2009……A Review of this Past Year's Weather across central Kentucky and southern Indiana.

2009 will be remembered as a year with widespread ample rainfall with just a few dry periods lasting only a few weeks at most. The devastating ice storm in January will likely remain as our most vivid recollection of 2009. However, 2009 will also be remembered for our mild and wet summer and fall seasons. Both July and October were unseasonably cool and wet. The interesting graph below tracks the rainfall accumulation for this year through late December for Bowling Green. Similar graphs may be found for both Lexington and Louisville, which also had well above normal precipitation this year.

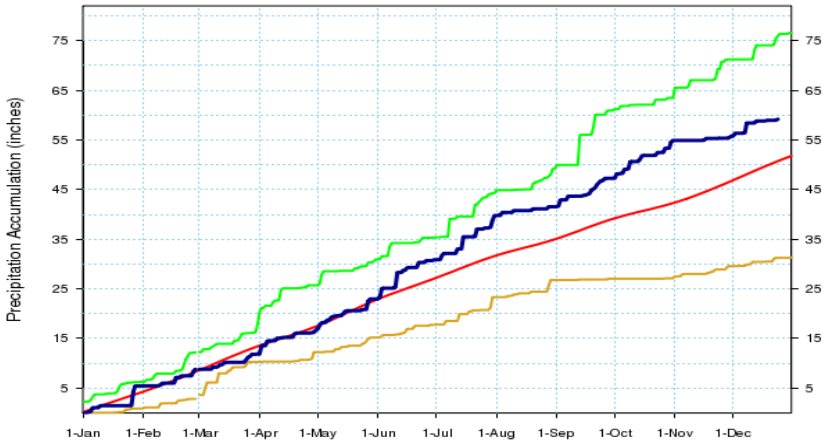


Chart tracking rainfall for 2009

Wettest year…76 inches (1979)

Driest year…31 inches 1963

Normal…53 inches

2009 (in blue) through December 26

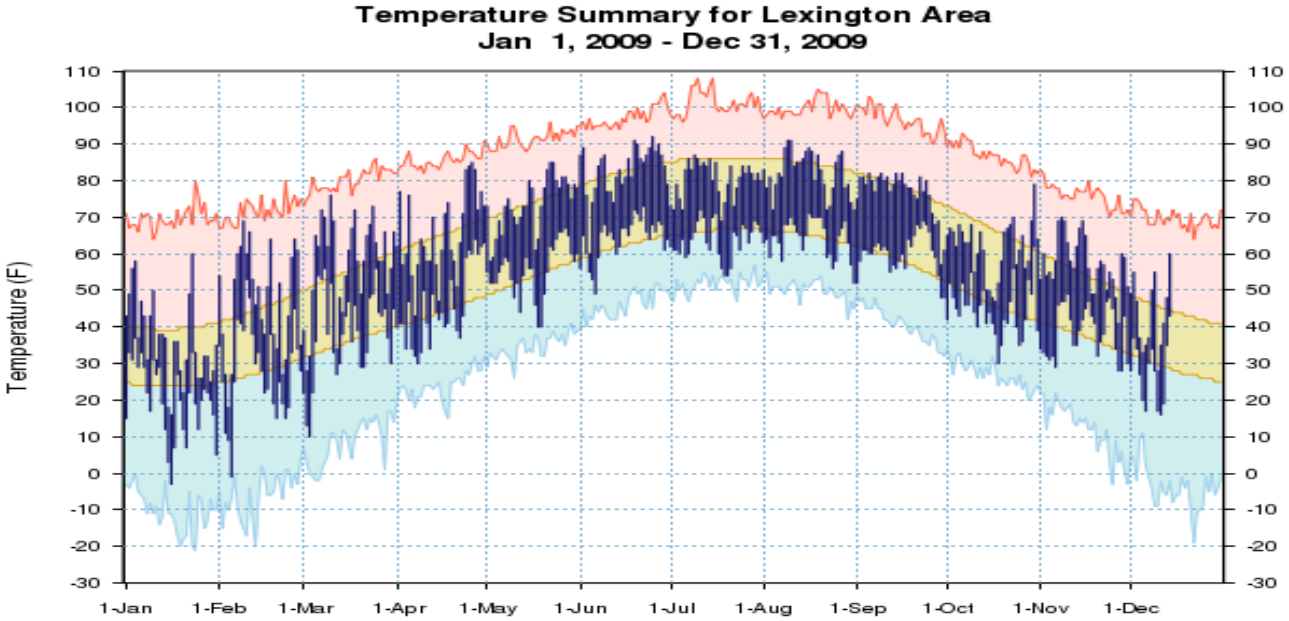


Chart showing daily temperature ranges for Lexington this past year (in dark blue). The edges of the light orange and blue shaded regions show record highs and lows for a specific date. Yellow shading shows the normal daily range for that date. Note the relatively cool July and October periods and the wild daily temperature swings that are common in the winter months.

Monthly temperature statistics for Bowling Green, Lexington, and Louisville for 2009.

Average monthly temperature (Departure from Normal)	Louisville	Lexington	Bowling Green
January	29.9 (-3.1)	28.4 (-3.6)	33.1 (-1.1)
February	40.2 (+2.6)	37.7 (+1.3)	42.3 (+3.7)
March	50.4 (+3.5)	48.0 (+2.4)	51.0 (+3.2)
April	58.3 (+1.9)	55.5 (+0.9)	57.7 (+0.9)
May	66.8 (+1.0)	64.5 (+0.7)	66.7 (+0.9)
June	75.5 (+1.3)	73.6 (+1.4)	77.0 (+2.6)
July	73.4 (-5.0) *2	72.0 (-4.1) *2	74.5 (-4.0) *4
August	75.7 (-1.3)	73.2 (-1.6)	75.8 (-1.0)
September	71.0 (+0.9)	68.4 (+0.4)	71.5 (+1.9)
October	55.0 (-3.5)	53.1 (-3.5)	55.6 (-2.3)
November	51.2 (+3.6)	48.0 (+2.1)	50.7 (+3.3)
December	36.6 (-1.0)	35.1 (-1.2)	38.8 (+0.5)
Total year	57.0 (+0.1)	54.8 (-0.4)	57.9 (+0.7)

*……. Rank within the top 10 coldest months on record.

And for precipitation:

Monthly precipitation (Departure from Normal)	Louisville	Lexington	Bowling Green
January	3.63 (+0.35)	4.32 (+0.98)	5.45 (+1.30)
February	2.20 (-1.05)	2.54 (-0.73)	3.35 (-0.80)
March	1.36 (-3.05) *9	2.39 (-2.02)	3.07 (-1.90)
April	4.43 (+0.52)	4.78 (+1.11)	4.82 (+0.83)
May	4.59 (-0.29)	6.04 (+1.26)	6.28 (+0.92)
June	9.22 (+5.46) *2	5.19 (+0.61)	7.92 (+3.63) *7
July	6.02 (+1.72)	7.57 (+2.76)	8.89 (+4.35) *5
August	5.88 (+2.47)	4.53 (+0.76)	1.77 (-1.59)
September	5.70 (+2.65)	5.90 (+2.79) *8	5.73 (+1.60)
October	7.00 (+4.21) *5	5.77 (+3.07) *8	7.63 (+4.46) *4
November	1.05 (-2.76) *9	0.96 (-2.48) *6	0.88 (-3.58) *3
December	2.85 (-0.84)	4.02 (-0.01)	3.86 (-1.20)
Total year	53.93 (+9.39)	54.01 (+8.10)	59.65 (+8.02)

*……..Rank in the list for top 10 driest months.
*……..Rank in the list for the top 10 wettest months.

Late winter was generally mild. After a seasonal spring, our summer was cool, especially in July. A cool and wet October was followed by a dry and warm November. Every month this year had near or above normal precipitation except for March and November.

And other miscellaneous data:

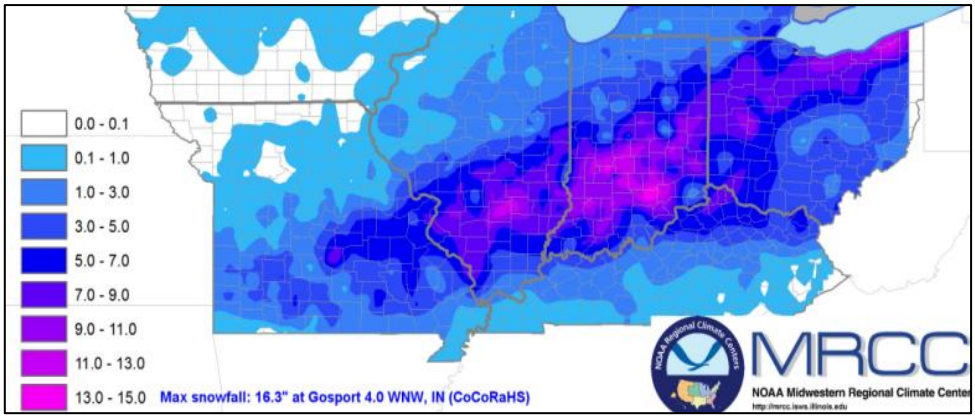
	Louisville	Lexington	Bowling Green
Highest temperature of 2009	92 (Jun 25,26)	92 (Jun 25)	95 (Jun 26)
Lowest temperature of 2009	-1 (Jan 16)	-3 (Jan 16)	3 (Jan 16)
Yearly maximum sustained winds	45 mph (Feb 11)	41 mph (Feb 11)	41 mph (April 5)
Yearly maximum wind gust	58 mph (Feb 11)	58 mph (Feb 11)	58 mph (Jun 16)

Winter

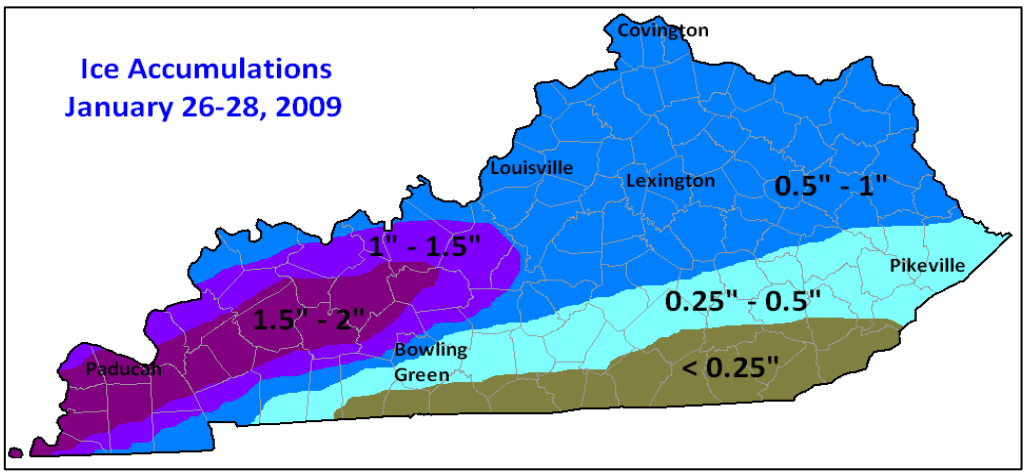
After a cold January, distinctly warmer temperatures arrived in February. Both February and March had below normal precipitation and relatively mild temperatures. Two notable weather events occurred early this year: the destructive January ice storm and the windstorm in mid-February.

Snow total (Monthly average)	Louisville	Lexington	Bowling Green
January 2009	9.5 inches	5.0 inches	1.5 inches
February 2009	1.3 inches	4.5 inches	0.2 inches
March 2009	T	0.6 inches	3.0 inches
April 2009	T	T	T
November 2009	0.0	0.0	0.0
December 2009	0.3	2.2	0.1
20 09 total	11.1 inches	12.3 inches	4.8 inches

The ***ice storm*** on the 27th through the 28th of January became perhaps the most destructive winter weather event over the past several decades across central Kentucky.

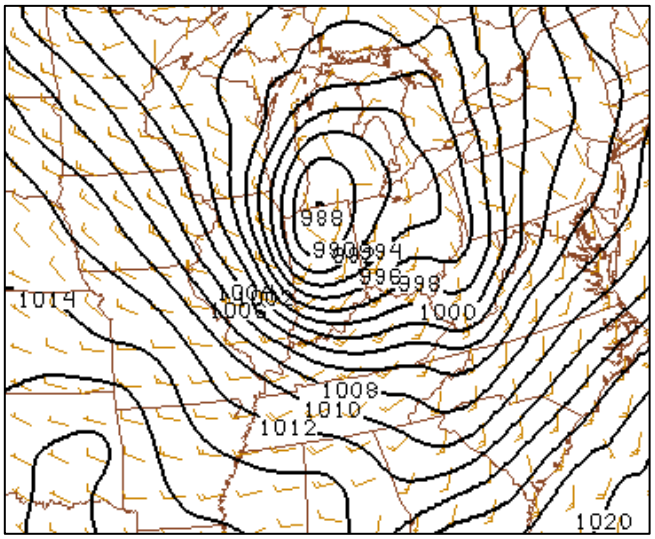


Heavy snow of between 5 to 10 inches fell across southern Indiana (image at left), followed by around one half inch of ice. The heaviest ice accumulations exceeded 1 ½ inches across western Kentucky, with over one inch extending to just south of Fort Knox.



The worst of the storm was directed toward western and central Kentucky. Widespread power outages left many people in the dark for over a week. So many major limbs and trees were lost across Ohio, Breckinridge, Mead, and Grayson Counties that scars from this storm will be seen in the woods for several winters to come. The two images below are from this ice storm.

Deepening low pressure south of the Great Lakes brought widespread destructive winds February 11th. After a passage of a line of showers during the early afternoon, winds increased to a sustained 35 to 40 mph with gusts up to 60 mph. This brought the year's windiest day to all of Kentuckiana. Both Louisville and Lexington measured 2009's peak wind gust and peak sustained wind this day.



Low pressure over northern Indiana (image at left) brought strong west winds. Trees and power lines were damaged over an extensive area. Gusts were measured to near 70 mph at Western Kentucky University and 62 mph at Bowman Field Airport in Louisville. A mobile home was overturned in Jefferson County, Indiana.

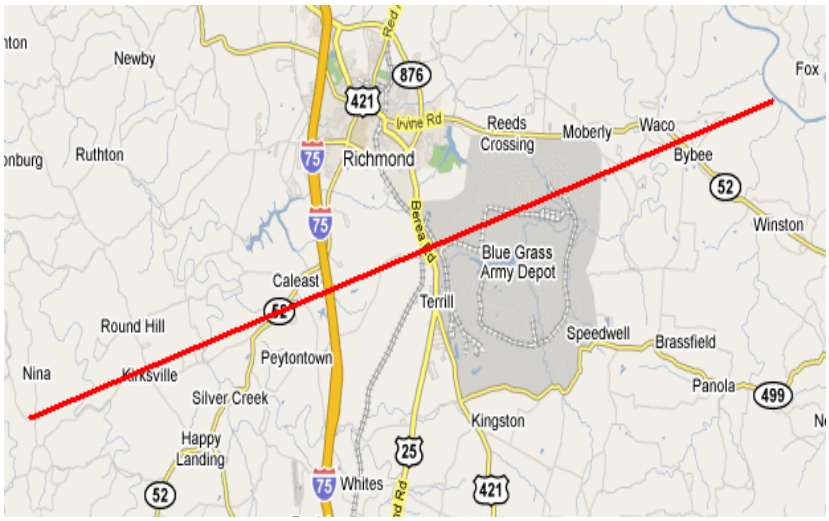
Several instances of scattered severe weather occurred in February. Widespread hail up to golf ball size fell across several counties in southern Kentucky the afternoon of February 18th. The image below shows hail covering the ground in Harrodsburg, KY.

Spring

One of the most photogenic tornados of this year occurred in Lincoln County on April 10. The tornado had a 6 mile path length and was rated as an EF-1. The images below show the wall cloud on the left and the subsequent tornado on the right.

The strongest tornado of 2009 also had the longest path length of the year. This storm developed during the afternoon on May 8th ahead of a line of storms that brought severe weather earlier in the day to southern Missouri. This EF-3 tornado with estimated 140 mph winds had a 20 mile track, moving across eastern Garrard County and over the Bluegrass Army Depot in Madison County.

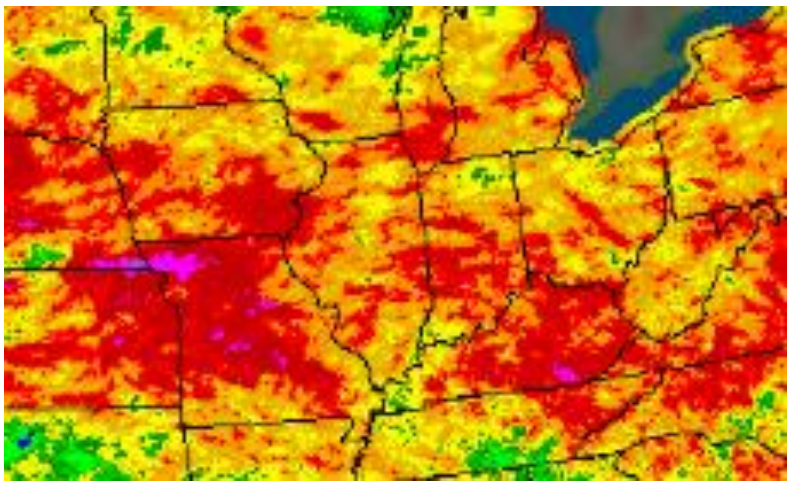
Picture showing damage consistent with an EF-3 Tornado. This image, from a location 5 miles southwest of Richmond in Madison County, shows debris from a house lodged in a grove of denuded trees.



Path length of the May 8th tornado.

Summer

Last summer was, in general, wetter and cooler than normal. June brought ample, and at times excessive, rains to much of Kentucky and southern Indiana. Louisville recorded its second wettest June on record with a total of 9.22 inches.



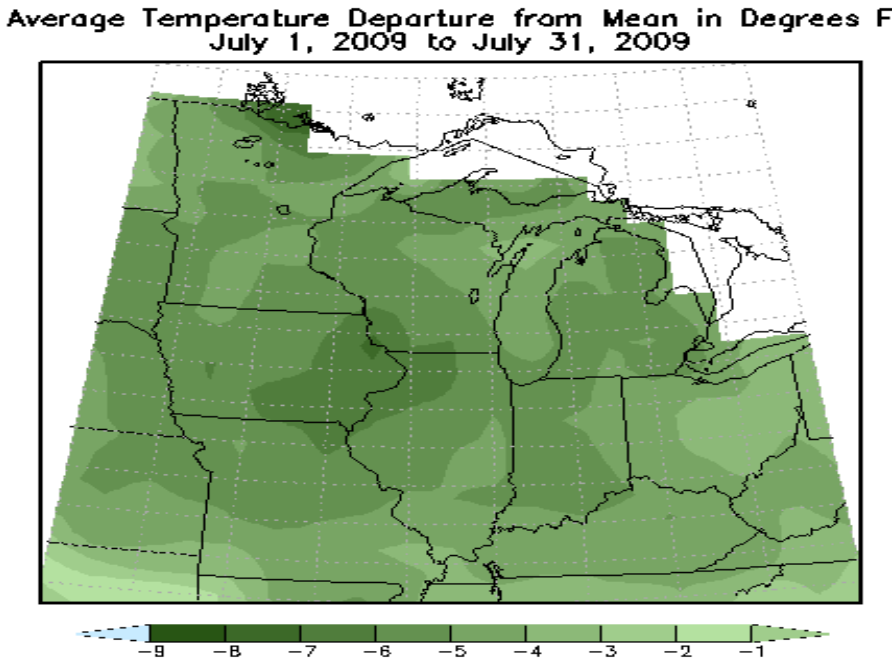
This image shows how June was quite wet across much of the Midwest. Red shaded areas received over 6 inches of rain during June. Areas in purple had in excess of 10 inches.

A line of storms moved across southern Kentucky and northern Tennessee during the afternoon hours on the 16th of June. This cluster of storms began near Cape Girardeau during the late morning and raced east at over 40 mph. Widespread wind damage was reported across south central Kentucky.

This image shows the shelf cloud associated with strong outflow winds approaching Campbellsville.

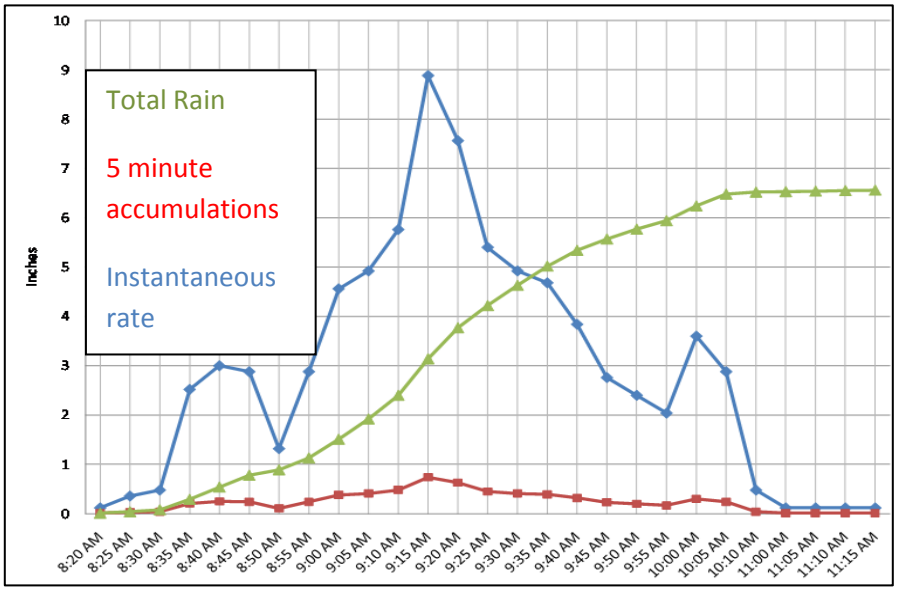
July was exceptionally cool. The entire Midwest (the area shown below) experienced its overall coldest July on record, exceeding July of 1992. After averaging all the observation sites in the state, Kentucky experienced its second coldest July on record. For the first time since recorded temperatures began in Louisville, the temperature failed to reach 90 degrees in July. In fact, the warmest official temperature in

Louisville for the entire year was only 92 degrees (set on June 25th). This was the coolest yearly high temperature since 91 in 1974.



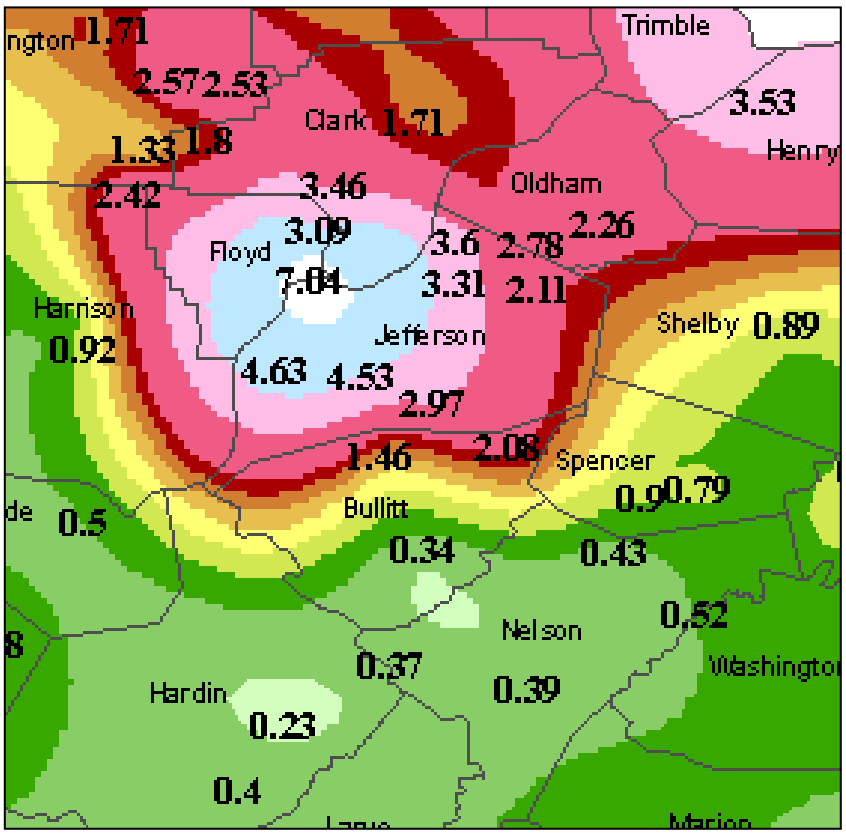
Average temperature departures for July ranged from -3 to -7 degrees below normal, with the greatest anomalies centered over eastern Iowa.

August 4th will be remembered for years to come as the date of one of the most intense short-term rainfall episodes across the Ohio Valley in recent years. A deluge during the morning hours brought catastrophic flooding to the west side of Louisville. A rainfall gage maintained by the Metropolitan Sewer District measured over 6 inches in 2 1/2 hours near Shively.



Peak rainfall accumulations were as follows….

1.3 inches in 10 minutes
3.1 inches in 30 minutes
4.6 inches in 1 hour

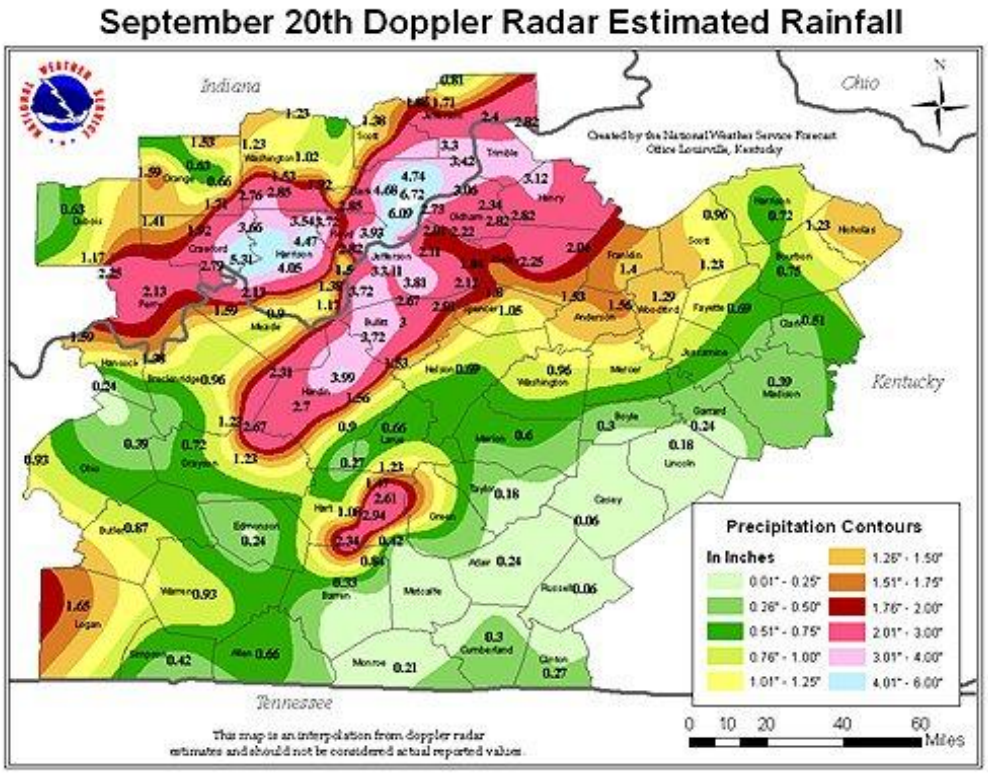


This image shows three hour rainfall totals centered over western Louisville and New Albany, Indiana. This downpour was caused by a large thunderstorm that arrived from the north and then stalled for a two hour period.

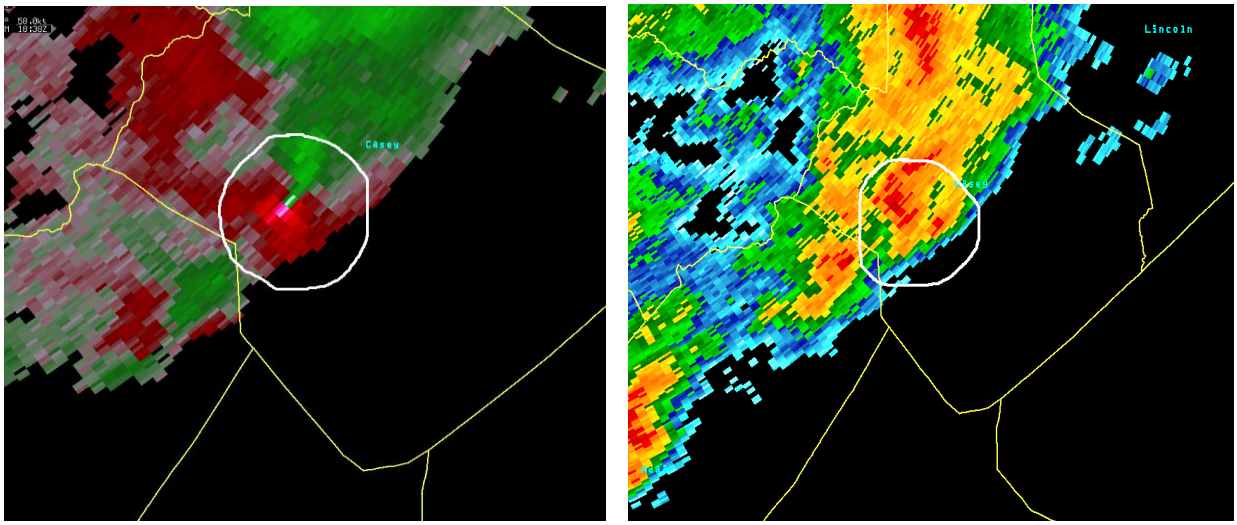
Flooded street west of downtown Louisville on August 4th.

Fall

Extensive flash flooding developed across southern Indiana on September 20. Several water rescues were made in Clark County, Indiana where over 6 inches fell during the day. One weak EF-1 tornado produced minor damage near Borden in Clark County. The image below shows widespread 4 to 6 inch rainfall amounts across Clark, Harrison, and Floyd counties in southern Indiana.



In terms of severe weather, autumn was quiet save for one day in October. A slow-moving cold front across south-central Kentucky became the focal point for several rotating storms. One long-tracked tornado moved across Monroe County. A second tornado was a very brief EF-2 which touched down for less than 5 minutes across southern Casey County. The storm that brought the EF-2 tornado is shown below.



The radar image to the left is storm-relative velocity. It shows a red-green velocity couplet that indicates a rapid circulation. The image to the right shows radar reflectivity, indicating heavy rain within the storm.