

The Pennsylvania Observer



LONG RANGE OUTLOOK

By: Arthur Person

The month of June 2015 was hot in the northwest while cool in the northeast, northern Great Lakes and south Texas. Meanwhile, it was dry in the northwest and southeast with a wet swath extending from Nebraska and Oklahoma up through the northeast.

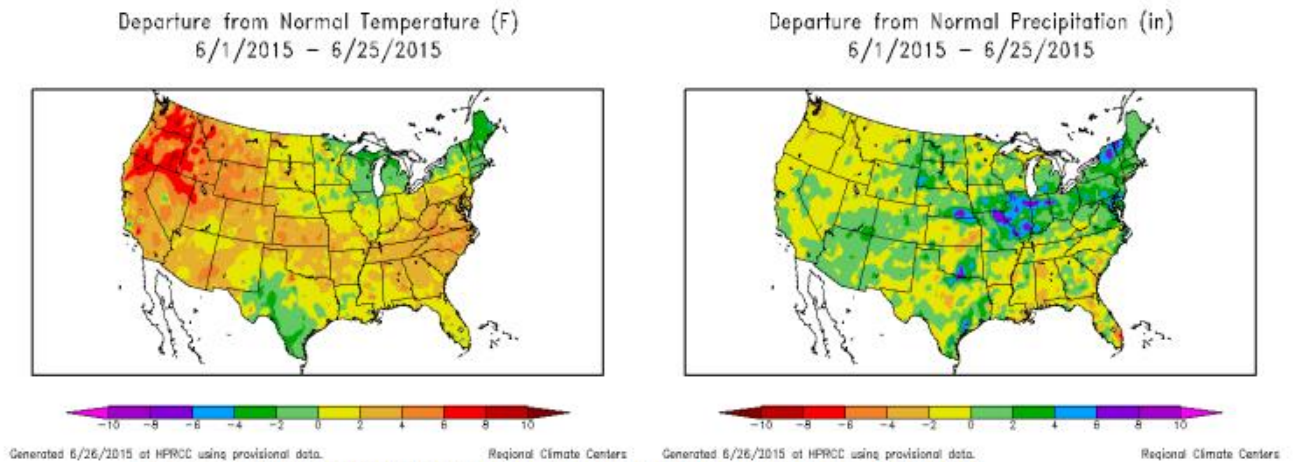


Figure 1. Temperature and precipitation anomaly maps for June 1-25 2015.

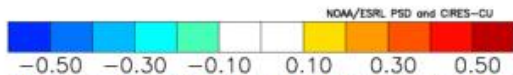
An analog forecast will be produced using the assumption there is some correlation between past extreme patterns of temperature and precipitation and the present pattern. For the month of June 2015 we select Maine as representative of cooler than normal temperatures and the northwest (WA, OR, ID) as warmer than normal. For wetter than normal Illinois is chosen as representative, and the northwestern states for drier than normal. Next, climate records are examined for these areas and the 25 most extreme years are ranked in the below table. After identifying common years in the four categories, the years with the most categories in common and highest rank are used as analog years.

Cool: Maine	Warm: Northwest	Dry: Northwest	Wet: Illinois
1958	1961	1919	1902
1902	1918	2003	2010
1897	1986	1895	1998
1918	1992	1940	2000
1927	1977	1960	1928
1903	1940	1918	1993
1914	1974	1926	1924
1926	1922	1902	2014
1912	1926	1949	2011
1905	2006	1924	1945
1928	1987	1910	1990
1948	2003	1979	1957
1959	1900	1986	1947
1986	1970	1922	1958
1910	1958	1951	1973
2004	1903	1935	1951
1913	1948	1962	1969
1924	2002	1974	1970
1916	1936	1909	1974
1968	2004	1899	1935
1982	1989	1989	1960
1985	1988	1932	1942
1904	2013	1961	1950
1917	2000	1996	2008
1977	1969	1915	1981

Table 1. Years in rank order of coolest, warmest, driest and wettest years for each region. Yellow entries represent years that occur in two categories, orange three categories, and red all four categories of climate extremes.

Composite maps for the months of July and August using the analog years in the above table are show below. These forecasts show below normal temperatures for July and August 2015 for Pennsylvania, especially in northern areas, whereas the forecast for July and August precipitation across Pennsylvania is above normal in most areas except the southeast where it is near normal.

NOAA/NCDC Climate Division Composite Standardized Temperature Anomalies
Versus 1895–2000 Longterm Average
Jul to Aug 1958, 1958, 1902, 1902, 1918, 1918, 1986, 1986, 1974, 1974
1926, 1926, 1924, 1924, 1961, 2003, 1940, 2000, 1977, 1960



NOAA/NCDC Climate Division Composite Standardized Precipitation Anomalies
Versus 1895–2000 Longterm Average
Jul to Aug 1958, 1958, 1902, 1902, 1918, 1918, 1986, 1986, 1974, 1974
1926, 1926, 1924, 1924, 1961, 2003, 1940, 2000, 1977, 1960

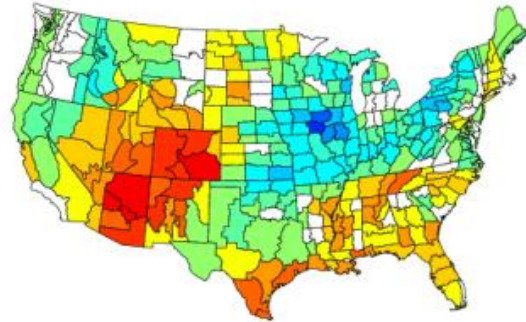
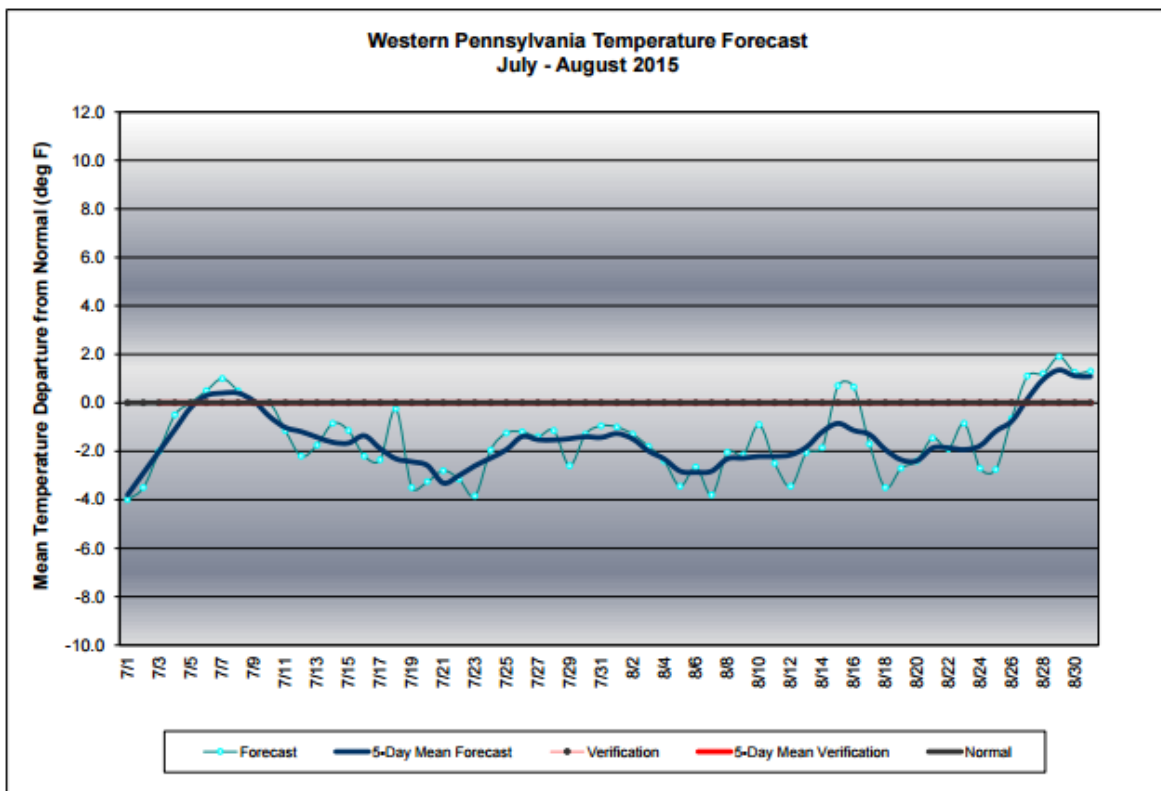
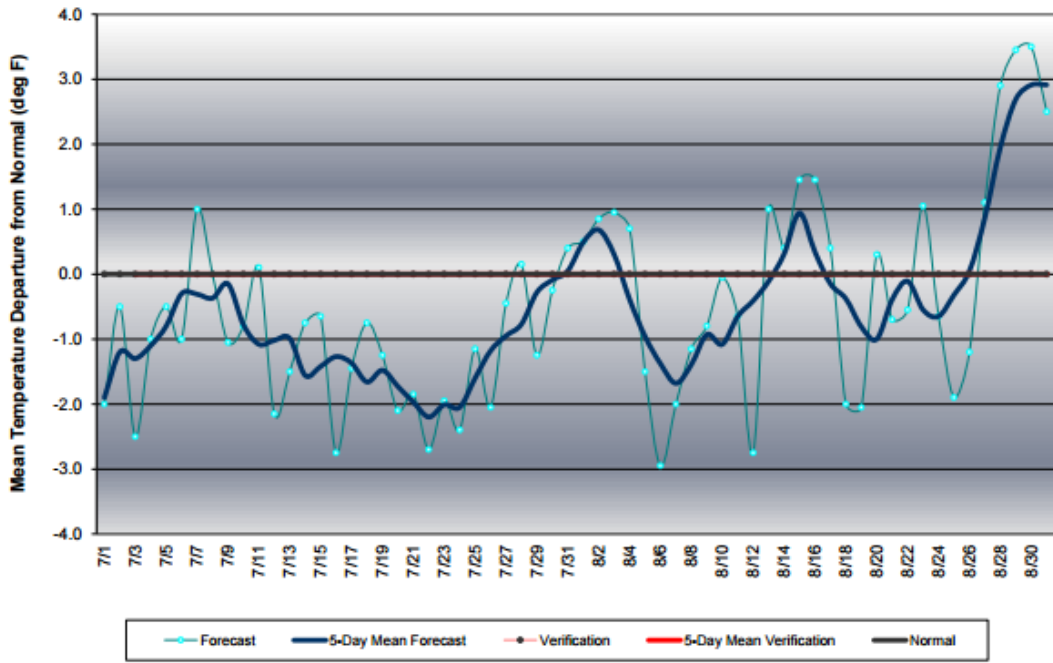


Figure 2. July and August forecast using composite temperature and precipitation anomalies for analog years.

Using Pennsylvania climate data for the highest ranked years from 1948 or later, forecast temperature and precipitation graphs are created and shown below.



**Central Pennsylvania Temperature Forecast
July - August 2015**



**Eastern Pennsylvania Temperature Forecast
July - August 2015**

