NWS Wilmington, Ohio
July 2016
Regional Climate Summary

Regional Climate Summary

The region remained on the northern fringe of an expansive upper-level ridge that resulted in seasonably warm temperatures and numerous rounds of showers and thunderstorms for the area. This storm activity resulted in a wide variance of overall precipitation across the area. In general, locations near and north of Interstate 70 in Ohio were near or below normal for precipitation, while locations across southern Ohio, extreme southeast Indiana, and northern Kentucky experienced well above normal precipitation in many areas. Although the month started off cooler than normal, the middle and end of the month featured near and above normal temperatures for an extended period of time.

Temperatures

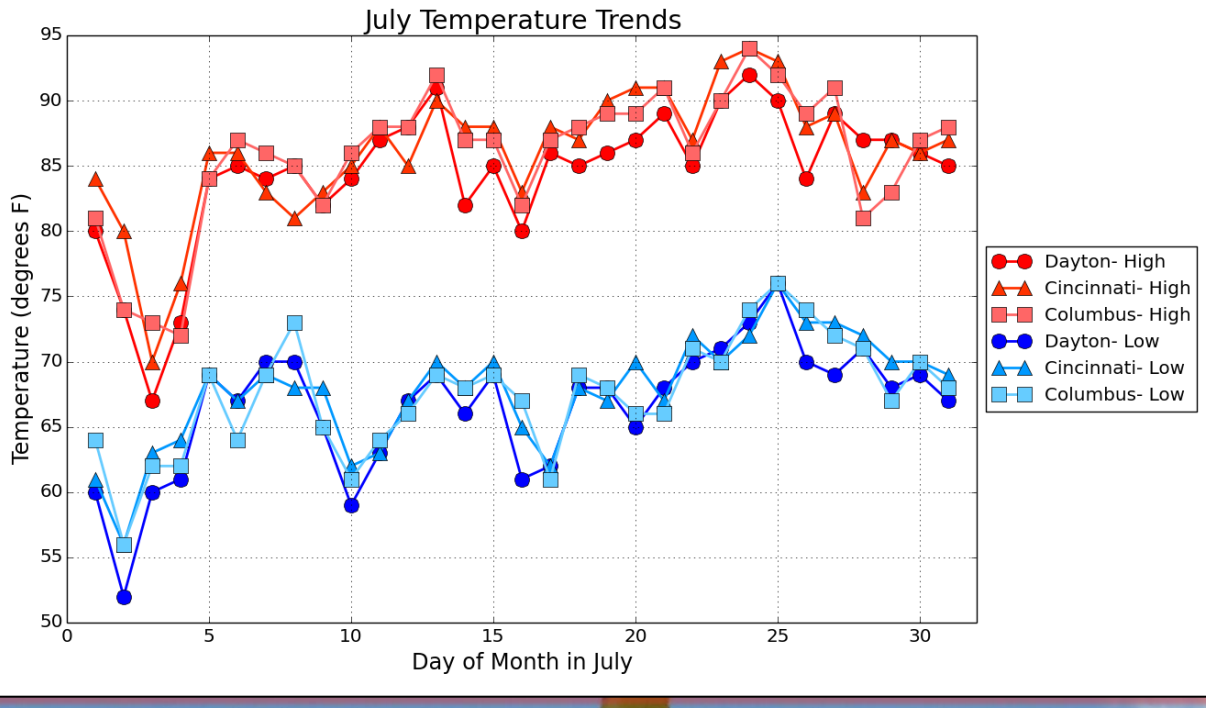
The month of July started off a bit on the cool side as upper-level troughing allowed for below normal temperatures across the Ohio Valley for the first full week of July. In fact, for July 3-4, high temperatures only reached into the upper 60s and lower/mid 70s across the area. Dayton (DAY) set a new record low maximum temperature for July 3rd, reaching only 67°F (breaking old record of 68°F set in 1915).

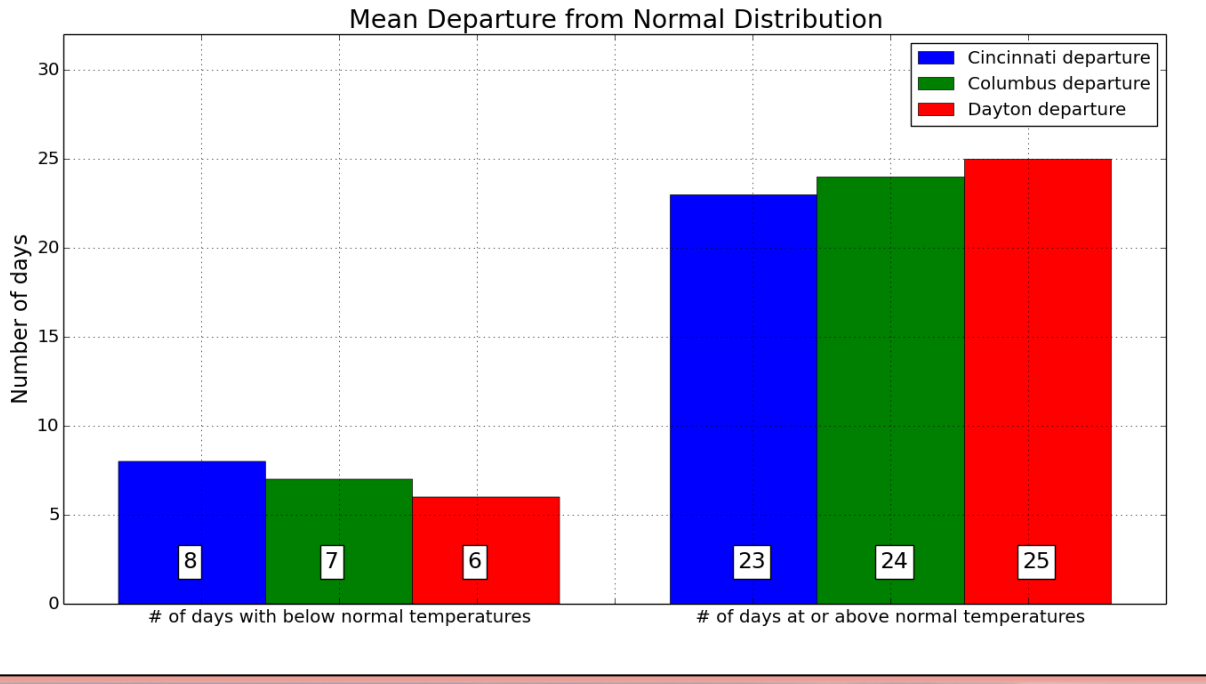
Following the cooler-than-normal start to the month, near normal temperatures returned to the region for the second full week of July. Past the middle of the month, ridging across the central part of the country began to expand into the Ohio Valley. High temperatures consistently reached into the upper 80s and lower 90s past the middle of the month as the area remained on the northeastern fringe of an expansive high pressure system across the south-central plains.

Starting on the 19th, high temperatures reached into the 90s for most of the next week as the upper-level ridge nudged northeast into the heart of the Ohio Valley. For the last few days of July temperatures were near normal to slightly above normal across a large portion of the area. The summer pattern featured daily rounds of showers and thunderstorms which resulted in a wide variance of temperatures across the region.

Site	Avg Temp (°F)	Avg High Temp (°F)	Avg Low Temp (°F)	Departure From Normal (°F)	Maximum Temperature (°F)	Minimum Temperature (°F)
Cincinnati (CVG)	77.0°F	86.1°F	67.8°F	+1.1°F	94°F	56°F
Columbus (CMH)	76.6°F	85.8°F	67.5°F	+1.4°F	94°F	56°F
Dayton (DAY)	75.5°F	84.5°F	66.5°F	+1.4°F	92°F	52°F

Temperatures (Continued)





Precipitation

The month of July started off with upper-level troughing across the eastern part of the country. This allowed for showers and thunderstorms to develop and move through the area for several days to begin July. Although there was some spatial variability in total precipitation during the first week of July, most areas received at least 1 inch of rain.

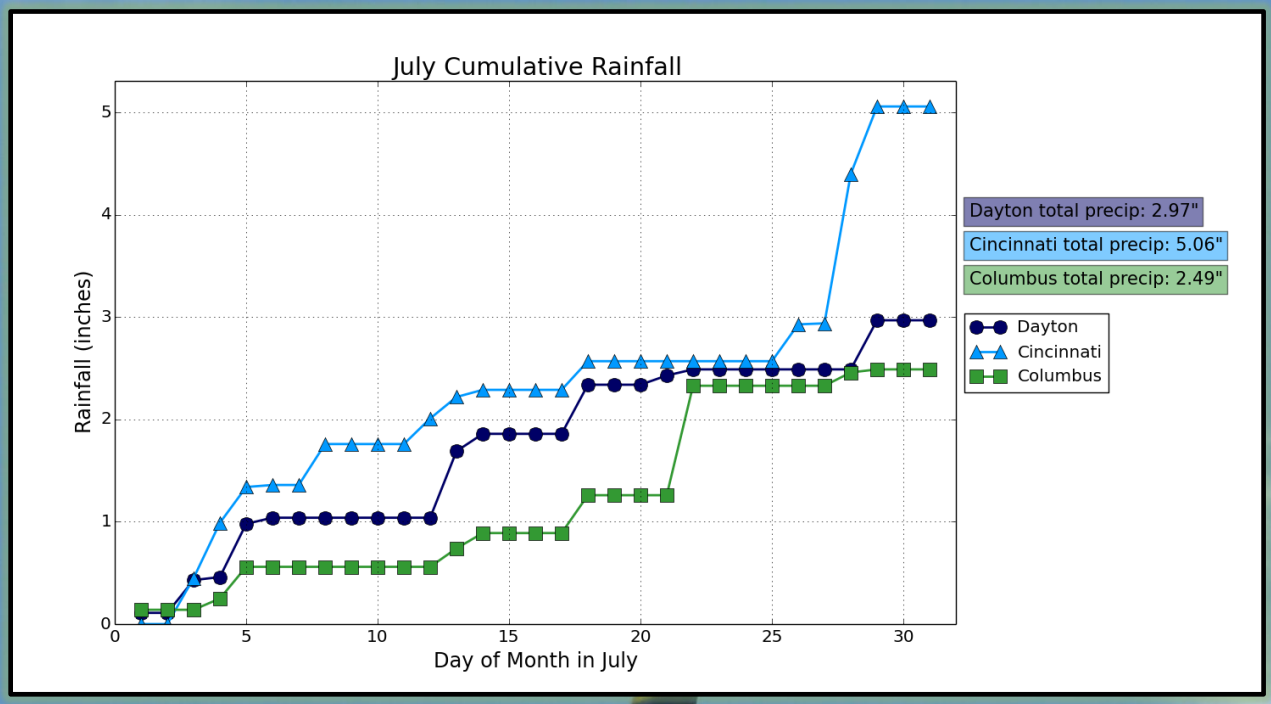
Past the first week of July, drier than normal conditions developed across a large portion of the area for at least two full weeks. However, there were still several days of shower and thunderstorm activity, which led to wildly variable rainfall amounts across even small areas. In particular, parts of northern Kentucky and southeastern Indiana experienced repeated rounds of showers and thunderstorms, leading to substantially more rainfall than central, west-central and southwestern Ohio. Nevertheless, through the 21st, all three climate sites remained below normal for total rainfall for the month.

Thunderstorms developed and moved from north to south across areas primarily east of Dayton and Cincinnati on the 22nd. Many locations received a half inch to an inch of rainfall with some locations receiving over two inches of rain.

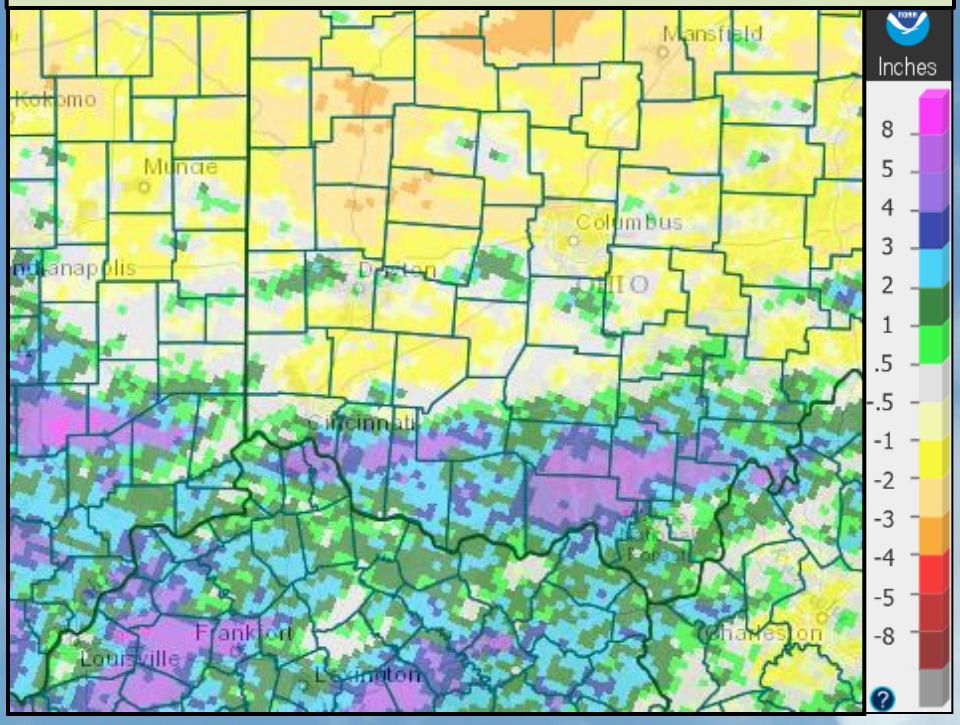
For the final week of July, several weak disturbances rode along a very weak frontal boundary that stretched across southern parts of the Ohio Valley. This resulted in daily rounds of showers and thunderstorms which, in turn, created very sharp gradients of total rainfall. While parts of southeastern Indiana, northern Kentucky, and southern Ohio experienced several inches of rain, central and west-central Ohio remained much drier. On the 28th, 1.46" of rain was recorded at Cincinnati, which broke the old record for the date of 1.43".

Site	Total Precipitation (in.)	Departure From Normal (in.)	Max Daily Precipitation (in./date)	
Cincinnati (CVG)	5.06"	+1.30"	1.46"	28th
Columbus (CMH)	2.49"	-2.30"	1.07"	22nd
Dayton (DAY)	2.97"	-1.14"	0.65"	13th

Precipitation (Continued)



July Rainfall Departure From Normal (Inches)



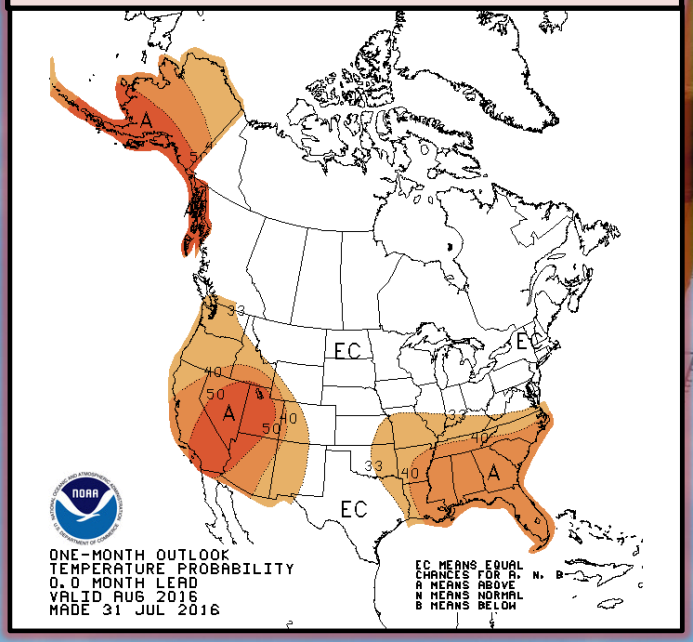
August Outlook

The latest outlook from the Climate Prediction Center indicates a lack of a clear signal for above normal or below normal temperatures or precipitation across the area. There are equal chances that August features below normal or above normal temperatures and precipitation.

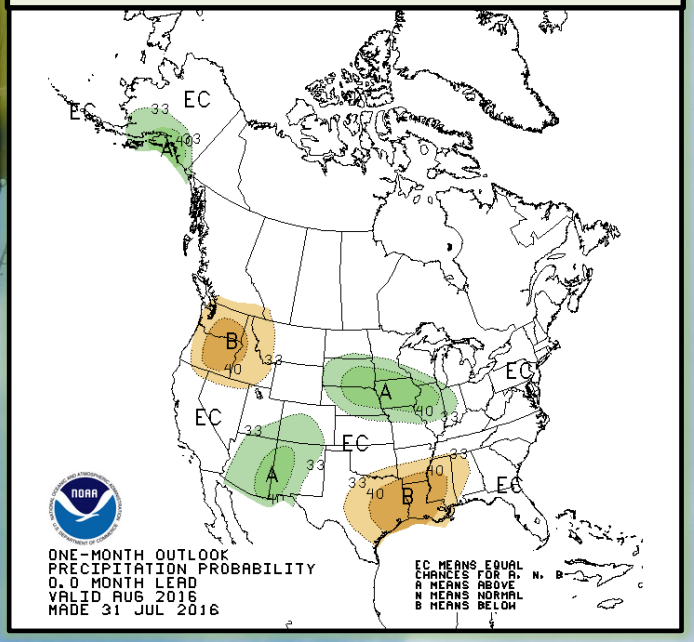
Site	Normal Avg Temp (°F)	Normal High (°F)	Normal Low (°F)
Cincinnati (CVG)	74.8 °F	84.9°F	64.8°F
Columbus (CMH)	73.9°F	83.7°F	64.1°F
Dayton (DAY)	72.7°F	82.6 °F	62.7°F

Site	Normal Precipitation (in.)
Cincinnati (CVG)	3.41”
Columbus (CMH)	3.32”
Dayton (DAY)	2.99”

Upcoming Temperature Outlook



Upcoming Precipitation Outlook

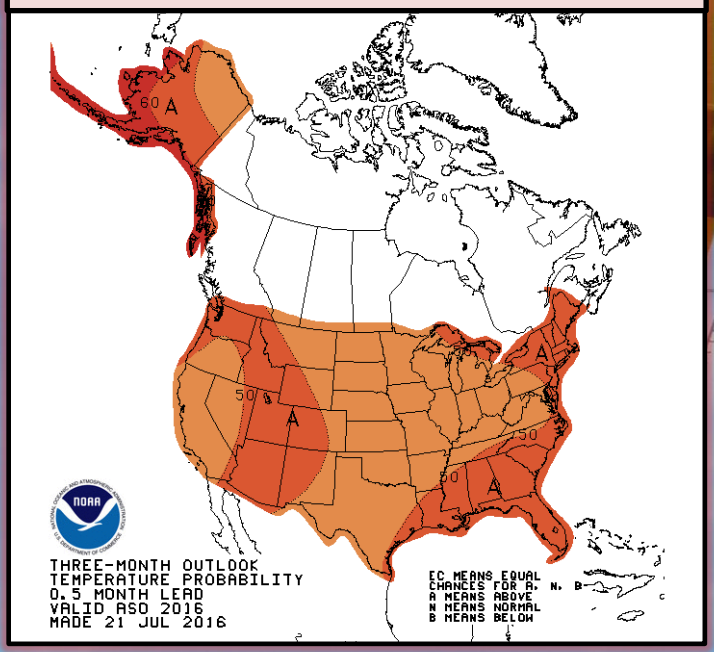


August-October Outlook

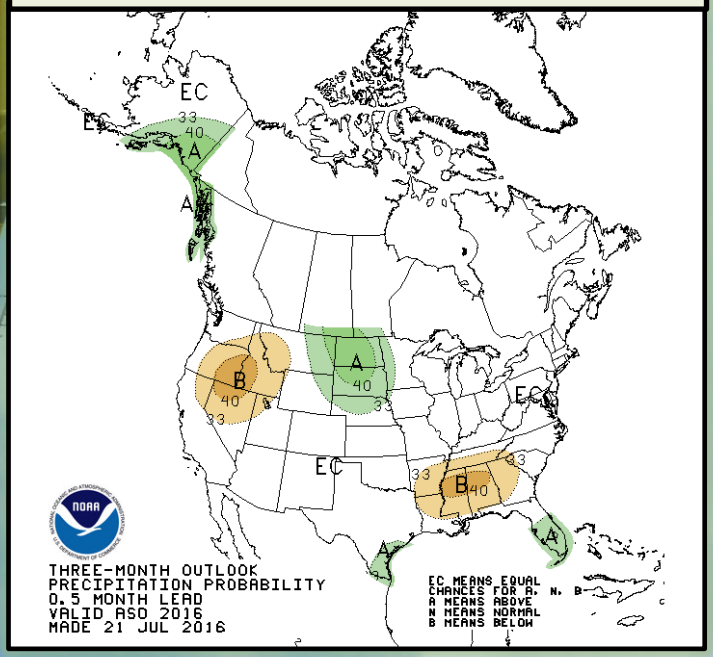
The latest outlook from the Climate Predication Center calls for an increased likelihood of above normal temperatures not only across our area, but for the entire United States. There is not a clear signal for precipitation. There are equal chances of above, below, and normal precipitation across the region for July-September.

A La Niña watch continues. Although currently in a neutral state, La Niña may develop as early as later this summer. There is a 55-60% chance that La Niña will be present for fall and winter 2016-2017. El Niño and La Niña are opposite phases of each other in a natural cycle. Although these patterns and circulations are present in the tropics, they have impacts on our patterns and weather here. Summer impacts due to La Niña in this area are minimal, however past La Niña events have shown a tendency for an increased likelihood of above normal precipitation during the winter months. Currently if La Niña does develop, the consensus is for a weak La Niña event.

Three-Month (ASO) Temp. Outlook

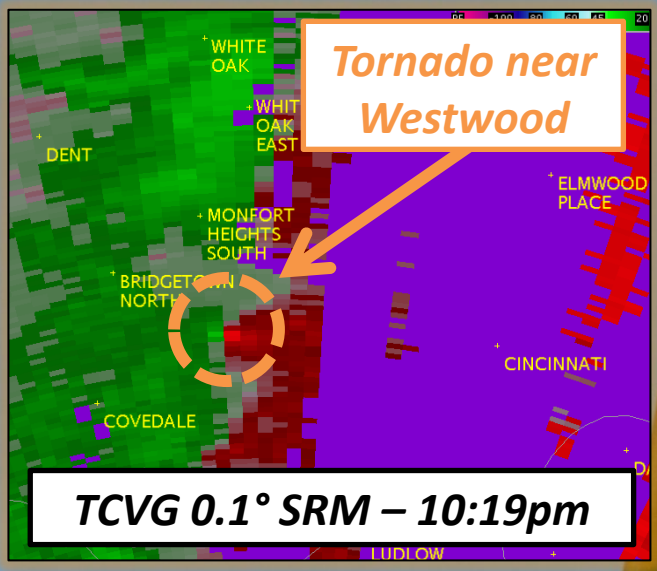


Three-Month (ASO) Precip. Outlook



Severe Weather

Multiple days of severe weather occurred during the month of July. One of the events occurred during the late evening hours of July 13, 2016, as a decaying mesoscale convective system (MCS) moved through the Ohio Valley. In addition to several reports of damaging wind, an EF0 tornado and straight-line winds resulted in widespread tree and some structural damage in the Westwood and Clifton areas of Hamilton County, Ohio.



TCVG 0.1° SRM – 10:19pm


Survey Picture


Survey Picture


Survey Picture