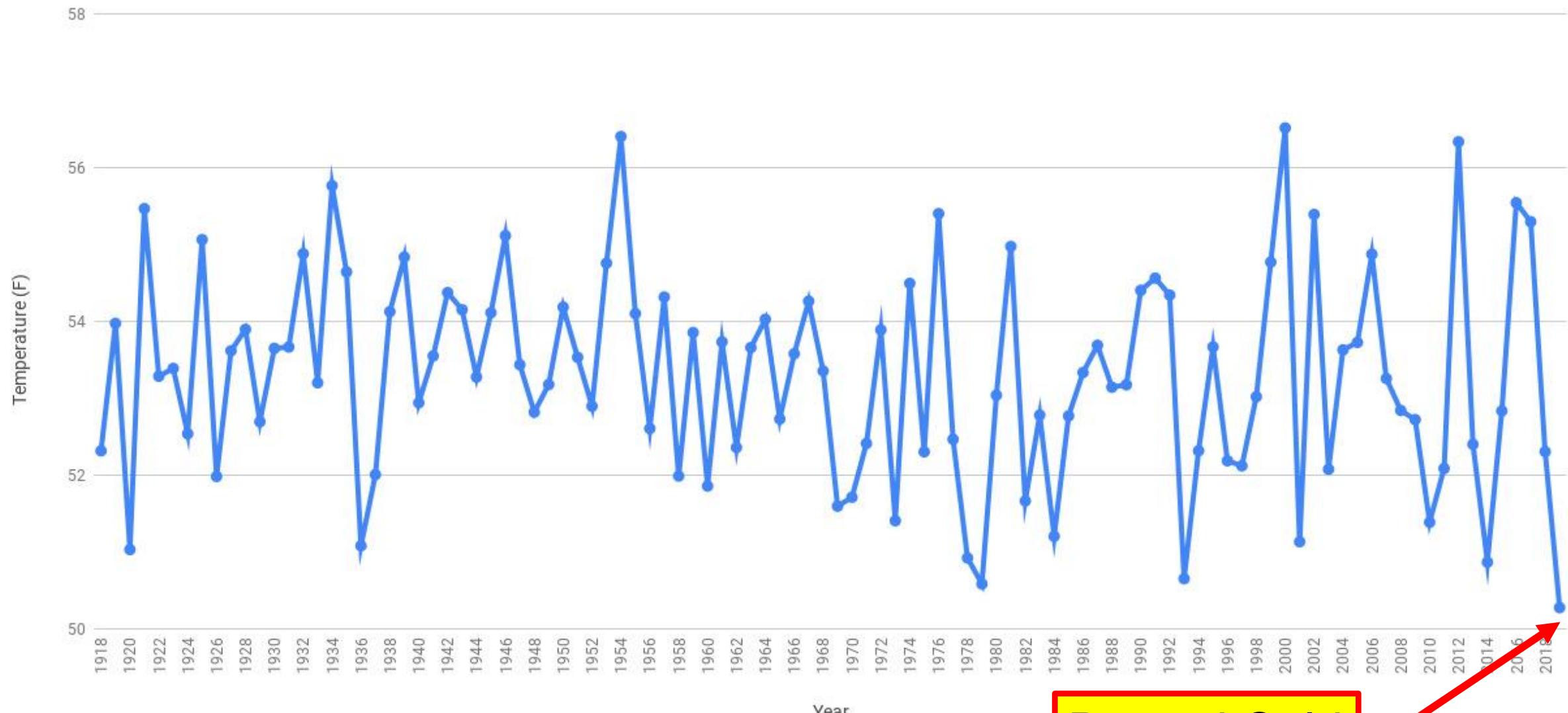
Temperature Validation on 19 May 2019

Departure from Normal Temperature (F)

10/1/2018 – 5/18/2019

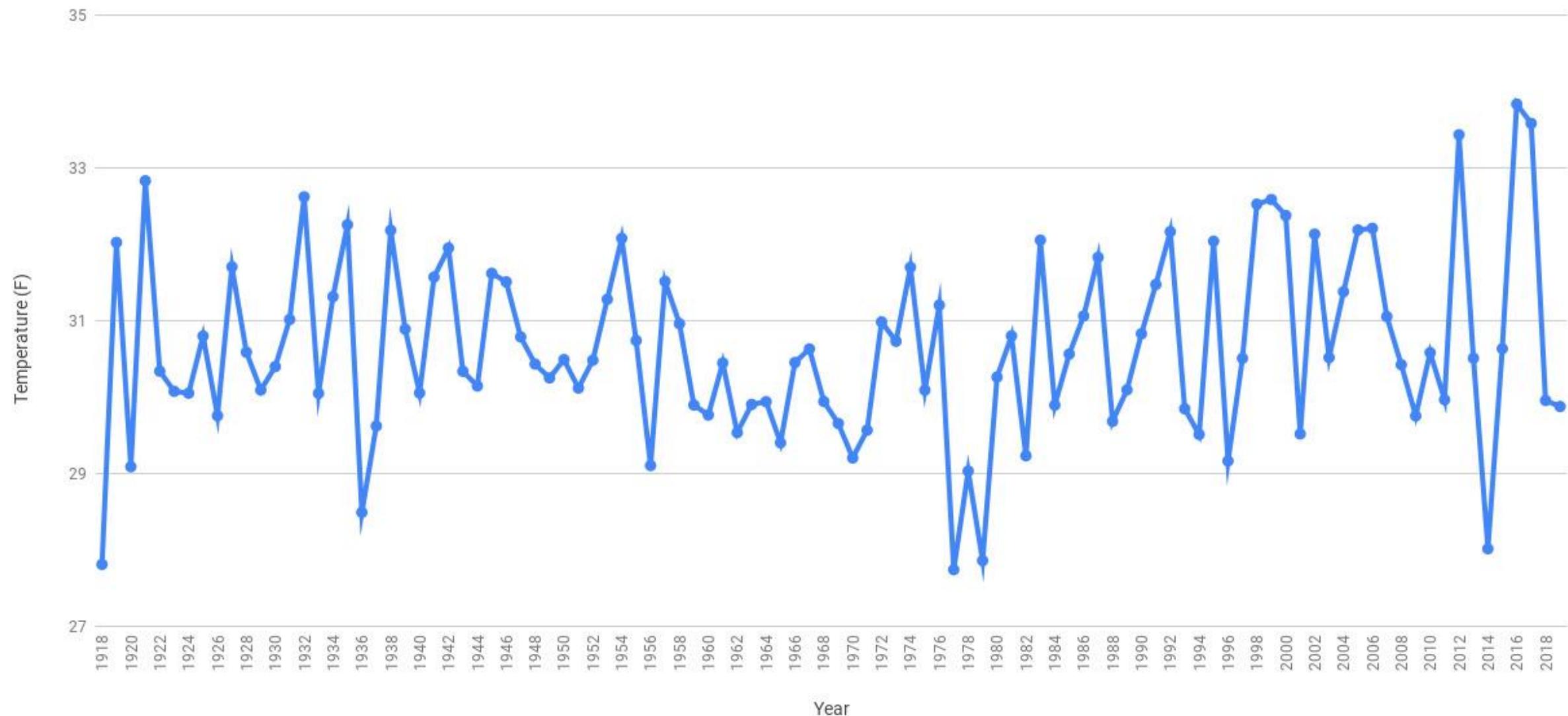


October Through April Average Daily Maximum Temperature At All 1,218 United States Historical Climatology Network Stations



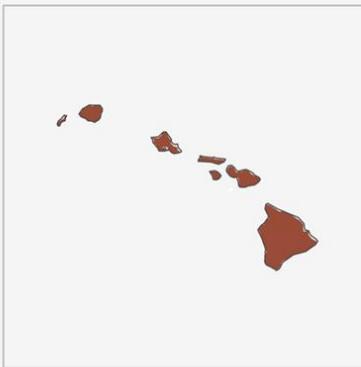
Record Cold

October Through April Average Daily Minimum Temperature At All 1,218 United States Historical Climatology Network Stations

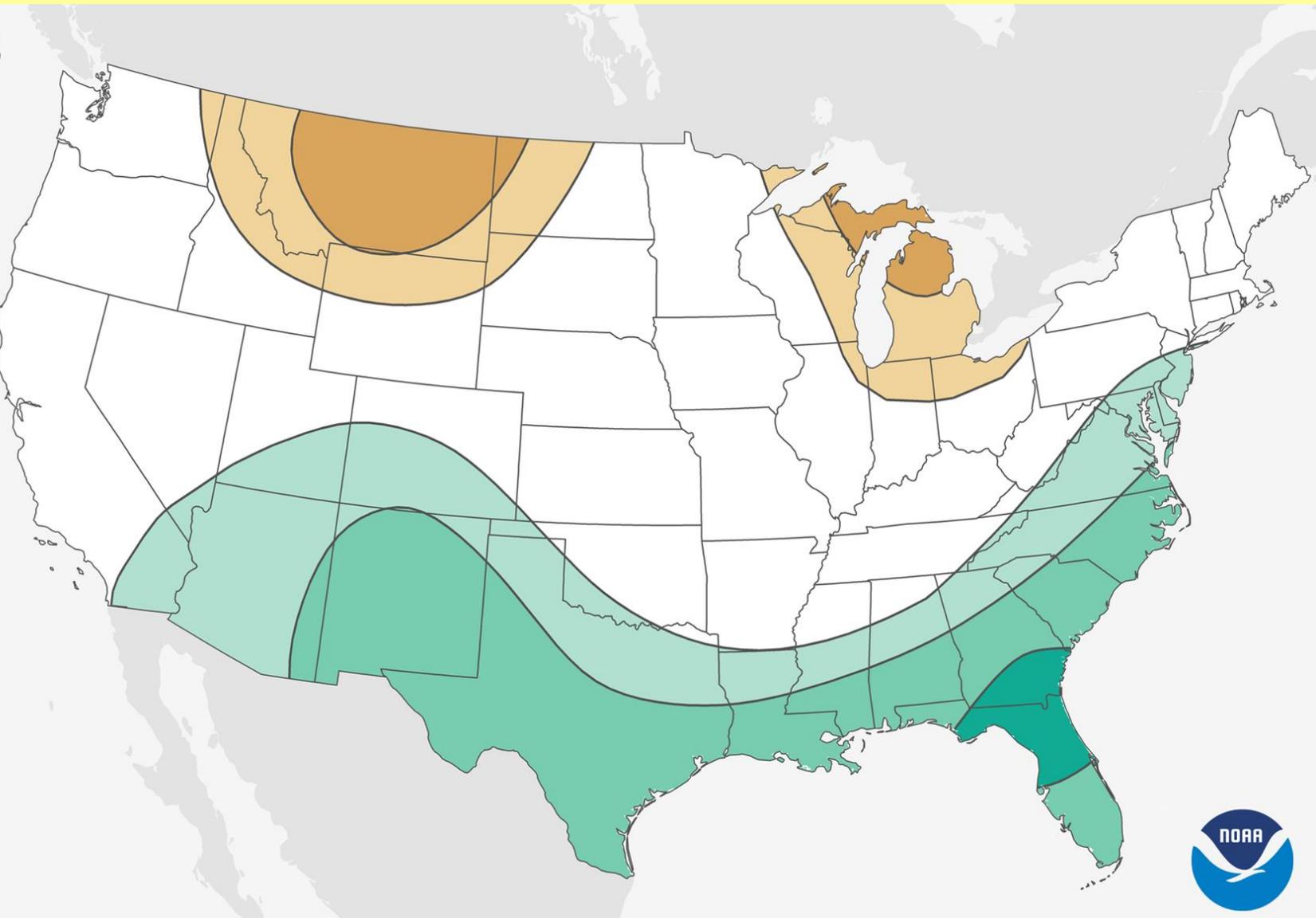


Winter 2018

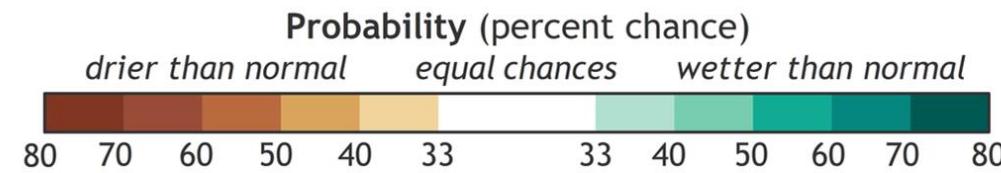
U.S. Precipitation Outlook



AK and HI not to scale

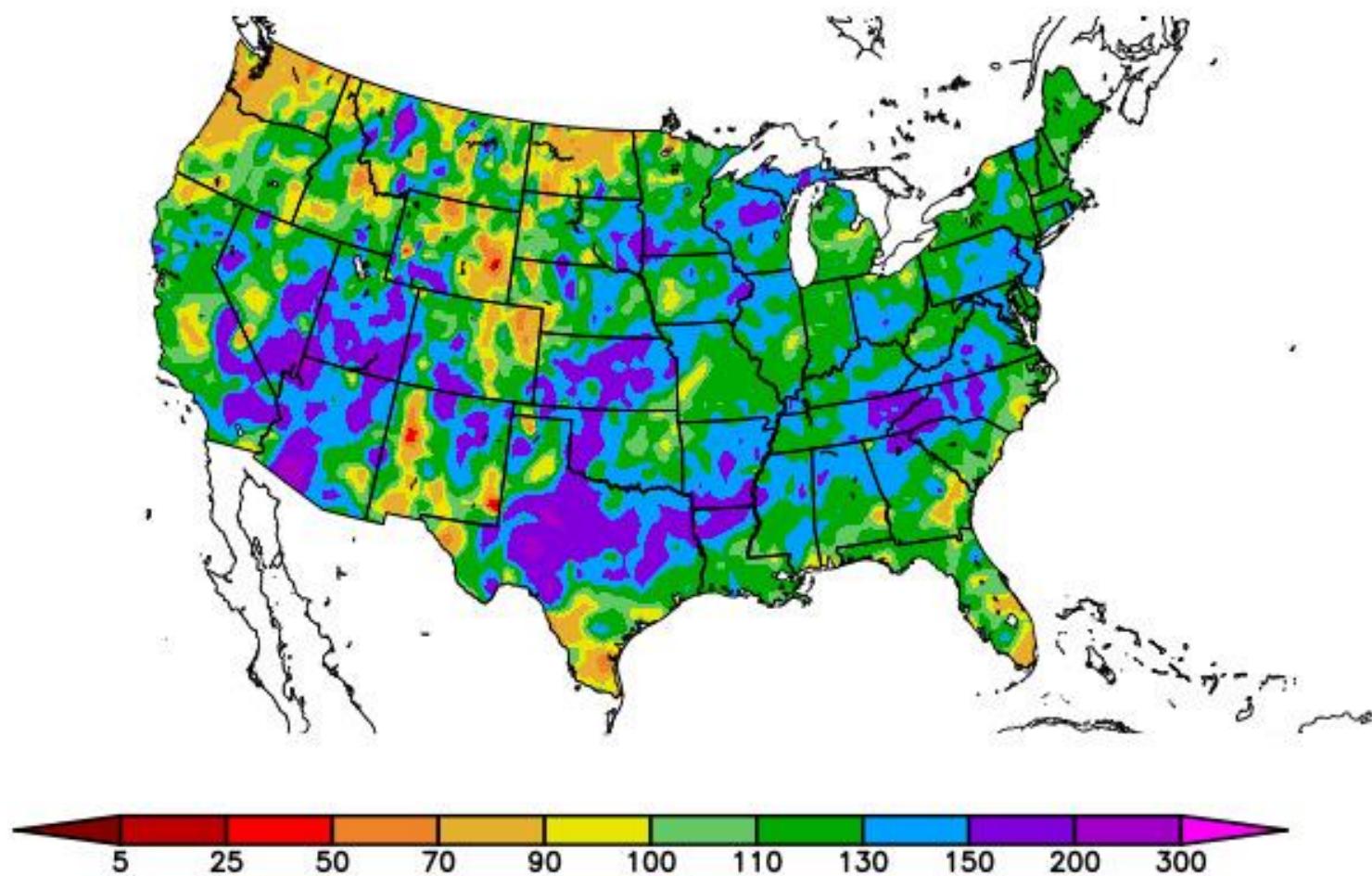


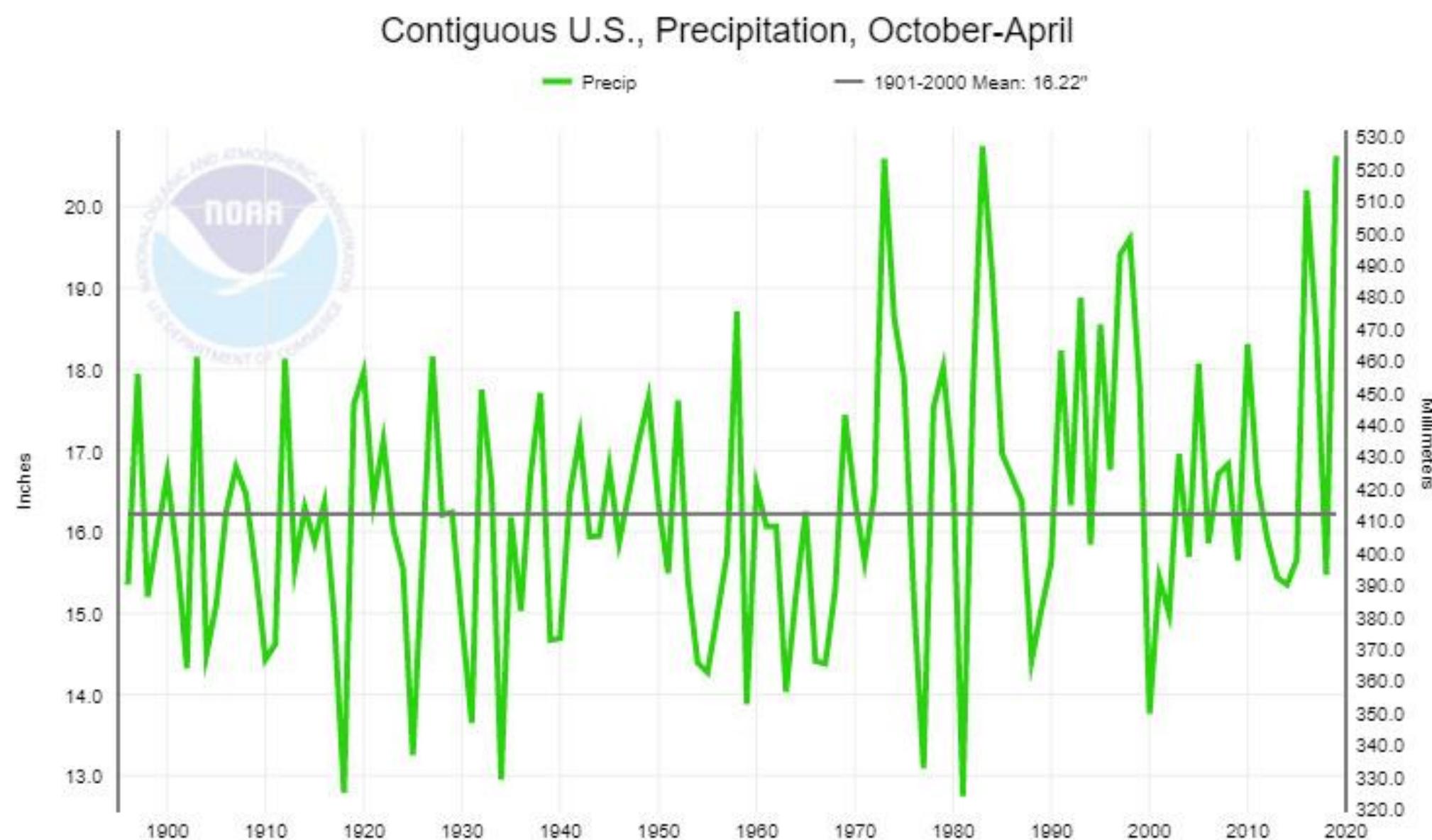
Precipitation Outlook
for Dec 2018 – Feb 2019
Issued 18 October 2018



NWS Climate Prediction Center
Map by NOAA Climate.gov

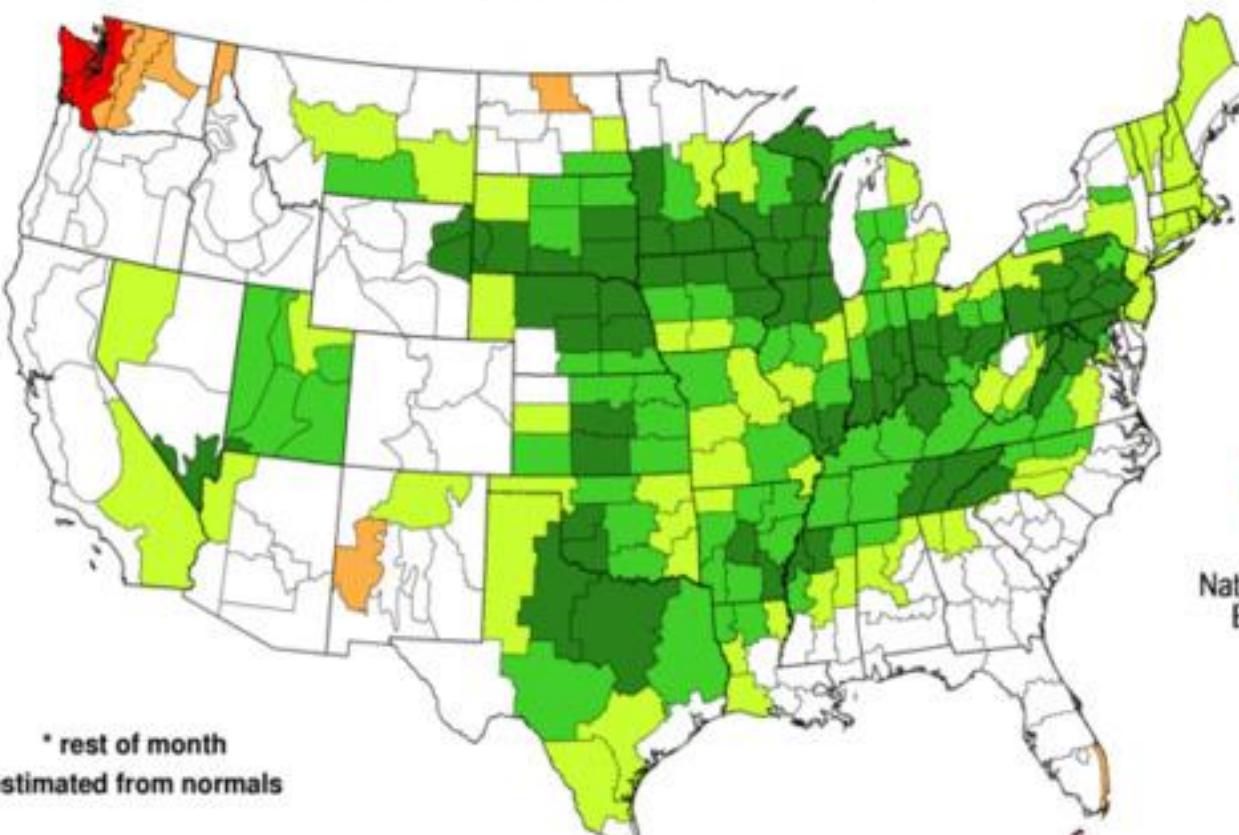
Percent of Normal Precipitation (%)
10/1/2018 – 5/18/2019





Palmer Drought Index
Long-Term (Meteorological) Conditions

May 2019: through May 11 2019*



* rest of month
estimated from normals

extreme drought	severe drought	moderate drought	mid-range	moderately moist	very moist	extremely moist
-4.00 and below	-3.00 to -3.99	-2.00 to -2.99	-1.99 to +1.99	+2.00 to +2.99	+3.00 to +3.99	+4.00 and above



National Centers for
Environmental
Information

What explains such poor results?

This might show that climate forecasting
is impossible at this time....

...that we have reached the limits of predictability....