

## **4.2 Winter Storm Events**

### **Snowstorms and Blizzards**

Snow storms and blizzards are a common winter event in South Central Kentucky. These storms bring the added dangers associated with high winds and sustained heavy snowfall, typically over a prolonged period of 12 hours to 3 days. Limited travel is expected, as well as potential disruptions to utilities and other services. High winds (>35 mph) associated with blizzard conditions may also make travel difficult, if not impossible, due to limited visibility and drifting snow.

Winter storms originate as mid-latitude depressions or cyclonic weather systems, sometimes following the path of the jet stream. A winter storm or blizzard, combines heavy snowfall, high winds, extreme cold and ice storms. Many winter depressions give rise to exceptionally heavy rain and widespread flooding and conditions worsen if the precipitation falls in the form of snow. The winter storm season varies widely, depending on latitude, altitude and proximity to moderating influences.

The occurrence of large snowstorms, ice storms and severe blizzards can have a substantial impact on communities, utilities and transportation systems, often resulting in the loss of life due to accidents of hypothermia. Heavily populated areas are at high risk because the severe weather can cause communication and power lines to go down. High levels of snow can accumulate, building faster than it can be cleared and heavy icing can impact utility systems and transportation routes. Damage to buildings often occurs in areas where the normally anticipated snowfall depths are not considered in building codes. Roof collapses damage residential, commercial and industrial structures.

The degree of exposure to severe winter storms depends on the normal severity of the region's winter weather. Nearly the entire United States, with the exception of the extreme southern states, Hawaii and the U.S. territories can be affected by severe winter storms. Alaska, the Upper Midwestern and Northeastern states tend to be more susceptible than others, but generally these regions are better prepared for severe winter weather. The regions where extreme winter weather is less common tend to experience more damage and disruption when the storms hit.

In addition to the hazards posed by all natural disasters, winter storms have the added hazards associated with cold weather for prolonged periods of time. Unlike disasters typically occurring during the summer months such as hurricanes, tornadoes and forest fires, power outages may result in extended periods of no heat. The resulting prolonged contact with low temperatures can cause causing pipes to freeze and burst, thereby damaging homes and businesses. Icy or snow covered roadways may also lead to added traffic accidents and resultant injuries. Winter storms may also pose added health problems, particularly to members of the community most susceptible to the added strain of contact with freezing temperatures such as the very young or elderly. Heart attacks while shoveling snow may also occur in susceptible individuals.

Winters with heavy snowfalls may also lead to spring flooding events as a result of snowmelt runoff, particularly if unseasonably warm conditions occur when substantial snow remains

on the ground. This can lead to rapidly melting snow, potentially causing Regionalized flooding.

### **Ice Storms**

Ice storms occur when rain falling on tree branches and the ground freezes on contact, leading to ice buildups. These events are somewhat less common, but also have the ability to cripple access to utilities on elevated poles such as electric and telecommunications, and limit transportation as a result of downed trees and icy roadways. According to the National Climatic Data Center (NCDC), Bristol County has experienced 8 ice storms from 1971 through 2009<sup>26</sup>, occurring most frequently in late December and early January.

### **Ice Jams**

Ice jams can also cause hazards, either by a downstream portion of the river freezing and backing up flowing water to the north, or by the breaking up of an ice jam, causing large pieces of ice to flow downriver and possibly damage property and infrastructure. Although ice jams are possible, the United States Army Corps of Engineers Ice Jam Database does not indicate a single occurrence in Lake Cumberland Region over the past 100 years. Due to the relatively small rivers flowing through the Region and its relatively mild winters, ice jams are not expected to occur.<sup>28</sup>

### **Lake Cumberland Region History – Severe Winter Snow/Ice Storm**

NOAA's National Centers for Environmental Information is now producing the Regional Snowfall Index (RSI) for significant snowstorms that impact the eastern two thirds of the U.S. The RSI ranks snowstorm impacts on a scale from 1 to 5, similar to the Fujita scale for tornadoes or the Saffir-Simpson scale for hurricanes.

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<sup>28</sup> [U.S. Army Corps of Engineers](http://rsgisias.crrel.usace.army.mil/apex/f?p=524:9:0::NO); Ice Jam Database Ice Jam Map; <http://rsgisias.crrel.usace.army.mil/apex/f?p=524:9:0::NO>

**Table 4.2(1) – Regional Snowfall Index (RSI)**

Category	RSI Value	Description
1	1–3	Notable
2	3–6	Significant
3	6–10	Major
4	10–18	Crippling
5	18.0+	Extreme

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No data was rated with the RSI Index that we could locate.

### Average Annual Snowfall in South Central Kentucky

The tables below give yearly averages for snowfall at cities, towns and parks in Kentucky. The numbers are for the total amount of snow and for how many days it snows at least 0.1 inches (0.25 centimeters). The snowfall totals are annual averages based on weather data collected from 1981 to 2010 for the NOAA National Climatic Data Center.

**Table 4.2(2) 1981-2010 Average Total Snowfall For A Year**

Days	Place	Inches	Centimeters
4.3	Barren River Lake	6.4	16.3
6.0	Bowling Green	8.9	22.6
2.8	Mammoth Cave	5.5	14.0
13.3	Monticello (Lake Cumberland Region)	14.8	37.6
4.2	Nolin River Lake	4.2	10.7
4.5	Stearns (Lake Cumberland Region)	9.2	23.4

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On average, Lake Cumberland Region receives approximately 12.0 inches of snow per year.

### The Great Ice Storm of 1951

Leading up to January 31, 1951 an unusually strong high-pressure system began pulling cold, polar air into the region. Meanwhile, as a strong low-pressure system moved along a cold front that stretched from the Gulf of Mexico toward the Northeast, sleet and freezing rain spread over much of the South beginning on the 31st. A rawinsonde reading from Nashville, Tennessee at 21:00 CST on the 30th indicated that temperatures at the surface were well below freezing: about -8°C, with a northeast wind. However, at just 5,000 feet above the surface, winds were from the southwest and the temperature was well above freezing: closer to 9°C. This set up a perfect environment for freezing rain to develop.

<sup>29</sup> NOAA's National Centers for Environmental Information; <https://www.ncdc.noaa.gov/snow-and-ice/rsi/?nesis>

<sup>30</sup> Current Results Weather And Science Facts; <https://www.currentresults.com/Weather/Kentucky/annual-snowfall.php>

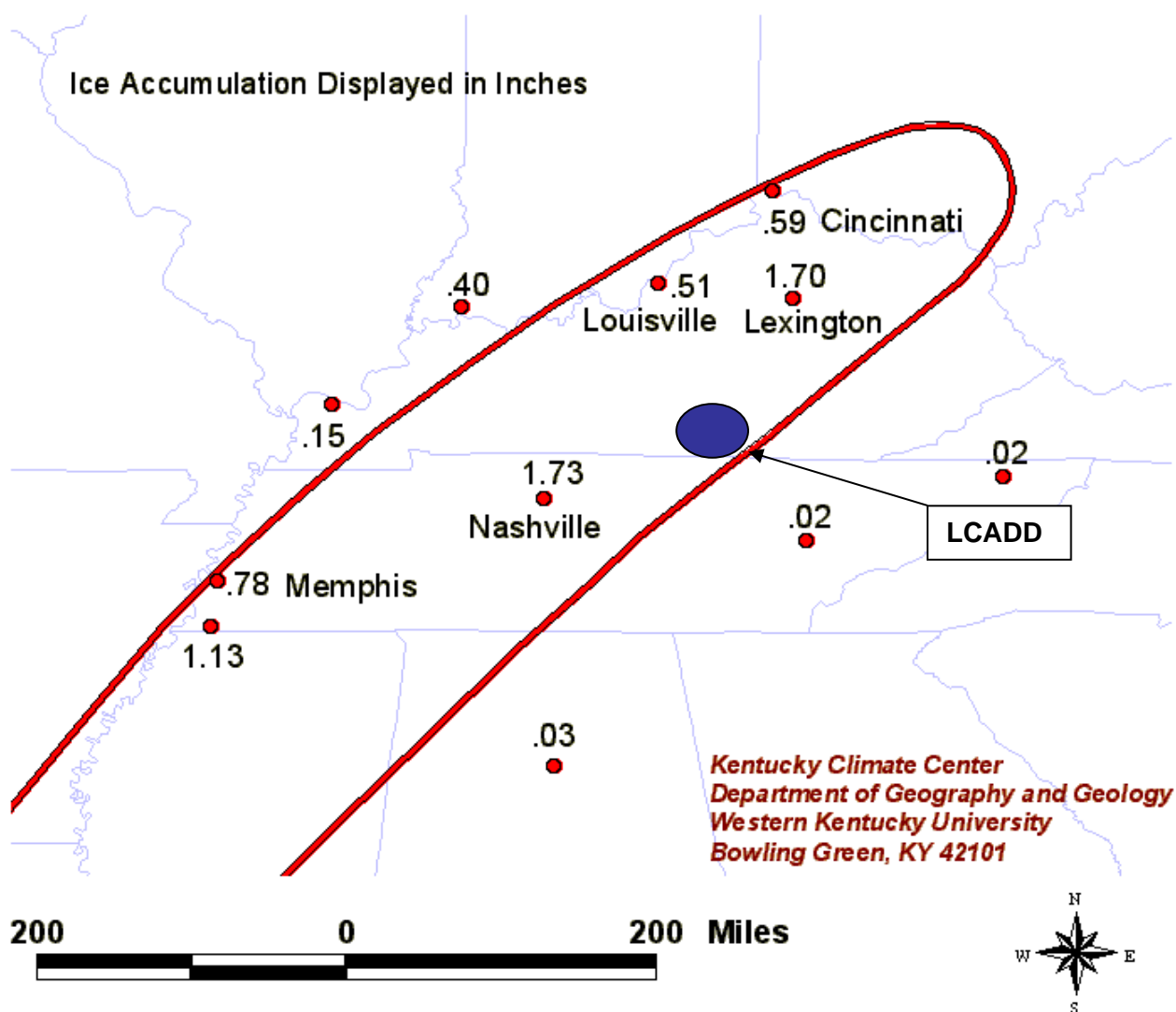
On January 31, nearly three inches of snow and sleet had covered Bowling Green, KY. Traffic was brought to a standstill. By noon, the snow had turned to rain as warm air aloft had moved over the region. But with the surface temperature standing at 28°F the rain froze upon impact. Bulldozers were used in an effort to scrape off the ice, but they proved to be of little use. Nashville recorded 3.83 inches of precipitation with five inches of snowfall. By the afternoon the temperature warmed just enough to turn some of the ice to slush, a sign that the situation might be improving.

Instead, as the next morning ushered in February, conditions worsened. The temperature started to plummet, reaching -1°F before day's end. In southern Kentucky, seven inches of new snow fell. By now, travel had become virtually impossible. Eastern Air Lines cancelled flights for three days. Only two of 28 scheduled Greyhound buses arrived in Bowling Green the day after the storm hit. Trains of the Louisville & Nashville Railroad were as much as two days behind schedule. Tree limbs cracked and fell on power lines strained by the weight of accumulated ice resulting in the loss of electricity throughout the region. Fortunately, most homes in 1951 were not as reliant on electricity as they are today, and many people were able to at least restore heat to their homes.

Conditions had changed by February 2, but not necessarily for the better. While the storm had abated, record cold gripped Kentucky and Tennessee. At 4:45 a.m., Bowling Green recorded a temperature of -20°F, the coldest official temperature ever recorded up to that time. It was -13°F in Nashville. Meanwhile, the storm left nine inches of snow and sleet on the ground in southern Kentucky and eight inches in middle Tennessee. Crews had already worked for 48 straight hours trying to restore power and phone lines. Transportation was still halted. Water pipes leading to residents' houses burst due to the excessive cold. One man reported that after standing in front of a heater for a few minutes, he walked outside and the buttons on his overcoat shattered instantly. The Western Kentucky Gas Company reported that it expected record consumption of gas. Some trains were running two days late. Ten days later the area still had not recovered from the ice and snow.

The Great Ice Storm of '51 covered the south in a linear path of ice from Louisiana to Ohio. The heaviest accumulations fell in a line from Memphis, Tennessee to Nashville and northeastward to Lexington. At that time it was the costliest winter storm on record, causing an estimated \$100 million in damage. The impact on forest, livestock, crops, and fruit trees was responsible for over \$64 million of that total. An estimated 25 people lost their lives across the storm-affected area, and 500 were injured.

## Area Most Affected by The Great Ice Storm of 1951



Fortunately, ice storms of this magnitude are not common. Until 1951, the only recorded storm of similar magnitude had occurred in February 1899, some 52 years prior. According to a report published by the U.S. Army Corps of Engineers, the region can expect a storm producing  $\frac{3}{4}$  inch of ice load with a concurrent three second gust wind speed of 30 miles per hour about once every 50 years. Since 1949, 50 ice storms with  $\frac{1}{2}$  inch of ice or more have hit somewhere in the Southeast with seven of these storms affecting Bowling Green and four affecting Nashville.

### The Winter of 1977-1978

The winter of 1977-1978 was very different from previous winters in Kentucky. There have been colder temperatures and more snowfall in other years. Nevertheless, this one featured incessantly cold temperature and memorably persistent snow cover. The table below summarizes the mean snowfall for Kentucky's four climatological divisions.

Table 4.2(3) Mean Snowfall

<b>The Mean Snowfall By Climatological Regions In Kentucky For The 1977-1978 Winter</b>				
	Western	Central	Bluegrass	Central
November 1977	3.1"	4.5"	4.5"	4.6"
December 1977	0.3"	1.7"	3.2"	3.1"
January 1978	22.0"	23.5"	22.6"	22.8"
February 1978	10.7"	10.0"	7.1"	11.4"
March 1978	4.0"	4.4"	8.8"	5.1"

Measurable snowfall was recorded somewhere in Kentucky on 19 of January's 31 days. Like the cold temperature, the snowfall persisted. Snow fell each day at Berea College from 12 through 22 January. At La Grange in Oldham County, 18 inches of fresh snow fell on top of seven inches already on the ground on 17 January with another five arriving on 20 January. That accumulation to a depth of 31 inches is the greatest on record for Kentucky. Blizzard conditions on 25-26 January caused the Kentucky State Police to close all roads except for extreme southeastern counties. The National Guard, called out on 16-20 January, was used again. Schools across the Commonwealth were closed for most of the month.

There was snow cover over Kentucky for all of February and the cold temperatures remained; snow fell somewhere in Kentucky for 12 days. Daily temperatures that dipped below freezing were reported on all 28 days at 63 stations, on 27 days at 14 stations, and 26 days at one station. The snow persisted too. La Grange had 14 days with snow depth of 18 inches or more and, by the end of the month, ten inches remained.

The total winter snowfall varied from 31.4 inches at Scottsville to 84 inches in La Grange. Days with an inch or more snow on the ground varied from 43 in Glasgow to a record setting 74 in Williamstown in Grant County.

### **Blizzard of 1993**

In Mid-March of 1993, a major blizzard struck the Eastern U.S., including parts of Kentucky.

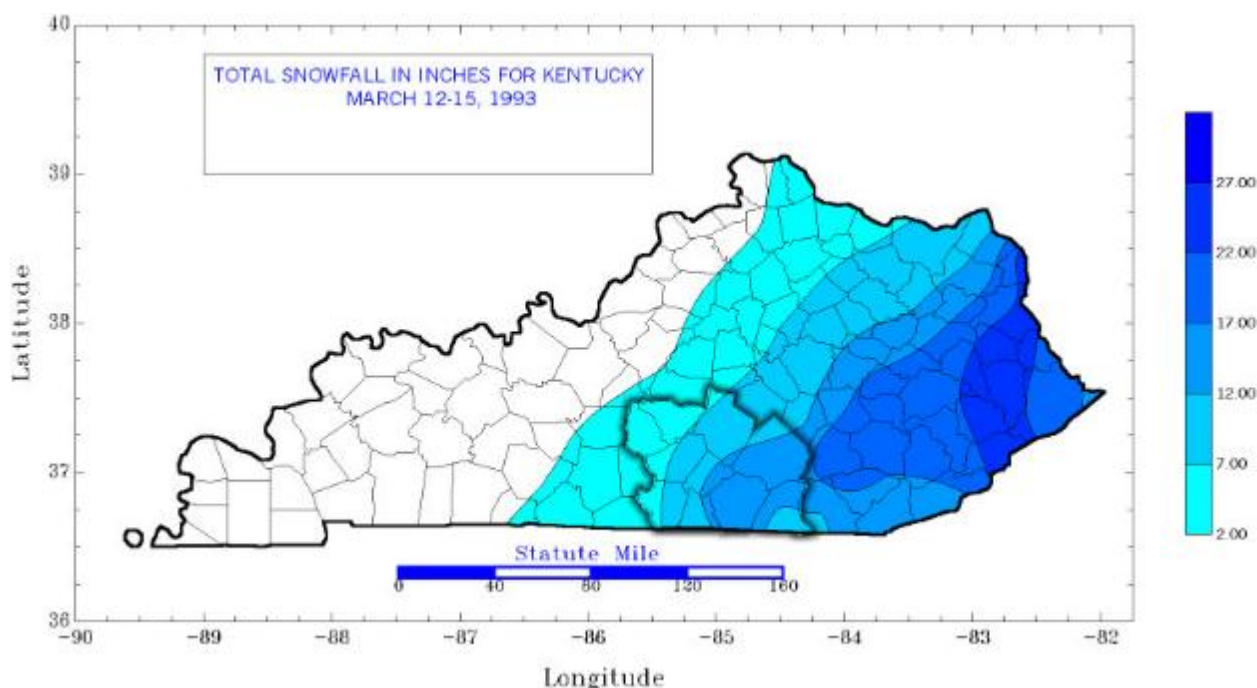
From March 12th to the 15th, 1993, what some call the "storm of the century" ravaged the eastern United States. The National Weather Service's sophisticated computer models indicated that a severe winter storm was forming in the Gulf of Mexico. Later in that same week, the NWS computer models showed that the storm was growing significantly. The storm actually formed from the combination of three different atmospheric disturbances. A major cluster of thunderstorms in the Gulf of Mexico, a band of snow and rain from the Pacific, and gusty winds with light snow from the Arctic Circle all joined over the southeast to create this historic storm (1). By Thursday, March 12th, the storm was barreling up Florida's west coast with high winds, tornadoes, and a storm surge twelve feet above normal. The next day, the storm was carving a destructive path up the southeastern states, leaving Eastern Kentucky paralyzed.

The blizzard of March 1993 was one of the largest winter storms in terms of snowfall and size in Kentucky history. Until that day, the record for a single day's snowfall had been 18 inches. This snowfall record was broken at more than one station in Eastern parts of the state (5). Most of Eastern and Southeastern Kentucky was covered with up to 30 inches of snow. London, Kentucky measured a

depth of 22 inches, while Jackson and Closplint both had 20 inches of snow on the ground. The most snow fell in Perry County, where 30 inches was recorded. Snow was not the only damaging factor in the storm. Brutal winds crossed most of Kentucky, making the cleanup effort extremely difficult. Winds up to 43 miles per hour were recorded in Pike Co., and a 30-mph clip blew over much of the state (1). The heavy snows, coupled with high winds created large snow drifts (8-10 feet in many places such as Pikeville and London) over roads and highways. I-75 from Lexington to the Tennessee border was shut down for two days, as was I-64 from Lexington eastward. All state and federal highways south of I-64 and east of I-75 were also closed. Most travel was stopped, leaving over 4,000 motorists stranded (3). Emergency shelters were established over much of Eastern Kentucky. Many found themselves sleeping in high school gyms or other public facilities. The National Guard had to be brought in to aid in rescue efforts, to clear roads, and to open twenty armories as additional shelters for motorists (3).

During the storm, 30 counties were forced to close schools and government offices. Of Kentucky's 120 counties, 73 were designated as eligible for reimbursement for the cost of emergency snow removal (3). The massive March 1993 blizzard is responsible for five deaths in Kentucky and over 270 deaths nationwide (4). The maximum snow depth recorded from the blizzard was 56 inches on Mt. Leconte in Tennessee. In Kentucky, the greatest recorded snow depth was thirty inches in Perry County (3). Record low temperatures were set stretching from the Gulf Coast all the way to Maine. For the first time, every major airport along the east coast was closed at some point due to the storm. With damage costs exceeding 1.6 billion dollars, the blizzard of 1993 is the fourth costliest storm in U.S. history. Though it was not the most severe blizzard on record, it was the largest in terms of the area it affected (4). More than half of the country's population in twenty-six different states was affected by the blizzard of 1993. In mid-March of 1993, a major blizzard struck the Eastern U.S., including parts of Kentucky.

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area it affected (4). More than half of the country's population in twenty-six different states was affected by the blizzard of 1993.<sup>31</sup>

#### **February Ice Storm (February 9-13, 1994)**

The ice storm which struck the Southeast in February 1994 resulted from a typical icing scenario: a quasi-stationary front with overrunning moisture producing freezing precipitation in colder air near the surface to the north of the front. However, this storm was very unusual in 2 respects: 1) its real extent was much greater than usually found in ice storms, and 2) The precipitation amounts were much higher than usually found in ice storm situations, with some amounts exceeding 5 inches for the event.

Overall, the storm produced over \$3 billion in damages and cleanup costs, and at least 9 deaths were attributed (directly or indirectly) to the storm. Also, well over 2 million customers were without electricity at some time, and 1/2 million were still without power 3 days after the storm. There were even some instances of residents without power for 1 month after the storm. Falling trees and limbs damaged many homes, businesses, and vehicles. Following is an account of the destruction, for Kentucky.

The south-central and southeast sections of the state were hardest hit. Ice accumulated to over 3 inches in some locations. Over 190,000 customers were without electricity at some point, with power not restored for over a week in some locations. KY also reported 150 injuries for the event--the only state to officially report a significant number of injuries. Damage estimates were placed at over \$50 million for the state.<sup>32</sup>

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<sup>31</sup> (*Kentucky Climate Center: Climate – Snow/Ice*. Accessed on May 3, 2004, at <http://kyclim.wku.edu/climate/>)

<sup>32</sup> (*NOAA-NNDC, 1994 Weather in the Southeast: February Ice Storm*. Accessed on May 3, 2004, at <http://ols.nndc.noaa.gov/plolstore/plsql/olstore.prodspecific?prodnum=C00490-PUB-A0001#FEBRUARY>)

Table 4.2(4) NOAA Storm Events Database

Search Results for Adair, Casey, Clinton, Cumberland, Green, McCreary, Pulaski, Russell, Taylor and Wayne Counties, Kentucky						
Event Types: Blizzard, Heavy Snow, Ice Storm, Winter Storm						
167 events were reported between 01/01/1996 and 07/31/2016 (24319 days)						
<i>Click on <b>Location</b> below to display details.</i>						
Location	State	Date	Type	DeathInjury	Property Damage	Crop Damage
<a href="#">CASEY (ZONE)</a>	KY	1/6/1996	Heavy Snow	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	1/6/1996	Heavy Snow	0	0.00K	0.00K
<a href="#">TAYLOR (ZONE)</a>	KY	1/6/1996	Heavy Snow	0	0.00K	0.00K
<a href="#">GREEN (ZONE)</a>	KY	1/6/1996	Heavy Snow	0	0.00K	0.00K
<a href="#">RUSSELL (ZONE)</a>	KY	1/6/1996	Heavy Snow	0	0.00K	0.00K
<a href="#">ADAIR (ZONE)</a>	KY	1/6/1996	Heavy Snow	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	1/6/1996	Heavy Snow	0	0.00K	0.00K
<a href="#">CLINTON (ZONE)</a>	KY	1/6/1996	Heavy Snow	0	0.00K	0.00K
<a href="#">CUMBERLAND (ZONE)</a>	KY	1/6/1996	Heavy Snow	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	1/6/1996	Heavy Snow	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	2/2/1996	Heavy Snow	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	2/2/1996	Heavy Snow	0	0.00K	0.00K
<a href="#">CUMBERLAND (ZONE)</a>	KY	2/2/1996	Heavy Snow	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	2/3/1998	Heavy Snow	1 (d)	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	2/3/1998	Heavy Snow	0	0.00K	0.00K
<a href="#">CUMBERLAND (ZONE)</a>	KY	2/3/1998	Heavy Snow	0	0.00K	0.00K
<a href="#">CLINTON (ZONE)</a>	KY	2/3/1998	Heavy Snow	0	0.00K	0.00K

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<a href="#"><u>PULASKI (ZONE)</u></a>	KY	2/3/1998	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>TAYLOR (ZONE)</u></a>	KY	2/3/1998	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>ADAIR (ZONE)</u></a>	KY	2/3/1998	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>CASEY (ZONE)</u></a>	KY	2/3/1998	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>RUSSELL (ZONE)</u></a>	KY	2/3/1998	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>GREEN (ZONE)</u></a>	KY	2/3/1998	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>TAYLOR (ZONE)</u></a>	KY	12/23/1998	Winter Storm	0	0.00K	0.00K
<a href="#"><u>ADAIR (ZONE)</u></a>	KY	12/23/1998	Winter Storm	0	0.00K	0.00K
<a href="#"><u>CLINTON (ZONE)</u></a>	KY	12/23/1998	Winter Storm	0	0.00K	0.00K
<a href="#"><u>CUMBERLAND (ZONE)</u></a>	KY	12/23/1998	Winter Storm	0	0.00K	0.00K
<a href="#"><u>PULASKI (ZONE)</u></a>	KY	12/23/1998	Winter Storm	0	0.00K	0.00K
<a href="#"><u>WAYNE (ZONE)</u></a>	KY	12/23/1998	Winter Storm	0	0.00K	0.00K
<a href="#"><u>MCCREARY (ZONE)</u></a>	KY	12/23/1998	Winter Storm	0	0.00K	0.00K
<a href="#"><u>WAYNE (ZONE)</u></a>	KY	1/22/2000	Winter Storm	0	0.00K	0.00K
<a href="#"><u>MCCREARY (ZONE)</u></a>	KY	1/29/2000	Winter Storm	0	0.00K	0.00K
<a href="#"><u>PULASKI (ZONE)</u></a>	KY	12/2/2000	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>WAYNE (ZONE)</u></a>	KY	12/2/2000	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>MCCREARY (ZONE)</u></a>	KY	12/2/2000	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>MCCREARY (ZONE)</u></a>	KY	1/6/2002	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>MCCREARY (ZONE)</u></a>	KY	1/19/2002	Winter Storm	0	0.00K	0.00K
<a href="#"><u>WAYNE (ZONE)</u></a>	KY	1/19/2002	Winter Storm	0	0.00K	0.00K
<a href="#"><u>PULASKI (ZONE)</u></a>	KY	1/19/2002	Winter Storm	0	0.00K	0.00K
<a href="#"><u>WAYNE (ZONE)</u></a>	KY	12/4/2002	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>WAYNE (ZONE)</u></a>	KY	12/4/2002	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>MCCREARY (ZONE)</u></a>	KY	12/4/2002	Winter Storm	0	10.00K	0.00K
<a href="#"><u>MCCREARY (ZONE)</u></a>	KY	12/4/2002	Winter Storm	0	10.00K	0.00K
<a href="#"><u>PULASKI (ZONE)</u></a>	KY	12/4/2002	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>PULASKI (ZONE)</u></a>	KY	12/4/2002	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>MCCREARY (ZONE)</u></a>	KY	1/16/2003	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>WAYNE (ZONE)</u></a>	KY	1/16/2003	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>PULASKI (ZONE)</u></a>	KY	1/16/2003	Heavy Snow	0	0.00K	0.00K

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<a href="#">MCCREARY (ZONE)</a>	KY	1/23/2003	Heavy Snow	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	1/25/2004	Ice Storm	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	1/25/2004	Ice Storm	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	1/25/2004	Ice Storm	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	2/5/2004	Ice Storm	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	2/5/2004	Winter Storm	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	2/11/2006	Heavy Snow	0	0.00K	0.00K
<a href="#">TAYLOR (ZONE)</a>	KY	3/7/2008	Heavy Snow	0	0.00K	0.00K
<a href="#">GREEN (ZONE)</a>	KY	3/7/2008	Heavy Snow	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	3/7/2008	Ice Storm	0	0.00K	0.00K
<a href="#">CASEY (ZONE)</a>	KY	3/8/2008	Heavy Snow	0	0.00K	0.00K
<a href="#">ADAIR (ZONE)</a>	KY	3/8/2008	Heavy Snow	0	0.00K	0.00K
<a href="#">CLINTON (ZONE)</a>	KY	3/8/2008	Heavy Snow	0	0.00K	0.00K
<a href="#">CUMBERLAND (ZONE)</a>	KY	3/8/2008	Heavy Snow	0	0.00K	0.00K
<a href="#">TAYLOR (ZONE)</a>	KY	1/27/2009	Winter Storm	0	0.00K	0.00K
<a href="#">GREEN (ZONE)</a>	KY	1/27/2009	Winter Storm	0	0.00K	0.00K
<a href="#">ADAIR (ZONE)</a>	KY	1/27/2009	Winter Storm	0	0.00K	0.00K
<a href="#">CASEY (ZONE)</a>	KY	1/27/2009	Winter Storm	0	0.00K	0.00K
<a href="#">RUSSELL (ZONE)</a>	KY	1/27/2009	Winter Storm	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	1/27/2009	Ice Storm	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	12/18/2009	Winter Storm	0	250.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">ADAIR (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">CASEY (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">TAYLOR (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">GREEN (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K

**LAKE CUMBERLAND REGIONAL HAZARD MITIGATION PLAN UPDATE -2016**

<a href="#">CLINTON (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">CUMBERLAND (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">RUSSELL (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">ADAIR (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">CLINTON (ZONE)</a>	KY	12/12/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">TAYLOR (ZONE)</a>	KY	12/12/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">ADAIR (ZONE)</a>	KY	12/12/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">CASEY (ZONE)</a>	KY	12/12/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">CUMBERLAND (ZONE)</a>	KY	12/12/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">RUSSELL (ZONE)</a>	KY	12/12/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	12/12/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	12/12/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	12/12/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	12/15/2010	Winter Storm	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	12/15/2010	Winter Storm	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	12/15/2010	Winter Storm	0	0.00K	0.00K
<a href="#">CLINTON (ZONE)</a>	KY	12/24/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">CASEY (ZONE)</a>	KY	1/20/2011	Heavy Snow	0	0.00K	0.00K
<a href="#">ADAIR (ZONE)</a>	KY	1/25/2011	Heavy Snow	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	2/9/2011	Winter Storm	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	2/19/2012	Heavy Snow	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	2/19/2012	Heavy Snow	0	0.00K	0.00K
<a href="#">CUMBERLAND (ZONE)</a>	KY	1/25/2013	Ice Storm	0	0.00K	0.00K
<a href="#">CLINTON (ZONE)</a>	KY	1/25/2013	Ice Storm	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	1/25/2013	Ice Storm	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	1/25/2013	Ice Storm	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	1/25/2013	Ice Storm	0	0.00K	0.00K
<a href="#">TAYLOR (ZONE)</a>	KY	3/2/2014	Winter Storm	0	0.00K	0.00K
<a href="#">GREEN (ZONE)</a>	KY	3/2/2014	Winter Storm	0	0.00K	0.00K
<a href="#">RUSSELL (ZONE)</a>	KY	3/2/2014	Winter Storm	0	0.00K	0.00K
<a href="#">ADAIR (ZONE)</a>	KY	3/2/2014	Winter Storm	0	0.00K	0.00K
<a href="#">CLINTON (ZONE)</a>	KY	3/2/2014	Winter Storm	0	0.00K	0.00K

**LAKE CUMBERLAND REGIONAL HAZARD MITIGATION PLAN UPDATE -2016**

<a href="#">CUMBERLAND (ZONE)</a>	KY	3/2/2014	Winter Storm	0	0.00K	0.00K
<a href="#">CASEY (ZONE)</a>	KY	3/2/2014	Winter Storm	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	3/2/2014	Winter Storm	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	3/2/2014	Ice Storm	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	3/2/2014	Winter Storm	0	0.00K	0.00K
<a href="#">RUSSELL (ZONE)</a>	KY	2/16/2015	Heavy Snow	0	0.00K	0.00K
<a href="#">ADAIR (ZONE)</a>	KY	2/16/2015	Heavy Snow	0	0.00K	0.00K
<a href="#">CASEY (ZONE)</a>	KY	2/16/2015	Heavy Snow	0	0.00K	0.00K
<a href="#">GREEN (ZONE)</a>	KY	2/16/2015	Heavy Snow	0	0.00K	0.00K
<a href="#">TAYLOR (ZONE)</a>	KY	2/16/2015	Heavy Snow	0	0.00K	0.00K
<a href="#">CUMBERLAND (ZONE)</a>	KY	2/16/2015	Heavy Snow	0	0.00K	0.00K
<a href="#">CLINTON (ZONE)</a>	KY	2/16/2015	Heavy Snow	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	2/16/2015	Winter Storm	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	2/16/2015	Winter Storm	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	2/16/2015	Winter Storm	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	2/20/2015	Winter Storm	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	2/20/2015	Ice Storm	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	2/20/2015	Ice Storm	0	0.00K	0.00K
<a href="#">GREEN (ZONE)</a>	KY	3/4/2015	Heavy Snow	0	0.00K	0.00K
<a href="#">TAYLOR (ZONE)</a>	KY	3/4/2015	Heavy Snow	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	3/4/2015	Winter Storm	0	0.00K	0.00K
<a href="#">CASEY (ZONE)</a>	KY	3/5/2015	Heavy Snow	0	0.00K	0.00K
<a href="#">ADAIR (ZONE)</a>	KY	3/5/2015	Heavy Snow	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	3/5/2015	Winter Storm	0	0.00K	0.00K
<a href="#">CUMBERLAND (ZONE)</a>	KY	3/5/2015	Heavy Snow	0	0.00K	0.00K
<a href="#">RUSSELL (ZONE)</a>	KY	3/5/2015	Heavy Snow	0	0.00K	0.00K
<a href="#">CLINTON (ZONE)</a>	KY	3/5/2015	Heavy Snow	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	3/5/2015	Winter Storm	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	1/20/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">ADAIR (ZONE)</a>	KY	1/20/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">GREEN (ZONE)</a>	KY	1/20/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">CUMBERLAND (ZONE)</a>	KY	1/20/2016	Heavy Snow	0	0.00K	0.00K

<a href="#">CLINTON (ZONE)</a>	KY	1/20/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">RUSSELL (ZONE)</a>	KY	1/20/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	1/22/2016	Winter Storm	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	1/22/2016	Winter Storm	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	1/22/2016	Winter Storm	0	0.00K	0.00K
<a href="#">TAYLOR (ZONE)</a>	KY	1/22/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">TAYLOR (ZONE)</a>	KY	1/22/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">CLINTON (ZONE)</a>	KY	1/22/2016	Winter Storm	0	0.00K	0.00K
<a href="#">CUMBERLAND (ZONE)</a>	KY	1/22/2016	Winter Storm	0	0.00K	0.00K
<a href="#">RUSSELL (ZONE)</a>	KY	1/22/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">ADAIR (ZONE)</a>	KY	1/22/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">GREEN (ZONE)</a>	KY	1/22/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">CASEY (ZONE)</a>	KY	1/22/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">ADAIR (ZONE)</a>	KY	2/14/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">RUSSELL (ZONE)</a>	KY	2/14/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">TAYLOR (ZONE)</a>	KY	2/14/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">CASEY (ZONE)</a>	KY	2/14/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">CLINTON (ZONE)</a>	KY	2/14/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">CUMBERLAND (ZONE)</a>	KY	2/14/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">GREEN (ZONE)</a>	KY	2/14/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	2/14/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	2/14/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	2/14/2016	Heavy Snow	0	0.00K	0.00K
<b>Totals:</b>				1 (d)	270.00K	0.00K

**Search Results for Adair, Casey, Clinton, Cumberland, Green, McCreary, Pulaski, Russell, Taylor and Wayne Counties, Kentucky**

**Event Types: Blizzard, Heavy Snow, Ice Storm, Winter Storm**

167 events were reported between 01/01/1996 and 07/31/2016 (24319 days)

*Click on **Location** below to display details.*

<b>Location</b>	<b>State</b>	<b>Date</b>	<b>Type</b>	<b>Death/I njury</b>	<b>Property Damage</b>	<b>Crop Damage</b>
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**LAKE CUMBERLAND REGIONAL HAZARD MITIGATION PLAN UPDATE -2016**

<a href="#"><u>CASEY (ZONE)</u></a>	KY	1/6/1996	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>PULASKI (ZONE)</u></a>	KY	1/6/1996	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>TAYLOR (ZONE)</u></a>	KY	1/6/1996	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>GREEN (ZONE)</u></a>	KY	1/6/1996	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>RUSSELL (ZONE)</u></a>	KY	1/6/1996	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>ADAIR (ZONE)</u></a>	KY	1/6/1996	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>MCCREARY (ZONE)</u></a>	KY	1/6/1996	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>CLINTON (ZONE)</u></a>	KY	1/6/1996	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>CUMBERLAND (ZONE)</u></a>	KY	1/6/1996	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>WAYNE (ZONE)</u></a>	KY	1/6/1996	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>WAYNE (ZONE)</u></a>	KY	2/2/1996	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>PULASKI (ZONE)</u></a>	KY	2/2/1996	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>CUMBERLAND (ZONE)</u></a>	KY	2/2/1996	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>MCCREARY (ZONE)</u></a>	KY	2/3/1998	Heavy Snow	1 (d)	0.00K	0.00K
<a href="#"><u>WAYNE (ZONE)</u></a>	KY	2/3/1998	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>CUMBERLAND (ZONE)</u></a>	KY	2/3/1998	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>CLINTON (ZONE)</u></a>	KY	2/3/1998	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>PULASKI (ZONE)</u></a>	KY	2/3/1998	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>TAYLOR (ZONE)</u></a>	KY	2/3/1998	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>ADAIR (ZONE)</u></a>	KY	2/3/1998	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>CASEY (ZONE)</u></a>	KY	2/3/1998	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>RUSSELL (ZONE)</u></a>	KY	2/3/1998	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>GREEN (ZONE)</u></a>	KY	2/3/1998	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>TAYLOR (ZONE)</u></a>	KY	12/23/1998	Winter Storm	0	0.00K	0.00K
<a href="#"><u>ADAIR (ZONE)</u></a>	KY	12/23/1998	Winter Storm	0	0.00K	0.00K
<a href="#"><u>CLINTON (ZONE)</u></a>	KY	12/23/1998	Winter Storm	0	0.00K	0.00K
<a href="#"><u>CUMBERLAND (ZONE)</u></a>	KY	12/23/1998	Winter Storm	0	0.00K	0.00K
<a href="#"><u>PULASKI (ZONE)</u></a>	KY	12/23/1998	Winter Storm	0	0.00K	0.00K
<a href="#"><u>WAYNE (ZONE)</u></a>	KY	12/23/1998	Winter Storm	0	0.00K	0.00K
<a href="#"><u>MCCREARY (ZONE)</u></a>	KY	12/23/1998	Winter Storm	0	0.00K	0.00K
<a href="#"><u>WAYNE (ZONE)</u></a>	KY	1/22/2000	Winter Storm	0	0.00K	0.00K
<a href="#"><u>MCCREARY (ZONE)</u></a>	KY	1/29/2000	Winter Storm	0	0.00K	0.00K



LAKE CUMBERLAND REGIONAL HAZARD MITIGATION PLAN UPDATE -2016

<a href="#">PULASKI (ZONE)</a>	KY	12/2/2000	Heavy Snow	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	12/2/2000	Heavy Snow	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	12/2/2000	Heavy Snow	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	1/6/2002	Heavy Snow	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	1/19/2002	Winter Storm	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	1/19/2002	Winter Storm	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	1/19/2002	Winter Storm	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	12/4/2002	Heavy Snow	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	12/4/2002	Heavy Snow	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	12/4/2002	Winter Storm	0	10.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	12/4/2002	Winter Storm	0	10.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	12/4/2002	Heavy Snow	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	12/4/2002	Heavy Snow	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	1/16/2003	Heavy Snow	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	1/16/2003	Heavy Snow	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	1/16/2003	Heavy Snow	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	1/23/2003	Heavy Snow	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	1/25/2004	Ice Storm	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	1/25/2004	Ice Storm	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	1/25/2004	Ice Storm	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	2/5/2004	Ice Storm	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	2/5/2004	Winter Storm	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	2/11/2006	Heavy Snow	0	0.00K	0.00K
<a href="#">TAYLOR (ZONE)</a>	KY	3/7/2008	Heavy Snow	0	0.00K	0.00K
<a href="#">GREEN (ZONE)</a>	KY	3/7/2008	Heavy Snow	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	3/7/2008	Ice Storm	0	0.00K	0.00K
<a href="#">CASEY (ZONE)</a>	KY	3/8/2008	Heavy Snow	0	0.00K	0.00K
<a href="#">ADAIR (ZONE)</a>	KY	3/8/2008	Heavy Snow	0	0.00K	0.00K
<a href="#">CLINTON (ZONE)</a>	KY	3/8/2008	Heavy Snow	0	0.00K	0.00K
<a href="#">CUMBERLAND (ZONE)</a>	KY	3/8/2008	Heavy Snow	0	0.00K	0.00K
<a href="#">TAYLOR (ZONE)</a>	KY	1/27/2009	Winter Storm	0	0.00K	0.00K
<a href="#">GREEN (ZONE)</a>	KY	1/27/2009	Winter Storm	0	0.00K	0.00K

LAKE CUMBERLAND REGIONAL HAZARD MITIGATION PLAN UPDATE -2016

<a href="#">ADAIR (ZONE)</a>	KY	1/27/2009	Winter Storm	0	0.00K	0.00K
<a href="#">CASEY (ZONE)</a>	KY	1/27/2009	Winter Storm	0	0.00K	0.00K
<a href="#">RUSSELL (ZONE)</a>	KY	1/27/2009	Winter Storm	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	1/27/2009	Ice Storm	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	12/18/2009	Winter Storm	0	250.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">ADAIR (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">CASEY (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">TAYLOR (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">GREEN (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">CLINTON (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">CUMBERLAND (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">RUSSELL (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">ADAIR (ZONE)</a>	KY	1/29/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">CLINTON (ZONE)</a>	KY	12/12/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">TAYLOR (ZONE)</a>	KY	12/12/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">ADAIR (ZONE)</a>	KY	12/12/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">CASEY (ZONE)</a>	KY	12/12/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">CUMBERLAND (ZONE)</a>	KY	12/12/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">RUSSELL (ZONE)</a>	KY	12/12/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	12/12/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	12/12/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	12/12/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	12/15/2010	Winter Storm	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	12/15/2010	Winter Storm	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	12/15/2010	Winter Storm	0	0.00K	0.00K

LAKE CUMBERLAND REGIONAL HAZARD MITIGATION PLAN UPDATE -2016

<a href="#">CLINTON (ZONE)</a>	KY	12/24/2010	Heavy Snow	0	0.00K	0.00K
<a href="#">CASEY (ZONE)</a>	KY	1/20/2011	Heavy Snow	0	0.00K	0.00K
<a href="#">ADAIR (ZONE)</a>	KY	1/25/2011	Heavy Snow	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	2/9/2011	Winter Storm	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	2/19/2012	Heavy Snow	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	2/19/2012	Heavy Snow	0	0.00K	0.00K
<a href="#">CUMBERLAND (ZONE)</a>	KY	1/25/2013	Ice Storm	0	0.00K	0.00K
<a href="#">CLINTON (ZONE)</a>	KY	1/25/2013	Ice Storm	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	1/25/2013	Ice Storm	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	1/25/2013	Ice Storm	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	1/25/2013	Ice Storm	0	0.00K	0.00K
<a href="#">TAYLOR (ZONE)</a>	KY	3/2/2014	Winter Storm	0	0.00K	0.00K
<a href="#">GREEN (ZONE)</a>	KY	3/2/2014	Winter Storm	0	0.00K	0.00K
<a href="#">RUSSELL (ZONE)</a>	KY	3/2/2014	Winter Storm	0	0.00K	0.00K
<a href="#">ADAIR (ZONE)</a>	KY	3/2/2014	Winter Storm	0	0.00K	0.00K
<a href="#">CLINTON (ZONE)</a>	KY	3/2/2014	Winter Storm	0	0.00K	0.00K
<a href="#">CUMBERLAND (ZONE)</a>	KY	3/2/2014	Winter Storm	0	0.00K	0.00K
<a href="#">CASEY (ZONE)</a>	KY	3/2/2014	Winter Storm	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	3/2/2014	Winter Storm	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	3/2/2014	Ice Storm	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	3/2/2014	Winter Storm	0	0.00K	0.00K
<a href="#">RUSSELL (ZONE)</a>	KY	2/16/2015	Heavy Snow	0	0.00K	0.00K
<a href="#">ADAIR (ZONE)</a>	KY	2/16/2015	Heavy Snow	0	0.00K	0.00K
<a href="#">CASEY (ZONE)</a>	KY	2/16/2015	Heavy Snow	0	0.00K	0.00K
<a href="#">GREEN (ZONE)</a>	KY	2/16/2015	Heavy Snow	0	0.00K	0.00K
<a href="#">TAYLOR (ZONE)</a>	KY	2/16/2015	Heavy Snow	0	0.00K	0.00K
<a href="#">CUMBERLAND (ZONE)</a>	KY	2/16/2015	Heavy Snow	0	0.00K	0.00K
<a href="#">CLINTON (ZONE)</a>	KY	2/16/2015	Heavy Snow	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	2/16/2015	Winter Storm	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	2/16/2015	Winter Storm	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	2/16/2015	Winter Storm	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	2/20/2015	Winter Storm	0	0.00K	0.00K

**LAKE CUMBERLAND REGIONAL HAZARD MITIGATION PLAN UPDATE -2016**

<a href="#"><u>MCCREARY (ZONE)</u></a>	KY	2/20/2015	Ice Storm	0	0.00K	0.00K
<a href="#"><u>WAYNE (ZONE)</u></a>	KY	2/20/2015	Ice Storm	0	0.00K	0.00K
<a href="#"><u>GREEN (ZONE)</u></a>	KY	3/4/2015	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>TAYLOR (ZONE)</u></a>	KY	3/4/2015	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>PULASKI (ZONE)</u></a>	KY	3/4/2015	Winter Storm	0	0.00K	0.00K
<a href="#"><u>CASEY (ZONE)</u></a>	KY	3/5/2015	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>ADAIR (ZONE)</u></a>	KY	3/5/2015	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>WAYNE (ZONE)</u></a>	KY	3/5/2015	Winter Storm	0	0.00K	0.00K
<a href="#"><u>CUMBERLAND (ZONE)</u></a>	KY	3/5/2015	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>RUSSELL (ZONE)</u></a>	KY	3/5/2015	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>CLINTON (ZONE)</u></a>	KY	3/5/2015	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>MCCREARY (ZONE)</u></a>	KY	3/5/2015	Winter Storm	0	0.00K	0.00K
<a href="#"><u>MCCREARY (ZONE)</u></a>	KY	1/20/2016	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>ADAIR (ZONE)</u></a>	KY	1/20/2016	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>GREEN (ZONE)</u></a>	KY	1/20/2016	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>CUMBERLAND (ZONE)</u></a>	KY	1/20/2016	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>CLINTON (ZONE)</u></a>	KY	1/20/2016	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>RUSSELL (ZONE)</u></a>	KY	1/20/2016	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>MCCREARY (ZONE)</u></a>	KY	1/22/2016	Winter Storm	0	0.00K	0.00K
<a href="#"><u>WAYNE (ZONE)</u></a>	KY	1/22/2016	Winter Storm	0	0.00K	0.00K
<a href="#"><u>PULASKI (ZONE)</u></a>	KY	1/22/2016	Winter Storm	0	0.00K	0.00K
<a href="#"><u>TAYLOR (ZONE)</u></a>	KY	1/22/2016	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>TAYLOR (ZONE)</u></a>	KY	1/22/2016	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>CLINTON (ZONE)</u></a>	KY	1/22/2016	Winter Storm	0	0.00K	0.00K
<a href="#"><u>CUMBERLAND (ZONE)</u></a>	KY	1/22/2016	Winter Storm	0	0.00K	0.00K
<a href="#"><u>RUSSELL (ZONE)</u></a>	KY	1/22/2016	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>ADAIR (ZONE)</u></a>	KY	1/22/2016	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>GREEN (ZONE)</u></a>	KY	1/22/2016	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>CASEY (ZONE)</u></a>	KY	1/22/2016	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>ADAIR (ZONE)</u></a>	KY	2/14/2016	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>RUSSELL (ZONE)</u></a>	KY	2/14/2016	Heavy Snow	0	0.00K	0.00K
<a href="#"><u>TAYLOR (ZONE)</u></a>	KY	2/14/2016	Heavy Snow	0	0.00K	0.00K

<a href="#">CASEY (ZONE)</a>	KY	2/14/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">CLINTON (ZONE)</a>	KY	2/14/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">CUMBERLAND (ZONE)</a>	KY	2/14/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">GREEN (ZONE)</a>	KY	2/14/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">WAYNE (ZONE)</a>	KY	2/14/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">MCCREARY (ZONE)</a>	KY	2/14/2016	Heavy Snow	0	0.00K	0.00K
<a href="#">PULASKI (ZONE)</a>	KY	2/14/2016	Heavy Snow	0	0.00K	0.00K
<b>Totals:</b>				1 (d)	270.00K	0.00K

The following are the data details for the events in Table 4I2(4).

## **Storm Events Database Search Results for Adair, Casey, Clinton, Cumberland, Green, McCreary, Pulaski, Russell, Taylor and Wayne Counties, Kentucky**

Event Types (Blizzard, Heavy Snow, Ice Storm, Winter Storm) are listed below by date:

### **Major Snow Storm (January 6-7, 1996)**

A major snow storm hit Kentucky on January 6-7, 1996. The snow began around noon est and effected all of the counties in the Louisville CWA before it stopped Sunday afternoon. The heavy snow began around 1500 est on the 6th and ended around 6 am est on the 7th. A strong double-barreled low pressure system moved from the Gulf states on the 6th to Georgia and then the South Carolina coast by the afternoon of the 7th. Totals were from 7 to 16 inches across south central Kentucky.

### **Heavy Snow (February 2, 1996)**

Between 3 to 6 total inches of snow fell across the Lake Cumberland area from around 3 pm est on February 2, 1996 to shortly after midnight on February 3. Low pressure drew in moisture to South Central Kentucky as it moved across the Gulf of Mexico.

### **Heavy Snow (February 3, 1998)**

Because of the extremely wet nature of the snow, damage from this storm was extensive. The most widespread damage occurred in a swath of the Daniel Boone National Forest from Whitley City to Frenchburg. Power outages were widespread as falling trees brought down power lines and poles. Power outages affected 100% of the electric customers in many counties. As many as 9000 customers were still without power on February 9, and some areas were without power for 2 weeks. Numerous roads were blocked by trees, and bulldozers had to be used to reach people who were stranded. There were numerous buildings which collapsed under the weight of the snow, including trailer homes, houses, barns, and commercial buildings. One industrial building near Monticello sustained \$1.5 million in damage when the roof collapsed, and machinery and stock were damaged.

Many people remained in unheated homes during the extended power outages. A woman in McCreary County died in her home as a result of a hypothermia induced heart attack, and a man in McCreary County was injured when a carport collapsed on him. Some snow depths (in Lake Cumberland Region) reported on February 6: Stearns - 23 inches, Monticello - 14 inches; Somerset - 12 inches.

### **Winter Storm (December 23, 1998)**

Low pressure moving across the Tennessee Valley combined with cold air at the surface across southern Kentucky brought a mixture of freezing rain and sleet to much of southern and eastern Kentucky. Roads quickly became slick and hazardous during the morning and caused multiple automobile accidents across the area.

### **Heavy Snow (December 2, 2000)**

The seasons first snowstorm produced one of the heaviest early season snowfalls in the past 20 years across Eastern Kentucky. A general 3 to 6 inches of snow fell in the counties bordering Tennessee and along the I-75 corridor. A band of 6 inch snows fell south of the Mountain Parkway to near Pikeville. Locally up to 8 inches of snow also fell from Lee county south to McCreary county.

**Heavy Snow (January 6, 2002)**

A strengthening area of low pressure tracked from the Gulf Coast states northeastward along the Appalachian Mountains. This initially produced rain, freezing rain, and sleet over eastern Kentucky during the early morning hours, but shortly before dawn, turned to snow. Western parts of the area were generally affected first as snow moved east during the morning hours. Snowfall rates of 1 inch per hour were common during the mid morning to early afternoon hours. Generally, southeastern portions of eastern Kentucky received the most snowfall with 6 to 10 inches commonly reported from Bell, Harlan, Letcher, Knox, Clay, Leslie, Perry, Breathitt, Magoffin, Floyd, Estill, and Fleming Counties. Elsewhere amounts were in the 4 to 6 inch range. Although most of the significant accumulating snow ended by mid afternoon, light snow continued to fall into the early evening hours before ending.

**Winter Storm (January 19, 2002)**

A significant winter storm occurred during the morning and early afternoon of January 19th as an area of low pressure moved northeast from northern Alabama into eastern Tennessee, and eventually into central Virginia. The combination of the surface low, along with abundant Gulf moisture, and a strong upper level disturbance produced a large swath of wintry precipitation across eastern Kentucky.

Areas in the southern CWA received a wintry mix of snow, sleet, and freezing rain. This area includes Wayne, Pulaski, McCreary, Laurel, Whitley, Knox, Clay, Bell, Leslie, Perry, Harlan, Letcher, and Pike Counties. Reports of 1/2 to 1 inch of sleet were received in Whitley, Knox, and Wayne Counties with a thin topping of ice in many areas from freezing rain.

**Heavy Snow (December 4, 2002)**

This winter storm occurring on December 4th and December 5th was the first of the season for eastern Kentucky. This storm system tracked across the southern United States, spreading precipitation as far north as the Ohio Valley. Snow began on the morning of December 4th, dumping 3 to 5 inches of snow southwest of a line from Mount Vernon to Harlan. Up to three quarters of an inch of ice was reported in McCreary County among other locations receiving between 1/4 and 1/2 of an inch.

**Heavy Snow (January 16, 2003)**

A winter storm slammed into eastern Kentucky during the afternoon of Thursday, January 17, 2003 and dumped heavy amounts of snow over the region. The culprit for the snow was a low pressure system which blazed a trail across the Tennessee Valley and moved to the Mid-Atlantic Coast by midnight.

The hardest hit areas were the south central and southeastern parts of Kentucky. Generally speaking, 4 to 8 inches were received south of a line from Somerset to Jackson to Pikeville, with 1 to 4 inches received north of this line. Snowfall rates of about 1 inch per hour were reported in many areas of southeastern Kentucky.

**Heavy Snow (January 23, 2003)**

Heavy snow fell over portions of southeastern Kentucky due to an upper level disturbance. Much of this heavy snow occurred in higher elevations. A maximum of 4 inches of snow were received from a cooperative observer in Stearns.

**Ice Storm (January 25, 2004)**

A storm system moved out of the plains and into the southern Ohio Valley. Before the storm arrived, arctic air flooded into eastern Kentucky. As the storm system approached, warm air rose up and over the cold air. A brief period of snow and sleet started the event for some, but the overwhelming bulk of precipitation was freezing rain. Ice accumulations of one quarter to one half inch occurred for most areas, with Pike, Floyd, Martin, Knott, and Rowan Counties receiving up to an inch of ice accumulation. Electric companies across the area reported that about 17, 850 people were without power, but for only a short period of time.

**Ice Storm/Winter Storm (February 5, 2004)**

A small area of sleet, freezing rain, and snow fell in pockets of southeastern Kentucky. All precipitation types changed to rain by late morning. One quarter inch of ice was reported in Somerset.

**Heavy Snow (February 11, 2004)**

Five inches of snow fell 10 miles east of Somerset. 4 inches also fell at another location near Somerset.

**Heavy Snow (March 7&8, 2008)**

snowstorm developed during the early morning hours Friday March 7th. Snow and some sleet fell intermittently over the next 28 hours. Snowfall totals were highest along the Ohio River, where accumulations varied from 10 to 12 inches. Farther south...snow started later in the day and accumulations were lower. Across south central Kentucky, snowfall ranged from over 8 inches north of Bowling green to just under 4 inches along the Kentucky-Tennessee border.

**Winter Storm (January 27, 2009)**

A prolonged ice and snow storm began around just after midnight Tuesday January 27 and continued through 11 am Wednesday January 28. The mixed freezing rain and snow that fell over central Kentucky was just one aspect of a widespread overrunning event that brought destructive winter weather from Texas, through the Ohio Valley, into New England. Arctic air centered across the Upper Midwest supplied low level cold air. Several disturbances moved east across a nearly stationary front stalled across the Tennessee Valley. Along the Tennessee border, ice on elevated surfaces averaged one quarter of an inch.

**Winter Storm (December 18, 2009)**

A large and intense area of low pressure moved across the Tennessee valley and eventually up the east coast on December 18th and 19th. The initial precipitation began as a heavy wet snow on Friday afternoon December 18th. Accumulations around eastern Kentucky ranged between 1 and 4 inches. The McCreary county emergency manager reported that 37,000 customers state wide were without power as of 2pm on the 19th. The southern Kentucky RECC reported that 3500 customers in McCreary county alone were without power.

**Heavy Snow (January 29, 2010)**



A powerful area of low pressure moved across the Tennessee valley and then through the mid Atlantic region on January 29th and 30th. The snow first began falling across eastern Kentucky during the late afternoon and evening hours of January 29th as the storm moved across central Tennessee. The snow finally came to an end late in the day on January 30th as the area of low pressure moved up the east coast. Snowfall amounts of 4-8 inches were quite common around the area, with accumulations as high as 11 inches reported on Black Mountain.

#### **Heavy Snow (December 12, 2010)**

A deepening low pressure center moved over southern Michigan on the afternoon of December 12th. A sharp cold front crossed from west to east across central Kentucky during the early morning hours. Rain changed to snow for a short time just after frontal passage across north central Kentucky east of Interstate 65 and over the Bluegrass Region. Around one half an inch fell before snow changed to flurries after dawn. Snow redeveloped by mid-afternoon across south central Kentucky as wrap around moisture associated with the back edge of the cyclone arrived. Occasional light snow spread north and east across all of central Kentucky by late afternoon. Snowfall totals ranged from 3 to just over 4 inches near Bowling Green and other portions of Kentucky adjacent to Tennessee. Two to 4 inches fell to the south of the Ohio River and across the northern Bluegrass. Although snow diminished to flurries just after midnight on the 13th across most areas, light snow lingered through dawn across portions of the southern Bluegrass and Lake Cumberland areas. These areas received from 4 to 6 inches of snow. An arctic front arrived by late evening on the 12th. This brought widespread blowing snow and travel problems as northwest winds increased to 20 to 25 mph with some gusts up to 40 mph.

#### **Winter Storm (December 15, 2010)**

On December 16th, a low pressure system developed in the plains and then tracked east across the Tennessee Valley. The warm front moved just south of the forecast area. Wintry precipitation fell as freezing rain from the Tennessee border and north up to the Mountain Parkway. The ice accumulated a quarter of an inch in Pulaski, McCreary, and Wayne Counties.

#### **Heavy Snow (December 24, 2010)**

An upper air trough dropping southward from the Great Lakes combined with a weak surface low across lower Mississippi Valley to spread an area of light to moderate snow across much of the Lower Ohio Valley. Snow began by late afternoon on Christmas Eve and continued into the very early morning hours the 25th. Widespread snow accumulations of 2 to 4 inches developed over much of western and south central Kentucky, with lesser amounts of up to 2 inches across southern Indiana and the Bluegrass Region. Four to 5 inches of snow fell across a small area between Butler and Clinton Counties near the Tennessee border. Four inches of snow fell near Albany.

**Heavy Snow (January 20, 2011)**

Warm air advection, combined with lift associated with an approaching trough, spread occasionally heavy snow across north central Kentucky. Snow developed during the late morning hours along the Ohio River and moved southeast and covered the entire central portion of the Commonwealth by mid-afternoon. Snow ended by late afternoon west of Interstate 65 and by early evening farther east across the Bluegrass Region. Across an area north of a line from Louisville to just east of Lexington, snowfall became heavy for a time, with total accumulations from 3 to 5 inches. Snowfall totals diminished farther south, lowering to around 2 inches along the Tennessee border. Four inches of snow accumulation was measured at Liberty.

**Heavy Snow (January 25, 2011)**

During the overnight hours on the 25th and the 26th of January, a strengthening closed low moved across Tennessee. North of this upper air system, a surface trough moved east across the Commonwealth, changing rain to snow. Snow, heavy at times, developed by late evening across west central Kentucky. A broad area of 3 to 5 inches of snow accumulated during the early morning hours across an area generally just west of Interstate 65. Snow amounts diminished east of Interstate 65 as precipitation remained rain well into the early morning hours. Snow continued until dawn within an arc from Bowling Green through southern Louisville through Frankfort as the back edge of an area of wrap-around snow moved east across the state.

**Winter Storm (February 9, 2011)**

On February the 9th, a low pressure system developed in the lower Mississippi valley and moved northeast. Snow tracked from central Kentucky and Tennessee into eastern Kentucky and began to fall in eastern Kentucky by 2 PM. Most locations received 1 to 3 inches with locally higher amounts along the counties bordering Tennessee. The snow was heavy at times with the southern counties receiving the higher amounts.

**Heavy Snow (February 19, 2012)**

A large portion of eastern Kentucky experienced widespread accumulating snow from the early afternoon hours of February 19th into the late morning hours of February 20th. The snow was heavy and wet and came down heavy at times. Snowfall amounts averaged between 2 and 5 inches for most locations, with isolated amounts of 6-12 on the higher ridges around the area. Five and a quarter inches of snow fell in Whitley City.

**Ice Storm (January 25, 2013)**

Low pressure quickly developed and moved across southern Kentucky during the morning hours of January 25th, sending a wintry mix into southern Kentucky. The majority of the precipitation fell as freezing rain with up to 1/2 ice accumulation observed in Perry, Bell, Rockcastle, Clay and Harlan Counties. Ice amounts ranged from 1/10 in Monticello up to 1/4 on the east end of the county near the McCreary County line.

**Winter Storm (March 2, 2014)**

Arctic air, coupled with a slowly sagging cold front, helped produce a prolonged winter storm over Kentucky from the afternoon of March 2nd through noon on March 3rd. Initially, a nearly stationary front was located near the Ohio River during the late morning hours on the 2nd. Southwesterly flow aloft along and north of this boundary produced mixed precipitation across extreme northern Kentucky by late afternoon. This front slowly moved south, and by mid-evening lay along the Tennessee Border. Several waves moved along this boundary, bringing widespread mixed precipitation to central Kentucky before low pressure moved east during the late morning of the 3rd. Precipitation changed from rain to freezing rain, sleet and then snow at each location as cold air became progressively deeper. Along a line stretching roughly from Bowling Green through the southern Bluegrass, prodigious amounts of sleet fell, with sleet accumulations of over 2 inches across many counties. During the early morning on the 3rd, a deformation band then set up across the same location, producing an additional 3 to 5 inches of snow. Farther north, along the Ohio River and the northern Bluegrass, lighter amounts of mixed precipitation fell, with sleet and snow accumulations of 2 to 4 inches. Warm air along the Tennessee border at the beginning of this event reduced sleet and snow accumulations to 1 to 3 inches.

**Heavy Snow/Winter Storm (February 16, 2015)**

Arctic air invaded the Lower Ohio Valley on the 14th of February, setting the stage for heavy snow that developed during the early morning hours on the 16th. Low pressure moved across Arkansas and Tennessee from the 15th to the 16th of February. A large swath of heavy snow spread from southern Missouri into central Kentucky during the early morning hours on the 16th, ending across central Kentucky late in the afternoon. During the late morning hours, snow fell at a rate of over one inch per hour, reducing visibility to less than one quarter of a mile for several consecutive hours. This storm produced more snow across Central and southern Kentucky than any other in at least a decade. A strip of heavy snow, of near one foot, extended right across central Kentucky from Ohio through Madison Counties. Sleet mixed in with snow along the Tennessee Border, reducing snow totals to around 8 inches. At least two indirect fatalities - from heart attacks occurring while shoveling snow or trying to push out a stuck vehicle - were attributed to the snow. Sleet briefly mixed in with heavy snow across Lake Cumberland Region. Even so, 8 to 9 inches of snow fell region wide.

**Winter Storm/Ice Storm (February 20, 2015)**

Another major winter storm wreaked havoc across eastern Kentucky February 20th and 21st. This storm caused significant ice and snow accumulations across the area, along with flooding in several counties around the area. The bulk of the snow was confined to the counties along the Virginia border, where more than a foot of heavy wet snow fell in places. The heavy snow caused extensive damage as it caused the roofs of a number of homes and other structures to collapse. The ice lead to a number of car accidents and made driving quite treacherous at times. A total of 10 eastern Kentucky counties experienced flooding due to heavy rain and ice jams. Pulaski county experienced both freezing rain and snow during this event. The Somerset area picked up about three quarters of an inch of snow early in the event. By late morning on the 21st, Shopville had picked up around a quarter of inch of ice due to freezing rain. The 911 dispatch office received numerous reports of buildings suffering roof collapses and other types of damage due to the weight of heavy wet snow that had accumulated on the various structures around the county.

**Heavy Snow/Winter Storm (March 4, 2015)**

An intense storm system brought flooding rains to central Kentucky, followed quickly by exceptionally heavy snow. This amount of rain, followed by such heavy snow, is practically unprecedented. The upper level pattern featured a positively tilted upper trough across the desert southwest on the 3rd of March. A tight baroclinic zone stretched northeastward through southern Indiana. Strong southwesterly flow at lower levels brought rich moisture along this nearly stationary boundary. Initially, during the evening hours on the 3rd, rain developed along this boundary and gradually overspread all of southern Indiana and central Kentucky. Steady rain continued through the late afternoon on the 4th. Two to almost 3 inches of rain fell across north central and central Kentucky before precipitation changed into snow during the late afternoon hours on the 4th. Minor areal flooding developed with several roads and low water crossings closed.

Rain changed into heavy snow near the Ohio River around 5pm, with precipitation changeover slowly moving farther south during the evening, Rain finally changed over to snow near the Tennessee Border during the early morning hours. Intense frontogenesis and lift associated with the right rear quadrant of a powerful jet led to the development of several intense snow bands where snow fell at a rate of 2 inches per hour. One band developed from near Breckenridge County and stretched through Bullitt County and across the northern Bluegrass. Under this nearly stationary band, snow totals ranged from 15 to locally over 20 inches. One reliable snow report from near Radcliff, Kentucky measured 25 inches, which is one inch short of the all time Kentucky storm total snowfall record. Snow diminished from west to east during the mid-morning hours on the 5th. Snow totals across south central Kentucky, adjacent to Tennessee, ranged from 5 to 8 inches.

**Heavy Snow/Winter Storm (March 5, 2015)**

An intense storm system brought flooding rains to central Kentucky, followed quickly by exceptionally heavy snow. This amount of rain, followed by such heavy snow, is practically unprecedented. The upper level pattern featured a positively tilted upper trough across the desert southwest on the 3rd of March. A tight baroclinic zone stretched northeastward through southern Indiana. Strong southwesterly flow at lower levels brought rich moisture along this nearly stationary boundary. Initially, during the evening hours on the 3rd, rain developed along this boundary and gradually overspread all of southern Indiana and central Kentucky. Steady rain continued through the late afternoon on the 4th. Two to almost 3 inches of rain fell across north central and central Kentucky before precipitation changed into snow during the late afternoon hours on the 4th. Minor areal flooding developed with several roads and low water crossings closed.

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**Heavy Snow (January 20, 2016)**

A weather system originating out of the central Plains brought several inches of snow to portions of central and southern Kentucky. A swath of 3 to 4 inches, locally 5 in spots, fell across western to south-central Kentucky. The timing during the morning commute impacted many people and many schools and businesses were closed for the day. An Arctic air mass ahead of this system resulted in very cold road temperatures, so the snow quickly accumulated once it began to fall. This resulted in hazardous and difficult driving conditions.

### **Winter Storm (January 22, 2016)**

A paralyzing winter storm dumped up to 20 inches of snow across parts of eastern Kentucky from the early morning hours of Friday January 22nd through the day on Saturday January 23rd. The snowfall produced by the storm was the heaviest to fall across eastern Kentucky since the Blizzard of March 1993.

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 of Friday January 22nd. The precipitation fell as a mix of freezing rain, sleet and snow over southeast Kentucky through the morning and 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 or more common as a heavy snow band set up across the heart of eastern Kentucky.

The Automated Surface Observing System located at the Jackson, KY National Weather Service office reported 11 hours of continuous moderate to heavy snow with a visibility of 1/2 mile or less. Snowfall rates were 1 to 2 inches per hour during this time.

Power was also knocked out for thousands of customers during the peak of the storm with the hardest hit areas lying close to the Tennessee border, which experienced up to a quarter inch of ice accumulation before the changeover to snow occurred. The weight of the snow and ice also caused some roof collapses including boat docks on Lake Cumberland and Paintsville Lake.

Storm total snowfall across the Lake Cumberland Region ranged from 8 to 16 inches. The highest snowfall amount of 16 inches was reported 9W Monticello. Up to a quarter inch of freezing rain also occurred.

### **Heavy Snow (February 14, 2016)**

A band of snow moved into central Kentucky during the afternoon and evening hours Sunday, February 14. Totals ranged from 4 to locally 7 inches across parts of central and south central Kentucky.<sup>33</sup>

<sup>33</sup> NOAA Storm Events Database;

[http://www.ncdc.noaa.gov/stormevents/listevents.jsp?eventType=%28%29+Blizzard&eventType=%28%29+Heavy+Snow&eventType=%28%29+Ice+Storm&eventType=%28%29+Winter+Storm&beginDate\\_mm=01&beginDate\\_dd=01&beginDate\\_yyyy=1950&endDate\\_mm=07&endDate\\_dd=31&endDate\\_yyyy=2016&county=ADAIR%3A1&county=CASEY%3A45&county=CLINTON%3A53&county=CUMBERLAND%3A57&county=GREEN%3A87&county=MCCREARY%3A147&county=PULASKI%3A199&county=RUSSELL%3A207&county=TAYLOR%3A217&county=WAYNE%3A231&hailfilter=0.00&tornfilter=0&windfilter=000&sort=DT&submitbutton=Search&statefips=21%2CKENTUCKY](http://www.ncdc.noaa.gov/stormevents/listevents.jsp?eventType=%28%29+Blizzard&eventType=%28%29+Heavy+Snow&eventType=%28%29+Ice+Storm&eventType=%28%29+Winter+Storm&beginDate_mm=01&beginDate_dd=01&beginDate_yyyy=1950&endDate_mm=07&endDate_dd=31&endDate_yyyy=2016&county=ADAIR%3A1&county=CASEY%3A45&county=CLINTON%3A53&county=CUMBERLAND%3A57&county=GREEN%3A87&county=MCCREARY%3A147&county=PULASKI%3A199&county=RUSSELL%3A207&county=TAYLOR%3A217&county=WAYNE%3A231&hailfilter=0.00&tornfilter=0&windfilter=000&sort=DT&submitbutton=Search&statefips=21%2CKENTUCKY)

**Table 4.2(5) NOAA Storm Events Database Probability Estimates (Event Types: Blizzard, Heavy Snow, Ice Storm, Winter Storm [no data for cities])**

Event Probability Basis			Probable Future Events		
Jurisdiction	Total # of Events	Total # Data Reporting Years	Yearly Average Events Per County	Countywide Ave. Loss Per Event	Countywide Ave. Loss Per Year
Adair County*	15	20	.75	\$0.00	\$0.00
Casey County*	12	20	0.60	\$0.00	\$0.00
Clinton County*	14	20	.70	\$0.00	\$0.00
Cumberland County*	14	20	.70	\$0.00	\$0.00
Green County*	11	20	.55	\$0.00	\$0.00
McCreary County*	28	20	1.40	\$270,000.00	\$0.00
Pulaski County*	25	20	1.25	\$0.00	\$0.00
Russell County*	11	20	.55	\$0.00	\$0.00
Taylor County*	13	20	.65	\$0.00	\$0.00
Wayne County*	24	20	1.20	\$0.00	\$0.00
<b>Lake Cumberland Regional Totals</b>	<b>167</b>	<b>20</b>			<b>\$270,000.00</b>

## Summary

### Hazard Location:

- Snowstorms, Heavy Snow, and Blizzards:
  - Heavy snowfall across inland areas of Region and surrounding regions
  - High winds
  - Regionalized flooding/flash flooding along rivers and streams
- Ice Storm:
  - Widespread, capable of affecting the entire Region and surrounding regions
- Ice Jam:
  - Ice buildup in inland rivers – no reported data

### Potential Damage (All Hazards):

- Damage to infrastructure and trees associated with heavy snow and ice loads
- Power outages, limited access to communications and utilities
- Limited travel or impassible roads due to snowfall, ice, downed power lines and trees
- Prolonged cold weather, possibly causing frozen pipes and other damage
- Health hazards associated with exertion (snow shoveling) and exposure to cold

### Scale / Extent:

- Snowstorms, Heavy Snow, and Blizzards:
  - Snowfall anywhere from a few inches to a few feet depending on the storm
  - Typically storms drop less than a 6 inches of snow
  - Severe storms and blizzards may drop up to and in excess of 1-2 feet of snow
- Ice Storm:
  - Can be up to 1 inch of ice covering the entire Region, including electrical and telephone wires, tree branches, structures, roadways, etc.
  - Typical ice buildup of less than ¼ inch are generally not problematic
- Ice Jam:
  - Large pieces of ice potentially the width of the affected stream. As streams in Lake Cumberland Region are typically small and temperatures not conducive to formation, ice jams are not likely to occur.

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Previous Occurrences:

- Snowstorms, Heavy Snow, and Blizzards:
  - Regular snowfall events occur regularly, typically around 2-3 times per year
  - Minor winter storms expected to occur 1-2 per year
  - Major snow storms/blizzards expected to occur less frequently, likely every 5-10 years as per historical data
- Ice Storm:
  - Minor occurrences happen every several years
  - Major events happen every several decades
- Ice Jam:
  - No occurrences in Lake Cumberland Region<sup>34</sup>

Likelihood of Future Occurrences:

- Snowstorms and Blizzards:
  - Likely to experience slightly fewer than 2-3 snowstorms each year of varying size
  - 20% chance each year of having at least 1 snow event larger than 12 inches
- Ice Storm:
  - Expected minor occurrences every several years
  - Expected major event every several decades
- Ice Jam:
  - Not likely to occur in Lake Cumberland Region, perhaps once every 50 to 100 years

#### **4.3 Tornadoes and Thunderstorms/Windstorm/Hailstorm**

##### **Tornadoes**

Tornadoes are a vortex of rapidly rotating air moving along the ground. Tornadoes typically occur during the spring, summer and fall months, usually during the afternoon. Tornadoes may occur in unusually severe thunderstorms, bringing hazards such as very high wind speeds (typically anywhere from 100 to 300 miles per hour) along a Regionalized area, Regionalized heavy rainfall and flooding, frequent lightning and damaging hail.

Tornadoes may be anywhere from less than 250 feet to over two miles in diameter. Typically, tornadoes dissipate after no more than a couple miles on the ground; however have been known to stay on the ground for dozens of miles, causing substantial damage along the way. Although not routinely occurring, tornadoes have occurred in all areas of Kentucky and can occur wherever conditions are right.

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<sup>34</sup> U.S. Army Corps of Engineers Ice Jam Database;  
[http://rsgisias.crrel.usace.army.mil/cm2ij/cm2.cm2ij.map?map=ICEJAM&p\\_MapExt=-89.176819,35.770117,-82.304871,38.639595&p\\_layers=icejam,icejam\\_congress\\_dist&p\\_basemap=GEC](http://rsgisias.crrel.usace.army.mil/cm2ij/cm2.cm2ij.map?map=ICEJAM&p_MapExt=-89.176819,35.770117,-82.304871,38.639595&p_layers=icejam,icejam_congress_dist&p_basemap=GEC)