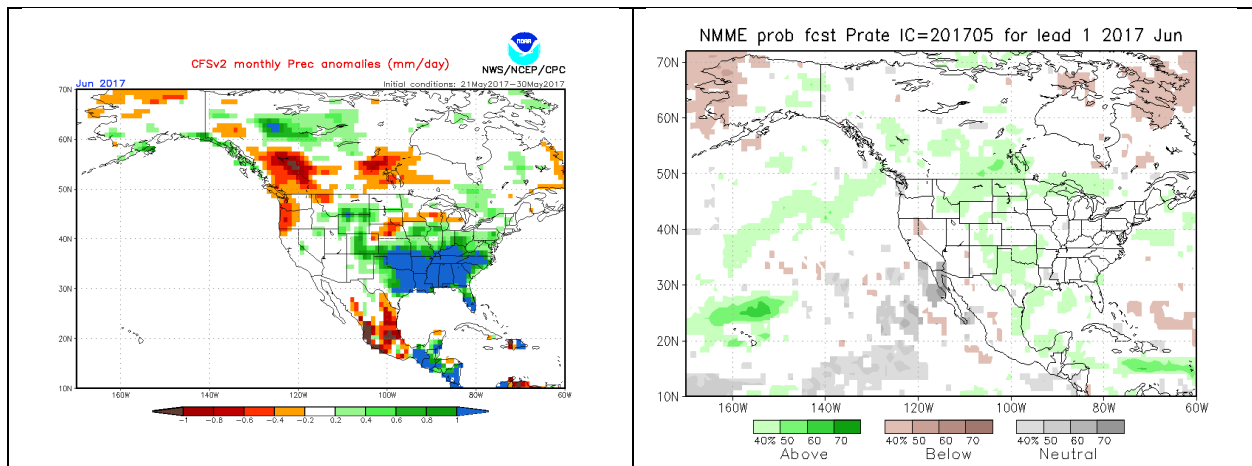# 6-Month Climate Model Forecast Summary for Pennsylvania
June 1, 2017

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:

Recent daily CFS forecasts and the NMME have the narrative of seasonal temperatures across Pennsylvania through the remainder of the summer. There are some hints that September could be above average but returning to seasonal levels through the remainder of meteorological fall. With respect to precipitation, there are some discrepancies between models during the month of June. Below, the CFS forecast is on the left and the NMME forecast on the right. While there is some disagreement, recent wet weather may lead to continued wetter than normal conditions during the month of June. This has changed the forecast from Uncertain to Above Normal.

Beyond the month of June, the forecast becomes uncertain with a plethora of model discrepancies with respect to precipitation anomalies during July. By nature,

precipitation is a difficult variable to predict farther out in time and our forecast reflects this given the lack of a strong signal in the model data for the months of October and November.

Forecast:
Changes highlighted in yellow
Previous forecast in parentheses

Month	Temperature	Precipitation
June	N (N)	A (U)
July	N (N)	U (N)
August	N (N)	N (N)
September	A (N)	B (U)
October	N (N)	U (U)
November	N (N)	U (U)

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 June 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