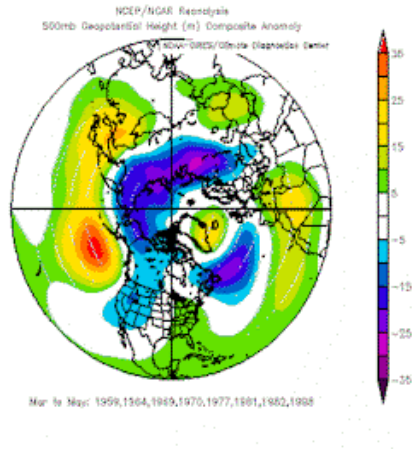


The Pennsylvania Observer

The Pennsylvania State Climatologist



September Climate Highlight:

Written by: Adam Douty and Brian Thompson

The first highlight looks at how the weather pattern is affected when an abundance of tropical systems pass near Hispaniola.

The second highlight predicts temperatures and precipitation for October through December when Kansas experienced a cooler than average August, Louisiana had a wet September, and warm conditions were present in Pennsylvania during September.

Weather Pattern associated with Tropical Storms passing near Hispaniola

This tropical season there has been an abundance of tropical systems that have passed near Hispaniola. Because this is a relatively infrequent occurrence, a look was taken at how this could possibly affect the weather pattern during the months following.

To do this quick analysis, years with three or more hurricanes that tracked close to Hispaniola were recorded using Weather Undergrounds hurricane archive. The years when this occurred were: 1932, 1933, 1945, 1955, 1979, 1985, 2000, 2004, 2005, and 2007. To check to see if there are any strong anomalies during the months following the hurricane season (October, November, and December), <http://www.cdc.noaa.gov/USclimate/USclimdivs.html> was used to create a composite of temperature and precipitation anomalies for the selected years against the long term average. The resulting graphs are shown below.

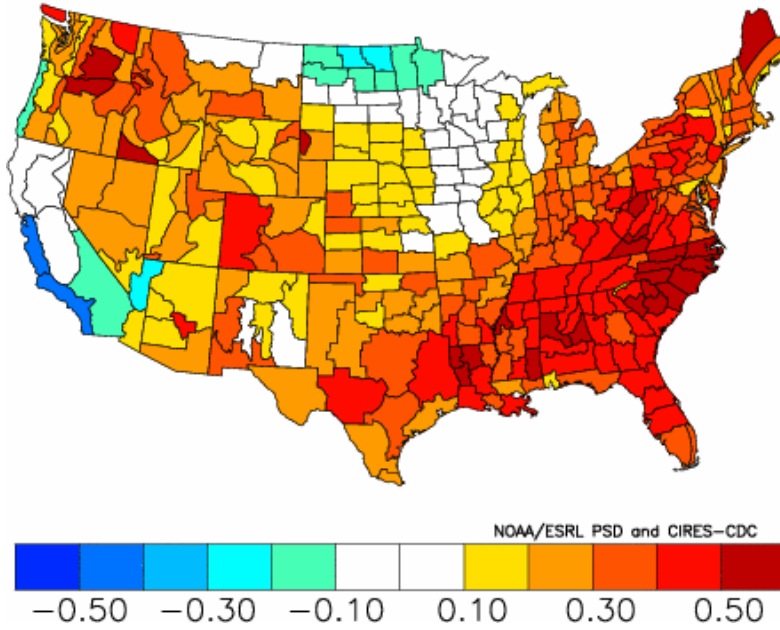
There are no strong long term anomalies in either temperature or precipitation through the selected months. There are, however, strong anomalies from month to month. There is a strong positive temperature anomaly during October for much of the eastern US, including PA. For December, a strong negative temperature anomaly is in place for PA. November remains near the long term average. Switching to precipitation, average to slightly above average amounts are found across the state for October and November. For December however, there is a strong negative anomaly for PA and the majority of the eastern US.

Trying to find a definitive trend for Pennsylvania in these results is difficult to do because of the large changes from month to month. The most obvious trend that is seen from this analysis is a warmer than average October, followed by an average November and a cooler than average December. Precipitation for these selected years during Oct, Nov, Dec show no strong long term trends. If anything can be said about these months it would be that October and November look to be average to slightly above average and December has a below average trend.

OCTOBER

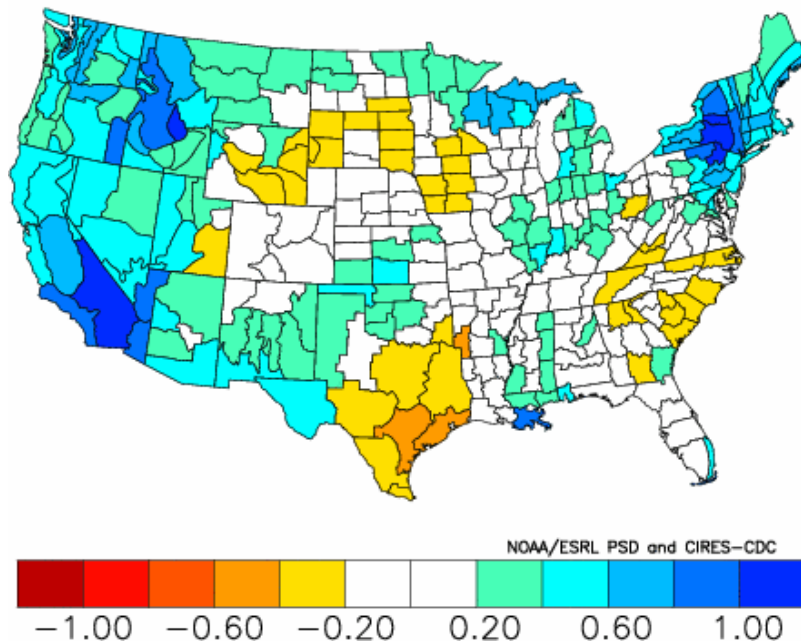
Temperature Anomalies

Composite Standardized Temperature Anomalies
Oct 1932,1933,1945,1955,1979,1985,2000,2004,2005,2007
Versus 1950–2007 Longterm Average



Precipitation Anomalies

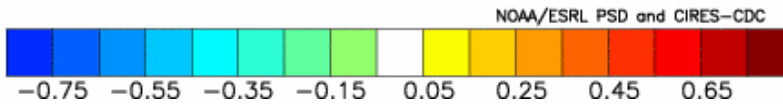
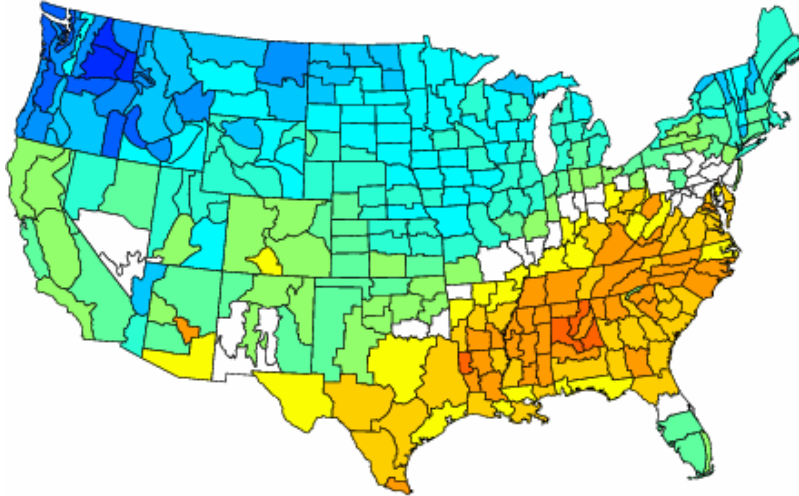
Composite Standardized Precipitation Anomalies
Oct 1932,1933,1945,1955,1979,1985,2000,2004,2005,2007
Versus 1950–2007 Longterm Average



NOVEMBER

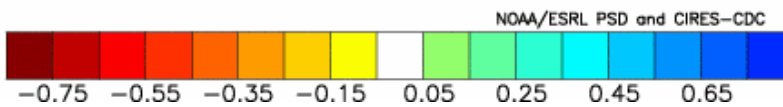
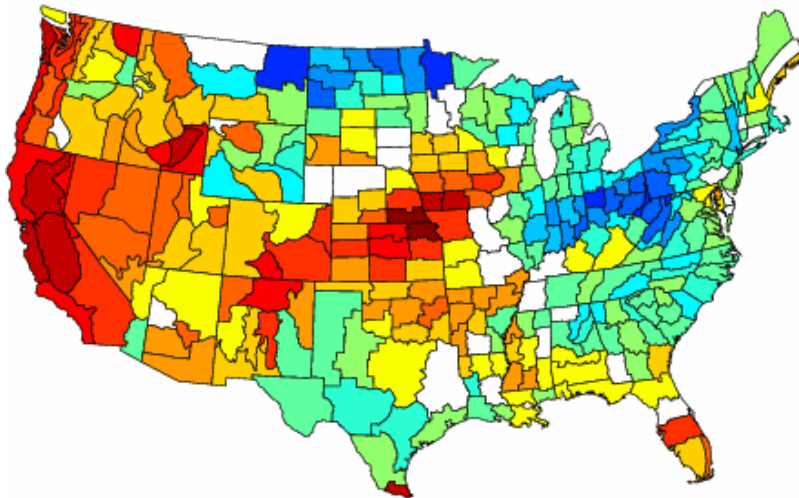
Temperature Anomalies

Composite Standardized Temperature Anomalies
Nov 1932,1933,1945,1955,1979,1985,2000,2004,2005,2007
Versus 1950–2007 Longterm Average



Precipitation Anomalies

Composite Standardized Precipitation Anomalies
Nov 1932,1933,1945,1955,1979,1985,2000,2004,2005,2007
Versus 1950–2007 Longterm Average



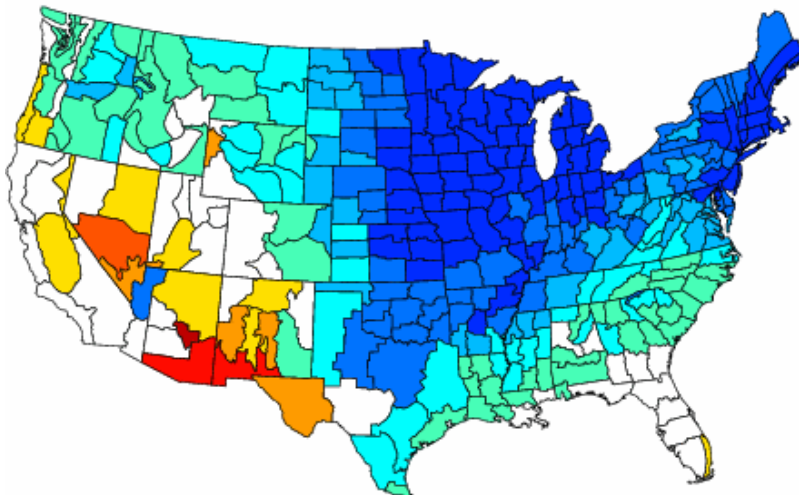
DECEMBER

Temperature Anomalies

Composite Standardized Temperature Anomalies

Dec 1932,1933,1945,1955,1979,1985,2000,2004,2005,2007

Versus 1950–2007 Longterm Average



NOAA/ESRL PSD and CIRES-CDC



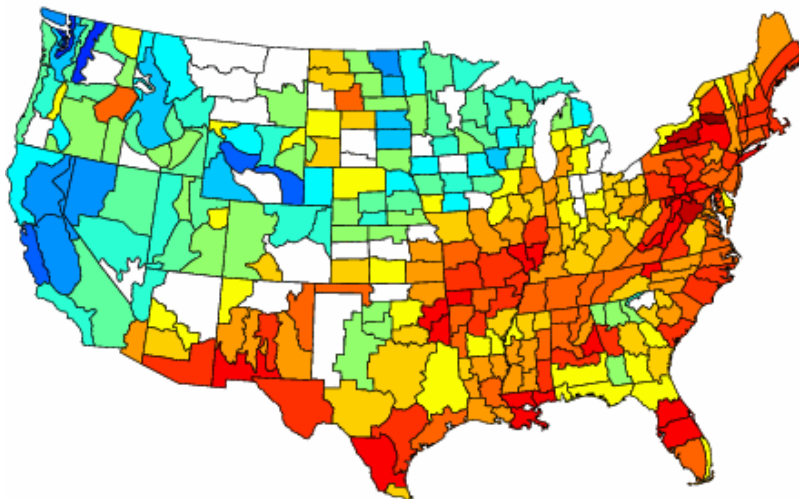
-0.50 -0.30 -0.10 0.10 0.30 0.50

Precipitation Anomalies

Composite Standardized Precipitation Anomalies

Dec 1932,1933,1945,1955,1979,1985,2000,2004,2005,2007

Versus 1950–2007 Longterm Average



NOAA/ESRL PSD and CIRES-CDC

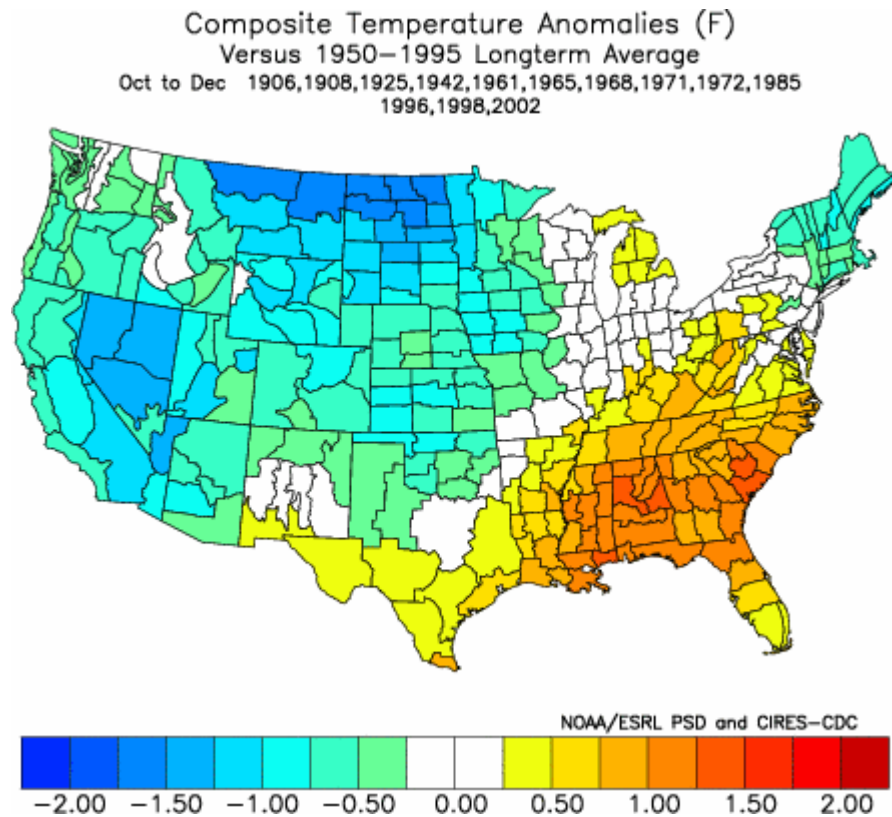


-0.75 -0.55 -0.35 -0.15 0.05 0.25 0.45 0.65

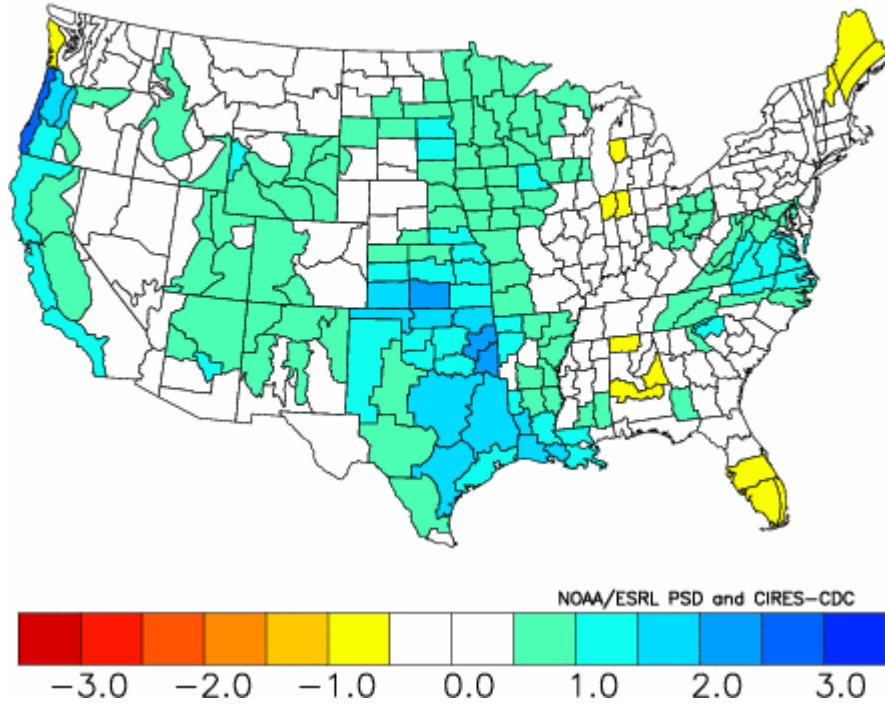
October through December Temperature and Precipitation trends for the United States

Year	Cool KS (August)		Wet LA (September)		Wet TX (September)		Warm PA (September)	
2002	78.1	0.7	6.19	1.96	3.04	0.09	65.1	2.6
1998	77.6	0.2	11.03	6.80	3.40	0.45	64.8	2.3
1996	74.4	-3.0	5.84	1.61	4.05	1.10	62.3	-0.2
1985	74.4	-3.0	5.96	1.73	3.88	0.93	63.4	0.9
1972	75.3	-2.1	4.56	0.33	3.64	0.69	63.0	0.5
1971	75.5	-1.9	7.31	3.08	4.81	1.86	65.7	3.2
1968	76.3	-1.1	4.70	0.47	3.31	0.36	63.2	0.7
1965	75.8	-1.6	6.66	2.43	3.04	0.09	64.2	1.7
1961	75.4	-2.0	6.00	1.77	3.38	0.43	67.7	5.2
1942	76.0	-1.4	5.37	1.14	3.71	0.76	62.9	0.4
1925	76.5	-0.9	5.49	1.26	4.10	1.15	66.3	3.8
1908	75.5	-1.9	6.66	2.43	3.06	0.11	64.4	1.9
1906	75.6	-1.8	4.92	0.69	3.22	0.27	65.8	3.3

Figure 1: List of the common analog years



Composite Precipitation Anomalies (inches)
Versus 1950–1995 Longterm Average
Oct to Dec 1906,1908,1925,1942,1961,1965,1968,1971,1972,1985
1996,1998,2002



In the event of a cooler than normal August in Kansas, moist September in Louisiana, and a warmer than average September in Pennsylvania, the outlook for the remainder of the autumn season appears to be slightly drier in Pennsylvania, with temperatures hovering around the average threshold. Elsewhere, the Southeastern half of the nation may see significant warmth for the duration of the season and moist conditions dominate Texas and the Western Coast of California.