

## Storm Data and Unusual Weather Phenomena - July 2010

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<b>ILLINOIS, South</b>				
<b>ALEXANDER COUNTY --- THEBES [37.22, -89.47], 0.8 WNW THEBES JCT [37.20, -89.46], 0.8 SE THEBES [37.21, -89.46], 0.4 E THEBES [37.22, -89.46]</b>				
	07/01/10 00:00 CST		0	Flood (due to Heavy Rain)
	07/31/10 23:59 CST		4K	Source: River/Stream Gage
Moderate flooding occurred along the Mississippi River. Fields, boat ramps, and recreational facilities along the river were inundated.				
Numerous rounds of showers and thunderstorms continued over the upper Midwest during July. Copious amounts of rain caused downriver locations to flood. The Mississippi River stayed above flood stage at Thebes for nearly the entire month.				
<b>JACKSON COUNTY --- 1.5 W MT CARBON [37.75, -89.36], 1.4 WNW MT CARBON [37.76, -89.36], 2.4 W MURPHYSBORO [37.77, -89.37], 2.8 W MURPHYSBORO [37.76, -89.38]</b>				
	07/01/10 00:00 CST		0	Flood (due to Heavy Rain)
	07/03/10 16:00 CST		1K	Source: River/Stream Gage
Minor flooding of the Big Muddy River occurred. Bottomland fields were inundated.				
Minor flooding of the Big Muddy River occurred due to rises on the Mississippi River that slowed the drainage of the Big Muddy.				
<b>WABASH COUNTY --- 1.5 E MT CARMEL [38.42, -87.74], 2.3 NE MT CARMEL [38.44, -87.74], 2.0 NE MT CARMEL [38.44, -87.74], 1.2 ENE MT CARMEL [38.42, -87.75]</b>				
	07/01/10 00:00 CST		0	Flood (due to Heavy Rain)
	07/04/10 09:00 CST		0	Source: River/Stream Gage
Minor flooding of the Wabash River continued from late June into early July. Water flowed onto several small streets and roads. A few streets were closed. A restaurant along the river also closed. Lowland flooding caused all oil field production to cease with the exception of pumping units on substructures. Access to these was by boat only. Backwater from the Wabash River was noted on the Bon Pas river gage near Browns Illinois. Agricultural losses were fairly significant. Many river cabins became inaccessible. Crop damage losses were posted in the June report.				
<b>WHITE COUNTY --- MAUNIE [38.03, -88.05], 0.6 NE MAUNIE [38.04, -88.04], 1.2 E MAUNIE [38.03, -88.03], 2.2 E MAUNIE [38.03, -88.01], 1.8 NNE RISING SUN [38.02, -88.02]</b>				
	07/01/10 00:00 CST		0	Flood (due to Heavy Rain)
	07/05/10 08:00 CST		0	Source: River/Stream Gage
Minor flooding of the Wabash River continued from late June into early July. Low-lying fields were flooded, including some cropland. Crop damage estimates were posted in the June report.				
Numerous storm complexes trained over the Midwest during June. Copious amounts of rain fell from Iowa east across central Indiana. As a result, the Wabash River remained above flood stage into early July in southern Illinois.				
<b>WILLIAMSON COUNTY --- 0.5 SE HERRIN [37.79, -89.02], 2.0 E JOHNSTON CITY [37.82, -88.89]</b>				
	07/11/10 14:15 CST		0.10M	Thunderstorm Wind (EG 65 kt)
	07/11/10 14:30 CST		0	Source: NWS Storm Survey
A microburst averaging about one mile wide tracked seven miles from the southeast side of Herrin eastward across the Johnston City area. The primary damage consisted of numerous trees and tree limbs down, along with some power lines. Several power poles were broken just east of Herrin. One of the downed power poles caused power lines to fall on a moving car, trapping the occupants of the car until the power company arrived. Rail traffic was halted by a tree across a railroad track. A porch roof was damaged between Herrin and Johnston City. There were numerous power outages, prompting a nighttime curfew for Johnston City. Trees were down across streets. There was minor damage to a few homes in Johnston City, primarily due to downed trees and limbs. A chimney was blown onto a pickup truck in Johnston City, shattering the windshield and denting it. Peak winds were estimated near 75 mph.				
<b>WILLIAMSON COUNTY --- JOHNSTON CITY [37.82, -88.93]</b>				
	07/11/10 14:25 CST		0	Hail (1.75 in)
	07/11/10 14:25 CST		0	Source: Law Enforcement
<b>JACKSON COUNTY --- 1.0 S CARBONDALE [37.71, -89.22]</b>				
	07/11/10 16:45 CST		0	Hail (0.75 in)
	07/11/10 16:45 CST		0	Source: Emergency Manager

## Storm Data and Unusual Weather Phenomena - July 2010

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<hr/>				
<b>JACKSON COUNTY --- 1.0 S CARBONDALE [37.71, -89.22]</b>				
	07/11/10 16:45 CST		7K	Thunderstorm Wind (EG 52 kt)
	07/11/10 16:45 CST		0	Source: Emergency Manager
Trees up to eight inches in diameter were blown down. Power lines were down.				
<p><b>A seasonably strong upper level jet streak extended from the central Rockies into the Ozark Mountains, to the immediate south of a well-defined shortwave trough translating east-southeastward through the Lower Missouri Valley. This shortwave trough moved east through the Mid-Mississippi Valley. An associated weak surface low accompanied the upper system eastward. Scattered thunderstorms increased during the heat of the afternoon, and isolated microbursts occurred in the Marion/Carbondale area.</b></p>				
<hr/>				
(IL-Z075) JEFFERSON, (IL-Z076) WAYNE, (IL-Z077) EDWARDS, (IL-Z078) WABASH, (IL-Z080) PERRY, (IL-Z081) FRANKLIN, (IL-Z082) HAMILTON, (IL-Z083) WHITE, (IL-Z084) JACKSON, (IL-Z085) WILLIAMSON, (IL-Z086) SALINE, (IL-Z087) GALLATIN, (IL-Z088) UNION, (IL-Z089) JOHNSON, (IL-Z090) POPE, (IL-Z091) HARDIN, (IL-Z092) ALEXANDER, (IL-Z093) PULASKI, (IL-Z094) MASSAC				
	07/14/10 11:00 CST		0	Heat
	07/17/10 17:00 CST		0	
<p><b>A large upper level high over the south central states expanded over the Lower Ohio Valley on the 14th. This feature gradually retreated westward to the Southwest by the 18th. During much of this time period, surface high pressure over the central and southern Appalachian Mountains produced a south to southwest flow of hot and humid air. Heat indices reached 105 to 109 degrees across most of southern Illinois on the 14th and 15th, and only over a few locations on the 16th and 17th. Actual high temperatures were mostly in the middle 90's.</b></p>				
<hr/>				
<b>WABASH COUNTY --- 2.8 NW MAUD [38.42, -87.89], MT CARMEL [38.42, -87.77]</b>				
	07/19/10 14:27 CST		10K	Thunderstorm Wind (EG 52 kt)
	07/19/10 14:41 CST		0	Source: Law Enforcement
A number of trees were blown down across the county.				
<hr/>				
<b>EDWARDS COUNTY --- ALBION [38.38, -88.05]</b>				
	07/19/10 14:35 CST		6K	Thunderstorm Wind (EG 50 kt)
	07/19/10 14:35 CST		0	Source: Law Enforcement
Large tree limbs were blown down. One of them landed on a power line.				
<hr/>				
<b>PERRY COUNTY --- ST JOHNS [38.03, -89.25]</b>				
	07/19/10 14:35 CST		3K	Thunderstorm Wind (EG 52 kt)
	07/19/10 14:35 CST		0	Source: Law Enforcement
A couple of trees were blown down near St. Johns.				
<hr/>				
<b>SALINE COUNTY --- GALATIA [37.83, -88.62]</b>				
	07/19/10 15:35 CST		0	Thunderstorm Wind (EG 52 kt)
	07/19/10 15:35 CST		0	Source: Trained Spotter
A wind gust was estimated by a trained spotter near 60 mph.				
<p><b>A bowing line of thunderstorms raced eastward across Illinois and Indiana at 45 mph. The trailing southern end of the bow crossed parts of southern Illinois, accompanied by locally damaging winds. The line of storms may have been initiated by a weak upper level disturbance entering northern Illinois. As it moved east, the line gained strength as it fed on a very moist and unstable air mass.</b></p>				
<hr/>				
<b>WILLIAMSON COUNTY --- MARION [37.73, -88.93]</b>				
	07/21/10 13:50 CST		0	Heavy Rain
	07/21/10 14:40 CST		0	Source: Newspaper
A thunderstorm dumped heavy rain that left standing water in several areas of Marion. There was minor street flooding.				
<p><b>A thunderstorm developed in a southwest wind flow of hot and humid air. The southwest flow circulated around high pressure centered over eastern Tennessee.</b></p>				
<hr/>				
(IL-Z075) JEFFERSON, (IL-Z076) WAYNE, (IL-Z077) EDWARDS, (IL-Z078) WABASH, (IL-Z080) PERRY, (IL-Z081) FRANKLIN, (IL-Z082) HAMILTON, (IL-Z083) WHITE, (IL-Z084) JACKSON, (IL-Z085) WILLIAMSON, (IL-Z086) SALINE, (IL-Z087) GALLATIN, (IL-Z088) UNION, (IL-Z089) JOHNSON, (IL-Z090) POPE, (IL-Z091) HARDIN, (IL-Z092) ALEXANDER, (IL-Z093) PULASKI, (IL-Z094) MASSAC				

## Storm Data and Unusual Weather Phenomena - July 2010

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	07/22/10 11:00 CST		0	Heat
	07/24/10 17:00 CST		0	

A large upper level high remained stationary from the Tennessee Valley to the Carolinas. Heat and humidity built to dangerous levels near this strong and persistent high. Heat indices reached 100 to 110 degrees over all of southern Illinois each afternoon from the 22nd to the 24th. Actual high temperatures were in the lower to mid 90's on the 22nd and 23rd, and the mid to upper 90's on the 24th.

**(IL-Z084) JACKSON, (IL-Z086) SALINE, (IL-Z088) UNION, (IL-Z089) JOHNSON, (IL-Z090) POPE, (IL-Z091) HARDIN, (IL-Z092) ALEXANDER, (IL-Z093) PULASKI, (IL-Z094) MASSAC**

07/31/10 11:00 CST	0	Heat
07/31/10 17:00 CST	0	

A large upper level high covering the Lower Mississippi Valley and southern Plains was responsible for a dome of hot air. Heat indices reached 105 to 109 degrees over extreme southern Illinois in the afternoon.

### INDIANA, Southwest

**GIBSON COUNTY --- 1.1 NNW HAZLETON [38.49, -87.54], 1.9 NNW HAZLETON [38.50, -87.55], 1.8 NNW HAZLETON [38.50, -87.54], 1.0 NNW HAZLETON [38.49, -87.54]**

07/01/10 00:00 CST	0	Flood (due to Heavy Rain)
07/04/10 11:00 CST	0	Source: River/Stream Gage

Minor flooding continued on the White River into early July. Most bottomland fields were flooded, including cropland. High water affected any residents who stayed in Pottsville river cabins. A few back roads near the river were flooded, including at least one that was impassable. Low oil fields were flooded. Flood gates were installed at Hazleton. Flood waters covered the Hazleton softball field. Crop damage estimates were posted in the June report.

**GIBSON COUNTY --- EAST MT CARMEL [38.40, -87.73], 1.1 NW EAST MT CARMEL [38.41, -87.74], 1.2 W EAST MT CARMEL [38.40, -87.75], 0.8 WSW EAST MT CARMEL [38.40, -87.74]**

07/01/10 00:00 CST	0	Flood (due to Heavy Rain)
07/04/10 13:00 CST	0	Source: River/Stream Gage

Minor flooding of the Wabash River continued from late June into early July. Water flowed onto several small streets and roads. Lowland flooding caused all oil field production to cease with the exception of pumping units on substructures. Access to these was by boat only. Agricultural losses were fairly significant. River cabins became inaccessible. Crop loss estimates were posted in the June report.

**PIKE COUNTY --- 0.9 NNW PETERSBURG [38.51, -87.29], 1.7 NNE PETERSBURG [38.52, -87.27], 1.4 NNE PETERSBURG [38.52, -87.27], 0.7 NNW PETERSBURG [38.51, -87.28]**

07/01/10 00:00 EST	0	Flood (due to Heavy Rain)
07/03/10 19:00 EST	0	Source: River/Stream Gage

Minor flooding continued on the White River near Petersburg into early July. Flooding affected most bottomland fields, including some cropland. A few residents in an area known as Dodge City may have been affected if they remained. Local roads leading to the Dodge City area were flooded, and at least one was impassable. State Road 257 began to flood. Low agricultural lands and low oil fields were inundated. Crop damage estimates were posted in the June report.

**POSEY COUNTY --- 0.6 WNW NEW HARMONY [38.13, -87.94], 0.9 NNE NEW HARMONY [38.14, -87.93], 0.8 NNE NEW HARMONY [38.14, -87.92], 0.4 WNW NEW HARMONY [38.13, -87.94]**

07/01/10 00:00 CST	0	Flood (due to Heavy Rain)
07/05/10 18:00 CST	0	Source: River/Stream Gage

Minor flooding continued on the Wabash River from late June into early July. Some oil well production ceased. Low-lying fields were flooded, including some cropland. Crop damage estimates were posted in the June report.

**Numerous storm complexes trained over the Midwest during the month of June. Copious amounts of rain fell from Iowa east across central Indiana. As a result, the Wabash and White Rivers remained above flood stage into early July in southwest Indiana.**

**VANDEBURGH COUNTY --- EVANSVILLE [37.98, -87.55]**

07/08/10 19:30 CST	10K	Lightning
07/08/10 19:30 CST	0	Source: Newspaper

A house fire was started by lightning. The fire was mostly limited to the attic and a downstairs wall. The house sustained smoke and water damage.

## Storm Data and Unusual Weather Phenomena - July 2010

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<b>VANDERBURGH COUNTY --- EVANSVILLE [37.98, -87.55]</b>				
	07/08/10 19:30 CST		7K	Heavy Rain
	07/08/10 20:15 CST		0	Source: Newspaper
A thunderstorm dumped more than one-half inch of rain at the Evansville airport in less than an hour. Radar estimated more than an inch in the downtown area of the city. The city police and fire departments assisted motorists in cars stranded at several flooded intersections.				
<b>VANDERBURGH COUNTY --- EVANSVILLE [37.98, -87.55]</b>				
	07/08/10 19:35 CST		10K	Thunderstorm Wind (EG 50 kt)
	07/08/10 19:35 CST		0	Source: Newspaper
Trees were blown down, including some that fell across roadways.				
<b>An isolated severe thunderstorm developed along the leading edge of slightly cooler and drier air moving southward from the Great Lakes region.</b>				
<b>(IN-Z081) GIBSON, (IN-Z082) PIKE, (IN-Z085) POSEY, (IN-Z086) VANDERBURGH, (IN-Z087) WARRICK, (IN-Z088) SPENCER</b>				
	07/14/10 11:00 CST		0	Heat
	07/17/10 17:00 CST		0	
A large upper level high over the south central states expanded over the Lower Ohio Valley on the 14th. This feature gradually retreated westward to the Southwest by the 18th. During much of this time period, surface high pressure over the central and southern Appalachian Mountains produced a south to southwest flow of hot and humid air. Heat indices reached 105 to 109 degrees across most of southwest Indiana on the 14th and 15th, and only over a few locations on the 16th and 17th. Actual high temperatures were mostly in the middle 90's.				
<b>SPENCER COUNTY --- 5.0 N ROCKPORT [37.95, -87.05]</b>				
	07/18/10 13:13 CST		0	Thunderstorm Wind (MG 51 kt)
	07/18/10 13:13 CST		0	Source: Trained Spotter
A wind gust to 59 mph was measured in an open field. Winds were sustained from 35 to 45 mph.				
<b>A line of thunderstorms moved east across the region, supported by the trailing end of a shortwave trough moving east across the Great Lakes region. At the surface, a cold front trailed southwest across Illinois from low pressure over the Chicago area.</b>				
<b>GIBSON COUNTY --- OWENSVILLE [38.27, -87.68]</b>				
	07/19/10 14:55 CST		25K	Thunderstorm Wind (EG 52 kt)
	07/19/10 14:55 CST		0	Source: Broadcast Media
Ten trees were blown down. Roads were blocked.				
<b>GIBSON COUNTY --- 1.0 NW FT BRANCH [38.26, -87.59], FT BRANCH [38.25, -87.58]</b>				
	07/19/10 15:00 CST		50K	Thunderstorm Wind (EG 61 kt)
	07/19/10 15:00 CST		1K	Source: NWS Storm Survey
A microburst with maximum winds near 70 mph struck the west and northwest sides of Fort Branch. A large barn about 100 by 70 feet in area was levelled. Some tin was torn off a shed. Several large tree limbs were down. Less than an acre of corn was flattened.				
<b>GIBSON COUNTY --- OAKLAND CITY [38.33, -87.35]</b>				
	07/19/10 15:00 CST		10K	Thunderstorm Wind (MG 53 kt)
	07/19/10 15:00 CST		0	Source: Broadcast Media
Trees and power lines were blown down. A wind gust was measured at 61 mph.				
<b>POSEY COUNTY --- 3.0 W POSEYVILLE [38.17, -87.84], WADESVILLE [38.10, -87.78]</b>				
	07/19/10 15:10 CST		9K	Thunderstorm Wind (EG 52 kt)
	07/19/10 15:22 CST		0	Source: Trained Spotter
A few miles west of Poseyville, several trees were blown down. A couple of roads were blocked. In Wadesville, tree limbs were blown down by winds estimated near 60 mph.				
<b>VANDERBURGH COUNTY --- EVANSVILLE [37.98, -87.55], 2.0 NE EVANSVILLE [38.00, -87.52]</b>				

## Storm Data and Unusual Weather Phenomena - July 2010

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	07/19/10 15:17 CST		7K	Thunderstorm Wind (EG 50 kt)
	07/19/10 15:25 CST		0	Source: Broadcast Media

A power pole and wires were down in Evansville. Wires were down in the northeast suburbs of Evansville.

### SPENCER COUNTY --- ROCKPORT [37.88, -87.05]

	07/19/10 15:52 CST		0	Thunderstorm Wind (MG 55 kt)
	07/19/10 15:52 CST		0	Source: Trained Spotter

A wind gust was measured to 63 mph.

A bowing line of thunderstorms raced eastward across Illinois and Indiana at 45 mph. The trailing southern end of the bow crossed southwest Indiana, accompanied by locally damaging winds. The line of storms may have been initiated by a weak upper level disturbance entering northern Illinois. As it moved east, the line gained strength as it fed on a very moist and unstable air mass.

### (IN-Z081) GIBSON, (IN-Z082) PIKE, (IN-Z085) POSEY, (IN-Z086) VANDERBURGH, (IN-Z087) WARRICK, (IN-Z088) SPENCER

	07/22/10 11:00 CST		0	Heat
	07/24/10 17:00 CST		0	

A large upper level high remained stationary from the Tennessee Valley to the Carolinas. Heat and humidity built to dangerous levels near this strong and persistent high. Heat indices reached 100 to 110 degrees over all of southwest Indiana each afternoon from the 22nd to the 24th. Actual high temperatures were in the lower to mid 90's on the 22nd and 23rd, and the mid to upper 90's on the 24th.

## KENTUCKY, Southwest

### (KY-Z001) FULTON, (KY-Z002) HICKMAN, (KY-Z003) CARLISLE, (KY-Z004) BALLARD, (KY-Z005) MCCRACKEN, (KY-Z006) GRAVES, (KY-Z007) LIVINGSTON, (KY-Z008) MARSHALL, (KY-Z009) CALLOWAY, (KY-Z010) CRITTENDEN, (KY-Z011) LYON, (KY-Z012) TRIGG, (KY-Z013) CALDWELL, (KY-Z014) UNION, (KY-Z015) WEBSTER, (KY-Z016) HOPKINS, (KY-Z017) CHRISTIAN, (KY-Z018) HENDERSON, (KY-Z019) DAVIESS, (KY-Z020) MCLEAN, (KY-Z021) MUHLENBERG, (KY-Z022) TODD

	07/15/10 11:00 CST		0	Heat
	07/17/10 17:00 CST		0	

A large upper level high over the south central states expanded over the Lower Ohio Valley on the 14th. This feature gradually retreated westward to the Southwest by the 18th. During much of this time period, surface high pressure over the central and southern Appalachian Mountains produced a south to southwest flow of hot and humid air. Heat indices reached 105 to 109 degrees across all of western Kentucky on the 15th, and only over the extreme west on the 16th. Actual high temperatures were mostly in the middle 90's.

### DAVIESS COUNTY --- OWENSBORO [37.77, -87.12], 2.9 NNW OWENSBORO [37.81, -87.15], 0.5 SSE ROME [37.71, -87.18], 2.7 S BROWNWOOD MANOR [37.71, -87.05], 2.0 WSW THURSTON [37.79, -87.06]

	07/15/10 22:34 CST		10K	Flash Flood (due to Heavy Rain)
	07/16/10 01:10 CST		0	Source: Law Enforcement

Several vehicles were stranded in floodwaters. Several roads were under water and impassable. The rain gage at the Owensboro airport measured 1.94 inches in one hour, and 3.66 inches in about two-and-a-half hours.

A large cluster of thunderstorms formed along a weak cold front that extended from east central Indiana southwest across the Lower Ohio Valley. The cluster of storms persisted over the city of Owensboro due to training of storm cells over the city.

### CALLOWAY COUNTY --- MURRAY [36.62, -88.32]

	07/16/10 14:52 CST		0	Hail (0.75 in)
	07/16/10 14:52 CST		0	Source: Trained Spotter

### MCCRACKEN COUNTY --- PADUCAH [37.08, -88.63]

	07/16/10 15:15 CST		0	Heavy Rain
	07/16/10 16:15 CST		0	Source: Newspaper

A thunderstorm dumped heavy rain that caused minor street flooding in Paducah.

A few strong storms developed during the heat of the day. The storms formed on the trailing end of a mid-level shortwave trough that was tracking east across the Great Lakes. The environment was typical of mid-summer, with weak wind shear, plentiful moisture, and strong instability.

## Storm Data and Unusual Weather Phenomena - July 2010

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<b>HENDERSON COUNTY --- 1.1 NW HENDERSON [37.84, -87.59]</b>				
	07/19/10 15:45 CST		25K	Thunderstorm Wind (EG 52 kt)
	07/19/10 15:45 CST		0	Source: Emergency Manager
Several boats were overturned at a boat ramp on the Ohio River.				
<b>HENDERSON COUNTY --- HENDERSON [37.83, -87.58]</b>				
	07/19/10 16:00 CST		0	Heavy Rain
	07/19/10 16:30 CST		0	Source: Broadcast Media
Water was over U.S. Highway 60 in a couple of spots, including the intersection of U.S. Highway 41.				
<b>UNION COUNTY --- PRIDE [37.55, -87.90]</b>				
	07/19/10 16:02 CST		0	Funnel Cloud
	07/19/10 16:02 CST		0	Source: Trained Spotter
A trained spotter reported a funnel cloud went down and back up.				
<b>DAVIESS COUNTY --- BIRK CITY [37.78, -87.28]</b>				
	07/19/10 16:04 CST		2K	Thunderstorm Wind (MG 56 kt)
	07/19/10 16:04 CST		0	Source: Emergency Manager
A wind gust to 65 mph was measured. A tree was blown down.				
<b>DAVIESS COUNTY --- OWENSBORO [37.77, -87.12]</b>				
	07/19/10 16:31 CST		0	Heavy Rain
	07/19/10 17:00 CST		0	Source: Trained Spotter
Water covered several street intersections. The flooding was minor.				
<b>DAVIESS COUNTY --- WHITESVILLE [37.68, -86.88]</b>				
	07/19/10 17:00 CST		10K	Lightning
	07/19/10 17:00 CST		0	Source: Newspaper
A three-alarm house fire was apparently started by a lightning strike. Lightning appeared to have struck a vent pipe on top of the home, sending a surge down into the pantry of the home on the first floor. The home sustained moderate smoke and water damage in the kitchen area.				
<b>A bowing line of thunderstorms raced eastward across Illinois and Indiana at 45 mph. The trailing southern end of the bow crossed parts of northwest Kentucky, accompanied by locally damaging winds. The line of storms may have been initiated by a weak upper level disturbance entering northern Illinois. As it moved east, the line gained strength as it fed on a very moist and unstable air mass.</b>				
<b>(KY-Z001) FULTON, (KY-Z002) HICKMAN, (KY-Z003) CARLISLE, (KY-Z004) BALLARD, (KY-Z005) MCCRACKEN, (KY-Z006) GRAVES, (KY-Z007) LIVINGSTON, (KY-Z008) MARSHALL, (KY-Z009) CALLOWAY, (KY-Z010) CRITTENDEN, (KY-Z011) LYON, (KY-Z012) TRIGG, (KY-Z013) CALDWELL, (KY-Z014) UNION, (KY-Z015) WEBSTER, (KY-Z016) HOPKINS, (KY-Z017) CHRISTIAN, (KY-Z018) HENDERSON, (KY-Z019) DAVIESS, (KY-Z020) MCLEAN, (KY-Z021) MUHLENBERG, (KY-Z022) TODD</b>				
	07/22/10 11:00 CST		0	Heat
	07/24/10 17:00 CST		0	
A large upper level high remained stationary from the Tennessee Valley to the Carolinas. Heat and humidity built to dangerous levels near this strong and persistent high. Heat indices reached 100 to 110 degrees over parts of western Kentucky on the 22nd, and all of western Kentucky on the 23rd and 24th. Actual high temperatures were in the lower to mid 90's on the 22nd and 23rd, and the mid to upper 90's on the 24th.				
<b>(KY-Z001) FULTON, (KY-Z002) HICKMAN, (KY-Z003) CARLISLE, (KY-Z004) BALLARD, (KY-Z005) MCCRACKEN, (KY-Z006) GRAVES, (KY-Z007) LIVINGSTON, (KY-Z008) MARSHALL, (KY-Z009) CALLOWAY, (KY-Z010) CRITTENDEN, (KY-Z011) LYON, (KY-Z012) TRIGG, (KY-Z013) CALDWELL, (KY-Z014) UNION</b>				
	07/29/10 11:00 CST		0	Heat
	07/31/10 17:00 CST		0	
A large upper level high covering the Lower Mississippi Valley and southern Plains was responsible for a dome of hot air. Heat indices reached 105 to 109 degrees west of the Kentucky Lake region on the 29th, and west of a Henderson to Hopkinsville line on the 31st. Heat indices on the 30th peaked around 100 degrees over the far west.				

## Storm Data and Unusual Weather Phenomena - July 2010

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
----------	-----------	-------------------	---------------------	------------------------

### MISSOURI, Southeast

**CAPE GIRARDEAU COUNTY --- 1.0 S CAPE GIRARDEAU [37.28, -89.53], 1.4 SE GULF JCT [37.26, -89.53], 1.4 E GULF JCT [37.27, -89.52], 1.1 SSE CAPE GIRARDEAU [37.29, -89.52]**

07/01/10 00:00 CST	0	Flood (due to Heavy Rain)
07/31/10 23:59 CST	4K	Source: River/Stream Gage

Moderate flooding occurred along the Mississippi River. A couple of flood gates were closed in the Cape Girardeau floodwall. Fields, boat ramps, and parkland along the river were inundated.

Numerous rounds of showers and thunderstorms continued over the upper Midwest during July. Copious amounts of rain caused downriver locations to flood. The Mississippi River stayed above flood stage at Cape Girardeau for the entire month.

**(MO-Z100) WAYNE, (MO-Z107) CARTER, (MO-Z108) RIPLEY, (MO-Z109) BUTLER, (MO-Z110) STODDARD, (MO-Z111) SCOTT, (MO-Z112) MISSISSIPPI, (MO-Z114) NEW MADRID**

07/02/10 00:00 CST	0	Drought
07/31/10 23:59 CST	0	

Moderate drought conditions developed over much of southeast Missouri after a very dry June. Poplar Bluff received only about one-half inch of rain in June. Rainfall during July consisted of isolated to widely scattered showers and thunderstorms. Hot conditions increased evaporation rates and crop stress. Corn yields were expected to be cut by half where irrigation was not used. An upper level ridge of high pressure was firmly entrenched over the southeastern states early in the month. The high slowly migrated toward the southern Plains by mid-month and toward the southwestern U.S. by the 20th. It eventually re-established itself over the Southeast late in the month.

**WAYNE COUNTY --- 0.9 W OLD GREENVILLE [37.10, -90.49], 3.0 S BURBANK [37.11, -90.41], 1.0 N BURBANK [37.16, -90.42], 1.9 SE SILVA [37.15, -90.49]**

07/11/10 17:33 CST	0	Flash Flood (due to Heavy Rain)
07/11/10 19:00 CST	0	Source: Law Enforcement

U.S. Highway 67 was flooded in several places. Widespread flooding was observed on area roadways across the county.

A seasonably strong upper level jet streak extended from the central Rockies into the Ozark Mountains, to the immediate south of a well-defined shortwave trough translating east-southeastward through the Lower Missouri Valley. This shortwave trough moved east through the Mid-Mississippi Valley. An associated weak surface low accompanied the upper system eastward. Numerous thunderstorms with torrential rain developed during the heat of the afternoon over Wayne County, resulting in flash flooding.

**(MO-Z076) PERRY, (MO-Z086) BOLLINGER, (MO-Z087) CAPE GIRARDEAU, (MO-Z100) WAYNE, (MO-Z107) CARTER, (MO-Z108) RIPLEY, (MO-Z109) BUTLER, (MO-Z110) STODDARD, (MO-Z111) SCOTT, (MO-Z112) MISSISSIPPI, (MO-Z114) NEW MADRID**

07/14/10 11:00 CST	0	Heat
07/17/10 17:00 CST	0	

A large upper level high over the south central states expanded over the Lower Ohio Valley on the 14th. This feature gradually retreated westward to the Southwest by the 18th. During much of this time period, surface high pressure over the central and southern Appalachian Mountains produced a south to southwest flow of hot and humid air. Heat indices reached 105 to 109 degrees across all of southeast Missouri on the 14th and 15th, and only over part of the area on the 16th and 17th. Actual high temperatures were mostly in the middle 90's.

**(MO-Z086) BOLLINGER, (MO-Z087) CAPE GIRARDEAU, (MO-Z100) WAYNE, (MO-Z107) CARTER, (MO-Z108) RIPLEY, (MO-Z109) BUTLER, (MO-Z110) STODDARD, (MO-Z111) SCOTT, (MO-Z114) NEW MADRID**

07/20/10 11:00 CST	0	Heat
07/20/10 17:00 CST	0	

Surface low pressure over the southern Plains combined with high pressure off the Southeast U.S. coast produced a southwest wind flow of hot and humid air. Heat index values reached 105 to 109 degrees over most of southeast Missouri. Actual highs were in the lower to mid 90's.

**(MO-Z076) PERRY, (MO-Z086) BOLLINGER, (MO-Z087) CAPE GIRARDEAU, (MO-Z100) WAYNE, (MO-Z107) CARTER, (MO-Z108) RIPLEY, (MO-Z109) BUTLER, (MO-Z110) STODDARD, (MO-Z111) SCOTT, (MO-Z112) MISSISSIPPI, (MO-Z114) NEW MADRID**

07/22/10 11:00 CST	0	Heat
07/24/10 17:00 CST	0	

## Storm Data and Unusual Weather Phenomena - July 2010

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
----------	-----------	-------------------	---------------------	------------------------

A large upper level high remained stationary from the Tennessee Valley to the Carolinas. Heat and humidity built to dangerous levels near this strong and persistent high. Heat indices reached 100 to 110 degrees over all of southeast Missouri each afternoon from the 22nd to the 24th. Actual high temperatures were in the lower to mid 90's on the 22nd and 23rd, and the mid to upper 90's on the 24th.

---

(MO-Z086) BOLLINGER, (MO-Z087) CAPE GIRARDEAU, (MO-Z100) WAYNE, (MO-Z107) CARTER, (MO-Z108) RIPLEY, (MO-Z109) BUTLER, (MO-Z110) STODDARD, (MO-Z111) SCOTT, (MO-Z112) MISSISSIPPI, (MO-Z114) NEW MADRID

07/29/10 11:00 CST	0	Heat
07/31/10 17:00 CST	0	

A large upper level high covering the Lower Mississippi Valley and southern Plains was responsible for a dome of hot air. Heat indices reached 105 to 109 degrees over most of southeast Missouri on the 29th and 31st, and only from Sikeston south and west on the 30th.

---

CAPE GIRARDEAU COUNTY --- DAISY [37.52, -89.80]

07/30/10 14:05 CST	0	Hail (1.00 in)
07/30/10 14:05 CST	0	Source: Post Office

Thunderstorms developed in the vicinity of a slow-moving frontal boundary that extended from the central Plains southeast across the Missouri Bootheel into west Tennessee.