



Some Long Range Forecasts

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Our forecast – Winter 2017-2018 – Flashback!

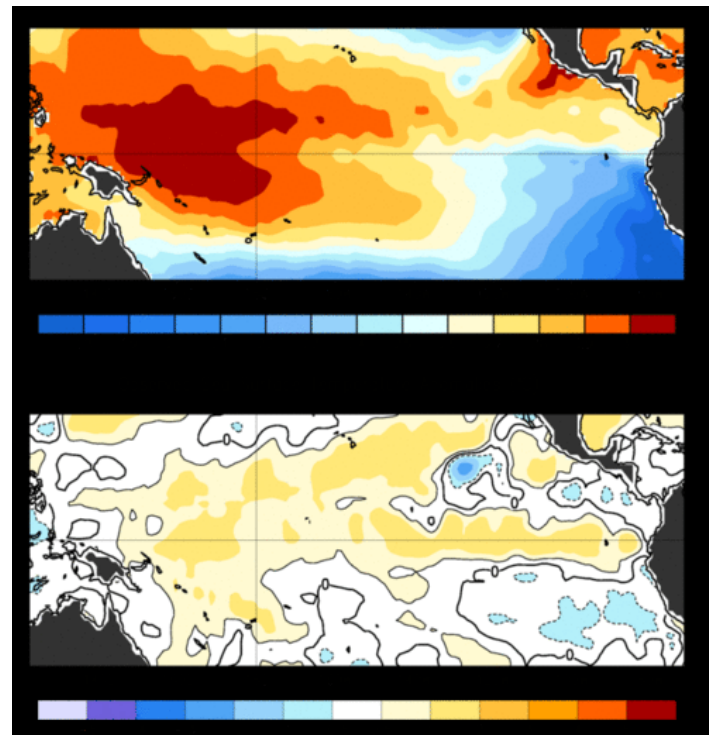
- ▶ We forecasted close to normal temperatures for the winter period especially for the late winter (February). Temperatures were close to normal (+1.0° F), which is well under $\frac{1}{2}$ the winter standard deviation (1.7° F).
- ▶ We forecast above normal amounts of precipitation (about 0.5 sigma). This included a bite on an active clipper season and blocking. We forecast 1.5 inches of snow. We received 5.44 inches of precipitation, which was right on normal.
- ▶ We did get 11 inches of snow, with the biggest ones coming in March and April.

Our forecast – Winter 2017-2018 – Flashback!

- ▶ Reasoning: We did go La Niña in the Pacific, somewhat similar to the winter to 2013-2014 or 2014 – 2015 but not as cold.
- ▶ Our forecast was very good, in spite of the lack of snow in season.

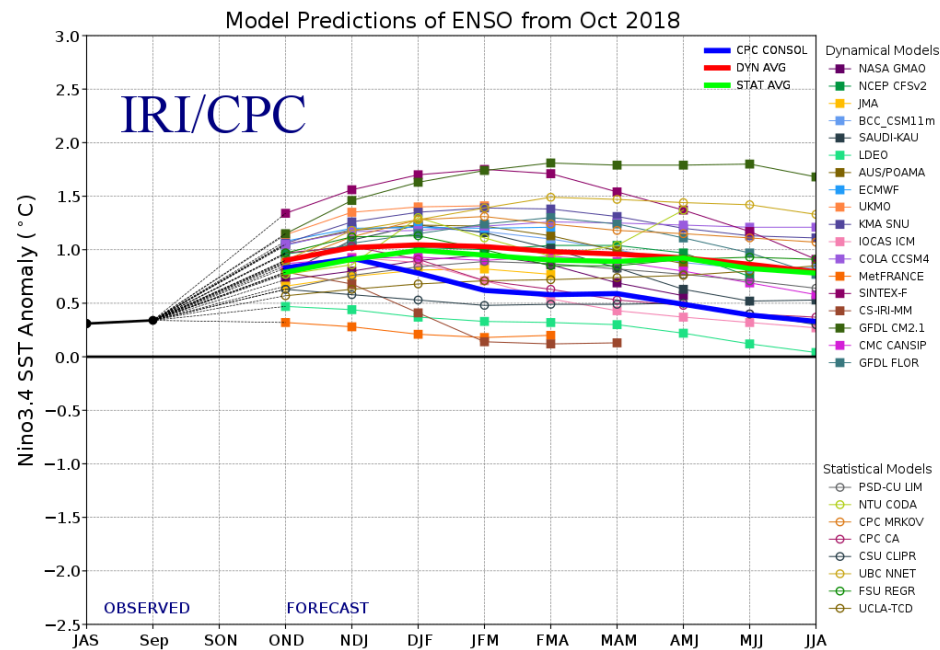
Winter 2018-2019 (mid-MO)

- ▶ Cold Neutral conditions in early fall to 17 October, 2018 – see below.



Winter 2018-2019

- Models looking to develop a weak El Niño common of the negative PDO2.

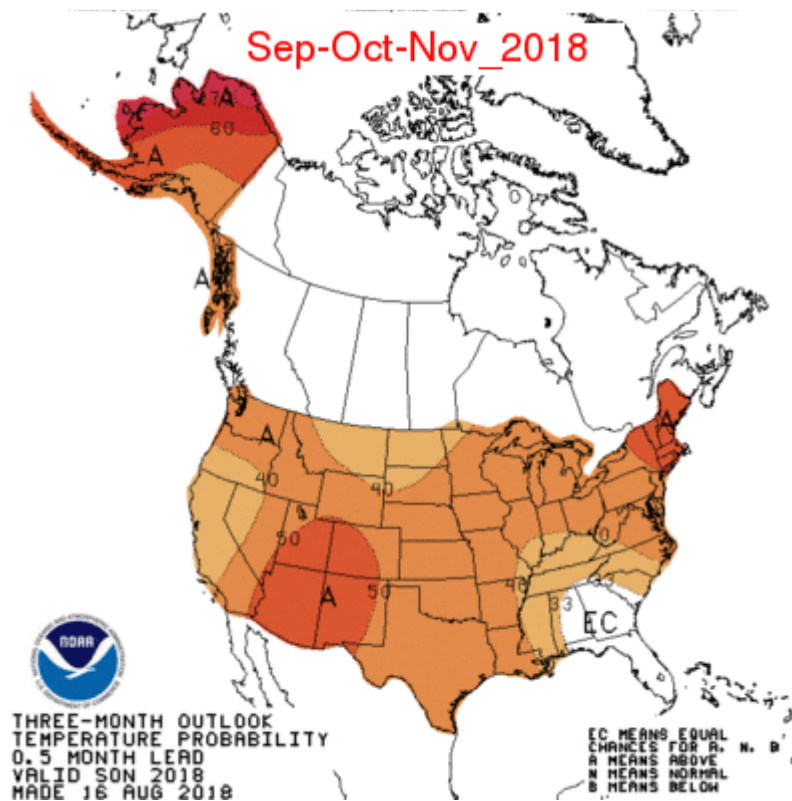


Summer 2018 (Mid MO)

- ▶ Our temperature forecast was not very good, breaking a streak of six summers. We said roughly normal for summer. It was $+3.2^{\circ}\text{F}$, more than one sigma.
- ▶ As for precipitation, we missed this too. We were -4.00 inches. We were less than one standard deviation below normal, but we predicted near normal.
- ▶ Our forecast was based on coming out of La Nina, but La Nina gave ground too slowly. This is what we missed. This summer was the 8th warmest on record.

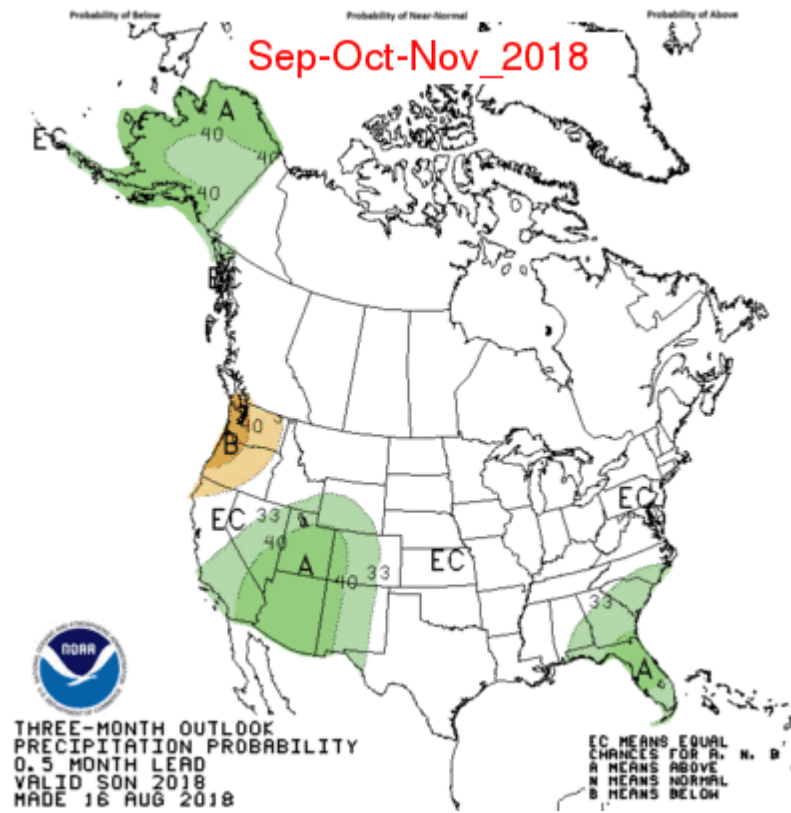
Fall 2018 – CPC Forecast

- Fall Temps – SON (above normal here – so far so good)



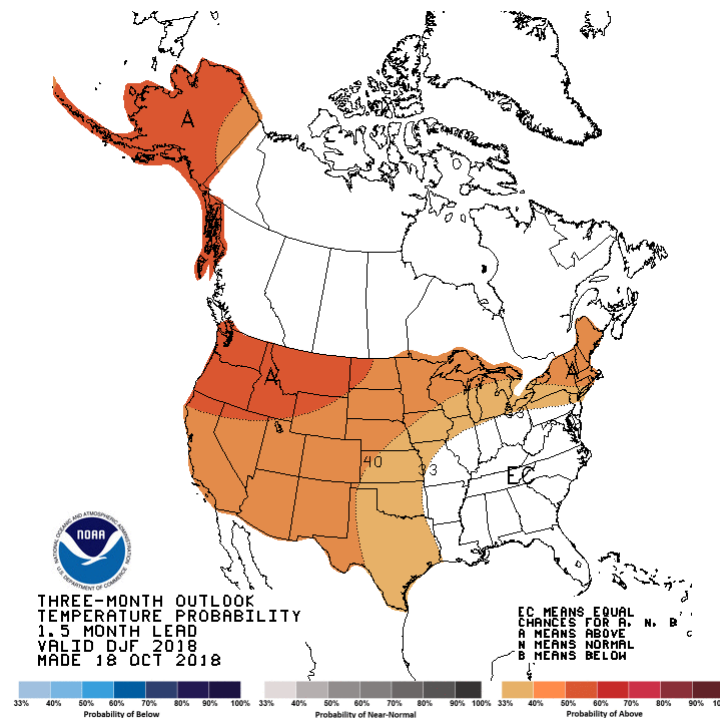
Fall 2018 – CPC Forecast

- Fall Precipitation: SON (should be near normal)



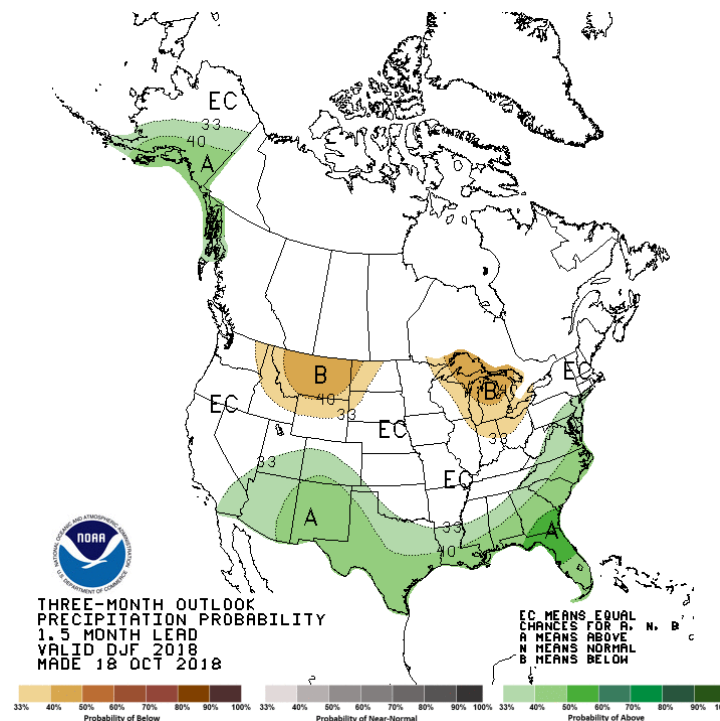
Winter 2018-2019

- ▶ CPC Winter temps – DJF (near normal? 'Classic' positive PNA pattern dominant)



Winter 2018 - 2019

- CPC Winter Precipitation DJF (Maybe close to normal here? Normal snow? – but classic El Niño signature).



Winter 2018 - 2019

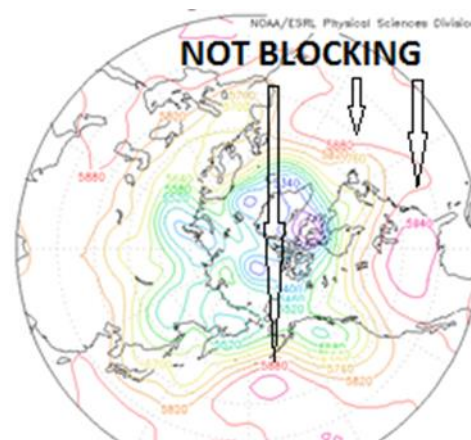
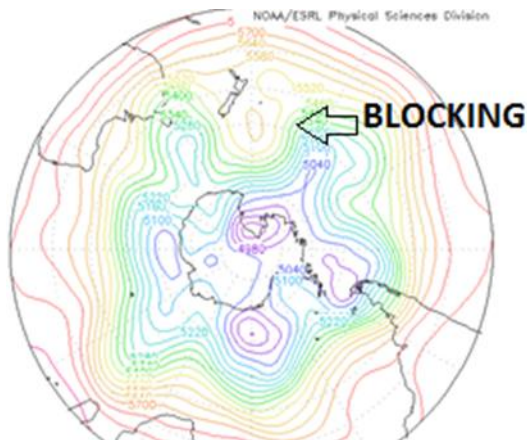
- ▶ CPC forecast is for a typical winter temperature-wise and precipitation-wise. They forecast equal chances of normal, above normal, and below normal.
- ▶ In the spring and summer, weak La Niña conditions grudgingly gave ground to a mid-fall weak El Niño conditions. This El Niño looks more displaced north mix of a weak classic and ENSO Modoki. We'll err toward a 2002-2003 or 2006-2007 winter.

Our forecast – Winter 2018-2019

- ▶ Near normal temperatures (less than 0.5 sigma from normal), possibly warmer in January and February. Mixed news for heating bills.
- ▶ Normal to above normal amounts of precipitation (about 0.5 sigma), and about 10 – 15 inches of snow.
- ▶ Reasoning: We are headed into weak El Nino, could be classic, could be Modaki. If it goes toward Modaki – this would mean more blocking. We're fairly confident in this forecast.

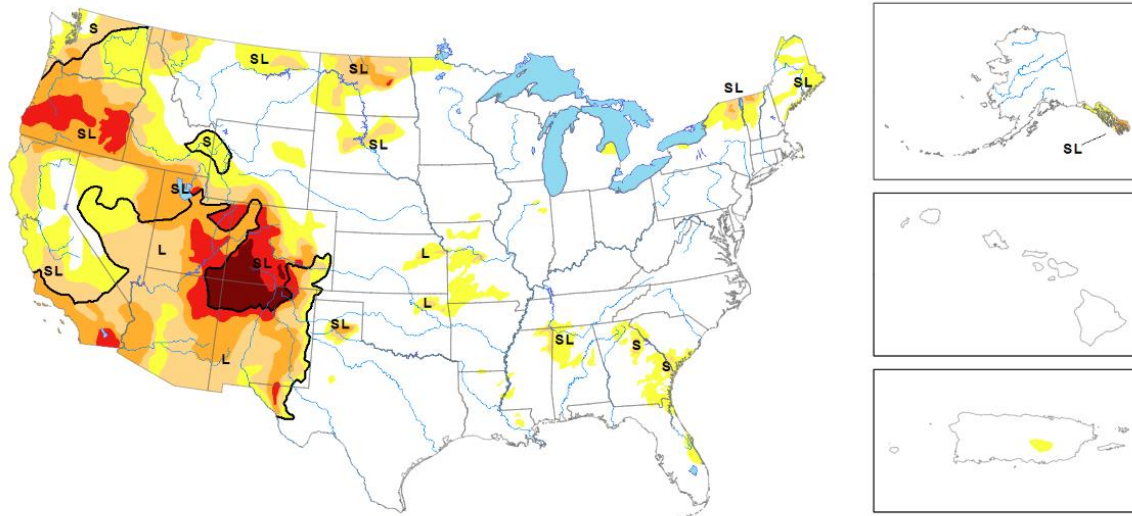
Our forecast – Winter 2018-2019

- ▶ What is atmospheric blocking? This semi-persistent ridging can impact our weather quite strongly. Here is some information from a leading expert on the topic:
- ▶ <http://www.globalweatherclimatecenter.com/advanced-meteorological-research-topics>



National drought map

Currently: We're in good shape. As of 25 October, 2018 – summer drought is mitigated. But still dry in the southwest.



The data cutoff for Drought Monitor maps is each Tuesday at 8 a.m. EDT. The maps, which are based on analysis of the data, are released each Thursday at 8:30 a.m. Eastern Time.

CoCoRaHs

- ▶ Please consider joining CoCoRaHs. This data will be used by agencies to decide crop loss information. It's worth it to you to join Missouri CoCoRaHs. (State Climatologist Patrick Guinan)
- ▶ <http://www.cocorahs.org>
- ▶ Email: lupoa@missouri.edu

