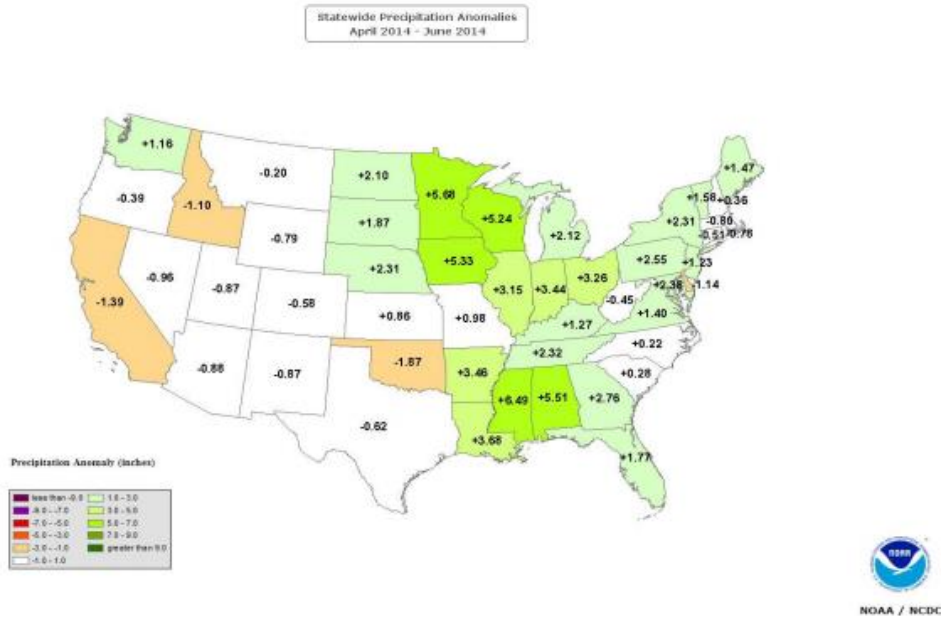


FEATURED CLIMATE HIGHLIGHT

By: Arthur Person

Precipitation over the eastern United States has seen its ups-and-downs during the first half of 2014, but on average it was up, especially from the Great Lakes southward through the Mississippi Valley. In particular, persistent rainfalls over Minnesota during the months of April, May and June broke statewide records. Could this period of record rainfall in Minnesota give any hints about the future weather in Pennsylvania?



To consider this, we selected the 19 wettest years on record for Minnesota for the combined months of April, May and June and then, using those years, examined Pennsylvania temperatures and precipitation 6 months later for the month of November. The wettest Minnesota years are: 1896, 1908, 1905, 1944, 2001, 1953, 2012, 1991, 1968, 1993, 2013, 1914, 1915, 1938, 1957, 1986, 1999, 1965 and 1899. For those years, November temperatures and precipitation for Pennsylvania were sorted into categories based on departures from normal in the following tables:

Average Temperature

Number of Years	MBN	BN	AN	MAN
November	1	8	7	3

Precipitation

Number of Years	MBN	BN	AN	MAN
November	3	9	5	2

- MBN = Much Below Normal (> 1 standard deviation)
- BN = Below Normal (0-1 standard deviation)
- AN = Above Normal (0-1 standard deviation)
- MAN = Much Above Normal (> 1 standard deviation)

The temperature results are nearly evenly split between above and below normal outcomes for the following November. Precipitation, however, is biased by almost 2:1 toward drier than normal conditions (12:7 or 63% of cases), and a composite map of precipitation for those years (see below) shows an interesting pattern of dryness across the northeastern United States. Though the sample size is small, we conclude that a drier than normal November in Pennsylvania is more likely than a wet one by approximately 2:1.

NOAA/NCDC Climate Division Composite Precipitation Anomalies (in)
 Versus 1895–2000 Longterm Average
 Nov 1896,1908,1905,1944,2001,1953,2012,1991,1968,1993
 2013,1914,1915,1938,1957,1986,1999,1965,1899

