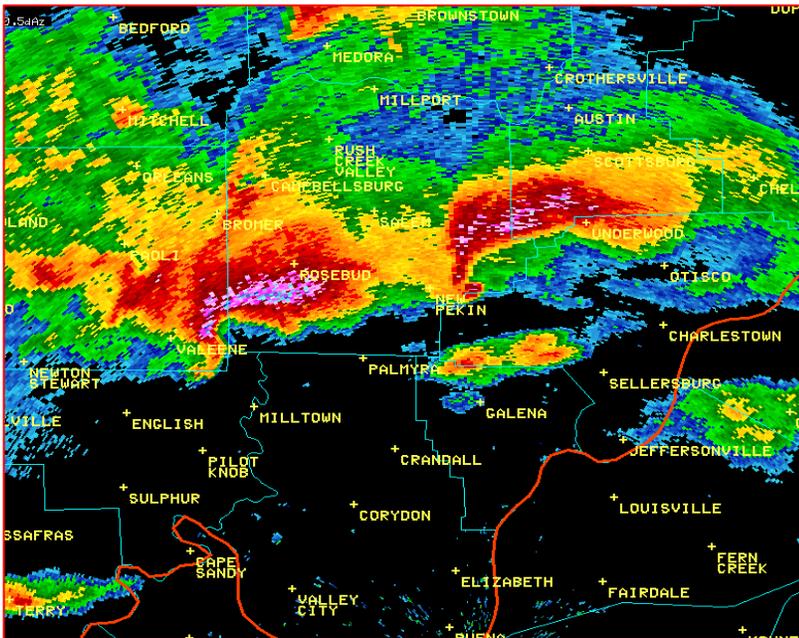


...Top 10 weather events of 2012...

In terms of severe weather, 2012 started out fast and furious, and then petered out by late March.

1) By anyone's measure, the tornado outbreak on the 2nd of March must qualify as our top event of 2012. The 49 mile long EF-4 tornado that tracked across southern Indiana became the first EF-4 in our forecast area since the northern Bullitt County tornado on May 28, 1996. Seven other tornadoes also developed on March 2, with 3 confirmed tornadoes in Trimble County alone.



The image to the left shows two supercells following similar paths across southern Indiana. The first cell was producing an EF-4 tornado at this time. The second storm later brought softball sized hail and an EF-1 tornado just south of Henryville.

Also, excessively large hail fell across both southern Indiana and south central Kentucky. Outside of several reports of softball-sized hail near Henryville, Indiana, associated with the second of two supercells that tracked over nearly the same path, our most damaging hailstorm developed across southwestern Adair County. This storm produced a hail swath more than 10 miles long, smashing the windshields of hundreds of vehicles before knocking out the skylights of a Walmart store in Columbia.

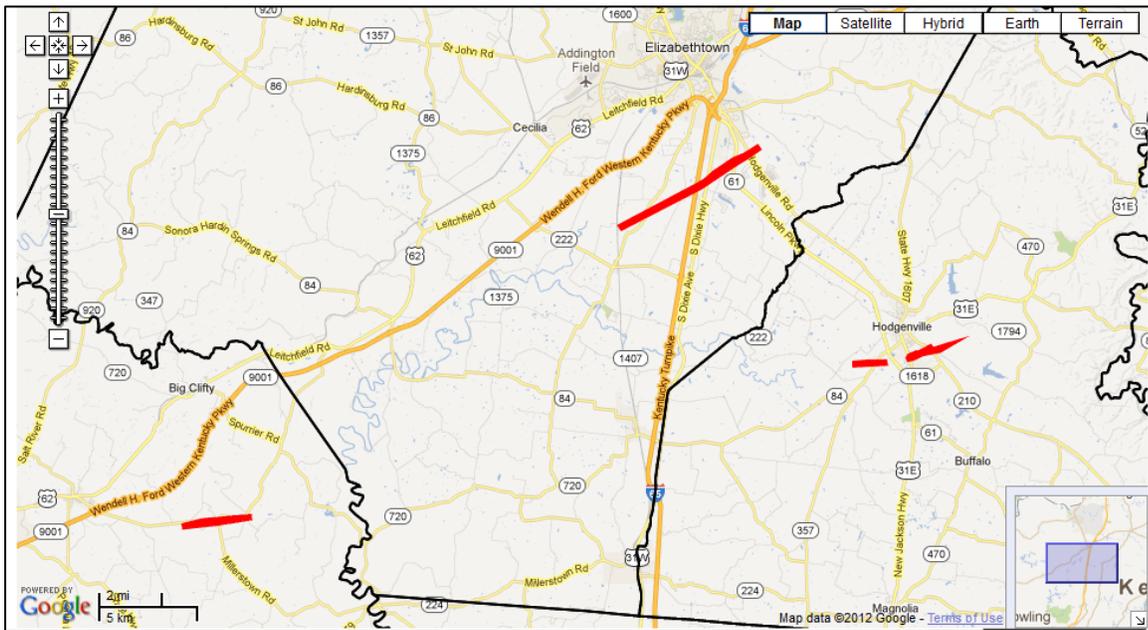


The first picture, courtesy Simon Brewer of The Weather Channel, shows a large tornado in Washington County, IN.

The image at left shows hail damage to a golf course near Henryville.

2) The Leap Day tornado outbreak on February 29 featured a squall line that spawned 6 tornadoes across central and south central Kentucky. Four out of these 6 tornadoes were rated as strong EF-2s. LaRue County experienced not one but two EF-2 twisters just south of Hodgenville.

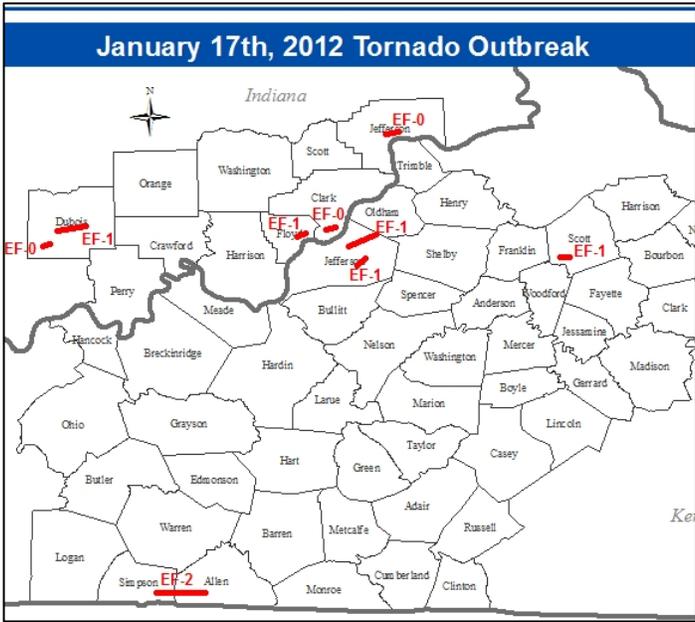
The image below shows tracks for 4 of the 6 tornadoes that day, with the others touching down well to the southeast in Metcalfe, Casey, and Russell counties.



The image above, courtesy of Paul Osborne, shows just how narrow the damage swath of a tornado can be. This neighborhood is near Hodgenville in LaRue County.

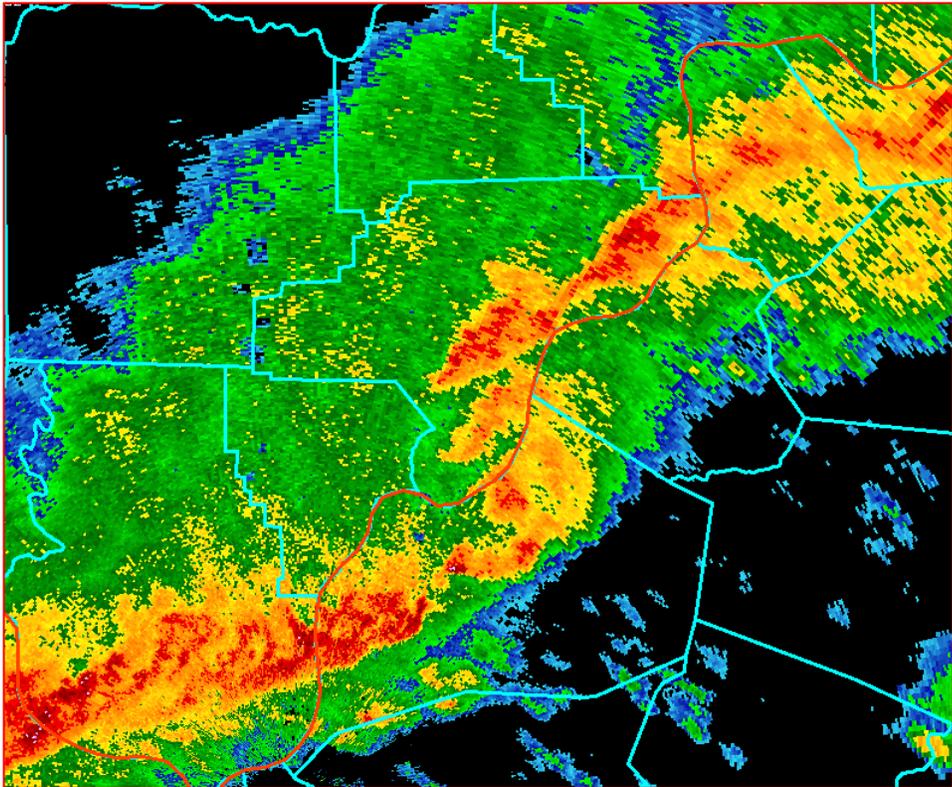
3) A squall line moved across southern Indiana and northern Kentucky during the early afternoon on January 17. Several segments of this line developed rotation, spawning 9 tornadoes in all. Although most of these twisters were weak, this line of

storms developed into the most prolific January tornado outbreak on record across southern Indiana and northern Kentucky.

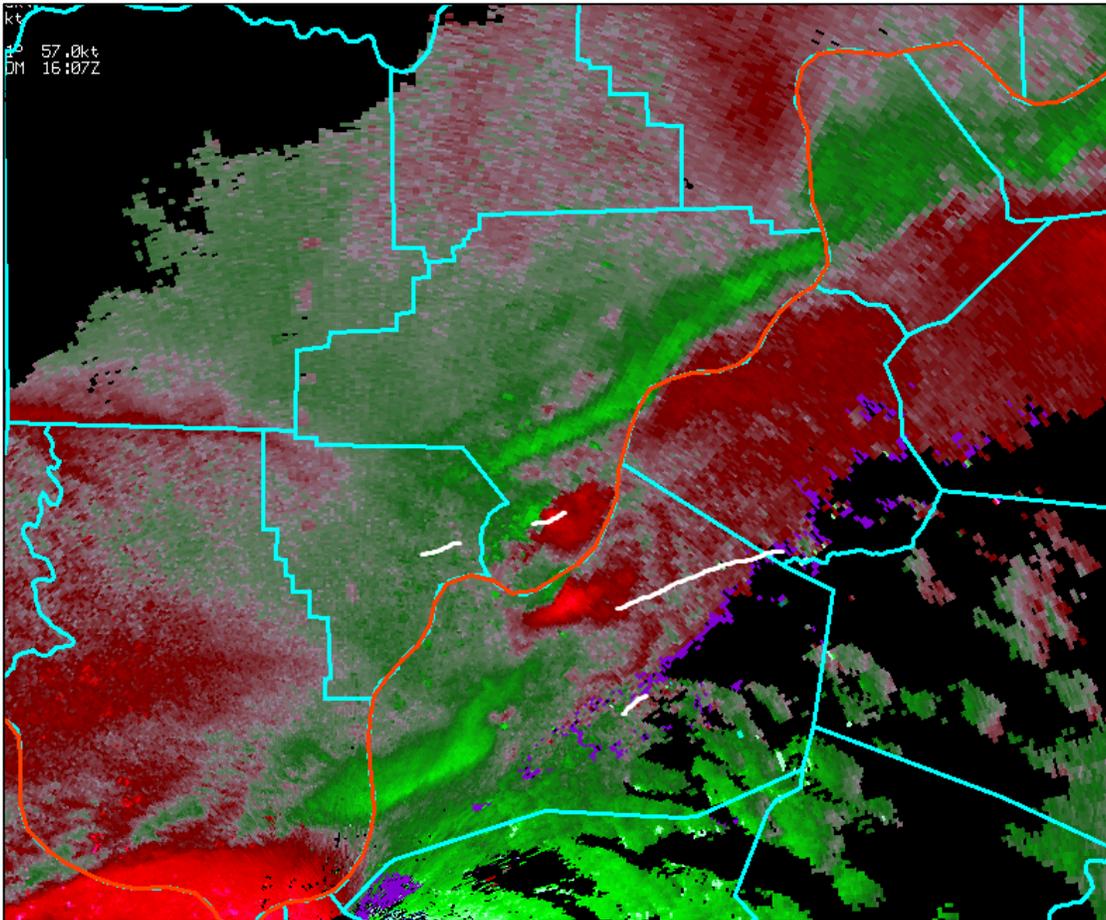


The map to the left shows the locations and strengths of all 9 tornadoes during the late morning and early afternoon hours of January 17.

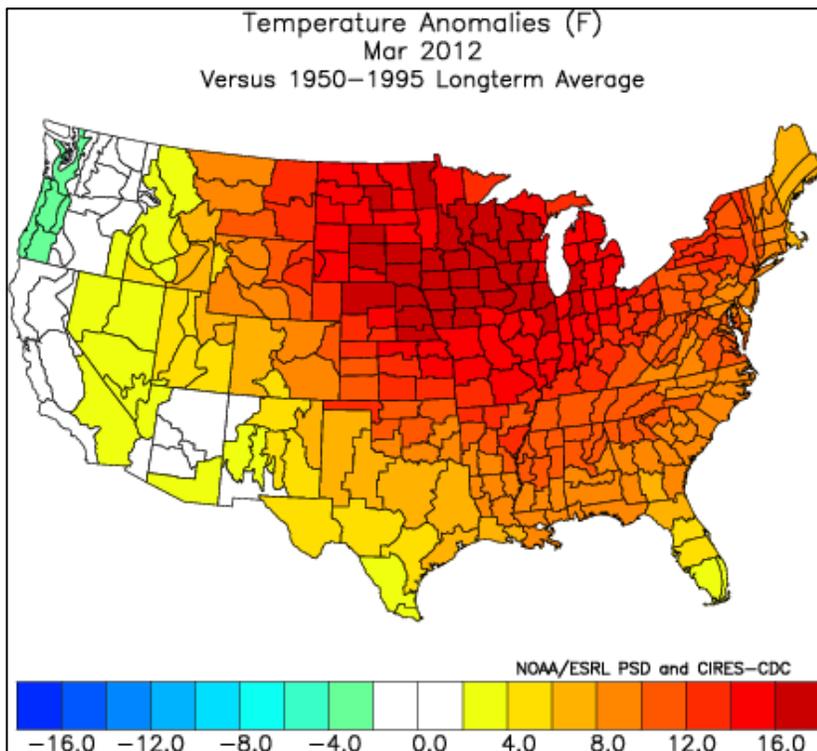
The images below are quite interesting and show a close-up of both reflectivity and storm relative velocity associated with the flurry of tornadoes in Floyd, Clark, and Jefferson counties. The first image below shows reflectivity. Note the breaks in reflectivities within this squall line over Clark and Jefferson counties.



The second image shows storm relative velocity. The tracks of the 4 tornadoes near the Louisville metro area are superimposed. Note the rotational couplets across southern Clark and northern Jefferson County.

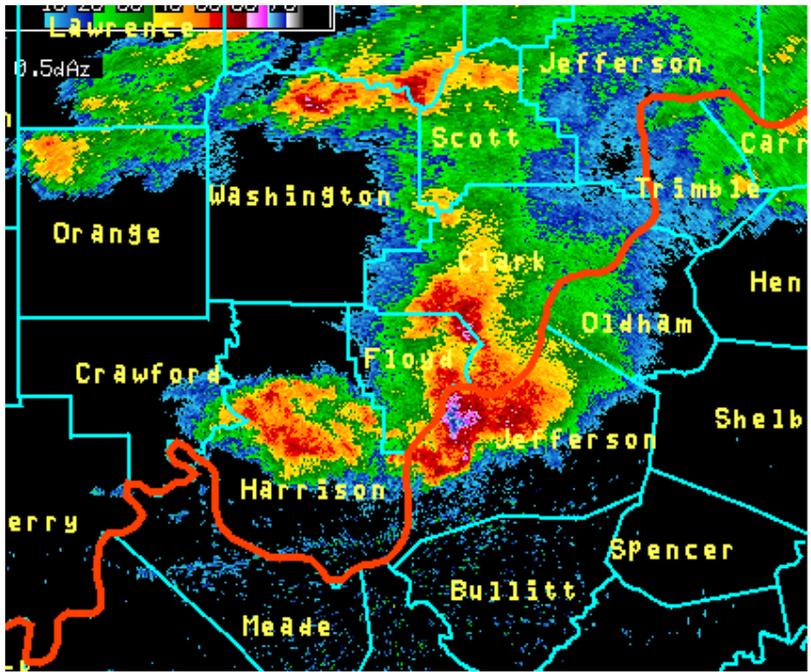


4) March 2012 set a record for warmth across much of the continental United States east of the Rockies. This extraordinary mild weather, centered across the Upper Midwest with as much as an 18 degree departure from the average March mean temperature, set a record that may not be repeated again in our lifetimes.



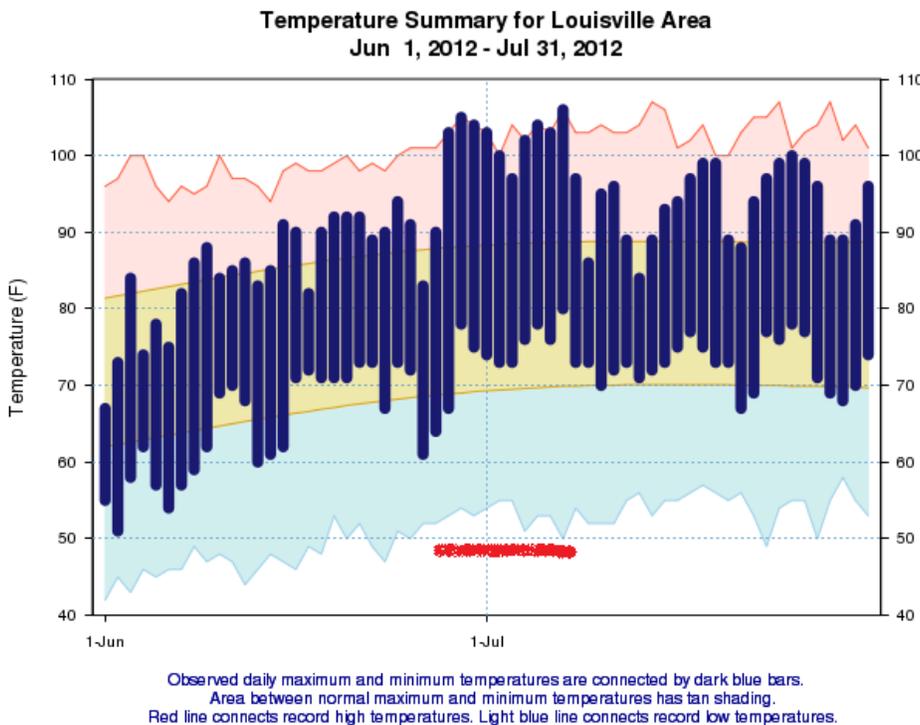
For Kentucky, the stretch of days between the 11th and the 25th of March was extraordinary. Bowling Green for example had highs that averaged 80 degrees during this 12 day stretch. Three record daily highs were set for Bowling Green during March.

5) Besides the numerous damaging hailstorms on March 2, our second worst hailstorm of 2012 managed to move right over the Louisville metro area during the evening of April 28. This storm developed near Dubois County, Indiana and latched onto a stationary boundary that lay right across Louisville. It then developed into a high-precipitation supercell as it tracked along this boundary. It moved across New Albany and then brought 2 inch diameter hail to Churchill Downs, interrupting their evening races. Intense hail partially denuded trees just northwest of the intersection of the Gene Snyder Expressway and Billtown Road. Finally, after bringing 2 inch hail near Taylorsville, it rapidly dissipated. The image below shows the supercell just before it hit Churchill Downs.



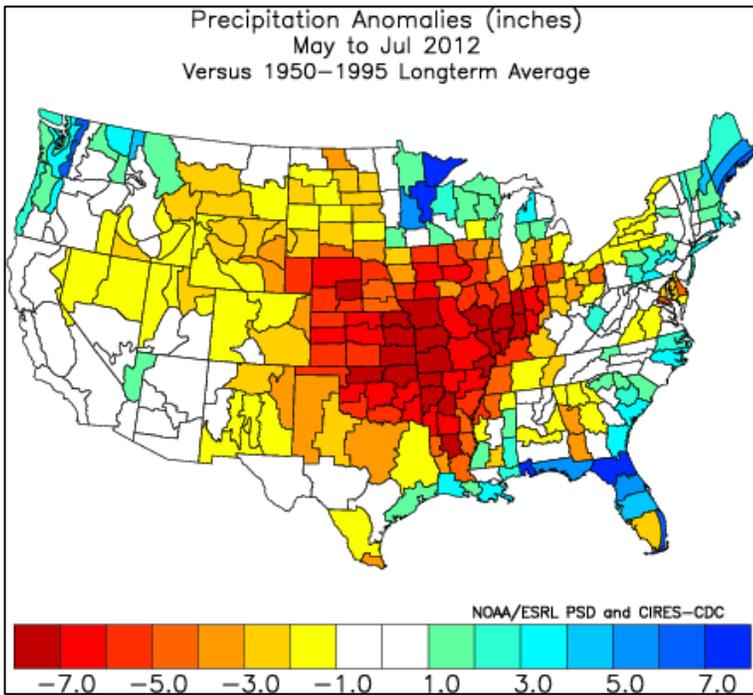
Accumulated hail on the back deck of a resident of Fern Creek, a suburb of Louisville.

6) Overall, this past summer was not exceptionally hot. June and August were both quite close to normal. However, the 10 day heat wave that began June 28 proved to be one of our hottest 10 day stretches on record. On June 29, Bowling Green and Louisville set records for the warmest June day ever at 110 and 105 degrees, respectively. During a 9-day stretch from June 29 through July 6, Bowling Green broke record highs on 7 of them. Louisville broke or tied record highs for 9 out of 10 days ending July 7. Looking back on our summer-time records, the only other year that can challenge 2012 for consecutive record hot days was 1936. July 2012 was officially the warmest July on record at Louisville, and our second warmest ever at Bowling Green and Lexington.



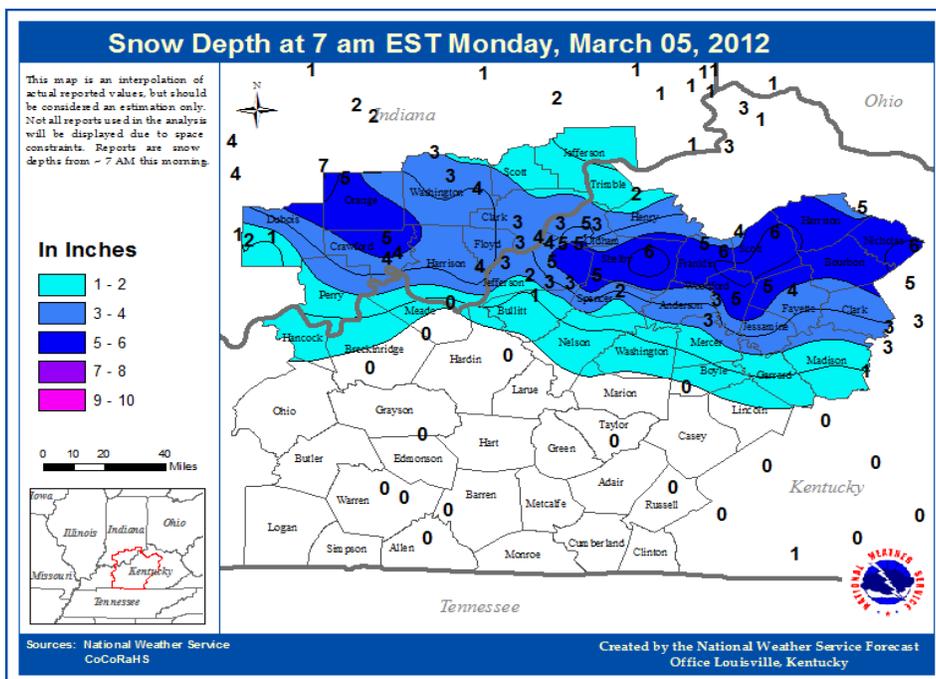
This graph shows daily highs and lows at Louisville International Airport for June and July. Highlighted in red is the period where record daily highs, shown with a pink background, were set for 9 out of 10 days.

7) During the late spring and early summer, drought prevailed across western Kentucky and southwestern Indiana. The map below show precipitation deficits across the entire Midwest for the May through July period. Bowling Green only received 3.96 inches of rain during the prime growing months of May and June. This totaled 5.82 inches below the average precipitation for this 2-month period.



During May through July, drought expanded across the Midwest and the Lower Missouri Valley. Some locations such as Kansas City and southern Illinois had precipitation deficits of over 7 inches.

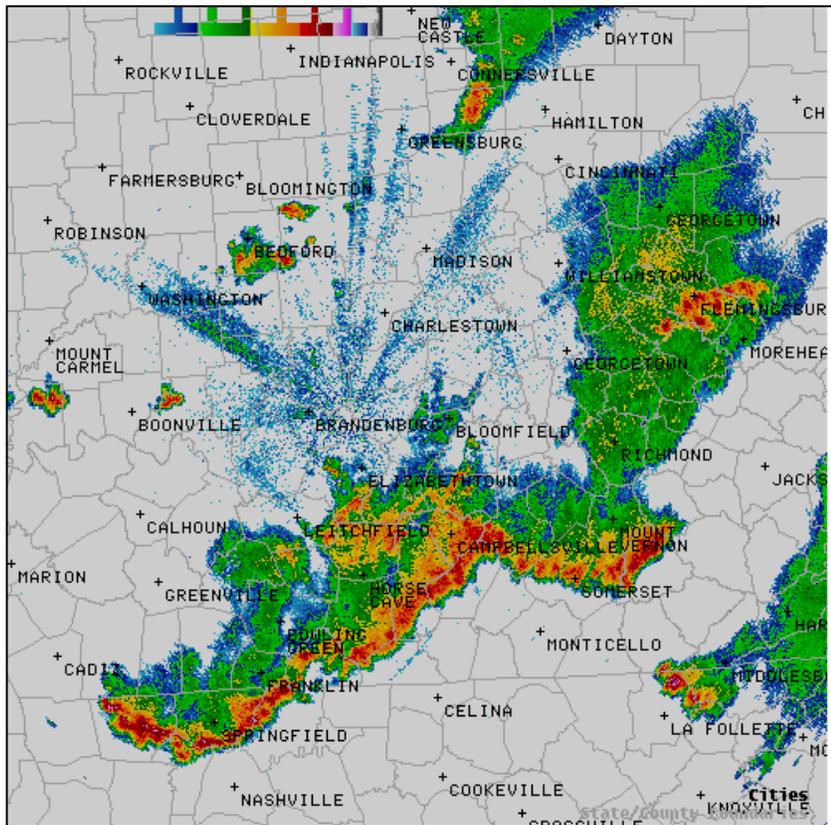
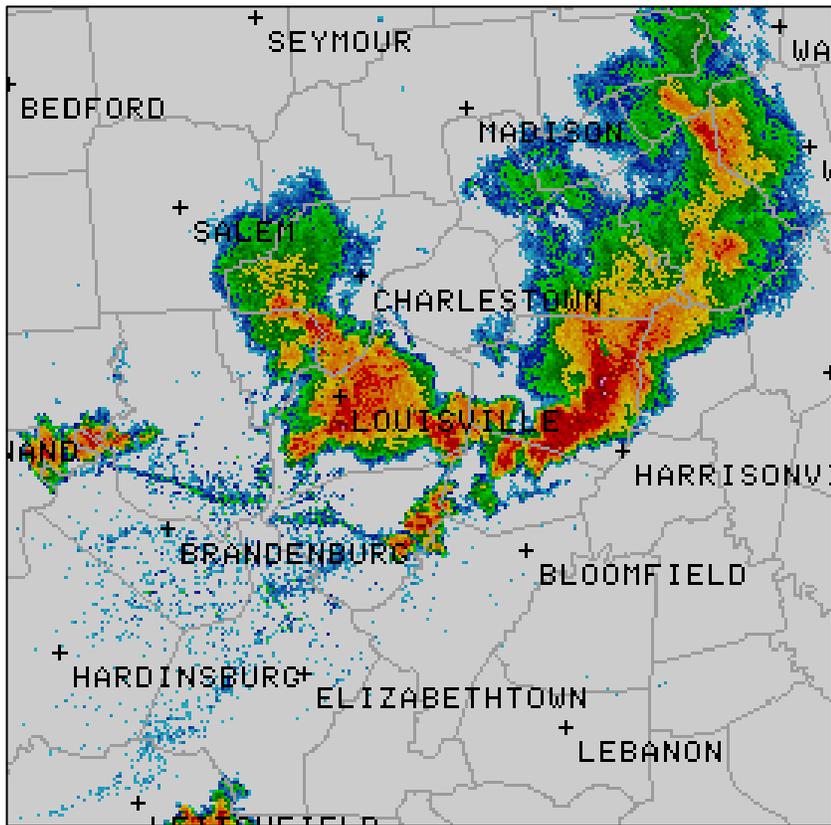
8) 2012 did not feature many examples of snowstorms. By far, the region's biggest snow of 2012 came on March 5 (3 days after the March 2 tornado outbreak) in the form of an Alberta Clipper. In general, this type of storm, named for the Canadian province from which it frequently originates, usually does not produce heavy snows. However, this event featured intense snowfall rates of well over 1 inch per hour. The snow was also very heavy and wet, accumulating up to 6 to 7 inches on grassy surfaces across much of the Kentucky Bluegrass. The map below shows the track of this storm.



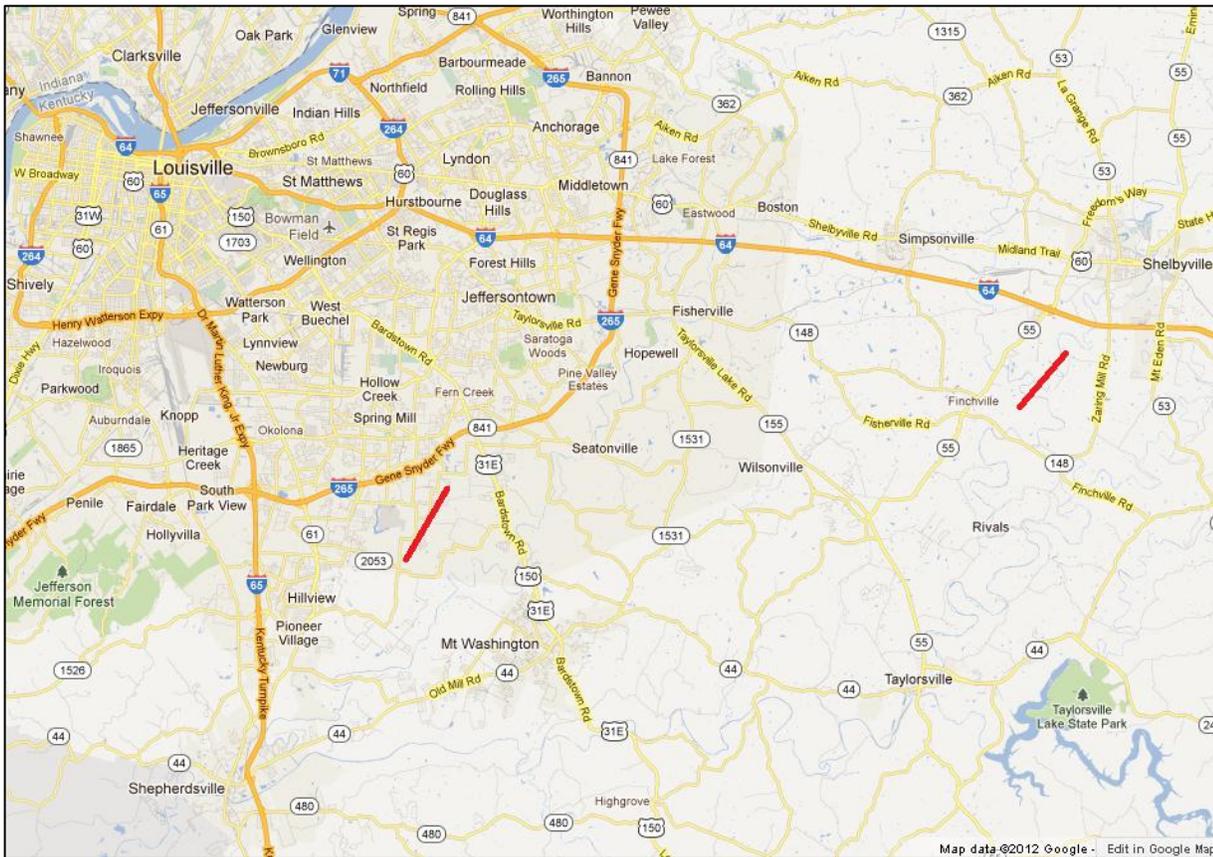
This photo, taken by a NWS meteorologist, shows how sticky this snow was.



9) Although not much severe weather developed after March, one event brought widespread wind damage to central Kentucky on July 19. Scattered severe storms developed near and east of Jefferson County, Kentucky during the early afternoon. Eventually, by early evening, a severe squall line formed and extended along an east to west line across all of south central Kentucky. The Kentucky Mesonet, a series of automated weather observing sites across the Commonwealth, measured wind gusts of near 60 mph in Clark, Hardin, and Simpson counties in central Kentucky. A wind gust of 64 mph was measured at the Louisville International Airport. The two images below show the storm that produced damaging winds in Louisville, and the squall line that raked southern Kentucky later that evening.

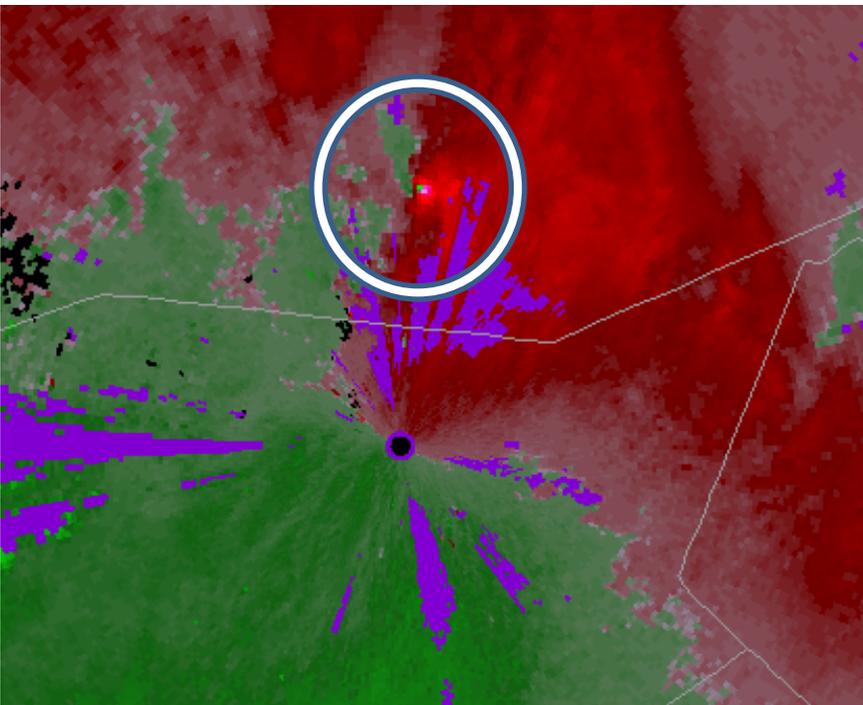
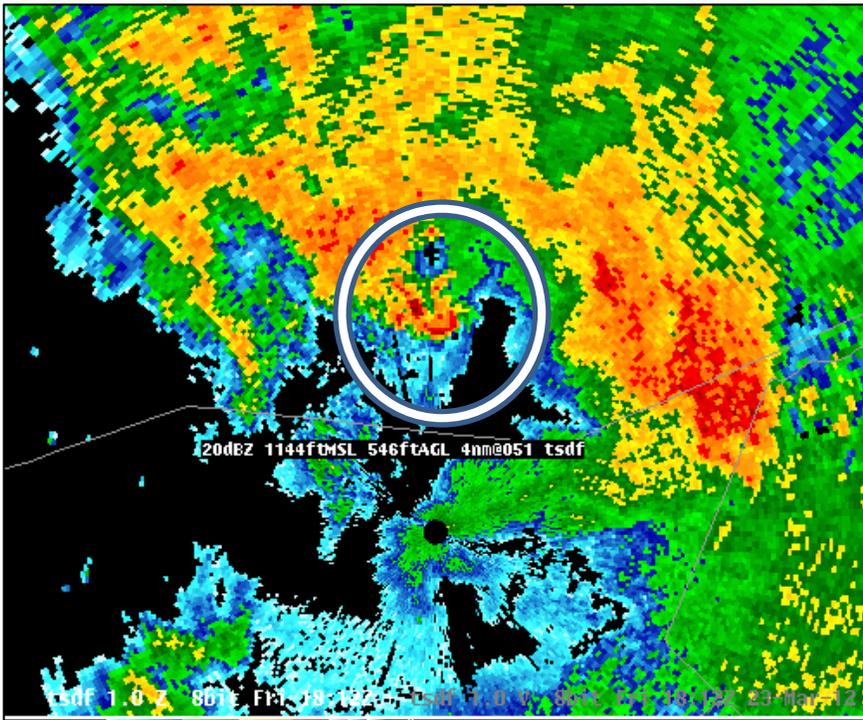


10) On March 23, twin tornadoes developed across southeastern Jefferson and Shelby counties. They developed in an environment not normally capable of producing thunder. However, sufficient directional low-level wind shear allowed these storms to rotate. The tracks of the two tornadoes are highlighted below.



One storm produced a tornado just south of Fern Creek in Jefferson County, Kentucky. This twister was sufficiently close to an FAA radar located near Mount Washington to have the actual tornadic circulation show up on radar – a rare occurrence indeed.

The two images below show a reflectivity image of the storm that produced the brief tornado. The second one shows a close-up of the actual tornadic circulation.



Although the Fern Creek twister only produced EF-1 damage, it did knock a home off of its foundation (shown below).

