

# *The Pennsylvania Observer*

August 2, 2013



## **July 2013 - Pennsylvania Weather Recap**

*By: Arthur Person*

July is known for its heat, and this seventh month of 2013 did not disappoint. Temperatures started the month above average across the state as a large Bermuda high nosed westward into the eastern third of the United States. This, accompanied by low pressure in the Mississippi Valley, established a continuous flow of warm and unusually moist air that continued to stream northward into Pennsylvania for the first 9 days of the month. A break in the heat occurred from July 11-13 with a cold front that crossed the state on July 11. Severe thunderstorms preceded the front on July 10 with an EF1 tornado confirmed in Lawrence county, golf ball size hail in Erie county, and over 40 reports of wind damage in western portions of the state. Deep, strong high pressure then reestablished itself over the eastern half of the U.S. for the middle part of the month setting the stage for record heat and humidity across all of Pennsylvania. The hot spot was Marcus Hook where records were broken on four days with the highest reading being 103 degrees on July 18. On July 19, Allentown set a new record of 97 and Indiana set a new record of 91. A number of other records were tied, and even some of the normally cooler areas of the state tied or broke records such as Tionesta which reached 91 on July 17, breaking the previous record of 90 set in 2011. Most of Pennsylvania also had unusually warm low temperature readings through the first half of July with Philadelphia setting a record 30 consecutive days where the minimum temperature did not fall below 70 degrees. Cold fronts crossed the state on July 20 and 23 bringing an end to the heat wave. Much cooler weather followed with highs in the north struggling to escape the 60's while a record low temperature of 39 degree's was set in Bradford on July 25, just ten days after tying a record high. Temperatures edged upward after this cool snap but daily temperatures still ended the month below normal. On average, the early heat dominated the cool ending to produce monthly averages that were 0-4 degrees Fahrenheit above normal across the state. Precipitation was abundant in the far west and in some areas of the southeast through the first half of July, but the remainder of Pennsylvania was near or below normal. A storm crossing the state on July 28 helped reduce the deficit, but central, south-central and northeastern areas of the state still ended the month below normal with a few pockets receiving less than 50% of normal rainfall. Philadelphia International Airport, in contrast, recorded a record 8.02 inches of rainfall on July 28, breaking the previous record of 3.28 inches set in 1969, and breaking all records for a single day of rainfall at the airport since records began in 1940. The following were the severe weather reports for the month: 153 wind reports, 9 hail reports, and 3 tornado reports.

Here are the weather extremes across Pennsylvania (**observations taken at 8AM EDT**) during July 2013 from the NWS Cooperative & ASOS Networks of which our office receives routine observations. The extremes occurred in the 24-hour period prior to the date listed.

Parameter	Location	Value	Date (8 AM EDT)	County
Highest Temperature	Marcus Hook	<b>103°F</b>	July 18 <sup>th</sup>	Delaware
Lowest Temperature	Bradford Regional AP	<b>39°F</b>	July 25 <sup>th</sup>	McKean
Greatest Cumulative Liquid Precipitation	Philadelphia International AP	<b>13.24"</b>	July 1 <sup>st</sup> -July 31 <sup>st</sup>	Philadelphia
Least Cumulative Liquid Precipitation	Shippensburg	<b>1.13"</b>	July 1 <sup>st</sup> -July 31 <sup>st</sup>	Cumberland

### Links to Pennsylvania Weather Stories during July, 2013

Mid-month heat wave causes rise in ER visits

[http://www.pennlive.com/midstate/index.ssf/2013/07/hershey\\_medical\\_er\\_seeing\\_infl.html](http://www.pennlive.com/midstate/index.ssf/2013/07/hershey_medical_er_seeing_infl.html)

Heavy Rain in Lebanon County

[http://www.pennlive.com/midstate/index.ssf/2013/07/more\\_than\\_five\\_inches\\_of\\_rain\\_2.html](http://www.pennlive.com/midstate/index.ssf/2013/07/more_than_five_inches_of_rain_2.html)

Western Pennsylvania farms doing well with July rainfall

<http://triblive.com/news/allegheeny/4373005-74/crops-baker-weather#axzz2aSFs2IQE>

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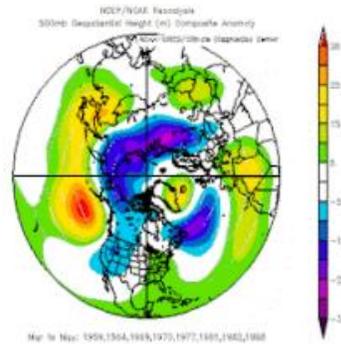


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## FEATURED CLIMATE HIGHLIGHT

*By: Paul Knight*

### Precipitation Summary for Period Ending July 29, 2013 for PA Central Mountains (

Name	ID	Station Type	Latitude	Longitude	Last 30 Days	Last 60 Days	Last 90 Days
ALVIN R BUSH DAM	364545	COOP	41.36	-77.93	4.29	8.94	M
CURWENSVILLE LAKE	361961	COOP	40.96	-78.53	3.81	12.16	M
GLEN HAZEL 2 NE DAM	363311	COOP	41.56	-78.60	6.84	12.85	16.60
GRAMPIAN 1E	363417	COOP	40.97	-78.59	3.95	11.95	13.83
LOCK HAVEN SEWAGE PLT	365109	COOP	41.12	-77.45	5.91	10.07	13.47
PHILIPSBURG 2 S	366921	COOP	40.87	-78.22	3.54	9.72	12.37
PORT MATILDA 2.2 ESE	PACN0018	CoCoRaHS	40.79	-78.01	3.86	9.34	12.27
RENOVO	367409	COOP	41.33	-77.74	3.08	7.04	10.13
RIDGWAY	367477	COOP	41.42	-78.75	5.48	12.18	13.72
ST. MARYS 1.7 SE	PAEL0001	CoCoRaHS	41.41	-78.53	3.60	10.26	12.28
STATE COLLEGE	368449	COOP	40.79	-77.87	6.14	13.30	16.48
STATE COLLEGE 2.4 ENE	PACN0003	CoCoRaHS	40.81	-77.82	6.95	14.17	17.53
STEVENSON DAM	368469	COOP	41.40	-78.02	6.12	9.78	12.50

The average precipitation for the past 60 days (Jun-Jul, 2013) for the Climate Division #7 is: 10.90"

1972	17.14
2004	12.6
1981	12.43
2006	11.94
1928	11.78
1977	11.76
1992	11.67
1958	11.25
1989	11.22
2003	11.07
1984	10.85
1976	10.81
1946	10.74
1956	10.69
1902	10.4
1903	10.3
1986	10.24
1969	10.23
1975	10.11
1982	10.08
1974	10.04

So far, 2013 would rank as the 11<sup>th</sup> wettest for Jun-Jul precipitation. When comparing the August to September rainfall totals in the years that follow, these are the rankings (with 118 wettest and 1 driest)

34
43
32
90
112
93
21
16
94
115
87
102
29
28
70
52

23
95
116
118
110

The yellow blocks show Aug-Sept combinations that are in the top 20% wettest (11 years). Only 5 years were in the lowest 25% (orange blocks) of driest late summers.

Therefore, it is twice as likely, based on previous moist Jun-Jul periods that this coming Aug-Sept in the central part of the Commonwealth will be wetter than usual.

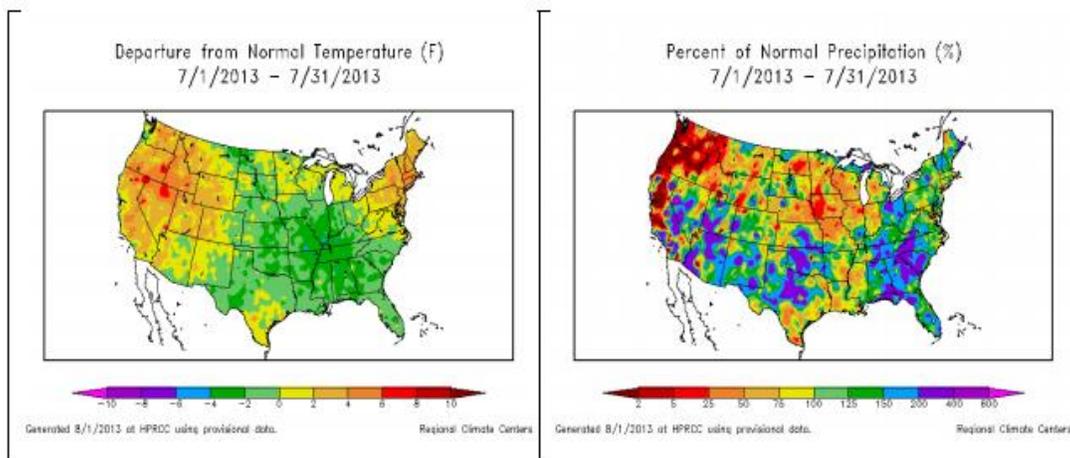
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## **LONG RANGE OUTLOOK**

*By: Kyle Imhoff*

The anomaly images below for the month of July show warmer than normal temperatures from the Rocky Mountains westward as well as in the northern Mid-Atlantic and New England states. Much of the southern and central region of the country remained near to slightly below normal. Precipitation anomalies were very heterogeneous over the course of the month across the US with very dry conditions in the Pacific Northwest and wet weather in much of the Southeast.

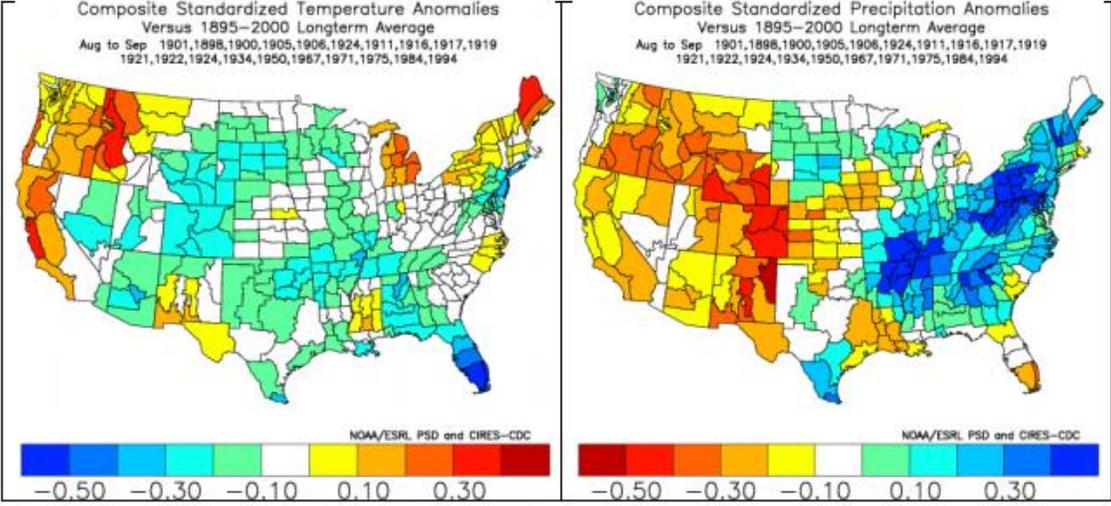


A review was done on years in which Tennessee was relatively cool, the northeastern US was relatively warm, Oregon was dry, and South Carolina was wet. Below is a list of years (interesting to note that there were 15 matching years in at least 2 of the four different categories prior to 1950 and only 5 matching years from 1951 to present):

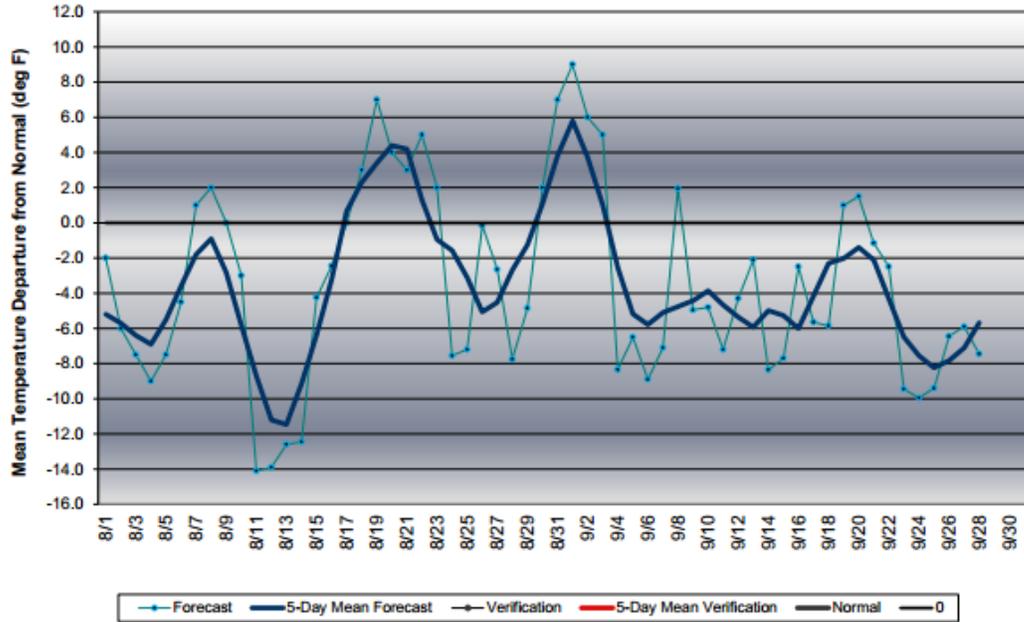
Cool: Tennessee	189507	Warm: Northeast	189707	Dry: Oregon	189607	Wet: South Carolina	189607
	190407		189807		189807		189807
	190507		190007		189907		190607
	190607		190107		190007		191607
	191107		190807		190107		191907
	191707		191107		190507		192107
	191807		191607		190607		192207
	192407		192107		191007		192407
	194007		193107		191107		192807
	194707		193407		191707		193507
	195007		193507		191907		193807
	196107		194907		192107		194107
	196307		195207		192207		194307
	196707		195507		192407		194507
	197007		195907		192507		195007
	197107		198707		192607		195907
	197207		198807		192707		196007
	197507		199407		192907		196407
	197607		199507		193007		197107
	197907		199907		193407		197507
	198407		200507		195307		198407
	199407		200607		196207		198507
	199607		201007		196707		198907
	200407		201107		197307		199107
	200907		201207		200807		200307

Yellow highlights are two years in common; Orange highlights are three years in common.

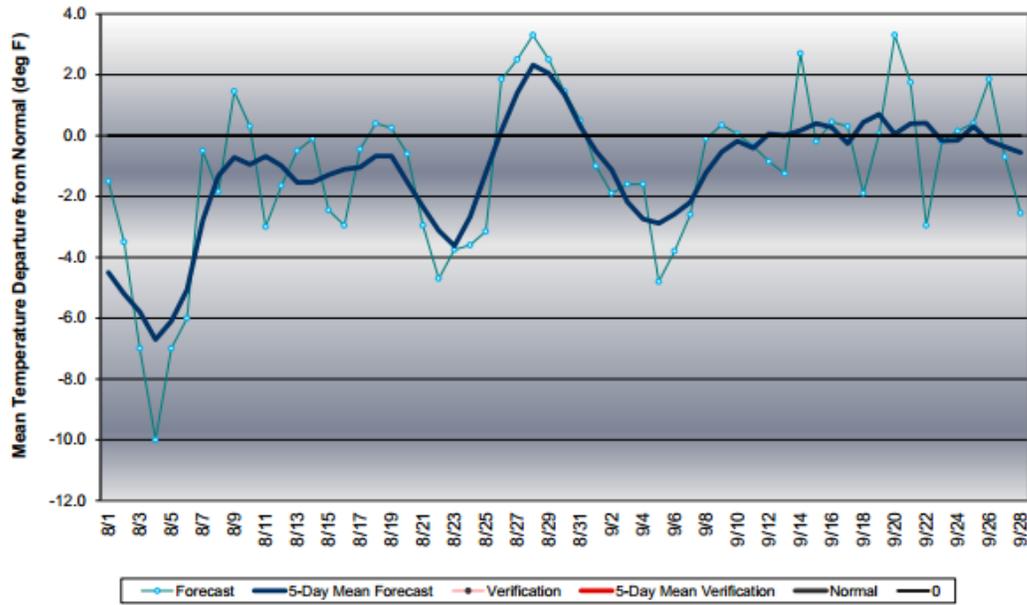
When utilizing all the years listed above as analogies for the following August-September, these are the anomalies noted for temperature (left) and precipitation (right):



Western Pennsylvania Temperature Forecast  
August-September 2013



Central Pennsylvania Temperature Forecast  
August-September 2013



### Eastern Pennsylvania Temperature Forecast August-September 2013

