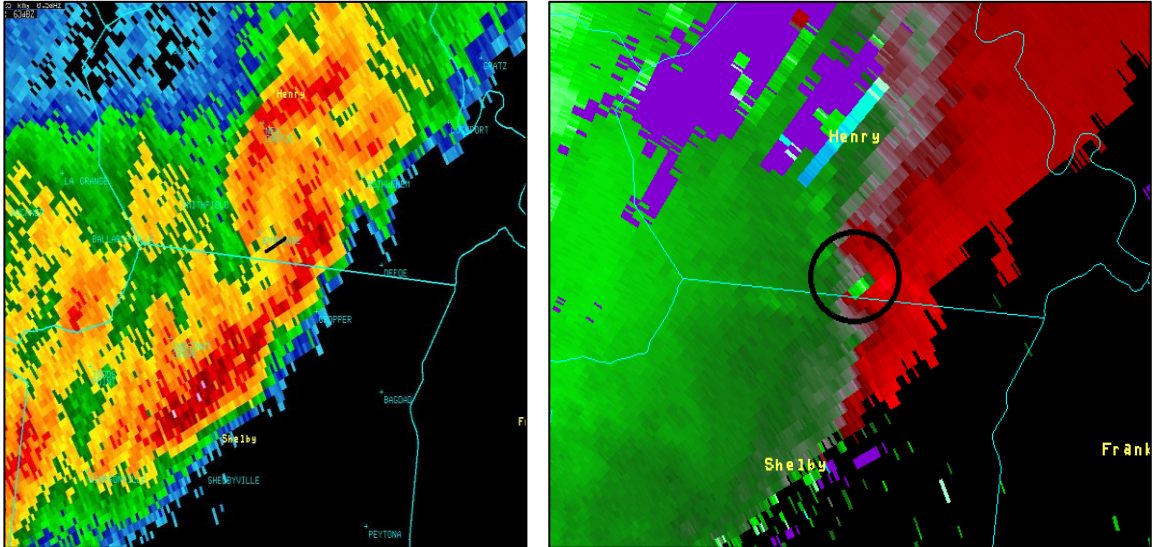


## **Top 10 weather events for 2011**

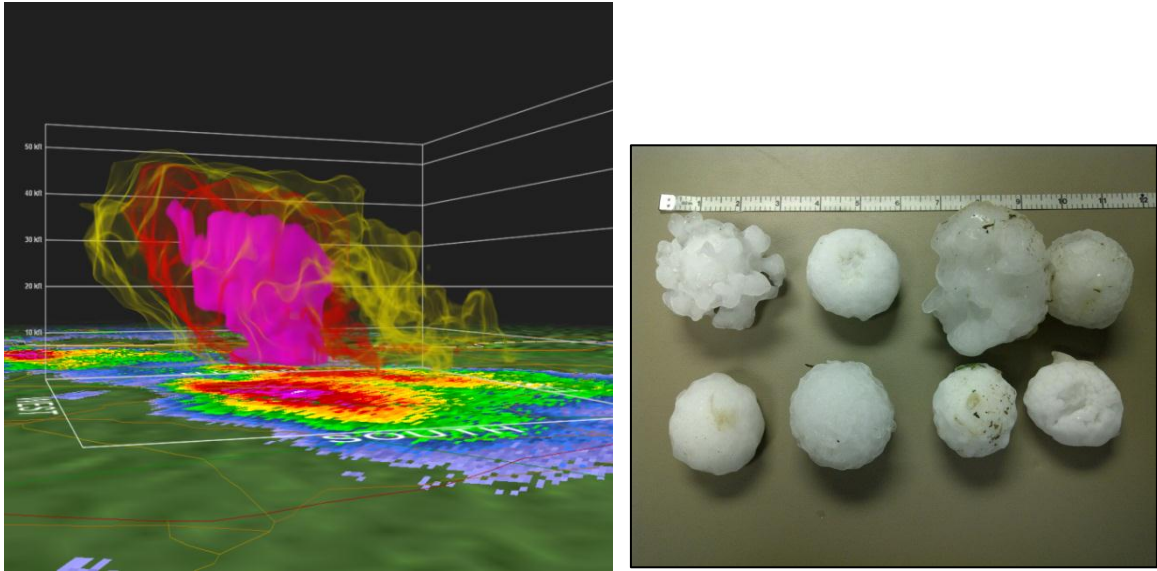
2011 was in some respects one of our most active weather years on record. Our forecast area had a record number of tornadoes and a record or near record wet year. It will likely seem to you that an excessive number of tornado events made this year's top 10; but that was the nature of **2011**. So...[in no particular order](#)...here are the top 10 events of 2011.

- 1) ***The February 28th tornado near Eminence in Henry County***. Surveyed as an EF-3, this twister was the strongest of all 61 of our 2011 tornadoes. This twister was the last of a family of tornadoes that developed during the early morning hours. Other tornadoes during this outbreak included one near Prospect, KY and several in Indiana. Below are two radar images showing what the storm's reflectivity and tornadic circulation looked like on radar.

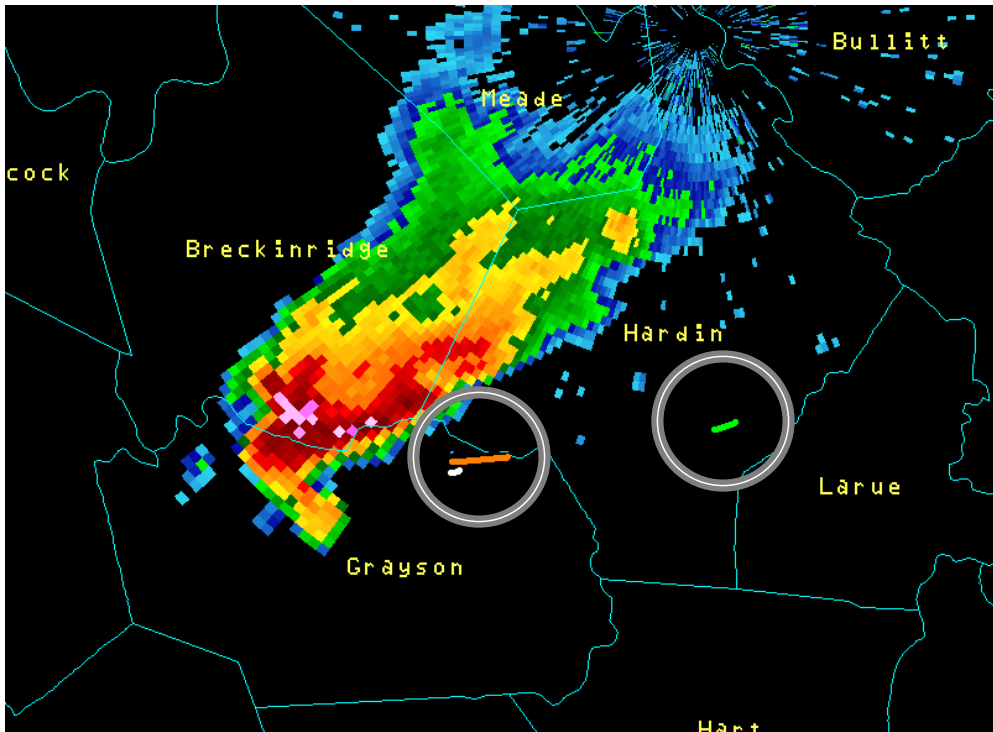


- 2) ***The supercell hailstorm near Carlisle in Nicholas County***. Isolated supercell storms capable of producing hail sizes in excess of golf balls are much more common across the Great Plains as opposed to the Bluegrass Region.

However, on May 10<sup>th</sup>, two supercell storms developed near Nicholas County. Both storms produced tennis ball sized hail. The two images below show a three dimensional image of the hail core, and some of the hail that fell from this core, respectively.

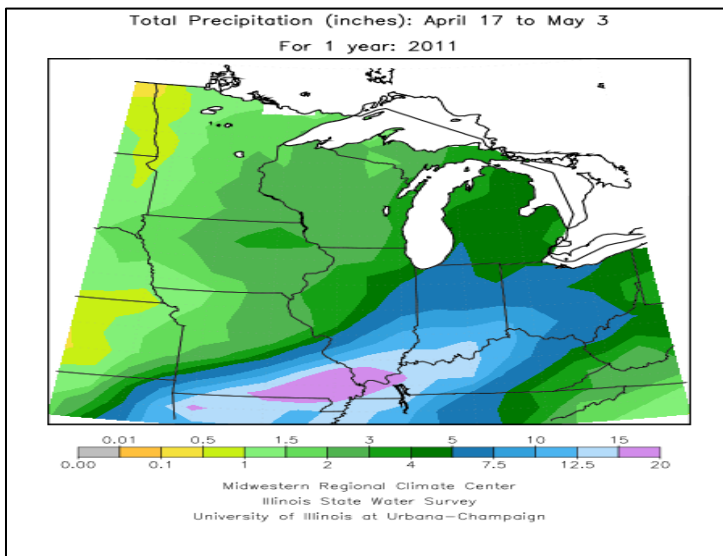


- 3) ***The Grayson/Hardin County Supercell.*** Most tornadoes across the Lower Ohio Valley develop within squall lines or bow echoes. The vast majority of our tornadoes in 2011 did as well. However, on May 27<sup>th</sup>, three tornadoes were spawned by one solitary supercell. This storm was the only one for miles around and developed during the early evening hours, enabling quite a few spotters to report rotation and funnel clouds. The image below shows the “hook echo” associated with a classic supercell. Note that the paths of the 3 eventual tornadoes are indicated in this image, as well. An EF-0 tornado (in white) developed adjacent to an EF-2 tornado (in orange). Later, in Hardin County, an EF-1 tornado (in green) developed right over the Hardin County Fairgrounds.



4) *The excessive rains from mid-April through the first couple days of May.*

Perhaps the most direct cause of our record or near record rainfall this past year was an excessively wet period from mid - April through the first few days of May. The image below shows how widespread and heavy the rains were for this period.



Specifically: From April 9 to May 3<sup>rd</sup>,

Louisville.....16.49 "

Lexington..... 14.30 "

Bowling Green...15.17 "

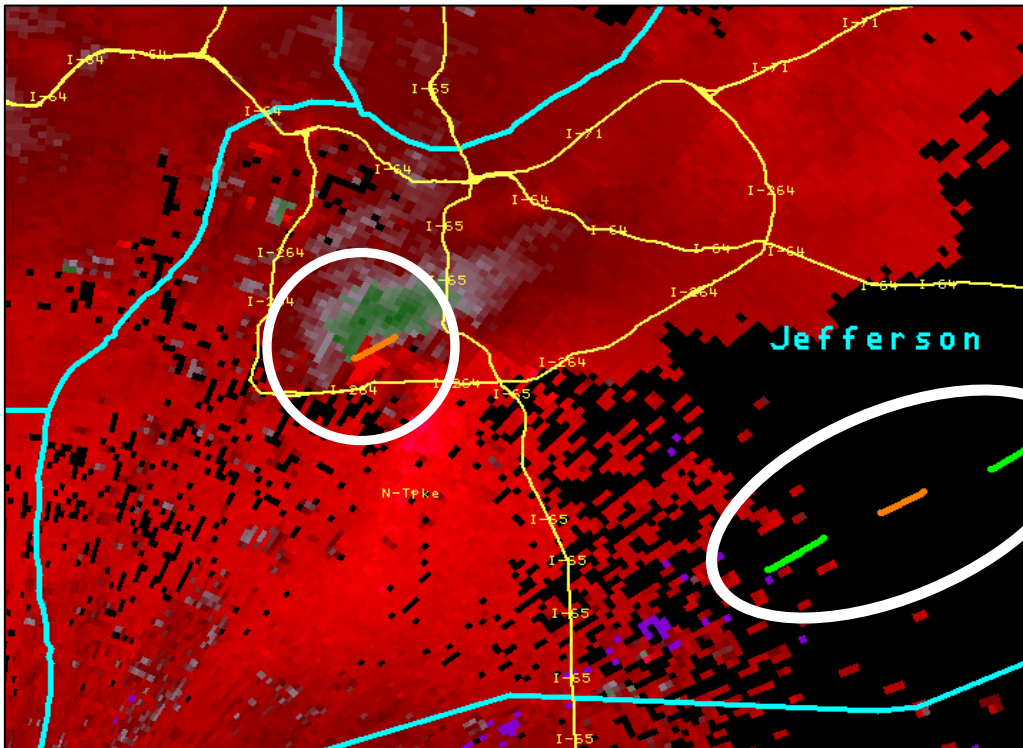
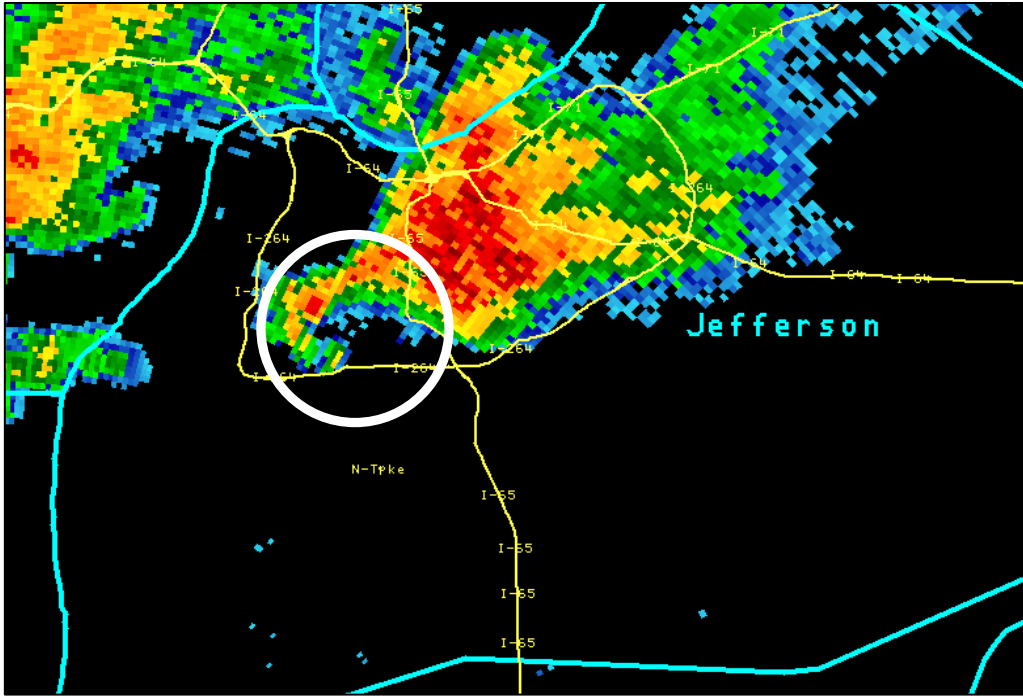
Paducah..... 19.97 "



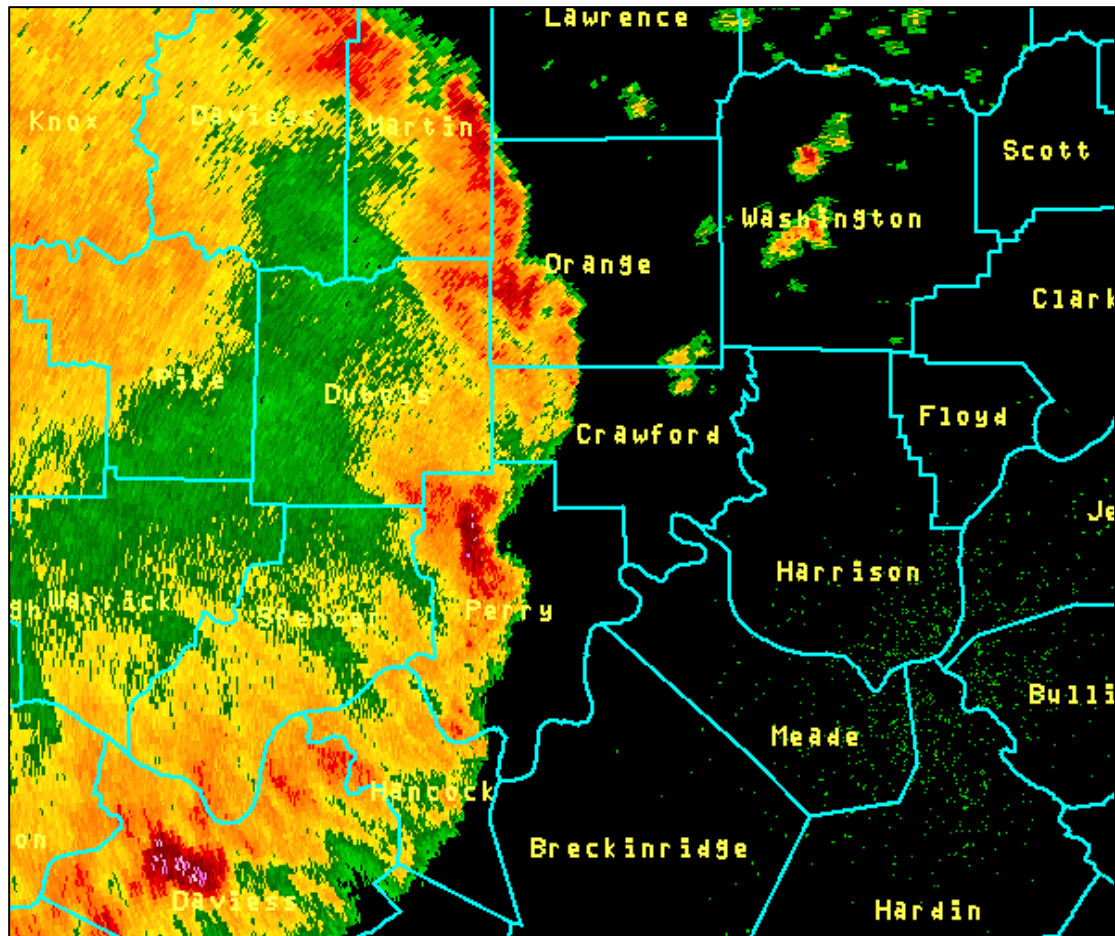
May 3<sup>rd</sup> near Elizabethtown. Photo taken by *Tom Williams*.

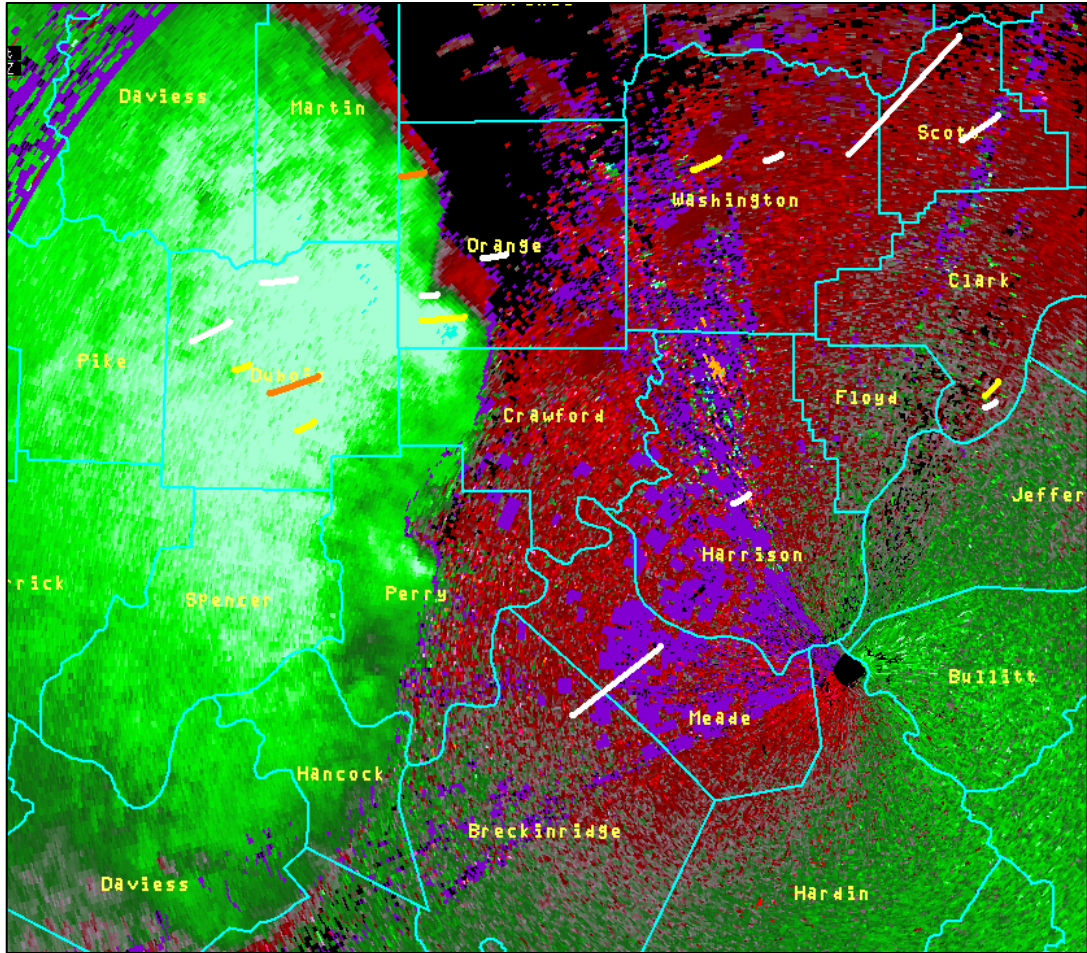
- 5) ***The June 22<sup>nd</sup> Churchill Downs tornado (and others) across Jefferson County, KY.*** During the early evening a series of low-topped supercells developed and tracked right across portions of central and southeastern Louisville. Five tornadoes in all were surveyed. The first twister developed in eastern Harrison County, Indiana. Later, this same storm produced an EF-1 tornado that damaged several horse barns at Churchill Downs. A short time later, another storm produced three twisters in quick succession centered near Jeffersontown. The two images below show reflectivity and the radial velocities associated with the Churchill Downs tornado. The tracks of the one ***EF-2*** and the two ***EF-1*** tornadoes near Jeffersontown are shown in this second image.





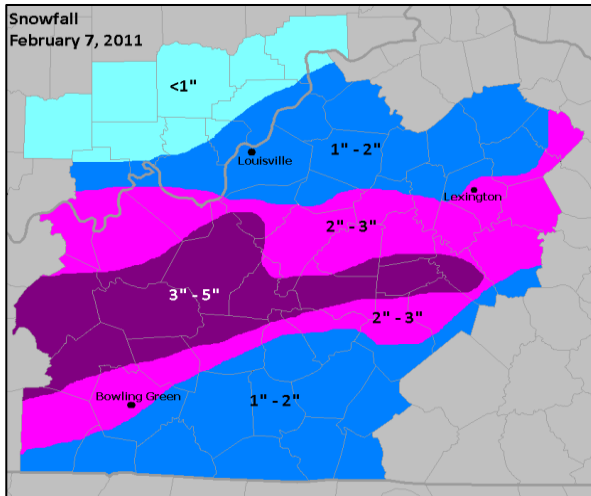
- 6) **The April 19<sup>th</sup> and 20<sup>th</sup> tornado outbreak.** A bow echo approached the Lower Ohio Valley during the evening hours on April 19<sup>th</sup>. This storm developed multiple embedded circulations that spun up numerous tornadoes across southern Indiana and northern Kentucky over the next several hours. In terms of the number of individual tornadoes (24), this outbreak was our worst, exceeding even the April 3<sup>rd</sup>, 1974 Super-outbreak (which had 21). The two images below show both reflectivity and storm relative velocity associated with this line. Note that the damage paths of many of the tornadoes that night are superimposed on the second image below. EF-2 tornadoes are in **orange**, EF-1 in **yellow**, and EF-0 in **white**.





- 7) ***The February 7<sup>th</sup> snow.*** The winter of 2010 – 11 was cold and relatively snowy from December through mid-February. However, our snow accumulated from several moderate storms. No storm in particular brought exceptionally heavy snow. For those living in central Kentucky, perhaps our most memorable snow arrived on February 7<sup>th</sup> during the daylight hours while temperatures were just above freezing. However, snow fell so hard for a few hours that accumulations exceeded the rate that snow could melt. The two images below show total accumulations from this storm and an image showing heavy snowfall from Elizabethtown.

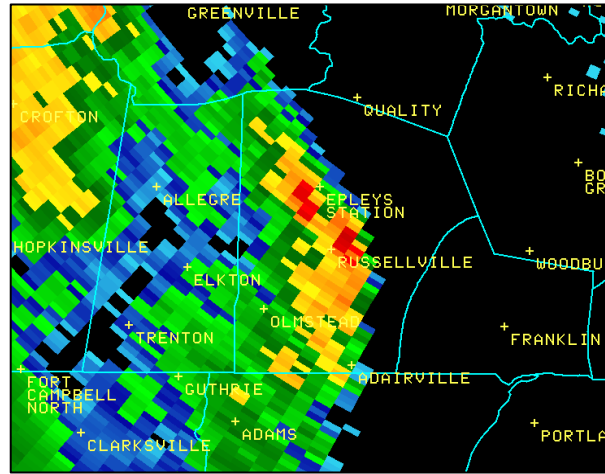
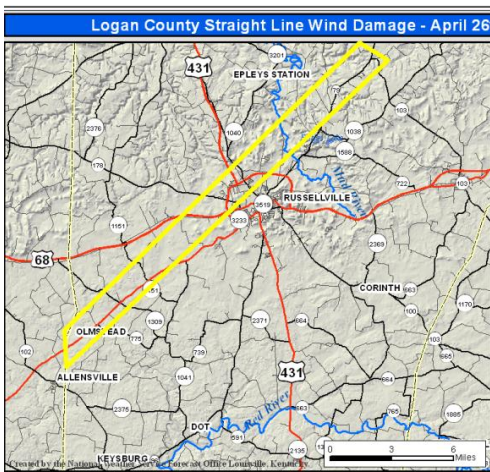




- 8) ***The April 26<sup>th</sup> Logan County bow echo.*** During the early morning hours on the 26<sup>th</sup> of April, a bow echo moved northeast across Logan County. Although reflectivity and rainfall along this line were weakening, this line produced a narrow line of damage consistent with 80 to 100 mph straight line winds across the central portion of Logan County. The pictures below



highlight the area of greatest damage, a radar reflectivity image, and damage to a grain storage facility.



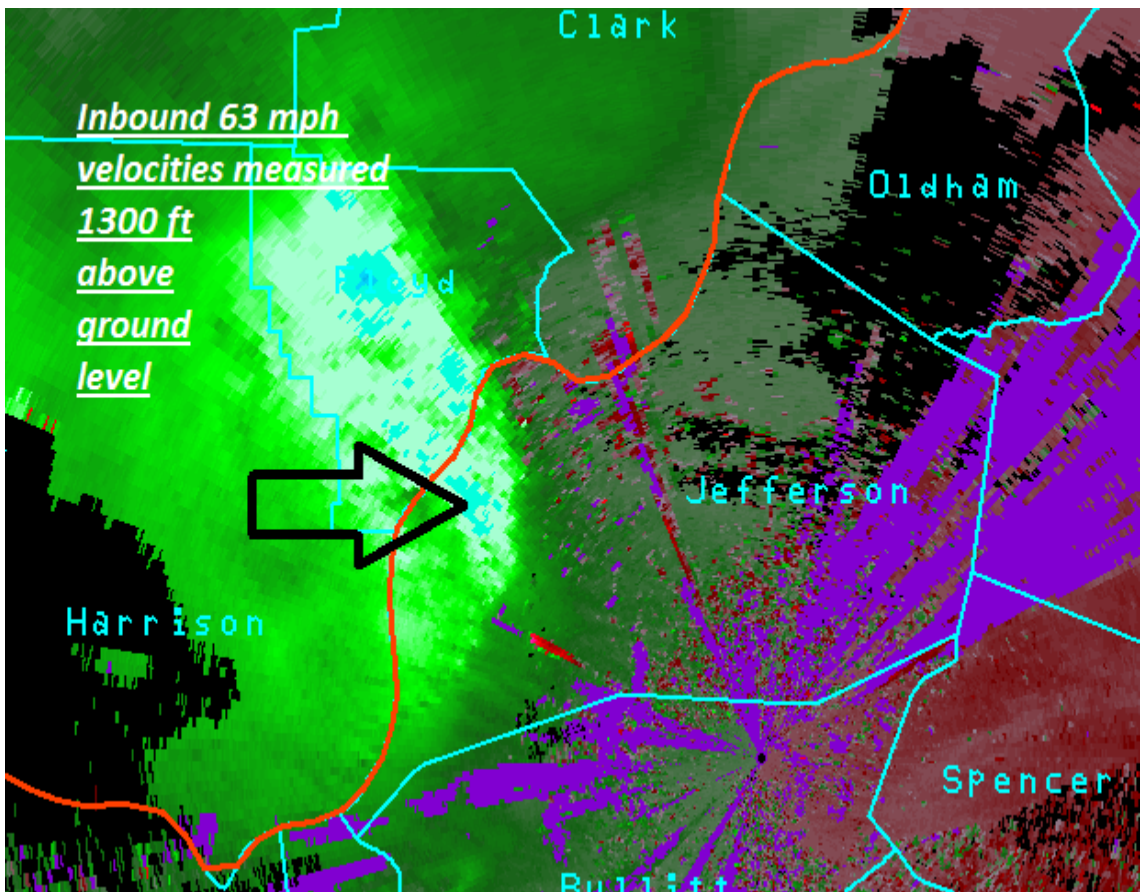
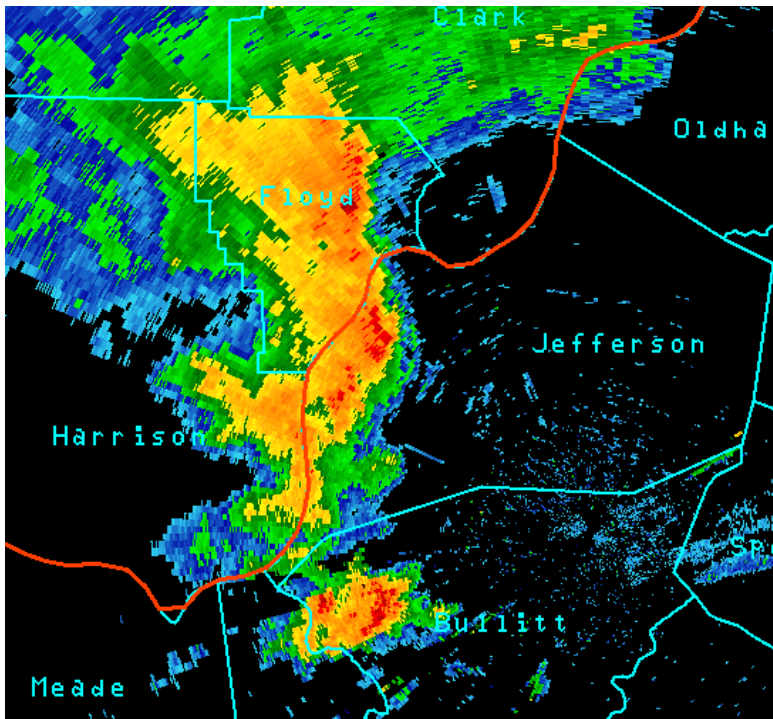
*Photo by a NWS survey team*

- 9) **The Interstate 64 Bow echo.** During the afternoon of August 13<sup>th</sup>, a storm in Dubois County developed into a bow echo that brought widespread power outages along Interstate 64 from Crawford County Indiana through

Fayette County Kentucky. In Louisville, damaging winds disrupted power to over 100,000 customers. A 69 mph wind gust was measured at Bowman Airport, where some siding was damaged. Some local Louisville residents mentioned that some of the strongest winds came in several bursts over a 15 minute period. The image directly below shows a large billboard nearly toppled on Bardstown Road in Louisville.

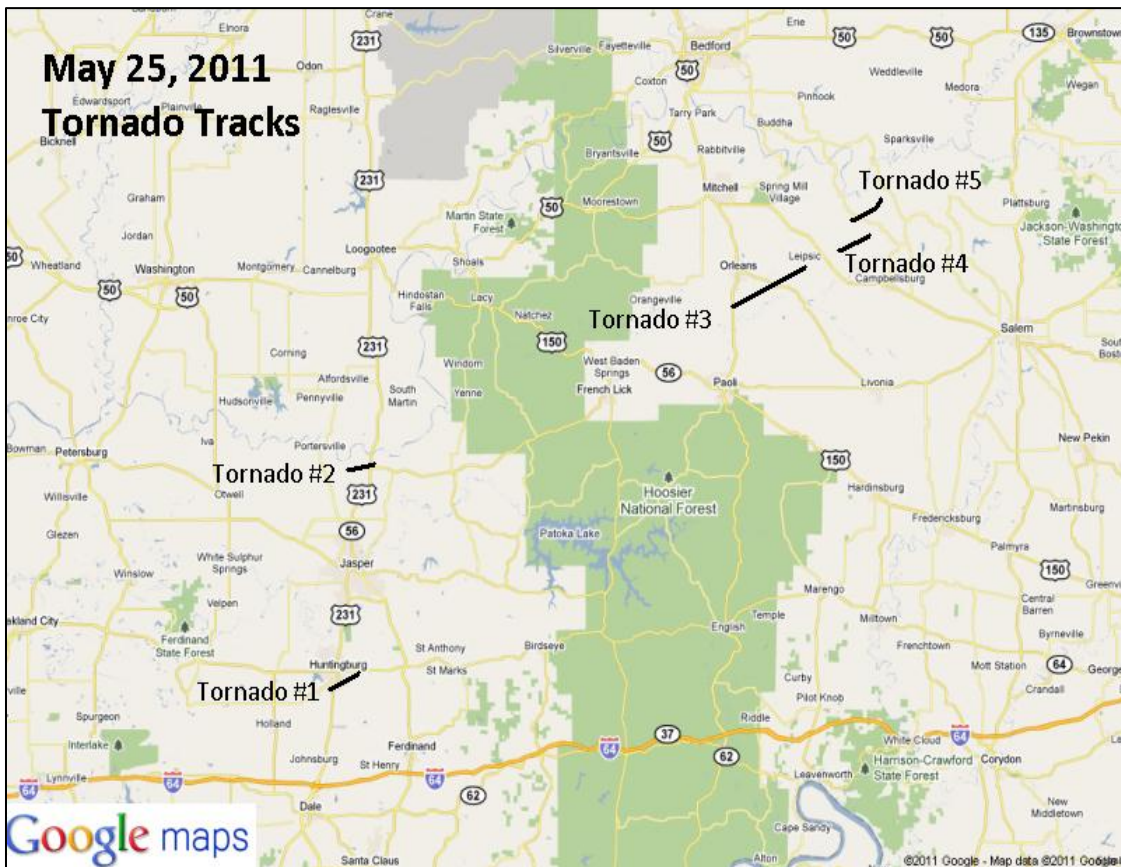


Two radar images from this event are shown below.





10) *The May 25<sup>th</sup> southern Indiana tornadoes*. Southern Indiana was especially been hit hard with numerous tornadoes in 2011. A squall line during the afternoon hours produced several embedded tornadic circulations. The image below shows where these twisters touched down. Tornadoes numbers 1 and 3 were surveyed as EF-2, while numbers 2, 4 and 5 were rated at EF-1.



The images below were taken by just north of Jasper, Indiana. It shows a wall cloud that subsequently develops into an EF-1 tornado.



These four sequential images show the development of a wall cloud into a tornado. These pictures were taken from the north side of Jasper, looking north.

