

As we finished out the 2010s decade and embark on the 2020s, the employees of the National Weather Service Office near Jackson, KY decided to put together a Top 10 Weather Events of the decade.

TOP 10 WEATHER EVENTS OF THE DECADE (2010-2019)

1. March 2, 2012 Tornadoes:

The most significant weather event of the past decade is hands down the March 2nd tornadoes. These tornadoes were chosen as Number 1 for several reasons: (1) The 16 direct fatalities which occurred in our county warning area (CWA) as a result of these tornadoes (2 in Menifee County, 2 in Johnson County, 6 in



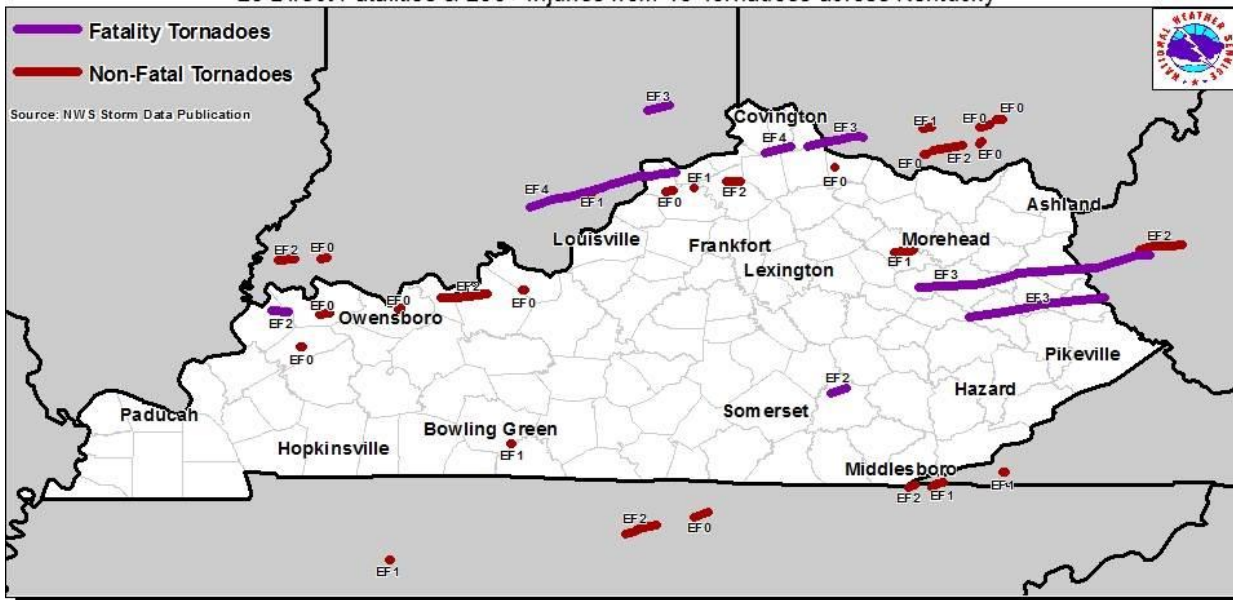
Morgan County and 6 in Laurel County)., (2) This was the first tornado in recorded history to affect Martin County., (3) The first occurrence of a tornado hitting the same location in a 2 day span in Kentucky (West Liberty in Morgan County)., (4) The first occurrence of an EF2 or greater tornado on record in Menifee, Magoffin, Johnson, and Martin Counties., and (5) One of the top 3 longest tracked tornadoes in Kentucky since 1950 (60 miles in length through east Kentucky). Overall, there were a total of 18 tornadoes that occurred across the state of Kentucky on March 2nd, resulting in 24 fatalities, 200+ injuries and over 150 million dollars in damage.

Surveys conducted by NWS Jackson, revealed 4 separate tornadoes affecting parts of 9 different counties and causing widespread destruction to the towns of West Liberty and Salyersville. An EF2 tornado touched down and affected Martin County and portions of Menifee, Magoffin, and Johnson

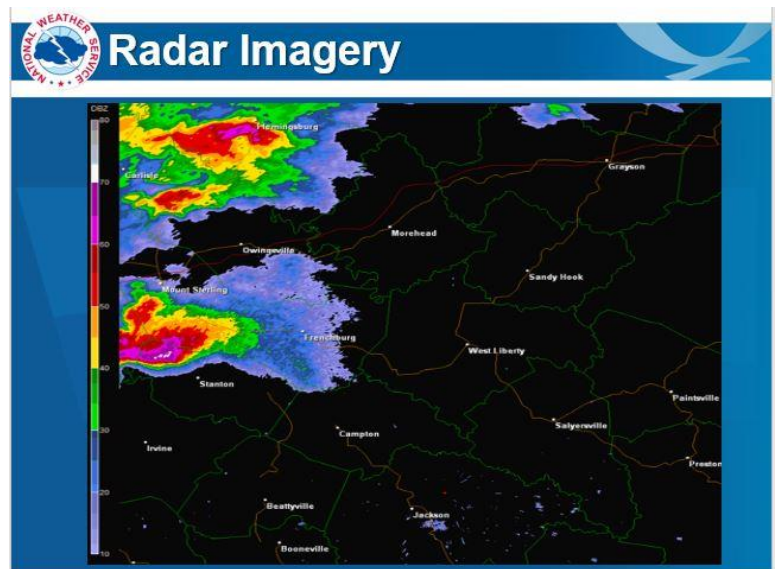
Counties. The path length and width of the West Liberty tornado is especially noteworthy. This tornado had a continuous path reaching an astonishing 86 miles in length through east Kentucky and western West Virginia, and a consistent path width of 1 mile across most of Morgan County, including through the downtown section of West Liberty. The path of the Salyersville tornado also extended an amazing 49 miles in Kentucky and West Virginia. In addition, this event featured the first EF3 or greater tornado in the Jackson, KY forecast area since the Middlesboro tornado of May 1988.

The March 2, 2012 Tornado Outbreak

26 Direct Fatalities & 200+ Injuries from 18 Tornadoes across Kentucky



This radar loop shows the March 2nd supercells which produced the West Liberty and Salyersville tornadoes.





Damage to West Liberty in Morgan County
Courtesy of Allen Bolling



Damage to Salyersville in Magoffin County
Courtesy of Allen Bolling



Aerial photo of damage in Laurel County



Damage in Bath County

For more info.: [March 2nd Tornadoes](#)

2. January 22 – 23, 2016 Heavy Snow Event:

A paralyzing winter storm dumped up to 20 inches of snow across parts of east Kentucky from the early morning hours of Friday, January 22nd through the day on Saturday, January 23rd.

The snow accumulated at a rate of 2 inches per hour at

times. The snowfall produced by the storm was the heaviest to fall across east Kentucky since the Blizzard of March 1993.



National Weather Service Office near Jackson, Kentucky

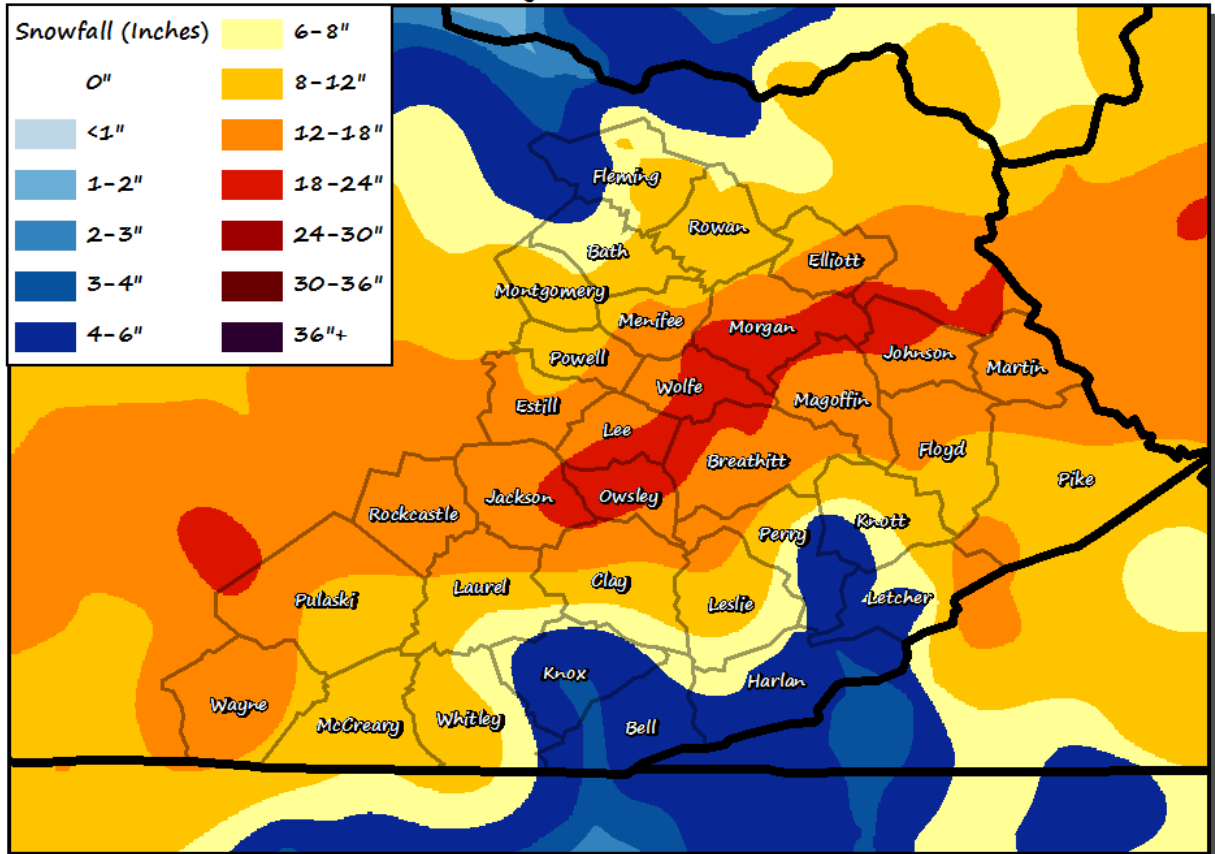
Picture taken at 7:06 a.m. on January 22, 2016

The storm system responsible for the east Kentucky snow originated over Texas, tracked across the Deep South and Carolinas, and finally up the East Coast. Precipitation overspread east Kentucky during the early morning hours on Friday January 22nd. The precipitation fell as a mix of freezing rain, sleet, and snow over southeast Kentucky through the morning into the midday hours on Friday, before changing to snow Friday afternoon. The precipitation fell as mostly snow for the remainder of the area throughout the event. The snow fell very heavy at times during the morning and early afternoon hours on Friday, with snowfall rates of 2 inches or more common as a heavy snow band set up across the heart of east Kentucky.

The snow gradually diminished in intensity Friday night into Saturday morning, with the last of the snow pulling east out of the area late Saturday afternoon. Final snowfall totals ranged from 4 to 8 inches in Knox, Bell, and Harlan Counties, with up to 12 to 20 inches in a strip from Hart County in central Kentucky eastward through the heart of east Kentucky into central

West Virginia. Freezing rain accumulated up to 3/10 inch in places near the Tennessee border Friday morning, before the changeover to snow occurred.

Storm Total Snowfall January 22 - 23, 2016



The storm total snowfall of 18.5 inches from this winter storm at the National Weather Service Office near Jackson, KY is the greatest January snowstorm since records began at this station in 1981. In fact, this winter storm is 2nd only to the Blizzard of March 1993 in the station's record books as far as snowfall goes.

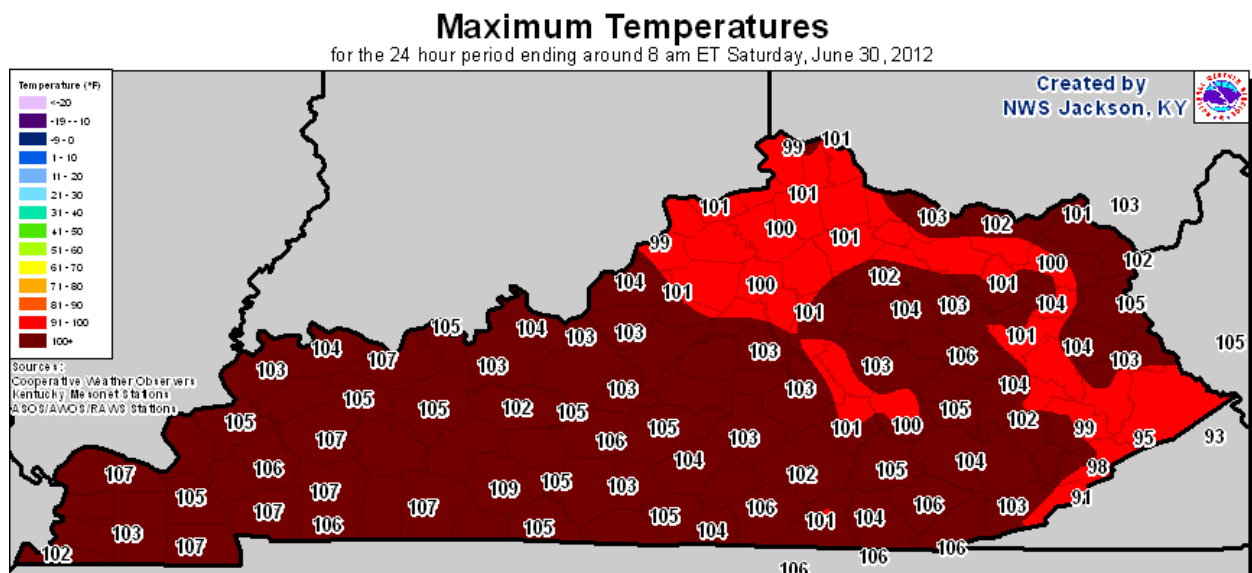
For more info.: [January 22-23, 2016 Winter Storm](#)

3. June 28-July 1, 2012 Early Summer Heat Wave:

A heat wave for the record books occurred across the Bluegrass State between June 28 and July 1, 2012. The intensity of the heat rivaled the historic heat waves of the 1930s Dust Bowl.

After beginning the heat wave on Thursday, June 28th, with most locations reaching near 100°F, the mercury soared past 100 degrees across most of east Kentucky on Friday June 29th establishing **new all-time record highs** at both the National Weather Service in Jackson and at the London-Corbin Airport. At Jackson, the temperature climbed to **104°F** on the 29th of June, establishing a new all-time record high for the station. The previous all-time record high at Jackson was 101°F set last on August 18, 1988. Climate records at NWS Jackson date back to 1981. At the London-Corbin Airport, where records began in 1954, the temperature climbed to **105°F**, also establishing a new all-time record high for the station. The previous all-time record high at London was 102°F set on August 16, 2007.

Friday's record heat was punctuated by severe thunderstorms across parts of northeast Kentucky, and damaging gust front winds for many locations. For east Kentucky, many stations climbed to or exceeded 100°F degrees for 4 straight days. Such a streak hasn't happened since the 1930s.



The map indicates the hottest day during this heat wave

The following table shows the record highs for June, July, and August for several ASOS and Cooperative Observing Stations in east Kentucky. Items in red are new records established in 2012. Note that Cooperative Observing Stations report to the National Weather Service each morning, reporting their high temperature for the previous 24 hours. Several stations not only established new record highs for the month of June, but all time record highs as well.

Location	Record High for June	Year(s) for June Record	Record High for July	Year(s) for July Record	Record High for August	Year(s) for August Record	Period of Record
Barbourville	106 (All Time Record)	2012	105	2012	102	1983 1954	1950-2012
Baxter	103 (All Time Record)	2012	101	2012	101	1983	1952-2012
Farmers	104	1936	105	1999, 1954, 1936, 1930	106	1936	1904-2012
Jackson	104 (All Time Record)	2012	101	1988	101	1988	1981-2012
London	105 (All Time Record)	2012	101	2012, 1999, 1988	102	2007	1954-2012
Middlesboro	108*	2012*	112	1930	109	1925	1892-2009
Monticello	105 (All Time Record)	2012	104	2012	103	1988	1956-2012
Mount Sterling	104	2012	109	1930	105	1936	1982-2012
Mount Vernon	101	2012	102	1980	102	1983	1956-2012
Somerset	103	2012	103	2012, 1952	104	2007	1950-2012
West Liberty	107	1994	103	1999, 1988, 1952	103	1953	1905-1908 1948-2012
Williamsburg	106	2012	107	1934	108	1936	1892-2012

* This is an unofficial temperature from the Middlesboro AWOS. The official cooperative weather observational record for Middlesboro ended in 2009. The Middlesboro AWOS reached 108 degrees on June 29, 2012, and the Yellow Creek RAWS station at Cumberland Gap National Park just outside Middlesboro reached 106 degrees. The official record high for June

for Middlesboro (based on cooperative weather observations) continues to be 102 degrees from 1933.

Of special note are temperature records broken from the decade of the 1930s. During the Dust Bowl years of the 1930s Kentucky experienced its greatest heat waves on record. Stations which have records going back to the 1930s include Williamsburg (this includes a station move in 2004), Middlesboro, Mount Sterling, and Farmers.

Williamsburg's record of 106 degrees from June 29 broke the old June monthly record of 105 degrees set in 1936. Mount Sterling's high temperature of 104 from June 29 broke the June monthly record of 103 set in 1934. Farmers reached 103 degrees on June 29, just missing their June record high of 104 degrees set in 1936.

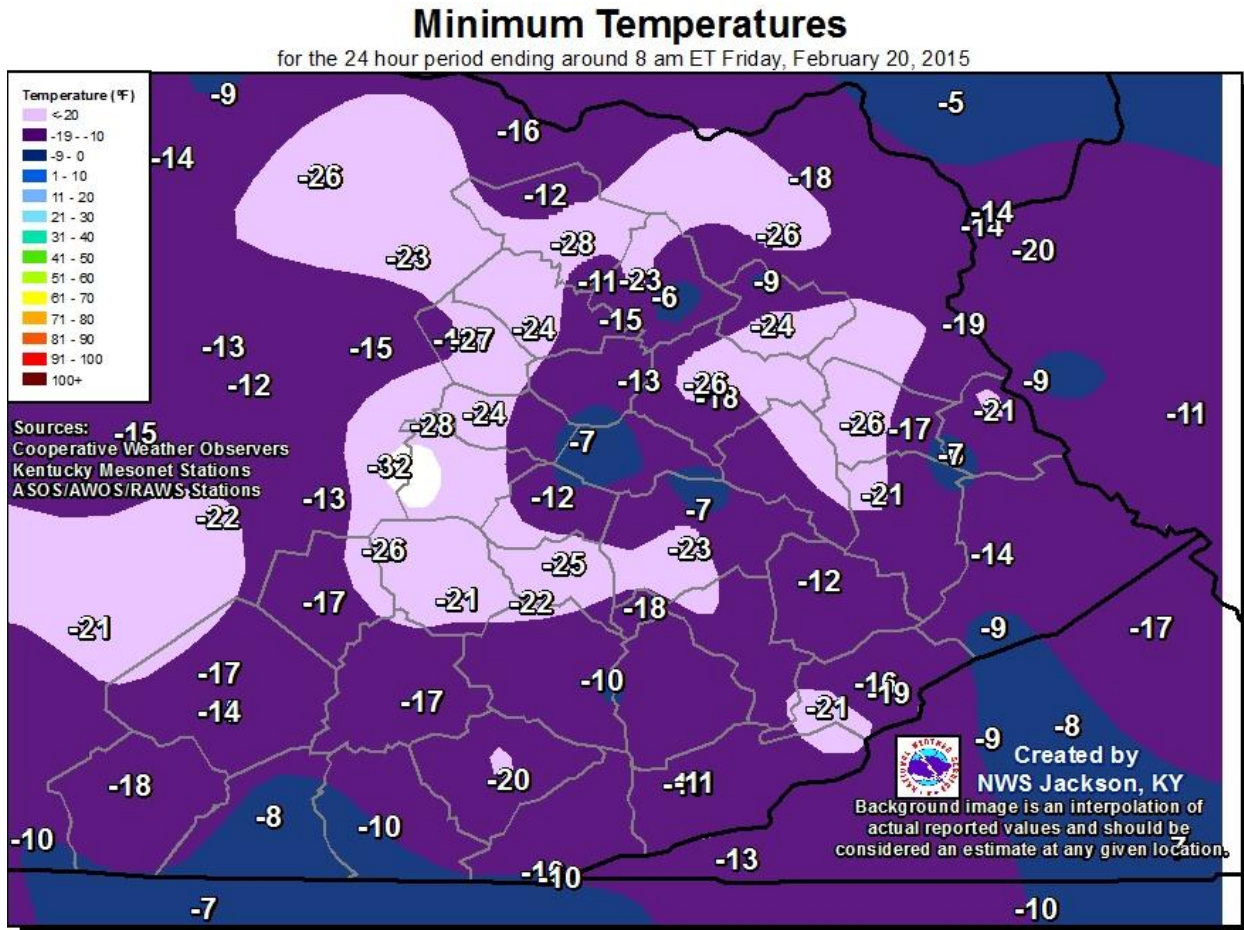
For more info.: [June 28-July 1, 2012 Early Summer Heat Wave](#)

4. February 20, 2015 Frigid Morning Sets Record Lows:

Arctic high pressure combined with a deep snow pack to produce some of the coldest temperatures since January 1994. Several locations fell to 20 below zero and colder on the morning of the 20th, temperatures not observed during the month of February in east Kentucky since 1899.

The coldest reported temperatures within our county warning area were at Cressy in Estill County and Hillsboro in Fleming County, both reporting 28 below zero. The London-Corbin Airport fell to 17 below zero, which established a new all-time February record low temperature. The previous record low for the month was 11 below zero set on February 1, 1971. Records for the London-Corbin Airport date back to 1954. NWS Jackson, recorded a low of 7 below zero. While this established a new record low for the date, and is also the coldest temperature recorded so late in the season, it did not set a new monthly record low temperature. That record remained intact at 8 below zero, set on February 4, 1996. Climate records for Jackson date back to 1981.

Here is a summary of low temperatures that were observed on the morning of February 20, 2015:

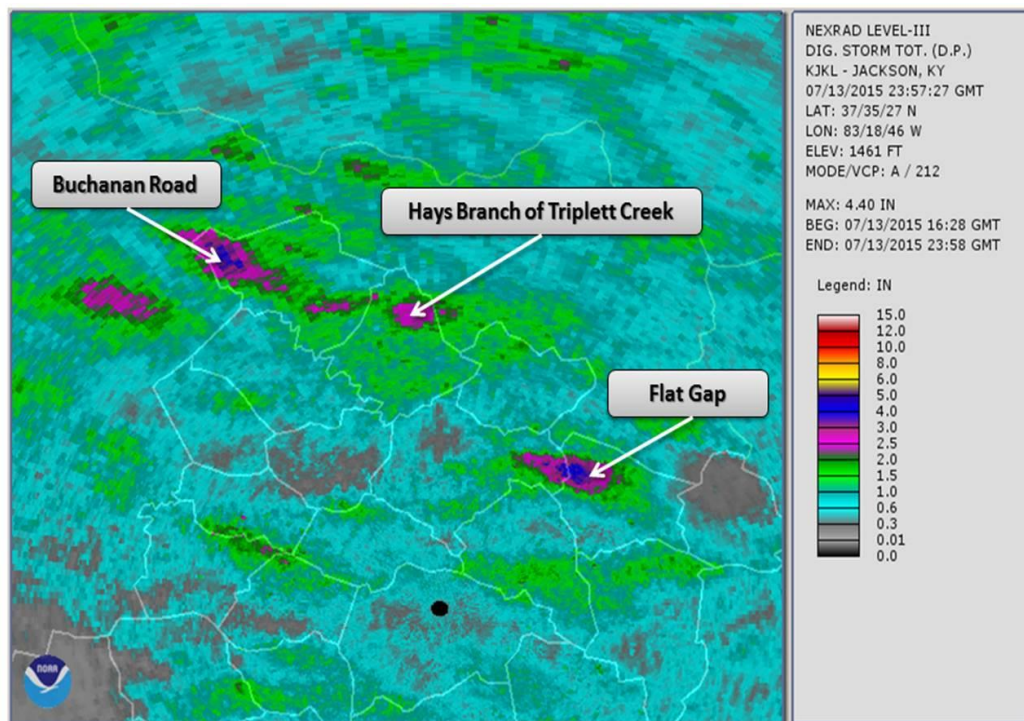


For more info: [February 20, 2015 Frigid Morning Temperatures](#)

5. July 13-14, 2015 Widespread Wind Damage and Deadly Flash Flooding:

Widespread wind damage and deadly flash flooding occurred across east Kentucky as 3 distinct waves of heavy rain and thunderstorms affected the area from Monday afternoon, July 13th through Tuesday evening, July 14th.

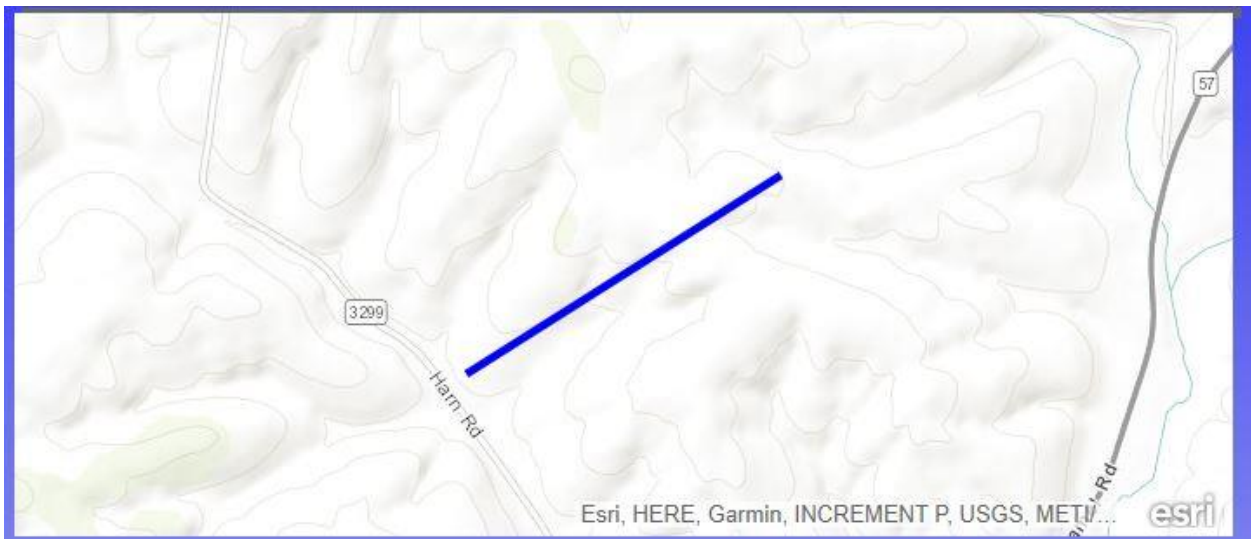
The first rounds of thunderstorms caused severe flash flooding in 3 areas, the Flatgap/Redbush communities of Johnson County, Hays Branch of Triplett Creek in Rowan County, and Buchanan Road in Fleming County. The hardest hit area was the Flatgap/Redbush community, where devastating flash flooding occurred late Monday afternoon along Big Mudlick Creek and Ramey Branch. Four fatalities occurred and over 50 swift water rescues were performed in this area. Entire double wide mobile homes were seen floating down Big Mudlick Creek and getting forced under a bridge. More than 150 homes were destroyed with as many as 500 homes being affected to some extent. While no rain gauges were located in this hard hit area, radar estimates indicate that around 3 inches of rain fell in an hour with brief rainfall rates of 6 to 7 inches per hour falling. Additional flash flooding



Radar Estimated Storm Rainfall Total through 8 p.m. EDT July 13, 2015

occurred in Rowan County along US 60E northeast of Morehead where a CoCoRaHS observer measured 2.02 inches of rain in 30 minutes. This caused extensive flooding of Hays Branch of Triplett Creek.

With the ground already saturated, the next two rounds of storms overnight Monday night and then during the afternoon and evening hours on Tuesday caused additional flash flooding and wind damage across a widespread area. Storms Tuesday afternoon produced a 6.5 mile long swath of concentrated wind damage north of Flemingsburg, KY which demolished a mobile home and injured four people as winds reached 100 mph. No deaths were associated with these straight line winds. An EF1 tornado touched down briefly inside this larger path of damaging straight-line winds.



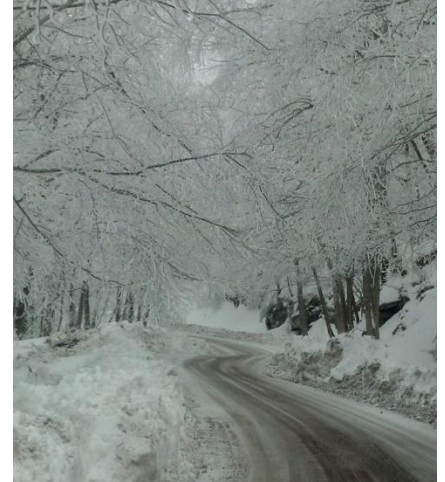
Tornado Path Graphic Courtesy of Mississippi State University

For more info:

[July 13-14, 2015 Widespread Wind Damage/Deadly Flash Flooding](#)

6. February 21, 2015 Winter Storm and Flooding:

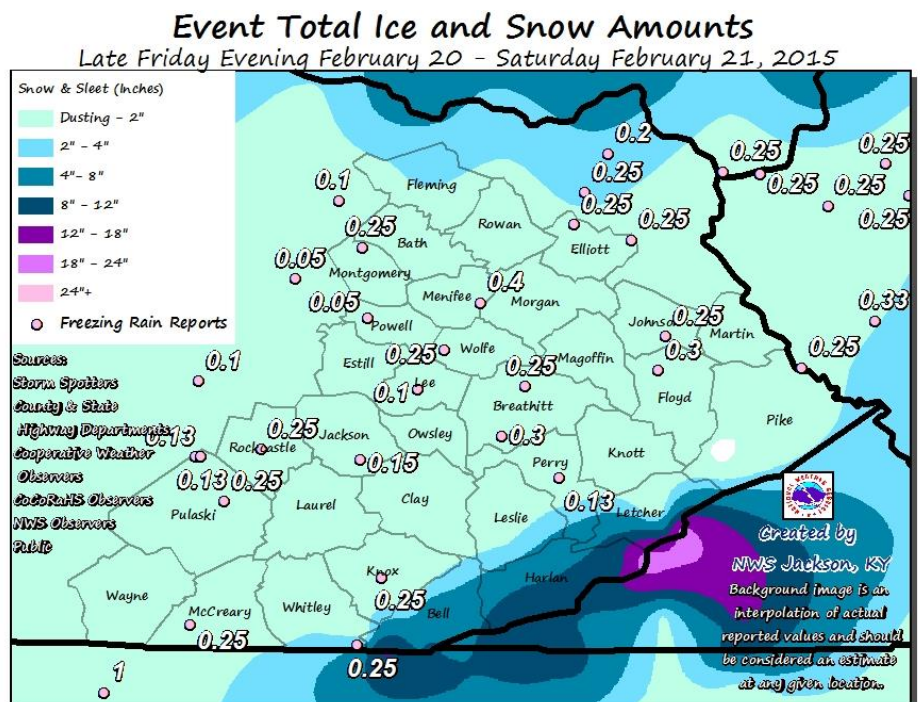
A complex and very strange winter storm unfolded across east Kentucky overnight Friday February 20th (Number 4 on our list) into Saturday February 21st. By the time all was said and done, east Kentucky had endured a wintry mix of snow, sleet and freezing rain, followed by heavy rainfall and flooding caused by ice jams, and several cases of roof collapses from the weight of the snow, ice and rain.



HWY 160 Lynch Mountain Rd.
Courtesy of Tim Stanley

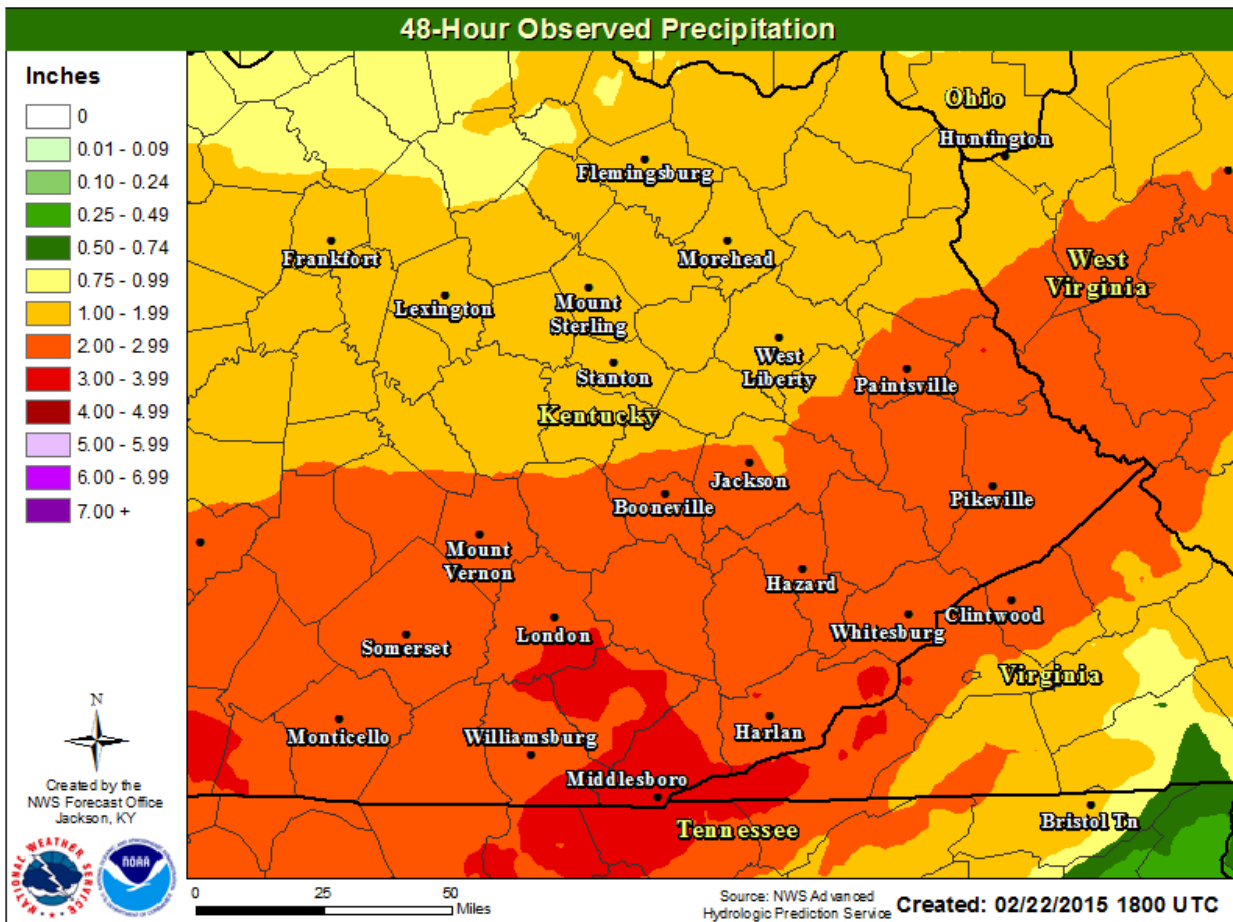
The precipitation began as snow and sleet, but quickly turned over to freezing rain during the early morning hours on Saturday as a thin layer of warm air moved over the area a couple thousand feet above the ground. Even though the temperatures warmed above freezing in most locations, freezing rain continued as ground temperatures remained below freezing into the day on Saturday. This created very hazardous driving conditions. In some areas, plow trucks equipped with chains were forced to pull off the road and wait for conditions to improve. The warm layer of air above the ground wasn't able to filter over Pine Mountain, and the bulk of the precipitation fell as a heavy wet snow east of the Pine Mountain ridge, including most of Bell County, Harlan County and parts of

Letcher County. Here's a look at the final snow and ice accumulations from this event...



The heavy amounts of snow, ice and rain fell onto a snow pack that approached a foot in some areas due to the previous snow events earlier in the week. The added weight caused several roofs to collapse, especially in Bell and Harlan Counties, and scattered instances of roof collapses in other areas.

Below is a map of estimated rainfall amounts and liquid content of melted snow and ice which fell across east Kentucky during the event:



This rain and melted snow flowing into ice clogged rivers and streams caused ice jams and flooding to occur in many areas. An "ice tide", or surge of ice filled water, then traveled down the rivers Saturday night into the day on Sunday. More research is needed, but these "ice tides" are very rare in east Kentucky with only one other event found to have occurred in the historical record so far. That event occurred after the very cold winter of

1918 when an "ice tide" was observed on the Levisa Fork of the Big Sandy River at Pikeville.



An ice jam caused this creek to overflow stranding a vehicle in the Minnie Community of Floyd County.
Courtesy of WYMT

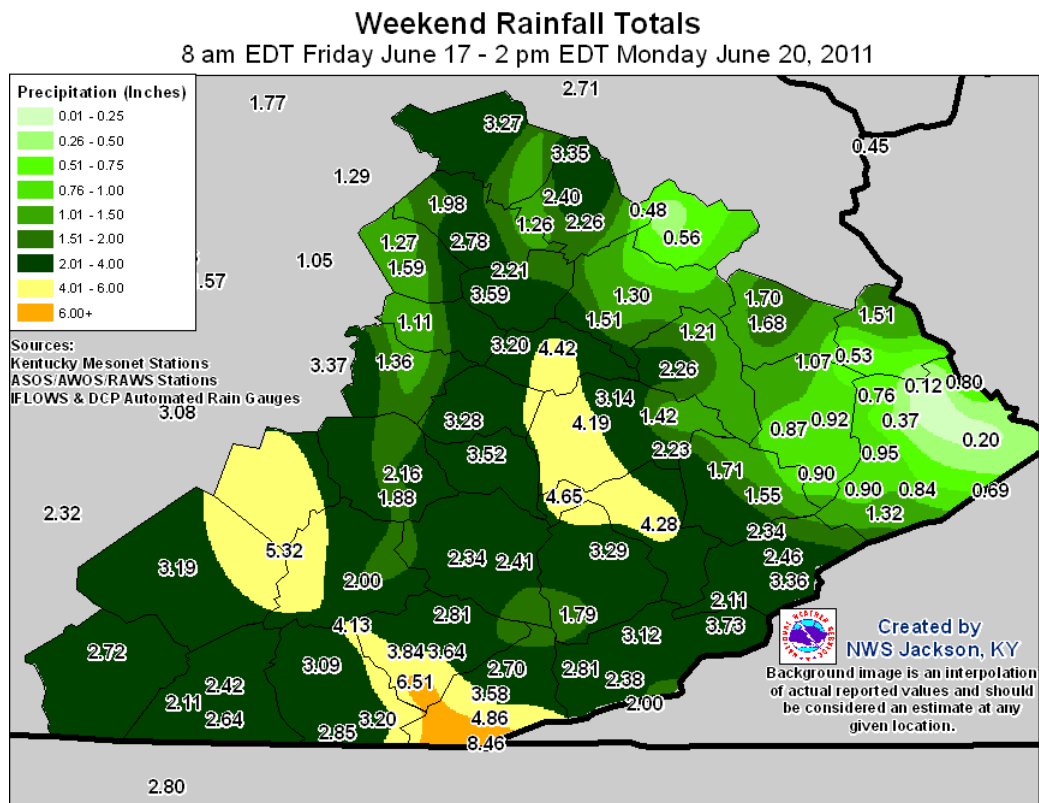
For more info.: [February 21, 2015 Winter Storm and Flooding](#)

7. June 20, 2011 Bell County Flash Flood:

Prior to the morning of Monday June 20th, a series of rainy days had primed local creeks and streams, setting the stage for what would be one of the worst flash floods to impact east Kentucky, and the most significant event of 2011.

A warm front lifting north through east Kentucky on the 19th triggered an outbreak of strong thunderstorms during the afternoon and evening, leaving an outflow boundary across a portion of southeast Kentucky heading into the overnight hours. This boundary would provide the focus for another round of nocturnal thunderstorms which began training along this boundary.

The 24 hours rainfall totals through 2 PM on Monday June 20th, combined with the rainfall totals over the previous weekend illustrates the amount of rainfall which led to the devastating flooding.



Among the hardest hit areas was the community of Kayjay in southern Knox County, where 1 death was attributed to the flooding when a trailer was swept off of its foundation. Middlesboro in Bell County was also among the areas which were severely impacted, in what many residents called the worst flooding in 20 years. Dozens of roads were inundated around east Kentucky, with numerous water rescues throughout Bell, Knox, Whitley and Perry counties during the early morning hours.



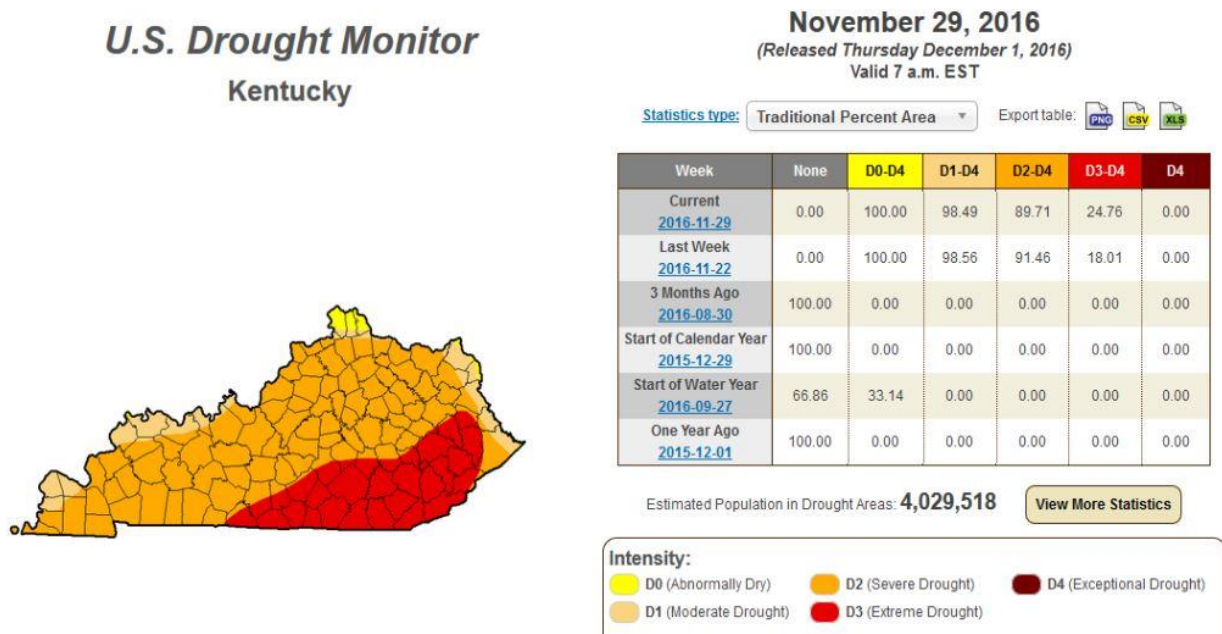
Downtown Middlesboro
Photos courtesy of Betty Jones



For more info.: [June 2, 2011 Bell County Flash Flood](#)

8. November 2016 Drought and Wildfires:

An abnormally dry start to the autumn season in September and October continued through the majority of November. Rainfall deficits of 4-6 inches during this timeframe sparked the introduction of severe drought across almost all of east Kentucky by the second and third weeks in November. Extreme drought also developed across much of the Cumberland Valley toward the end of November as the 4th driest fall on record was recorded at both Jackson and London. The fall of 2016 was the warmest on record across east Kentucky.



Early impacts ranged from farm ponds drying up and low streamflow in southern Kentucky to a few cities, such as Salyersville, mentioning possible water supply issues without significant rainfall by the end of November. Several farmers also mentioned the early consumption of hay by cattle, possibly leading to a shortage into the winter.

Wildfire activity began to rapidly increase across east Kentucky, especially southeast Kentucky, by late October. The Kentucky State Emergency

Operations Center was activated on November 3rd as at least five wildfires flared up across Harlan County, while three schools in Pike County were forced to close due to dense smoke. A state of emergency was later declared by the governor on the 3rd after meeting with the Kentucky Division of Forestry.

Impacts from as many as 41 wildfires at any one time became numerous rather quickly as nearly 500 personnel from the Kentucky Division of Forestry, Kentucky Fire Commission, Natural Resource Conservation Services, the Kentucky National Guard, and American Red Cross were deployed to southeast Kentucky to assist local fire departments in fighting wildland fires. Crews battled the flames from both the ground and air as the Kentucky National Guard mobilized six UH-60M Black Hawk helicopters equipped with 600-gallon buckets and two LUH-72 Lakotas, dumping nearly 2 million gallons of water over approximately 50,000 acres.

One fire in Harlan County was responsible for consuming 7,400 acres on Pine Mountain. Kentucky Highway 1679 (Little Shepherds Trail) in Harlan County was closed to all traffic, except emergency vehicles, from Swap to the entrance of Kingdom Come State Park, while a portion of the Red River Gorge in the Daniel Boone National Forest was closed for several days along Tunnel Ridge Road north of Mountain Parkway. Numerous other roadways were closed as burned trees toppled over and smoke produced reduced visibilities. On the morning of November 16th, near-zero visibilities developed on Mountain Parkway just east of the Slade exit as smoke became extremely dense at ground level. A 12 car pileup resulted, injuring approximately 20 people and causing one fatality as a man stepped out of his coal truck to help others. Mountain Parkway was closed for over 10 hours between exits 22 and 40. One home was burned down in Knott County, while smoke and flames endangered several additional homes near Putney and Cumberland in Harlan County. Sadly, one firefighter passed away after being injured battling a late October brushfire near Beverly in Bell County.

The city of Jackson and the National Weather Service office were also impacted by nearby wildfires and smoke, including the Eagles Nest Fire.

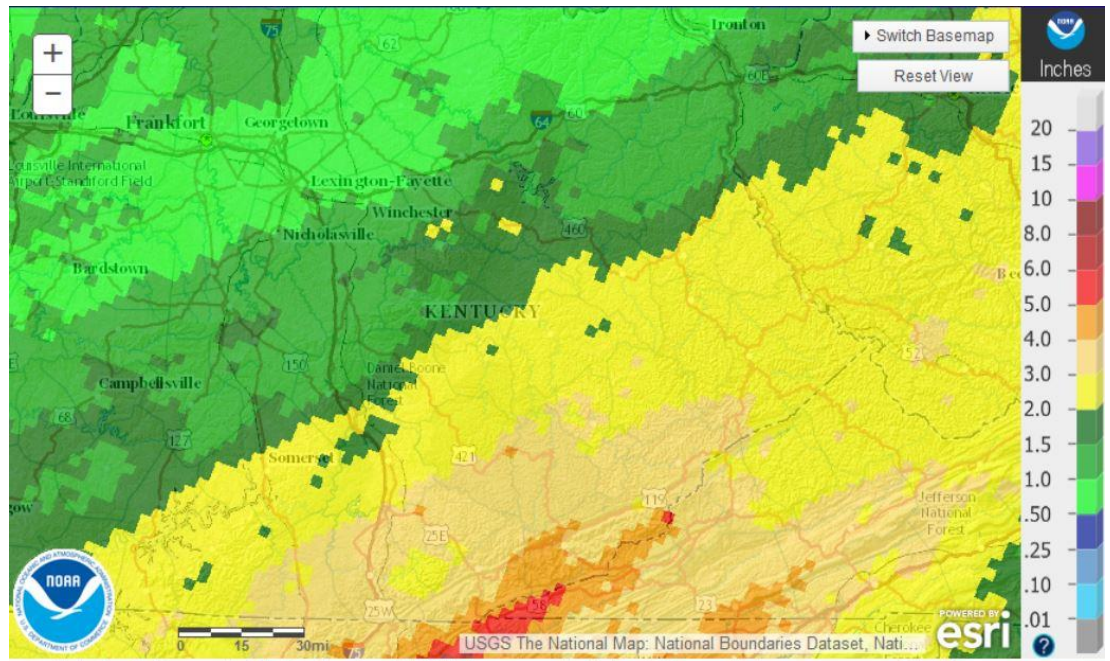
Burn bans were eventually issued for all 33 counties in east Kentucky, helping the state of Kentucky receive a Fire Management Assistance Grant from FEMA Region IV to



A wildfire burns near Jackson, KY

support continuing fire operations in southeast Kentucky. These continued until November 28th when the Kentucky Division of Forestry, National Guard, and Kentucky Fire Commission were demobilized as increasing moisture filtered into east Kentucky prior to resulting in widespread rainfall amounts of 1-4 inches.

Rainfall amounts across east Kentucky from the 28th – 30th



For more info.: [November 2016 Drought and Wildfires](#)

9. March 1, 2017 Damaging Winds:

A powerful storm system moved across the Ohio Valley during the evening of Tuesday, February 28, 2017 through the morning hours of Wednesday, March 1, 2017. Numerous tornado, damaging wind, and large hail reports occurred from the lower Great Lakes through the Tennessee Valley. There were copious occurrences of damaging wind gusts across east Kentucky as a squall line of thunderstorms pushed through from northwest to southeast Wednesday morning.

Numerous reports of storm-related damage were received related to trees down across roads. Several commercial, residential, and manufactured structures sustained damage, including significant roof damage or roofs blown off. The potent winds overturned a number of vehicles and manufactured structures, while tens of thousands of power outages occurred due to downed utility poles. Additionally, minor roof damage was sustained at the National Weather Service Office in Jackson.

The strongest estimated winds occurred near Winston in Estill County, where a downburst led to an approximate 100 mph gust. Vehicles and buildings sustained severe damage. A man was injured by flying glass as he attempted to shut the front door of his home. A vehicle was rolled over by the wind, and roof damage also occurred to several structures with a garage being completely destroyed. Several large trees were also uprooted.



Structural damage at Winston in Estill County.
Courtesy of WKYT

For more info.: [March 1, 2017 Damaging Winds](#)

10. July 17, 2010 Deadly Flash Flooding in Pike County:

A series of thunderstorms caused widespread flash flooding across portions of Pike County on the evening of July 17, 2010. Initially, thunderstorms developed and moved into the area about 4 pm in the afternoon. Thereafter, thunderstorms redeveloped and moved repeatedly over the same locations, producing the flash flooding.

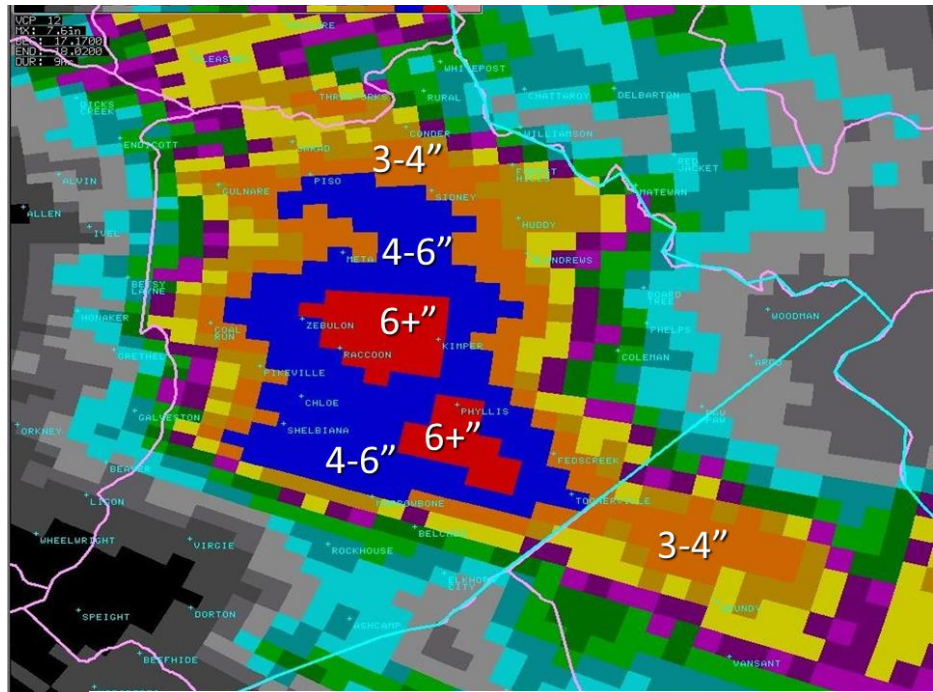
The National Weather Service Office in Jackson, Kentucky issued its first flash flood warning of the day at 7:57 pm as thunderstorms producing very heavy rainfall continued to move through central Pike County.

Tragically, the flash flooding was directly, or indirectly responsible for 2 fatalities. Best estimates indicate that between 3

and 7

inches of rain fell across central portions of Pike County between 4 pm Saturday afternoon and 1 am Sunday morning, with the bulk of the rainfall occurring between 5 pm and 10 pm Saturday.

For more info.: [July 17, 2010 Deadly Flash Flooding in Pike County](#)



Radar estimated rainfall from 1 p.m. to 10 p.m.
Saturday, July 17, 2010

Honorable Mention:

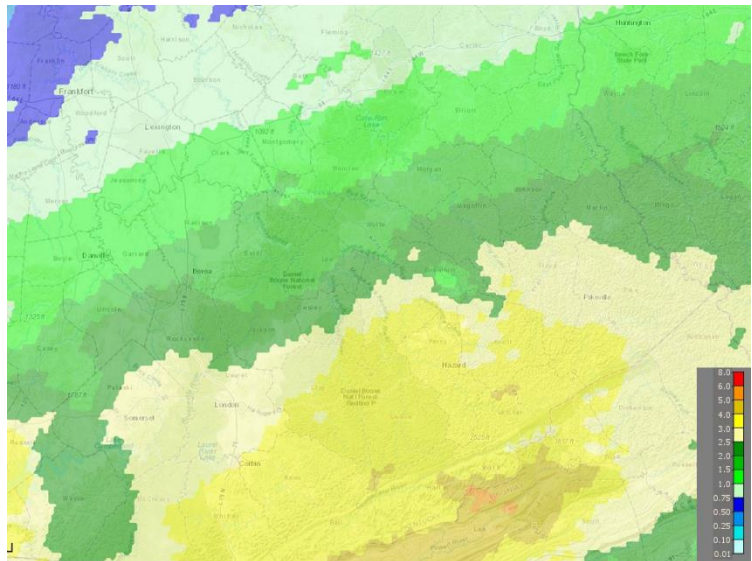
Although this event did not make the Top Ten of the Decade, we did think it worthy of an honorable mention:

February 10 – 11, 2018 Flooding:

A prolonged period of light to moderate rain led to flooding across portions of east Kentucky, particularly southeast Kentucky. The rain began during the overnight hours of Friday, February 9 into Saturday, February 10, 2018. This occurred along and ahead of a slow moving frontal boundary as generally

between 1.5 and 4.5 inches of rain fell across east Kentucky.

The hardest hit area was Harlan County, where flooding occurred across much of the county as up to 5.5 inches of rain fell. A state of emergency was declared as the Cumberland River at Baxter reached major flood stage, prompting the closure of all of the city of Harlan's floodgates. The floodgate for the city of Pikeville was also closed as the Levisa Fork of



Rainfall amounts from the night of February 9 through February 11, 2018

the Big Sandy River breached 38 feet. Additional emergency declarations were made in Bell, Clay, Floyd, Knott, Knox, Leslie, Letcher, and Perry Counties, as well as for the city of Pineville, as numerous tributaries and the main stems of the Kentucky, Cumberland, and Levisa Fork of the Big Sandy Rivers exceeded bank full.

Nearly 2,200 power outages were blamed on the widespread flooding, while thousands of boil water advisories were issued as shelters were opened to provide water. Several bridges were also inspected by engineers for structural integrity as

the flood waters receded. A number of water rescues took place during the weekend and into Monday morning, including nearly half a dozen in and around Hazard. Hundreds of people were forced from their homes as river flooding along portions of the Kentucky and Cumberland Rivers continued well into the following week. In addition, the saturated ground led to several landslides and mudslides, including one along Kentucky Highway 74 near Middlesboro.



Flooding along Straight Creek in Bell County. Courtesy of Ashley Beach

For more info.: [February 10-11, 2018 Flooding](#)