6-Month Climate Model Forecast Summary for Pennsylvania
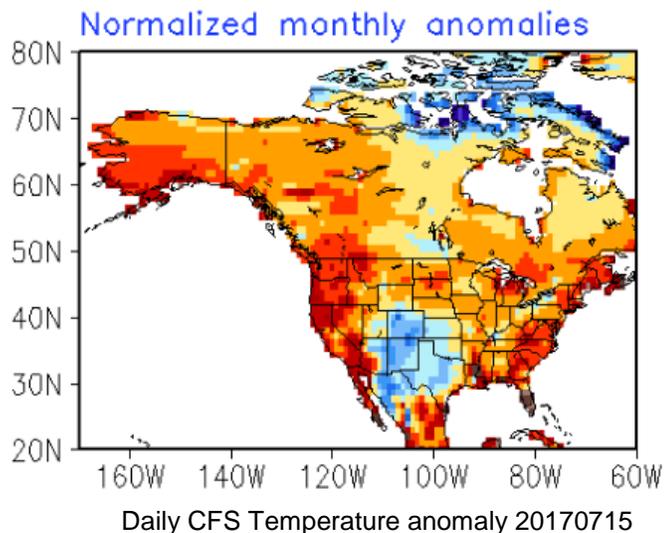August 1, 2017

Climate models continue to improve and may have some skill in forecasting patterns of temperature and precipitation anomalies several months in advance. However, climate modeling is still a very inexact science. Lacking highly precise observations from the earth's environment (air, land and sea) and a full understanding of the scientific processes that affect the motions in the atmosphere, it is impossible to make precise seasonal-scale weather predictions with any accuracy. Please keep this in mind as you review this forecast.

The following forecast is produced based on analysis of monthly forecast products from the Climate Forecast System Version 2 (CFS) and the North American Multi-Model Ensemble (NMME). Links to forecasts are provided at the end of this document.
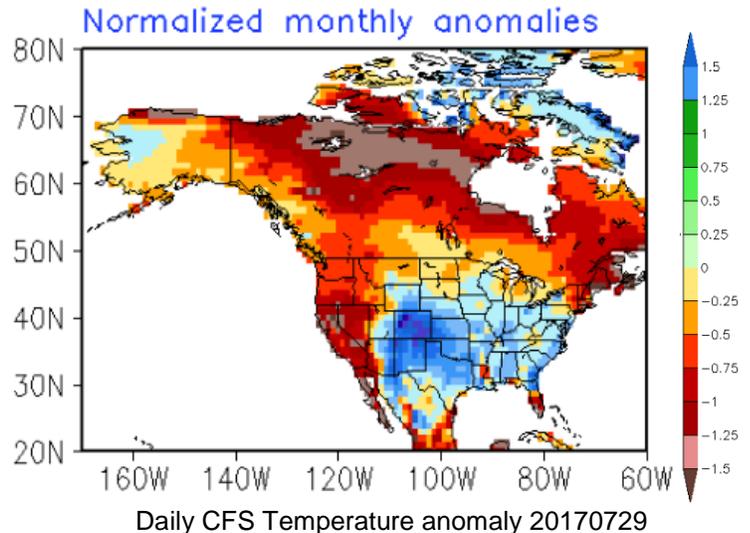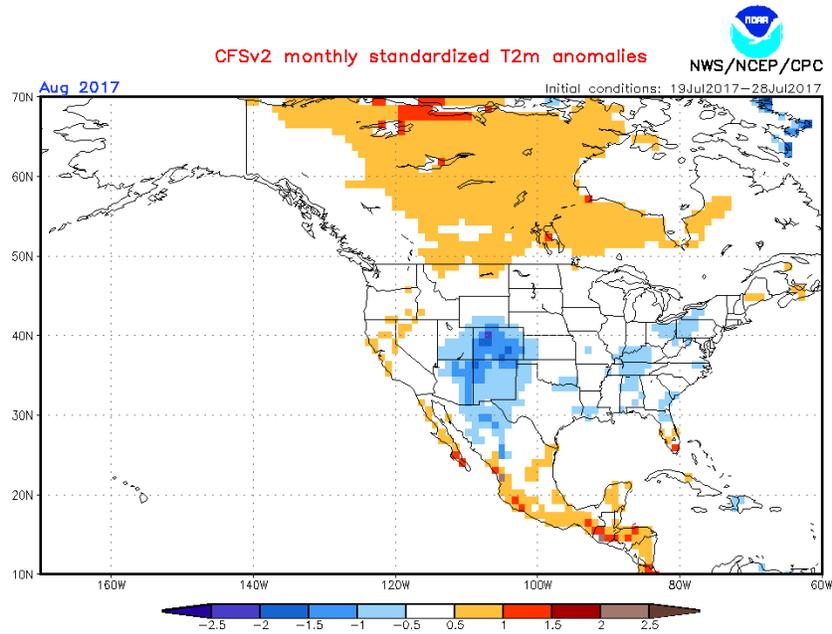
Discussion:

Although August continues to look near normal in temperature, changes in the overall pattern now suggest near to below normal temperatures whereas previously there was a tendency to be slightly above normal. This is also seen in the recent 10-day CFS ensembles (see charts below comparing daily CFS model runs from July 15 versus July 29, and the July 28 10-day ensemble).
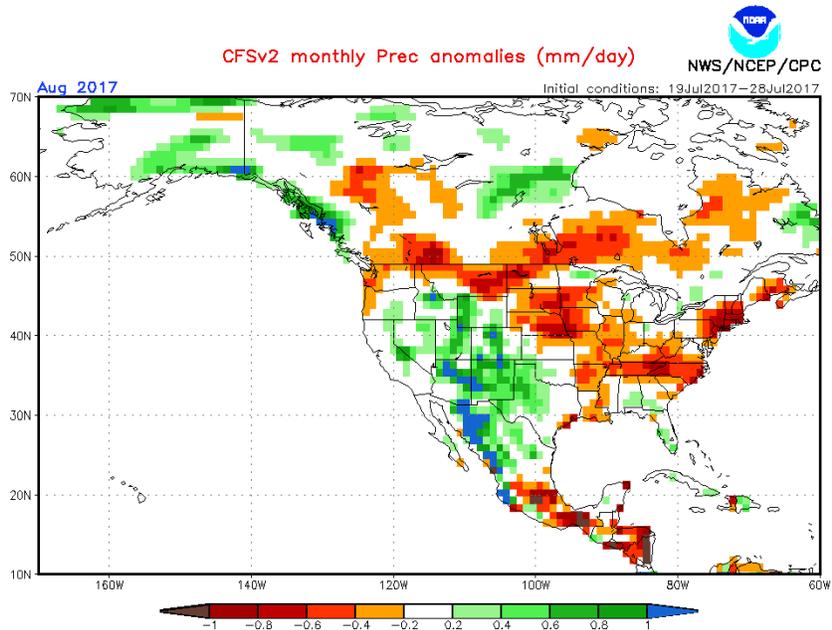
August 2017

August 2017

Daily CFS Temperature anomaly 20170715

Daily CFS Temperature anomaly 20170729

CFSv2 monthly standardized T2m anomalies
Aug 2017
NWS/NCEP/CPC
Initial conditions: 19Jul2017—28Jul2017

Previous forecasts for precipitation showed dryness just west of Pennsylvania, but recent runs of the CFS shift this dryness eastward causing us to change the August precipitation forecast to below normal.

CFSv2 monthly Prec anomalies (mm/day)
Aug 2017
NWS/NCEP/CPC
Initial conditions: 19Jul2017—28Jul2017

September continues to look normal in temperature but a bit drier. October previously looked warmer than normal, but the CFS is trending toward normal so we have updated

the October temperature forecast. November has been trending warmer for several weeks, so the November temperature forecast has been updated to reflect that trend. The December and January forecasts remain unchanged. Here's the forecast summary:

Forecast:
Changes highlighted in yellow
Previous forecast in parentheses

Month	Temperature	Precipitation
August	N (N)	B (N)
September	N (N)	N (N)
October	N (A)	U (U)
November	A (N)	U (U)
December	A (A)	A (A)
January	U (U)	A (A)

BB = Much Below Normal
B = Below Normal
N = Near Normal
A = Above Normal
AA = Much Above Normal
U = Uncertain

The next forecast will be issued on August 15, 2017.

References:

CFS forecasts:
http://www.cpc.ncep.noaa.gov/products/CFSv2/CFSv2seasonal.shtml
CFS forecasts:
http://www.cpc.ncep.noaa.gov/products/people/mchen/CFSv2FCST/monthly/
NMME forecasts: http://www.cpc.ncep.noaa.gov/products/NMME/monanom.shtml
NMME forecasts:
http://www.cpc.ncep.noaa.gov/products/NMME/verif/monindex.html