

Storm Data and Unusual Weather Phenomena - June 2019

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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ILLINOIS, South

ALEXANDER COUNTY --- 2.7 ESE CAIRO [36.99, -89.13], 1.8 SSE CAIRO [36.98, -89.17], 0.8 WSW URBANDEALE [37.05, -89.19], 0.2 N URBANDEALE [37.05, -89.18]

06/01/19 00:00 CST	50K	Flood (due to Heavy Rain)
06/30/19 23:59 CST	50K	Source: River/Stream Gage

The Ohio River remained above flood stage since February 8 and through the month of June. This was the most prolonged flood on the Ohio River since records began at Cairo in the late 1800's. The highest recorded stage in the month of June (2019) was 51.54 feet, which corresponds to the moderate flood category. At this stage, the flooding has a significant impact on farming operations in the flood plain, causing some farmers to lose crops. However, farmers never were able to plant crops because this flood began in the winter. Riverside parks and recreational facilities remained underwater. Some side roads near the river were flooded. Due to the extended duration of the flooding, levees along the river were very stressed from saturation of the soil. Seepage was a concern, and relief wells caused water to rise on the land side of the levees. Moderate flooding continued into the month of July.

ALEXANDER COUNTY --- THEBES [37.22, -89.47], 0.8 SSW FAYVILLE [37.16, -89.44], 1.3 W MILLER CITY [37.12, -89.39], 0.8 NNE MILLER CITY [37.13, -89.36], 0.7 N THEBES JCT [37.21, -89.45], EAST CAPE GIRARDEAU [37.29, -89.48]

06/01/19 00:00 CST	2M	Flood (due to Heavy Rain)
06/30/19 23:59 CST	0.20M	Source: River/Stream Gage

Major flooding continued on the Mississippi River through the month of June. After rising above flood stage in mid March, the Mississippi River remained above flood stage through the spring and into early summer. At the Thebes river gage, the river crested at 43.66 feet on June 10. This is considered a major flood. Major flooding starts at 42 feet. The East Cape Girardeau area was particularly hard hit, with some residences flooded for weeks. The Route 146 bridge connecting Illinois and Missouri at Cape Girardeau was closed due to flooding on the Illinois side of Route 146. Illinois Route 3 was flooded and closed for an extended period of time from Thebes north to East Cape Girardeau. A break in the Len Small Levee that occurred during the record flood of 2016 was not adequately repaired. This prolonged major flood enlarged the break in the levee, causing large parts of the Miller City area to flood. Several evacuated families were unable to reach their homes due to the flooding and road washouts. In the Miller City area, large sections of roads were washed away. The county highway engineer estimated damage to roads was well over one million dollars. A sewage plant at Thebes was inundated with floodwater and shut down, causing the community to be without sewer services. The Thebes Landing area of town was flooded. There was widespread flooding of low-lying farmland and woods across the county. Since some crop planting was not possible due to prolonged spring flooding, direct crop losses were reduced. The extended duration of the flooding caused levees to become unstable, and seepage became a problem. The governor of Illinois issued a disaster proclamation for the affected counties along the river.

JACKSON COUNTY --- GRAND TOWER [37.63, -89.50], 0.4 WSW GRAND TOWER [37.63, -89.51], 2.7 SE NEUNERT [37.69, -89.52], 1.0 S GORHAM [37.71, -89.48]

06/01/19 00:00 CST	0.10M	Flood (due to Heavy Rain)
06/30/19 23:59 CST	50K	Source: River/Stream Gage

Major flooding of the Mississippi River continued through the month of June. The county was included in a disaster proclamation issued by the governor. There was extensive flooding of low-lying farmland and woods. Numerous county roads were inundated. Levees began to show signs of stress due to the extended duration of the flood, which began in March. Sinkholes and sand boils developed along the levee protecting Grand Tower, which prompted emergency repairs.

JACKSON COUNTY --- MT CARBON [37.75, -89.33], 2.2 W MT CARBON [37.75, -89.37], 2.0 WNW MT CARBON [37.76, -89.36], 0.5 NW MT CARBON [37.76, -89.34]

06/01/19 00:00 CST	50K	Flood (due to Heavy Rain)
06/30/19 23:59 CST	50K	Source: River/Stream Gage

Lower portions of the Big Muddy River remained above flood stage from mid March through the month of June. The flooding was due almost entirely to backwater from the swollen Mississippi River, which experienced major flooding. The highest crest during June at the Murphysboro gage was 31.72 feet on the 11th. This crest falls into the moderate flood category. Low-lying woods and fields near the river were flooded, along with sections of a riverfront park. A few streets near the river were flooded. Near the confluence of the Big Muddy and Mississippi Rivers, a levee was compromised, prompting emergency repairs.

PULASKI COUNTY --- MOUND CITY [37.08, -89.17], 0.7 ESE MOUND CITY [37.08, -89.16], 2.5 SSE NEW GRAND CHAIN [37.22, -89.00], 0.9 SSE NEW GRAND CHAIN [37.24, -89.01], 0.7 WSW OLMSTED [37.18, -89.09]

06/01/19 00:00 CST	20K	Flood (due to Heavy Rain)
06/30/19 23:59 CST	10K	Source: River/Stream Gage

Moderate flooding of the Ohio River continued through the month of June. Much of the flooding was due to backwater from the swollen Mississippi River. Considerable flooding of low-lying woods, fields, and parks persisted. Typically, this scale of flooding has a large impact on farming operations. Due to the lack of planted crops during this long-term flood, there were little in the way of crop losses.

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
UNION COUNTY --- WARE [37.45, -89.40], 0.6 ENE REYNOLDSVILLE [37.37, -89.39], 1.3 WNW REYNOLDSVILLE [37.38, -89.42], 3.0 SSW WOLF LAKE [37.46, -89.45], 2.4 SW LARUE [37.51, -89.48], 1.3 WNW WOLF LAKE [37.51, -89.45]				
	06/01/19 00:00 CST		0.50M	Flood (due to Heavy Rain)
	06/30/19 23:59 CST		0.10M	Source: River/Stream Gage
<p>Major flooding of the Mississippi River continued through the month of June. A disaster proclamation was issued by the governor. There was extensive flooding of low-lying farmland and woods. Numerous county roads were inundated. Levees began to show signs of stress due to the extended duration of the flood, which began in March. The Union County sheriff advised residents in the Wolf Lake and Ware areas that storm sirens would be used in the event of a levee breach.</p>				
WABASH COUNTY --- 1.4 E MT CARMEL [38.42, -87.74], 2.1 SSE PATTON [38.45, -87.74], 1.9 S PATTON [38.45, -87.75], 0.7 E MT CARMEL [38.42, -87.76]				
	06/01/19 00:00 CST		0	Flood (due to Heavy Rain)
	06/02/19 13:00 CST		0	Source: River/Stream Gage
WHITE COUNTY --- CARMi [38.08, -88.17], 1.7 ESE BROWNSVILLE [38.02, -88.22], 3.3 N HERALD [38.02, -88.18], 1.8 SSE CARMi MUNI ARPT [38.08, -88.14]				
	06/01/19 00:00 CST		0	Flood (due to Heavy Rain)
	06/05/19 18:00 CST		0	Source: River/Stream Gage
WHITE COUNTY --- MAUNIE [38.03, -88.05], 1.5 E PHILLIPSTOWN [38.15, -87.99], 3.8 E PHILLIPSTOWN [38.15, -87.95], 4.6 SE PHILLIPSTOWN [38.10, -87.96], 3.8 ENE MAUNIE [38.05, -87.99]				
	06/01/19 00:00 CST		0	Flood (due to Heavy Rain)
	06/03/19 11:00 CST		0	Source: River/Stream Gage
<p>Several rivers remained above flood stage from May. On the Mississippi River, major flooding continued through the month of June. Backwater from the Mississippi kept moderate flooding going on the lowest reaches of the Ohio River as well as the Big Muddy River. The flooding on the Wabash and Little Wabash Rivers was minor. The region remained stuck in a long-term wet pattern that continued through the spring and into early summer. Most locations were 1 to 2 inches above normal for the month of June. Some locations saw as much as 3 to 5 inches more rainfall than normal in June. At Evansville, Indiana, it was the 6th wettest June on record with a total of 7.53 inches.</p>				
WAYNE COUNTY --- 8.0 NW JOHNSONVILLE [38.60, -88.63]				
	06/05/19 15:45 CST		0	Thunderstorm Wind (EG 52 kt)
	06/05/19 15:45 CST		0	Source: Trained Spotter
<p>A trained spotter estimated a wind gust to 60 mph.</p>				
WAYNE COUNTY --- 3.0 NW CISNE [38.55, -88.47]				
	06/05/19 16:10 CST		0	Hail (0.88 in)
	06/05/19 16:10 CST		0	Source: Emergency Manager
WAYNE COUNTY --- 2.0 SE GOLDEN GATE [38.35, -88.17]				
	06/05/19 17:03 CST		25K	Thunderstorm Wind (EG 74 kt)
	06/05/19 17:05 CST		0	Source: NWS Storm Survey
<p>Approximately 30 trees were downed just southeast of the community of Golden Gate on County Road 650N. Additional damage in that same vicinity included part of a shed roof and an outdoor plastic playhouse. The path length of the microburst was one-third of a mile, and the width was 400 yards. Peak winds were estimated near 85 mph based on drone footage of the damage.</p>				
WHITE COUNTY --- CROSSVILLE [38.17, -88.07], 3.5 SW GRAYVILLE [38.23, -88.05]				
	06/05/19 17:50 CST		75K	Thunderstorm Wind (EG 61 kt)
	06/05/19 18:00 CST		0	Source: Fire Department/Rescue

A tractor-trailer rig was blown over west-southwest of Grayville on Interstate 64. In the same vicinity, a large electric transmission line and double power poles were blown down onto a roadway. Multiple large trees were blown down along Highway 1 between Crossville and Grayville. Numerous power lines were down in and around Crossville.

Numerous clusters of thunderstorms developed in southern Illinois along an outflow boundary from earlier storms, and ahead of a cold front over central Illinois. Strong solar heating contributed to a very unstable atmosphere, with mixed-layer capes from 3000 to 3500. Weak wind shear limited storm organization, but strong buoyancy supported intense storms capable of damaging winds.

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
JACKSON COUNTY --- DE SOTO [37.82, -89.23]				
	06/16/19 15:10 CST		1K	Thunderstorm Wind (EG 52 kt)
	06/16/19 15:10 CST		0	Source: Trained Spotter

A large tree was snapped. A few miles away, the peak wind gust at the Carbondale airport was 55 mph.

UNION COUNTY --- COBDEN [37.53, -89.25]				
	06/16/19 15:16 CST		8K	Thunderstorm Wind (EG 52 kt)
	06/16/19 15:16 CST		0	Source: Law Enforcement

Trees were blown down on power lines.

JEFFERSON COUNTY --- 3.0 WSW WALTONVILLE [38.20, -89.10]				
	06/16/19 15:58 CST		0	Hail (1.00 in)
	06/16/19 15:58 CST		0	Source: Trained Spotter

WAYNE COUNTY --- 1.5 NNE WAYNE CITY [38.37, -88.57], 1.5 SSE FAIRFIELD MUNI ARPT [38.36, -88.41], 1.9 N FAIRFIELD MUNI ARPT [38.41, -88.41], 2.3 W COVINGTON [38.41, -88.52]				
	06/16/19 16:19 CST		0	Flash Flood (due to Heavy Rain)
	06/16/19 19:00 CST		0	Source: Trained Spotter

Water was flowing over Illinois Highway 15 in multiple places near Wayne City. A mesonet site at Fairfield measured 3.45 inches of rain in 24 hours.

JACKSON COUNTY --- MURPHYSBORO [37.77, -89.33], 2.4 SSW MT CARBON [37.72, -89.35], 2.6 SW BARR [37.72, -89.30], 1.3 E MT CARBON [37.75, -89.31]				
	06/16/19 16:29 CST		0	Flash Flood (due to Heavy Rain)
	06/16/19 19:00 CST		0	Source: Public

A couple of secondary roads south of Murphysboro were covered with water.

UNION COUNTY --- COBDEN [37.53, -89.25], 2.8 NNE WARE [37.49, -89.37], 1.5 WNW WARE [37.46, -89.42], 1.1 SSE WARE [37.43, -89.39], 4.0 S COBDEN [37.47, -89.25]				
	06/16/19 17:00 CST	1	30K	Flash Flood (due to Heavy Rain)
	06/16/19 19:00 CST		0	Source: Emergency Manager

Severe flash flooding impacted Union County. There were two water rescues in the county. One car stalled in high water on Mount Glen Road near Cobden. First responders were able to rescue the driver, a young female. The second water rescue involved a vehicle in the Trail of Tears State Forest near Ware. The vehicle was swept off State Forest Road where it crosses Clear Creek. Two people were in the vehicle at the time it was swept off the road. The male involved was able to escape. The body of the other person in the vehicle, a female in her late 50's, was found deceased the following morning less than a mile downstream from the vehicle. Elsewhere in the area, one lane of Highway 146 near the intersection of Highway 3 was flooded. A trained spotter reported 4.0 inches of rainfall in 24 hours three miles east of Ware. The public reported 4.5 inches of rain in 24 hours at Cobden.

Direct Fatalities: F59VE

JEFFERSON COUNTY --- BLUFORD [38.33, -88.75], 1.6 NNW BELLE RIVE [38.25, -88.74], BONNIE [38.20, -88.90], 2.5 NNE MARCOE [38.30, -88.96], 2.2 NE (MVN)MT VERNON ARPT [38.34, -88.84]				
	06/16/19 17:30 CST		0	Flash Flood (due to Heavy Rain)
	06/16/19 19:00 CST		0	Source: Law Enforcement

Numerous roads were flooded around Bluford, including Highway 15. Several wrecks were reported on Interstates 57 and 64 due to water ponding issues.

MASSAC COUNTY --- 3.0 NW JOPPA [37.23, -88.89], 3.0 E JOPPA [37.20, -88.80]				
	06/16/19 17:45 CST		10K	Thunderstorm Wind (EG 56 kt)
	06/16/19 17:55 CST		0	Source: Public

Trees were down across parts of Massac County, mainly in the Joppa area.

As strong solar heating destabilized the atmosphere, numerous clusters of intense thunderstorms blossomed from southeast Missouri to southwest Indiana. The main impact associated with these storms was flash flooding. Several locations picked up torrential rainfall amounts over a short time period. Over four inches of rain occurred in Union County, prompting water rescues from vehicles. Damaging winds up to around 60 mph occurred with a few of the storms as well. The environment was characterized by moderate to strong instability and moderate wind shear. Effective bulk wind shear values of 25 to 40 knots were observed. The storms developed

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east of a weak low pressure center over Missouri.				
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PULASKI COUNTY --- 1.0 S VILLA RIDGE [37.16, -89.20]				
	06/19/19 13:05 CST		5K	Thunderstorm Wind (EG 56 kt)
	06/19/19 13:05 CST		0	Source: Law Enforcement
Trees were blown down, and power outages were reported.				
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MASSAC COUNTY --- ROUND KNOB [37.25, -88.75]				
	06/19/19 14:00 CST		6K	Thunderstorm Wind (EG 56 kt)
	06/19/19 14:00 CST		0	Source: Trained Spotter
Trees were blown down in the Round Knob area. Winds gusted to over 60 mph.				
<p>Numerous clusters of thunderstorms developed during the afternoon hours. A few of these were accompanied by damaging winds. The storms occurred south of a surface low pressure center that tracked east along the Interstate 70 corridor from Missouri to Indiana. Thunderstorm development was enhanced by large-scale ascent pivoting from the Ozark Plateau into the lower Ohio Valley, ahead of a low amplitude mid-level trough. Daytime heating helped to increase instability, with mixed layer capes approaching 2000 J/kg.</p>				
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WABASH COUNTY --- 1.8 SE COWLING [38.30, -87.91], 3.0 ESE COWLING [38.30, -87.88], 0.5 SE ROCHESTER [38.34, -87.82], 1.9 SSE MT CARMEL [38.39, -87.76], 1.8 SSW MT CARMEL [38.40, -87.78]				
	06/20/19 05:00 CST		30K	Flood (due to Heavy Rain)
	06/30/19 23:59 CST		10K	Source: River/Stream Gage
The Wabash River crested at Mount Carmel at 27.26 feet on the 26th. This resulted in moderate flooding. Flood stage is 19 feet. There was considerable inundation of low-lying woodlands and fields. Around Mount Carmel, most roads outside the floodwall along the river were impassable. Cattle and farm equipment were moved to higher ground. Some mobile homes had to be moved, and the city of Mount Carmel had to install flood gates. This flood impact was very similar to the flood in February.				
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WHITE COUNTY --- MAUNIE [38.03, -88.05], 3.0 SE EMMA [37.94, -88.06], 3.8 S RISING SUN [37.95, -88.03], 1.3 SSE RISING SUN [37.98, -88.02], 1.5 E MAUNIE [38.03, -88.02]				
	06/20/19 05:00 CST		30K	Flood (due to Heavy Rain)
	06/30/19 23:59 CST	10	0	Source: River/Stream Gage
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GALLATIN COUNTY --- SHAWNEETOWN [37.70, -88.13], 2.4 SW SHAWNEETOWN [37.68, -88.16], 2.0 SSW SHAWNEETOWN [37.67, -88.14], 0.3 SE SHAWNEETOWN [37.70, -88.13]				
	06/20/19 22:00 CST		0	Flood (due to Heavy Rain)
	06/30/19 23:59 CST		0	Source: River/Stream Gage
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WHITE COUNTY --- 1.5 SSE CARMI MUNI ARPT [38.08, -88.14], 2.8 SSE CARMI [38.04, -88.15], 2.7 E BROWNSVILLE [38.03, -88.20], 2.0 SE TRUMBULL [38.06, -88.20], 0.4 SE CARMI [38.08, -88.16]				
	06/23/19 10:00 CST		0	Flood (due to Heavy Rain)
	06/30/19 23:59 CST		0	Source: River/Stream Gage
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MASSAC COUNTY --- METROPOLIS [37.15, -88.73], 0.7 S METROPOLIS [37.14, -88.73], 0.4 WSW BROOKPORT [37.12, -88.64], 1.0 NW BROOKPORT [37.13, -88.64]				
	06/24/19 03:00 CST		0	Flood (due to Heavy Rain)
	06/30/19 23:59 CST		0	Source: River/Stream Gage
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POPE COUNTY --- GOLCONDA [37.37, -88.48], 1.9 S TANSILL [37.27, -88.53], 1.9 NNW BAY CITY [37.28, -88.51], 0.6 S GOLCONDA [37.36, -88.48]				
	06/25/19 05:00 CST		0	Flood (due to Heavy Rain)
	06/29/19 20:00 CST		0	Source: River/Stream Gage
The Wabash, Little Wabash, and Ohio Rivers rose back above flood stage late in the month. These river rises were in response to a series of nearly stationary fronts and outflow boundaries between the 16th and 24th. Numerous rounds of showers and storms occurred during this period. Rainfall totals during this time frame were between 3 and 6 inches. This round of river flooding was generally minor, except for moderate flooding on the Wabash River at Mt. Carmel. The minor flooding, which primarily affected low-lying woods and fields, continued into July at most locations.				
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JEFFERSON COUNTY --- 3.0 SW MT VERNON [38.29, -88.94]				
	06/21/19 13:15 CST		1K	Thunderstorm Wind (EG 52 kt)
	06/21/19 13:15 CST		0	Source: Trained Spotter

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A trained spotter estimated the wind gusted to 60 mph. Power outages occurred.				
HAMILTON COUNTY --- 3.0 NE BELL PRAIRIE CITY [38.25, -88.53]				
	06/21/19 13:44 CST		0	Thunderstorm Wind (MG 51 kt)
	06/21/19 13:44 CST		0	Source: Mesonet
A mesonet site measured a wind gust to 59 mph.				
HARDIN COUNTY --- ELIZABETHTOWN [37.45, -88.30]				
	06/21/19 15:30 CST		0	Lightning
	06/21/19 15:30 CST	1	0	Source: Emergency Manager
A 31-year-old man was struck by lightning while riding a lawn mower. He was hospitalized at a regional hospital with non life-threatening injuries.				
JACKSON COUNTY --- MURPHYSBORO [37.77, -89.33], CARBONDALE [37.72, -89.22]				
	06/21/19 15:32 CST		4K	Thunderstorm Wind (EG 52 kt)
	06/21/19 15:40 CST		0	Source: Emergency Manager
A tree was down in Murphysboro. Tree limbs were down in Carbondale, including a large limb that fell on a house.				
JACKSON COUNTY --- 2.0 E MAKANDA [37.62, -89.16]				
	06/21/19 15:40 CST		2K	Thunderstorm Wind (EG 56 kt)
	06/21/19 15:40 CST		0	Source: Emergency Manager
Two trees were covering Rocky Comfort Road.				
JACKSON COUNTY --- MURPHYSBORO [37.77, -89.33], 0.6 ESE BARR [37.75, -89.26], 1.4 WSW DE SOTO [37.82, -89.26], 0.2 SSW GRANGE HALL [37.82, -89.32]				
	06/21/19 15:45 CST		0	Flash Flood (due to Heavy Rain)
	06/21/19 21:00 CST		0	Source: Emergency Manager
Flooding was reported on Route 149 between Murphysboro and Desoto. Some roadways were reported flooded near Murphysboro.				
PULASKI COUNTY --- 2.0 S ULLIN [37.24, -89.18], MOUNDS [37.12, -89.20]				
	06/21/19 15:50 CST	1	20K	Thunderstorm Wind (EG 65 kt)
	06/21/19 16:00 CST	1	0	Source: Broadcast Media
Damaging winds crossed parts of Pulaski County, downing numerous trees. A 48-year-old woman was killed when a tree fell onto her car as she was driving on Old U.S. Highway 51 about two miles south of Ullin. At Mounds, a teenage girl was seriously injured when a tree fell on her in a city park.				
Direct Fatalities: F48VE				
WILLIAMSON COUNTY --- CARTERVILLE [37.75, -89.08], HERRIN [37.80, -89.03]				
	06/21/19 15:50 CST		30K	Thunderstorm Wind (EG 65 kt)
	06/21/19 15:54 CST		0	Source: Trained Spotter
Widespread damaging winds entered northwestern Williamson County. Trees were snapped in Herrin, causing power outages. A tree landed on a home. In Carterville, trees were blown down along Grand Avenue.				
JOHNSON COUNTY --- VIENNA [37.42, -88.90], SIMPSON [37.47, -88.75]				
	06/21/19 15:58 CST		50K	Thunderstorm Wind (EG 65 kt)
	06/21/19 16:03 CST		0	Source: Law Enforcement
Numerous trees were down around the county. Roads were blocked by fallen trees. At least one power pole was knocked down. Near Simpson, several oak trees from three to four feet in diameter were blown down.				
WILLIAMSON COUNTY --- JOHNSTON CITY [37.82, -88.93], CREAL SPGS [37.62, -88.83]				
	06/21/19 16:00 CST		75K	Thunderstorm Wind (EG 65 kt)
	06/21/19 16:10 CST		0	Source: Emergency Manager

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Widespread damaging winds continued moving eastward across central and eastern Williamson County, including the city of Marion. Wind gusts were estimated from 60 to 75 mph. Numerous trees and tree limbs were blown down, causing power outages. In Johnston City, trees were down on a few vehicles and one home. The home did not sustain any structural damage, but gutters were damaged. At least 5,000 utility customers were without power.				

MASSAC COUNTY --- METROPOLIS [37.15, -88.73], BROOKPORT [37.12, -88.63]

06/21/19 16:15 CST	20K	Thunderstorm Wind (EG 65 kt)
06/21/19 16:20 CST	0	Source: NWS Employee

A semi was blown over on the Interstate 24 bridge over the Ohio River. Near Brookport, at least a half-dozen trees were snapped along the Ohio River.

WILLIAMSON COUNTY --- MARION [37.73, -88.93], 0.6 NNW HUDGENS [37.66, -88.93], 2.1 SW CHAMNESS [37.66, -89.01], CRAINVILLE [37.75, -89.07]

06/21/19 18:36 CST	0	Flash Flood (due to Heavy Rain)
06/21/19 21:00 CST	0	Source: Mesonet

Significant creek flooding was reported near Crab Orchard Lake after 2.22 inches of rain fell in two hours. Reports of possible road closures were received along portions of Route 13.

A severe weather outbreak occurred during the afternoon and early evening hours. An organized line of severe thunderstorms formed over the central Plains states during the night of the 20th. This bowing line of storms progressed southeast across the St. Louis area during the midday hours, then down across the lower Ohio Valley and southeast Missouri during the afternoon. Widespread wind damage was reported in parts of southern Illinois, especially in far southern areas from the Marion-Carbondale area southward to the Ohio River. Flash flooding was reported in a few locations. The atmosphere ahead of the storms became strongly unstable, with surface-based capes exceeding 4,000. Given the strong buoyancy, wind profiles were sufficiently strong for widespread severe weather. Deep-layer (0-6 km) wind shear values were no higher than about 30 knots, and 0-1 km shear was about 20 knots. Even though the region was under a broad 500 mb ridge, a moderately strong low-level feed of very moist and unstable air fueled the intense storms as they propagated southeastward.

SALINE COUNTY --- 1.0 NE HARRISBURG [37.74, -88.54], 1.0 SE HARRISBURG [37.72, -88.54], 1.0 SW HARRISBURG [37.72, -88.56], 1.0 NW HARRISBURG [37.74, -88.56]

06/22/19 12:24 CST	0	Flash Flood (due to Heavy Rain)
06/22/19 18:00 CST	0	Source: Law Enforcement

Numerous city roads in Harrisburg were flooded, and several were closed.

JACKSON COUNTY --- DOWELL [37.93, -89.23], CARBONDALE [37.72, -89.22], MURPHYSBORO [37.77, -89.33], AVA [37.88, -89.50]

06/22/19 12:29 CST	0	Flash Flood (due to Heavy Rain)
06/22/19 17:30 CST	0	Source: Law Enforcement

Numerous county roads were flooded across the county. Water was over U.S. Highway 51 just south of Dowell.

WILLIAMSON COUNTY --- FREEMAN SPUR [37.85, -89.00], CARTERVILLE [37.75, -89.08], MARION [37.73, -88.93], CRAB ORCHARD [37.73, -88.80], 1.6 N CORINTH [37.84, -88.78]

06/22/19 12:36 CST	0	Flash Flood (due to Heavy Rain)
06/22/19 17:30 CST	0	Source: Law Enforcement

Several roads were flooded across the county. One road was closed north of Herrin at Freeman Spur.

In the wake of an early morning thunderstorm complex, a line of storms formed as a result of daytime heating in the clearing area behind the first complex. The line moved very slowly in some areas, resulting in pockets of flash flooding.

MASSAC COUNTY --- UNIONVILLE [37.12, -88.55]

06/23/19 16:00 CST	1K	Thunderstorm Wind (EG 52 kt)
06/23/19 16:00 CST	0	Source: Public

A large portion of a tree was snapped off near Unionville.

POPE COUNTY --- 3.0 ENE WALTERSBURG [37.40, -88.52], 2.0 SSW GOWANSVILLE [37.42, -88.48]

06/23/19 16:10 CST	40K	Tornado (EF1, L: 2.80 mi , W: 120 yd)
06/23/19 16:15 CST	0	Source: NWS Storm Survey

A tornado occurred in the Shawnee National Forest north-northwest of Golconda. The tornado began along Clark Road and tracked northeast, ending northeast of the Highway 146/Buschwack Road junction. Dozens of trees were uprooted or snapped. A home lost some shingles, and a small shed lost part of its roof. Peak winds were estimated near 95 mph.

Storm Data and Unusual Weather Phenomena - June 2019

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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A line of severe thunderstorms entered southeast Missouri about mid-afternoon and tracked east across western Kentucky and far southern Illinois late in the afternoon and early in the evening. In far southern Illinois, an EF-1 tornado was associated with this line. The storms occurred under a rather strong southwest wind flow ahead of a weak cold front over far western Missouri. A 500 mb shortwave trough over the western high Plains provided some additional support for the storms. The air mass was strongly unstable, with surface capes over 3000 j/kg.

PERRY COUNTY --- 1.0 SSW DU QUOIN [38.01, -89.24]

06/26/19 16:25 CST			0	Hail (1.00 in)
06/26/19 16:25 CST			0	Source: Public

FRANKLIN COUNTY --- WEST FRANKFORT [37.90, -88.92]

06/26/19 17:00 CST			0	Hail (1.00 in)
06/26/19 17:00 CST			0	Source: Emergency Manager

WAYNE COUNTY --- WAYNE CITY [38.35, -88.58], JOHNSONVILLE [38.52, -88.53], MT ERIE [38.52, -88.23], ELLERY [38.35, -88.15], FAIRFIELD [38.38, -88.37]

06/26/19 17:44 CST			0	Flash Flood (due to Heavy Rain)
06/26/19 22:40 CST			0	Source: Law Enforcement

Flash flooding was reported across much of northern and central Wayne County, including the Cisne area. Many places with no history of flooding experienced flooding. Flooding was reported on Highway 161 and U.S. Highway 45, as well as numerous county roads. A creek near Cisne approached record levels. A trained spotter measured 3.20 inches of rain in a few hours.

Loosely organized clusters of thunderstorms produced locally very heavy rain and isolated large hail. A mesoscale vorticity center from earlier thunderstorms moved eastward across southern Missouri during the afternoon. Very warm and moist air in advance of this vorticity center contributed to strong instability, with mixed-layer capes around 3000. Around 25 to 40 knots of westerly flow in the mid levels of the atmosphere was sufficient for loosely organized thunderstorm clusters, a few of which were severe.

WABASH COUNTY --- MT CARMEL [38.42, -87.77]

06/30/19 18:05 CST			5K	Thunderstorm Wind (EG 56 kt)
06/30/19 18:05 CST			0	Source: State Official

Trees were blown down, including one on a house.

WHITE COUNTY --- NORRIS CITY [37.98, -88.32], 1.0 S NORRIS CITY [37.97, -88.32]

06/30/19 19:05 CST			0	Thunderstorm Wind (EG 52 kt)
06/30/19 19:05 CST			0	Source: Trained Spotter

A trained spotter reported 60 mph winds along an outflow boundary as it moved through town.

GALLATIN COUNTY --- SHAWNEETOWN [37.70, -88.13]

06/30/19 19:20 CST			1K	Thunderstorm Wind (EG 52 kt)
06/30/19 19:20 CST			0	Source: Law Enforcement

A tree was down on Highway 13, blocking one lane of the road.

SALINE COUNTY --- HARRISBURG [37.73, -88.55]

06/30/19 19:32 CST			4K	Thunderstorm Wind (EG 56 kt)
06/30/19 19:32 CST			0	Source: Law Enforcement

There was a report from law enforcement of multiple trees down in Harrisburg.

A line of thunderstorms sank southward across southeast Illinois, producing isolated damaging wind gusts. The thunderstorm complex moved southward on the east side of a mid-level high centered over Missouri. A warm, moist, and unstable air mass provided a favorable environment for the storms to maintain their intensity into the lower Ohio Valley.

INDIANA, Southwest

GIBSON COUNTY --- EAST MT CARMEL [38.40, -87.73], 0.3 WNW CRAWLEYVILLE [38.28, -87.84], 1.9 N CRAWLEYVILLE [38.31, -87.83], 1.9 W SKELTON [38.35, -87.82], 1.9 WSW EAST MT CARMEL [38.39, -87.76]

Storm Data and Unusual Weather Phenomena - June 2019

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	06/01/19 00:00 CST		0	Flood (due to Heavy Rain)
	06/02/19 16:00 CST		0	Source: River/Stream Gage
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GIBSON COUNTY --- HAZLETON [38.48, -87.53], 0.9 NNW HAZLETON [38.49, -87.54], 2.3 NE GIRO [38.52, -87.44], 2.0 ENE GIRO [38.51, -87.44]				
	06/01/19 00:00 CST		0	Flood (due to Heavy Rain)
	06/02/19 16:00 CST		10K	Source: River/Stream Gage
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PIKE COUNTY --- 1.0 NW PETERSBURG [38.51, -87.29], 5.0 NNW ALGIERS [38.55, -87.21], 4.9 NNW ALGIERS [38.55, -87.20], 4.4 N ALGIERS [38.54, -87.17], 0.5 WNW PETERSBURG [38.50, -87.29]				
	06/01/19 00:00 EST		0	Flood (due to Heavy Rain)
	06/02/19 13:00 EST		10K	Source: River/Stream Gage
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POSEY COUNTY --- 1.0 WSW NEW HARMONY [38.12, -87.95], 0.7 SSW NEW HARMONY [38.12, -87.93], 3.6 NNE SAVAH [38.07, -87.95], 3.3 NNE SAVAH [38.06, -87.96]				
	06/01/19 00:00 CST		0	Flood (due to Heavy Rain)
	06/03/19 11:00 CST		0	Source: River/Stream Gage

The White and Wabash Rivers remained above flood stage from May into early June. The flooding on both rivers was minor. The region remained stuck in a long-term wet pattern that continued through the spring and into early summer. Most locations were 1 to 2 inches above normal for the month of June. Some locations saw as much as 3 to 5 inches more rainfall than normal in June. At Evansville, Indiana, it was the 6th wettest June on record with a total of 7.53 inches.

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GIBSON COUNTY --- PRINCETON [38.35, -87.57], PATOKA [38.42, -87.58]				
	06/05/19 17:30 CST		10K	Thunderstorm Wind (EG 52 kt)
	06/05/19 17:30 CST		0	Source: Public

Several trees and power lines were down in Princeton. Approximately 1000 customers were without power in the Patoka and Hazleton areas.

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GIBSON COUNTY --- 1.0 ESE HAUBSTADT [38.19, -87.55]				
	06/05/19 18:10 CST		1K	Thunderstorm Wind (EG 52 kt)
	06/05/19 18:10 CST		0	Source: Trained Spotter

A snapped power line was reported near the intersection of U.S. Highway 41 and Highway 68.

Numerous clusters of thunderstorms developed in southern Illinois and southwest Indiana along an outflow boundary from earlier storms, and ahead of a cold front over northern Indiana. Strong solar heating contributed to a very unstable atmosphere, with mixed-layer capes from 3000 to 3500. Weak wind shear limited storm organization, but strong buoyancy supported intense storms capable of damaging winds.

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SPENCER COUNTY --- 2.6 WNW ROCKPORT [37.90, -87.09], 0.9 W ROCKPORT [37.88, -87.07], 1.0 N ROCKPORT [37.89, -87.05], 2.0 NNW ROCKPORT [37.91, -87.07]				
	06/08/19 16:00 CST		0	Flood (due to Heavy Rain)
	06/08/19 18:00 CST		0	Source: Law Enforcement

Water was over the road near the city limits of Rockport. The highway department put up signs to divert traffic from the flooded area.

Clusters of thunderstorms repeatedly moved over the same areas, causing isolated minor flooding problems. The storms increased in response to daytime heating of a very moist air mass. A weak low pressure system lifted slowly up the Tennessee River Valley, bringing tropical moisture for locally heavy rainfall.

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GIBSON COUNTY --- 2.0 NNE OAKLAND CITY [38.36, -87.34]				
	06/16/19 16:43 CST		1K	Thunderstorm Wind (EG 52 kt)
	06/16/19 16:43 CST		0	Source: State Official

A tree was down along Highway 57.

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POSEY COUNTY --- 6.0 SE NEW HARMONY [38.07, -87.85]				
	06/16/19 17:44 CST		10K	Thunderstorm Wind (EG 52 kt)
	06/16/19 17:44 CST		0	Source: Broadcast Media

A barn was damaged and power lines were down.

Storm Data and Unusual Weather Phenomena - June 2019

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
VANDERBURGH COUNTY --- 4.0 NNW EVANSVILLE [38.03, -87.58], 5.0 ESE EVANSVILLE [37.95, -87.47]				
	06/16/19 18:00 CST		2K	Thunderstorm Wind (EG 52 kt)
	06/16/19 18:07 CST		0	Source: Trained Spotter
Thunderstorm winds gusted to near 60 mph in spots in the Evansville metro area. Four miles north-northwest of downtown Evansville, a tree fell down on power lines. Several miles east-southeast of Evansville, a trained spotter estimated wind gusts from 50 to 60 mph.				
GIBSON COUNTY --- 0.7 N PRINCETON [38.36, -87.57], 2.6 E PATOKA [38.43, -87.53], 1.9 WNW PATOKA [38.43, -87.61], 2.5 SE LYLE [38.34, -87.62]				
	06/16/19 18:20 CST		0	Flash Flood (due to Heavy Rain)
	06/16/19 23:00 CST		0	Source: Law Enforcement
Numerous roads were flooded in Princeton and between Patoka and Princeton. Water was over portions of Old U.S. Highway 41 near Princeton.				
PIKE COUNTY --- 2.0 NNE WINSLOW [38.41, -87.21], 2.0 NW CATO [38.45, -87.21], 1.8 NE CATO [38.45, -87.16], 0.3 SE PIKEVILLE [38.32, -87.12], 0.1 SSE AUGUSTA [38.33, -87.18]				
	06/16/19 18:30 EST		0	Flash Flood (due to Heavy Rain)
	06/16/19 23:00 EST		0	Source: Broadcast Media
A main water line was washed out four miles northeast of Winslow, near Cato. Creeks were out of their banks, including Cup Creek within a mile of where it drains into the Patoka River.				
SPENCER COUNTY --- SANTA CLAUS [38.12, -86.90]				
	06/16/19 18:40 CST		1K	Thunderstorm Wind (EG 52 kt)
	06/16/19 18:40 CST		0	Source: State Official
A tree was blown down.				
As strong solar heating destabilized the atmosphere, numerous clusters of intense thunderstorms blossomed from southeast Missouri to southwest Indiana. The main impact associated with these storms was flash flooding. Several locations picked up torrential rainfall amounts over a short time period. Over four inches of rain occurred in Pike County. Damaging winds up to around 60 mph occurred with several of the storms as well. The environment was characterized by moderate to strong instability and moderate wind shear. Effective bulk wind shear values of 25 to 40 knots were observed. The storms developed east of a weak low pressure center over Missouri.				
PIKE COUNTY --- PETERSBURG [38.50, -87.28], 3.4 NE OTWELL [38.48, -87.06], 2.6 ENE IVY [38.51, -87.08], 5.1 NNW ALGIERS [38.55, -87.21], 2.4 NNE PETERSBURG [38.53, -87.26]				
	06/17/19 07:00 EST		20K	Flood (due to Heavy Rain)
	06/30/19 17:00 EST		0.10M	Source: River/Stream Gage
Moderate flooding occurred on the White River. At the Petersburg river gage, the river crested at 25.10 feet on the 24th. Flood stage is 16 feet. River cabins in the bottomlands were evacuated. Livestock were moved. Water was over State Route 257. Numerous county roads were flooded, some by several feet of water. Several small oil fields were inaccessible. Considerable amounts of farmland were flooded, causing a high agricultural impact. This flood crest was very similar to the February flood crest.				
GIBSON COUNTY --- 1.1 NNW HAZLETON [38.49, -87.54], 1.0 W GIRO [38.50, -87.49], 0.5 SW GIRO [38.49, -87.48], 0.5 NNE HAZLETON [38.49, -87.53]				
	06/17/19 09:00 CST		10K	Flood (due to Heavy Rain)
	06/30/19 23:59 CST		0.10M	Source: River/Stream Gage
Moderate flooding occurred on the White River. At the Hazleton river gage, the river crested at 26.30 feet on the 25th. Flood stage is 16 feet. Flood gates were installed at Hazleton. Water was nearly two feet deep in the west end of Hazleton, where water pumps were installed. People in cabins on the riverward side of the levee generally relocated. Many local roads were completely impassable. Oil fields were inaccessible. Agricultural impacts were significant. This flood was very similar to the February flood except for the impact on farmers.				
GIBSON COUNTY --- 0.9 WNW EAST MT CARMEL [38.41, -87.75], EAST MT CARMEL [38.40, -87.73], 0.4 NNW CRAWLEYVILLE [38.29, -87.83], 1.6 WNW SKELTON [38.36, -87.81]				
	06/18/19 07:00 CST		10K	Flood (due to Heavy Rain)
	06/30/19 23:59 CST		10K	Source: River/Stream Gage
The Wabash River crested at Mount Carmel at 27.26 feet on the 26th. This resulted in moderate flooding. Flood stage is 19 feet. There was considerable inundation of low-lying woodlands and fields. Several local roads were flooded, some by several feet of water. Extensive agricultural flooding was in progress in areas that are not protected by levees. This flood was very similar to the February flood.				
POSEY COUNTY --- NEW HARMONY [38.13, -87.93], 0.9 WSW NEW HARMONY [38.13, -87.95], 1.7 W SAVAH [38.02, -88.01], SAVAH [38.02, -87.98]				

Storm Data and Unusual Weather Phenomena - June 2019

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	06/19/19 01:00 CST		0	Flood (due to Heavy Rain)
	06/30/19 23:59 CST		0	Source: River/Stream Gage

Minor flooding affected low-lying woods and fields near the river, including portions of New Harmonie State Park.

GIBSON COUNTY --- 1.2 SW PATOKA [38.41, -87.60], 2.3 ENE EAST MT CARMEL [38.41, -87.69], 2.0 WNW LYLE [38.38, -87.68], 2.6 NE PRINCETON [38.38, -87.54], 2.7 ESE PATOKA [38.41, -87.53]

06/20/19 11:00 CST	0	Flood (due to Heavy Rain)
06/30/19 23:59 CST	20K	Source: River/Stream Gage

Moderate flooding occurred on the Patoka River. Fields and woodlands in the flood plain of the Patoka River were inundated. At the river gage near Princeton, the river crested at 22.24 feet on the 24th. Flood stage is 18 feet.

WARRICK COUNTY --- 2.0 ESE NEWBURGH [37.94, -87.39], 4.7 SE YANKEETOWN [37.87, -87.24], 4.3 SSE YANKEETOWN [37.86, -87.27], 2.3 SE NEWBURGH [37.93, -87.39]

06/20/19 11:00 CST	0	Flood (due to Heavy Rain)
06/27/19 18:00 CST	0	Source: River/Stream Gage

Minor flooding occurred along the Ohio River. Low-lying woods and fields were flooded.

POSEY COUNTY --- MT VERNON [37.93, -87.90], 0.9 SW HOVEY [37.89, -87.94], 0.4 WSW HOVEY [37.90, -87.94], 0.6 SW MT VERNON [37.92, -87.91]

06/21/19 14:00 CST	0	Flood (due to Heavy Rain)
06/29/19 12:00 CST	0	Source: River/Stream Gage

Minor flooding occurred along the Ohio River, inundating low-lying fields and woodlands.

The Wabash, White, Patoka, and Ohio Rivers rose back above flood stage late in the month. These river rises were in response to a series of nearly stationary fronts and outflow boundaries between the 16th and 24th. Numerous rounds of showers and storms occurred during this period. Rainfall totals during this time frame were between 3 and 6 inches. This round of river flooding was minor to moderate. The flooding continued into July at most locations.

PIKE COUNTY --- 1.8 ESE PIKEVILLE [38.31, -87.09], 9.0 SE WINSLOW [38.29, -87.10], 1.4 NNE STENDAL [38.29, -87.14], 0.4 WSW PIKEVILLE [38.32, -87.13]

06/17/19 14:35 EST	0	Flood (due to Heavy Rain)
06/17/19 16:30 EST	0	Source: CoCoRaHS

Southeast parts of Pike County experienced some flooding. Water was over county roads, and severe ponding occurred on Highway 64. Cup Creek was at bankful. A Cocorahs observer measured 0.80 inches in 30 minutes.

Thunderstorms developed during the heat of the day across southern Illinois into southwest Indiana ahead of a disturbance in the upper levels of the atmosphere approaching from southwest Missouri. A surface frontal boundary was near and just north of Interstate 64. The combination of these features resulted in thunderstorms with locally heavy rain.

GIBSON COUNTY --- PRINCETON [38.35, -87.57]

06/21/19 14:50 CST	6K	Thunderstorm Wind (EG 56 kt)
06/21/19 14:50 CST	0	Source: Trained Spotter

Power lines were down. A flag pole was bent. Tree limbs were broken.

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

06/21/19 16:30 CST	10K	Thunderstorm Wind (EG 56 kt)
06/21/19 16:30 CST	0	Source: Trained Spotter

Trees and power lines were down.

An organized line of severe thunderstorms formed over the central Plains states during the night of the 20th. This bowing line of storms progressed southeast across the St. Louis area during the midday hours, then down across the lower Ohio Valley during the afternoon. Isolated wind damage was reported in southwest Indiana. The atmosphere ahead of the storms became strongly unstable, with surface-based capes exceeding 4,000. Even though the region was under a broad 500 mb ridge, a moderately strong low-level feed of very moist and unstable air fueled the intense storms as they propagated southeastward.

SPENCER COUNTY --- 3.0 NNE CHRISNEY [38.06, -87.01], 2.6 SSW SANTA CLAUS MUNI ARP [38.05, -86.94]

06/23/19 12:34 CST	5K	Thunderstorm Wind (EG 61 kt)
06/23/19 12:34 CST	0	Source: Law Enforcement

Storm Data and Unusual Weather Phenomena - June 2019

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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Several trees were down on county roads between Chrisney and Santa Claus, including County Roads 1100 North and 600 East.

PIKE COUNTY --- PETERSBURG [38.50, -87.28], WINSLOW [38.38, -87.22]

	06/23/19 12:46 EST		20K	Thunderstorm Wind (EG 61 kt)
	06/23/19 12:46 EST		0	Source: Law Enforcement

Numerous trees and power lines were down north of Petersburg and in Winslow.

A couple of lines of thunderstorms formed over southwest Indiana early in the afternoon. A few of these storms produced damaging wind. The storms occurred under a rather strong southwest wind flow ahead of a weak cold front over far western Missouri. A 500 mb shortwave trough over the western high Plains provided some additional support for the storms. The air mass was strongly unstable, with surface capes over 3000 j/kg.

VANDERBURGH COUNTY --- 5.0 W DARMSTADT [38.10, -87.67], 0.5 E EVANSVILLE [37.98, -87.54]

	06/30/19 18:35 CST		7K	Thunderstorm Wind (EG 52 kt)
	06/30/19 18:45 CST		0	Source: Trained Spotter

Strong thunderstorm winds pushed southward across the Evansville metro area. Large tree limbs up to 8 inches in diameter were down on the east side of Evansville. A tree was down several miles west of Darmstadt. Several hundred utility customers were without power in the county. The peak wind gust at the Evansville airport was 55 mph, however the airport was outside the damage area.

A line of thunderstorms sank southward across southwest Indiana, producing isolated damaging wind gusts. The thunderstorm complex moved southward on the east side of a mid-level high centered over Missouri. A warm, moist, and unstable air mass provided a favorable environment for the storms to maintain their intensity into the lower Ohio Valley.

KENTUCKY, Southwest

BALLARD COUNTY --- 1.3 SW HOLLOWAY [37.06, -89.17], 3.4 WNW OSCAR [37.15, -89.09], 2.6 N MONKEYS EYEBROW [37.22, -88.98], 2.0 NW BANDANA [37.17, -88.98], 2.3 SSE EAST CAIRO [36.99, -89.13], 1.3 WNW EAST CAIRO [37.03, -89.17]

	06/01/19 00:00 CST		10K	Flood (due to Heavy Rain)
	06/30/19 23:59 CST		30K	Source: River/Stream Gage

The Ohio River remained above flood stage since February 8 and through the month of June. This was the most prolonged flood on the Ohio River since records began at Cairo, Illinois in the late 1800's. The highest recorded stage in the month of June (2019) at Cairo was 51.54 feet, which corresponds to the moderate flood category. At this stage, the flooding has a significant impact on farming operations in the flood plain, causing some farmers to lose crops. However, farmers never were able to plant crops because this flood began in the winter. Riverside parks and recreational facilities remained underwater. Some side roads near the river were flooded. Due to the extended duration of the flooding, levees along the river were very stressed from saturation of the soil. Seepage was a concern. Considerable flooding of low-lying woods, fields, and a wildlife management area persisted through the month. Moderate flooding continued into the month of July.

Flooding continued on the lowest reaches of the Ohio River due to backwater from the swollen Mississippi River. The region remained stuck in a long-term wet pattern that continued through the spring and into early summer. Most locations were 1 to 2 inches above normal for the month of June. Some locations saw as much as 3 to 5 inches more rainfall than normal in June.

DAVIESS COUNTY --- UTICA [37.62, -87.12], 2.0 ENE RED HILL [37.63, -87.02], 2.1 SE RED HILL [37.60, -87.02], 1.7 S UTICA [37.60, -87.11]

	06/06/19 16:00 CST		0	Flood (due to Heavy Rain)
	06/06/19 18:15 CST		0	Source: Law Enforcement

Water was over Highway 140 East, just east of Utica.

MUHLENBERG COUNTY --- 2.4 SSE GREENVILLE [37.17, -87.16], 3.0 E GREENVILLE [37.20, -87.13], 1.0 N GREENVILLE [37.21, -87.18], 1.0 W GREENVILLE [37.20, -87.20]

	06/06/19 17:25 CST		0	Flood (due to Heavy Rain)
	06/06/19 20:00 CST		0	Source: Trained Spotter

Minor flooding was reported. Standing water was over some roads due to storm drains not keeping up with very heavy rainfall.

Slow-moving thunderstorms with very heavy rain caused isolated minor flooding problems. The storms developed in response to daytime heating of a very moist air mass. A low pressure system drifted slowly eastward into the lower Mississippi Valley, tapping into a fetch of tropical moisture from the Gulf of Mexico.

BALLARD COUNTY --- 2.5 NW LA CENTER [37.09, -89.01], 1.3 NW LA CENTER [37.08, -89.00]

Storm Data and Unusual Weather Phenomena - June 2019

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	06/16/19 17:31 CST		5K	Thunderstorm Wind (EG 56 kt)
	06/16/19 17:34 CST		0	Source: Law Enforcement

Trees were down west and northwest of La Center.

As strong solar heating destabilized the atmosphere, numerous clusters of intense thunderstorms blossomed over southeast Missouri. As the storms moved east into western Kentucky, they weakened rather quickly. Before weakening, the storms produced isolated damaging winds up to around 60 mph in extreme western Kentucky. The storms occurred east of a weak low pressure center over Missouri.

GRAVES COUNTY --- SEDALIA [36.65, -88.60], TRI CITY [36.58, -88.53]				
	06/19/19 15:10 CST		3K	Thunderstorm Wind (EG 52 kt)
	06/19/19 15:15 CST		0	Source: Law Enforcement

A few trees were blown down in southeast Graves County near Sedalia and Tri City. Two of the trees were along Kentucky Route 97.

LYON COUNTY --- 1.0 NNE EDDYVILLE [37.06, -88.06]				
	06/19/19 15:19 CST		1K	Thunderstorm Wind (EG 52 kt)
	06/19/19 15:19 CST		0	Source: Public

A power line was down.

CALLOWAY COUNTY --- MURRAY ARPT [36.67, -88.37], 2.0 SSW MURRAY ARPT [36.64, -88.38]				
	06/19/19 15:23 CST		4K	Thunderstorm Wind (MG 56 kt)
	06/19/19 15:27 CST		0	Source: AWOS

Winds gusted to 64 mph at the Murray-Calloway County Airport. Two trees and power lines were down on Highway 80 near the airport.

CALLOWAY COUNTY --- 10.0 NE MURRAY [36.72, -88.19]				
	06/19/19 15:35 CST		5K	Thunderstorm Wind (EG 56 kt)
	06/19/19 15:35 CST		0	Source: Law Enforcement

Several trees were blown down.

TRIGG COUNTY --- CANTON [36.80, -87.95]				
	06/19/19 15:49 CST		4K	Thunderstorm Wind (EG 56 kt)
	06/19/19 15:49 CST		0	Source: Law Enforcement

Trees were blown down.

Clusters and short lines of thunderstorms developed during the afternoon hours. Several of these were accompanied by damaging winds, measured up to 64 mph at the Murray, KY airport. The storms developed south of a surface low pressure center that gradually deepened as it tracked east along the Interstate 70 corridor from Missouri to Indiana. Thunderstorm development was enhanced by large-scale ascent pivoting from the Ozark Plateau into the lower Ohio Valley, ahead of a low amplitude mid-level trough. Daytime heating helped to increase instability, with mixed layer capes approaching 2000 J/kg. Vertical wind shear increased as 40 to 50-knot westerly winds gradually propagated eastward from the south central Plains.

HENDERSON COUNTY --- CORYDON [37.73, -87.70]				
	06/21/19 15:40 CST		1K	Thunderstorm Wind (EG 52 kt)
	06/21/19 15:40 CST		0	Source: Fire Department/Rescue

A tree was down on Highway 145.

BALLARD COUNTY --- BARLOW [37.05, -89.05], 2.0 SSE LA CENTER [37.04, -88.97]				
	06/21/19 15:58 CST		0	Hail (3.40 in)
	06/21/19 16:10 CST		0	Source: Social Media

Very large hail struck parts of central Ballard County. At Barlow, a photo was taken of a hailstone measuring 3.4 inches in diameter. The hailstone was spiked in appearance. A couple miles south-southeast of La Center, a photo of quarter-size hail was posted on social media.

BALLARD COUNTY --- KEVIL [37.08, -88.90]				
	06/21/19 16:10 CST		4K	Thunderstorm Wind (EG 61 kt)
	06/21/19 16:10 CST		0	Source: Public

Storm Data and Unusual Weather Phenomena - June 2019

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
Trees were uprooted. Large tree limbs were down.				
BALLARD COUNTY --- WICKLIFFE [36.97, -89.08]				
	06/21/19 16:15 CST		0	Hail (1.00 in)
	06/21/19 16:15 CST		0	Source: Public
MCCRACKEN COUNTY --- (PAH)BARKLEY ARPT PA [37.07, -88.77], PADUCAH [37.08, -88.63]				
	06/21/19 16:16 CST		0.10M	Thunderstorm Wind (EG 65 kt)
	06/21/19 16:22 CST		0	Source: Other Federal Agency
Strong damaging winds struck parts of McCracken County, mainly around the city of Paducah. A semi was blown over on the Interstate 24 bridge across the Ohio River. On the north side of Paducah, about 175 feet of a 400-foot tall broadcasting tower was knocked down. Large trees were down in the city of Paducah, and bricks were blown off an historic building downtown. Just outside the city, several trees were blown down in Lone Oak. At the Barkley Regional Airport west of Paducah, a trailer was shifted off its foundation.				
DAVIESS COUNTY --- 0.9 NE OWENSBORO [37.78, -87.11]				
	06/21/19 16:21 CST		0	Thunderstorm Wind (EG 52 kt)
	06/21/19 16:21 CST		0	Source: Trained Spotter
A spotter estimated a gust to 60 mph.				
DAVIESS COUNTY --- 1.0 W OWENSBORO [37.77, -87.14]				
	06/21/19 16:23 CST		0	Hail (1.00 in)
	06/21/19 16:23 CST		0	Source: Trained Spotter
HOPKINS COUNTY --- 4.7 NE ANTON [37.39, -87.31]				
	06/21/19 16:25 CST		0	Thunderstorm Wind (MG 56 kt)
	06/21/19 16:25 CST		0	Source: Trained Spotter
CARLISLE COUNTY --- ARLINGTON [36.78, -89.02]				
	06/21/19 16:38 CST		20K	Thunderstorm Wind (EG 61 kt)
	06/21/19 16:38 CST		0	Source: Public
Widespread tree and power line damage occurred.				
GRAVES COUNTY --- PRYORSBURG [36.68, -88.70], WATER VLY [36.57, -88.80]				
	06/21/19 16:39 CST		25K	Thunderstorm Wind (EG 65 kt)
	06/21/19 16:50 CST		0	Source: Public
Strong damaging winds affected southwest Graves County. At Pryorsburg, the front of a restaurant was damaged, and windows were blown out of cars. At Water Valley, a tree fell on an unoccupied house.				
MARSHALL COUNTY --- 2.0 S GILBERTSVILLE [36.99, -88.28]				
	06/21/19 16:42 CST		75K	Thunderstorm Wind (EG 96 kt)
	06/21/19 16:42 CST		0	Source: NWS Storm Survey
A National Weather Service damage survey determined a microburst occurred at Kentucky Dam Village, adjacent to a short tornado track. Peak winds were estimated at 110 mph. About 75 trees were snapped or uprooted.				
MARSHALL COUNTY --- 2.0 S GILBERTSVILLE ARPT [36.99, -88.30], 2.0 S GILBERTSVILLE [36.99, -88.28]				
	06/21/19 16:42 CST		0.50M	Tornado (EF1, L: 0.76 mi , W: 50 yd)
	06/21/19 16:43 CST		0	Source: NWS Storm Survey
A 50-yard wide tornado with peak winds near 110 mph snapped and uprooted trees. The tornado appeared to touch down along the edge of Kentucky Dam Village property near Golf Course Maintenance Drive. It crossed Highway 641 and created a clear path from near 641 to the marina. At the marina, two piers (which were connected to other piers as an extension) broke loose and were pushed out into the bay, dragging concrete block tie downs along the floor of the bay. These piers sustained major damage to roofs and connections between the piers. The piers which were connected to the shore were damaged, not only at the connection point between piers, but also at the connection to the shore. Electrical systems were destroyed along with gang planks between the shore and piers. There were four piers connected to the shore. The two piers that were damaged were the inside two piers, with the outside piers sustaining minor damage.				
MARSHALL COUNTY --- BENTON [36.87, -88.35]				

Storm Data and Unusual Weather Phenomena - June 2019

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	06/21/19 16:54 CST		0	Hail (1.75 in)
	06/21/19 16:54 CST		0	Source: Fire Department/Rescue

Ping pong ball to golf ball size hail was reported by the fire department.

MARSHALL COUNTY --- BENTON [36.87, -88.35]

	06/21/19 16:54 CST		0	Thunderstorm Wind (EG 61 kt)
	06/21/19 16:54 CST		0	Source: Fire Department/Rescue

A wind gust to 70 mph was estimated by fire department personnel.

MARSHALL COUNTY --- HARDIN [36.77, -88.30], 0.3 SW AURORA [36.78, -88.13]

	06/21/19 16:55 CST		5K	Thunderstorm Wind (EG 61 kt)
	06/21/19 17:05 CST		0	Source: Trained Spotter

Siding was blown off a house in Hardin. A trained spotter estimated winds gusted to 60 mph at the Eggners Ferry Bridge on U.S. Highway 68 at Kentucky Lake.

LYON COUNTY --- 4.6 SSE EUREKA [36.96, -88.19], 4.5 W MONT [36.95, -88.13]

	06/21/19 16:58 CST		30K	Thunderstorm Wind (EG 70 kt)
	06/21/19 17:00 CST		0	Source: NWS Storm Survey

Dozens of trees were snapped or uprooted in northern portions of the Land Between The Lakes National Recreation Area. The area of tree damage included the Pisgah Bay area and the popular Hillman Ferry campground.

CALLOWAY COUNTY --- 3.0 SW KIRKSEY [36.67, -88.42], 2.0 ENE LYNN GROVE [36.61, -88.40]

	06/21/19 17:00 CST		20K	Thunderstorm Wind (EG 65 kt)
	06/21/19 17:04 CST		0	Source: Public

Winds were estimated at 70 to 80 mph in parts of western Calloway County. Near Kirksey, carport anchors were ripped from concrete. Trees were down. Near Lynn Grove, Kentucky Highway 94 at Kentucky 299 was blocked due to a downed power line. A power pole was snapped.

LYON COUNTY --- 3.4 SSW MONT [36.90, -88.07], 3.6 S MONT [36.90, -88.05]

	06/21/19 17:00 CST		50K	Tornado (EF1, L: 1.47 mi , W: 150 yd)
	06/21/19 17:02 CST		0	Source: NWS Storm Survey

The tornado began east of the Woodlands Trace and Silver Trail Road junction and tracked southeast along Silver Trail Road before crossing into Trigg County. Hundreds of trees, some very large, were snapped or uprooted. The path of this tornado was in densely wooded areas of the Land Between The Lakes National Recreation Area. Peak winds were estimated near 100 mph. Most of the path was in Lyon County, however a popular tourist spot was struck in the Trigg County portion.

TRIGG COUNTY --- 4.3 W ROCKCASTLE [36.90, -88.05], 3.8 W ROCKCASTLE [36.89, -88.04]

	06/21/19 17:02 CST		25K	Tornado (EF1, L: 0.61 mi , W: 150 yd)
	06/21/19 17:03 CST		0	Source: NWS Storm Survey

The tornado continued into Trigg County from Lyon County. Although the Trigg County portion of the track was only about one-half mile, it tracked southeast across Hematite Lake. This is a popular nature-viewing area in the Land Between The Lakes National Recreation Area. The entire track was through heavily wooded areas. Hundreds of trees, some very large, were snapped or uprooted. Peak winds were estimated near 100 mph.

TRIGG COUNTY --- 2.7 NNE ENERGY [36.86, -88.02]

	06/21/19 17:04 CST		20K	Thunderstorm Wind (EG 61 kt)
	06/21/19 17:04 CST		0	Source: NWS Storm Survey

Numerous trees were damaged in the Energy Lake area of the Land Between The Lakes National Recreation Area.

CALLOWAY COUNTY --- MURRAY [36.62, -88.32], HAZEL [36.50, -88.32]

	06/21/19 17:08 CST		15K	Thunderstorm Wind (EG 61 kt)
	06/21/19 17:20 CST		0	Source: NWS Employee

Strong damaging winds from 60 to 70 mph continued southeast across central and southern Calloway County. An off-duty NWS employee two miles southwest of Murray estimated winds gusted from 60 to 65 mph. Tree limbs were down. Power lines were down in Murray. Multiple trees were blown down in Hazel.

Storm Data and Unusual Weather Phenomena - June 2019

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
TRIGG COUNTY --- 1.7 E FENTON [36.78, -88.07]				
	06/21/19 17:09 CST		0	Thunderstorm Wind (EG 56 kt)
	06/21/19 17:09 CST		0	Source: Trained Spotter
A trained spotter estimated a wind gust to 65 mph on The Trace near U.S. Highway 68.				
TRIGG COUNTY --- ROCKCASTLE [36.90, -87.97], CADIZ [36.87, -87.82]				
	06/21/19 17:10 CST		20K	Thunderstorm Wind (EG 61 kt)
	06/21/19 17:15 CST		0	Source: Trained Spotter
Trees were down around Trigg County. In Cadiz, a power line and tree limbs were down.				
TRIGG COUNTY --- 2.3 E CADIZ [36.87, -87.78], 2.1 NW CALEDONIA [36.84, -87.71]				
	06/21/19 17:22 CST		0.15M	Tornado (EF1, L: 4.35 mi , W: 200 yd)
	06/21/19 17:27 CST		0	Source: NWS Storm Survey
Minor roof damage occurred to at least eight homes, primarily from falling trees. One home had a broken window. One barn was levelled. Several power lines were downed, mainly from falling trees. At least 200 trees were uprooted, snapped, or had broken limbs. The tornado traveled mainly along and north of Kings Chapel Road initially, then traveled along Cool Spring Cave Road before crossing South Montgomery Road, north of Caledonia. Peak winds were estimated near 95 mph.				
TRIGG COUNTY --- 0.6 W MONTGOMERY [36.88, -87.74]				
	06/21/19 17:24 CST		0	Thunderstorm Wind (MG 61 kt)
	06/21/19 17:24 CST		0	Source: Broadcast Media
A wind gust to 70 mph was measured at WKDZ radio.				
WEBSTER COUNTY --- PROVIDENCE [37.40, -87.77], 1.4 E DIAMOND [37.42, -87.80], 2.2 WSW LISMAN [37.45, -87.76], 1.3 S STANHOPE [37.43, -87.67], 1.2 SSE WEBSTER CO ARPT [37.40, -87.72]				
	06/21/19 17:30 CST		0	Flash Flood (due to Heavy Rain)
	06/21/19 21:30 CST		0	Source: Emergency Manager
Highways 120 and 670 were closed by flash flooding. Highway 120 was closed east of Providence, and Highway 670 was closed near the Dotiki mine site. The public reported up to two inches of rain fell in 20 minutes.				
CHRISTIAN COUNTY --- 0.3 W PEEDEE [36.77, -87.66], 2.8 ENE HERNDON [36.74, -87.52]				
	06/21/19 17:31 CST		0.15M	Tornado (EF1, L: 7.59 mi , W: 175 yd)
	06/21/19 17:41 CST		0	Source: NWS Storm Survey
The tornado appeared to begin in a cornfield along Highway 164 north of Peedee, where a large amount of the corn was blown down. Major tree damage and a debris field was observed on Highway 164. It then continued east/southeast where a barn collapsed. It damaged around a dozen homes, mainly to soffits and roofing. One small guest house was destroyed along Striped Bridge Road. The contents remained on the slab, but the roof and walls were blown around the side of a barn (which itself sustained minor damage). Numerous large trees were snapped and uprooted along the path. A tree blocked Highway 107. The tornado appears to have lifted just west of the Interstate 24/Pennyryle Parkway interchange. Peak winds were estimated near 105 mph.				
CHRISTIAN COUNTY --- 0.6 ENE NEWSTEAD [36.80, -87.61], 1.3 W CHURCH HILL [36.80, -87.59]				
	06/21/19 17:31 CST		0.12M	Tornado (EF1, L: 0.96 mi , W: 75 yd)
	06/21/19 17:33 CST		0	Source: NWS Storm Survey
This EF-1 tornado appeared to start along Pierce Lane near I-24 and traveled along Pierce Lane for almost a mile. Three empty grain bins were destroyed and blown into a field. Most of the damage was on the south flank of the tornado. Many large, old trees were snapped or uprooted. Towards the end of the path a house lost half of its roof. Peak winds were estimated near 100 mph.				
CHRISTIAN COUNTY --- 5.0 NE HERNDON [36.78, -87.51], (HOP)FT CAMPBELL AAF [36.67, -87.50]				
	06/21/19 17:40 CST		30K	Thunderstorm Wind (EG 65 kt)
	06/21/19 17:53 CST		0	Source: Emergency Manager
Widespread wind damage occurred south through southwest of Hopkinsville, including the Interstate 24 corridor. Several miles northwest of Oak Grove, building and roof damage occurred at a power tool company. Trees were down along Interstate 24 near mile marker 83. Seven miles west of Pembroke, a fiberglass pole was down. Many trees were down in that area. Five miles northeast of Herndon, a tree fell on a house. A wind gust to 63 mph was measured at the Fort Campbell airfield.				

Storm Data and Unusual Weather Phenomena - June 2019

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
TODD COUNTY --- 3.0 SSW TRENTON [36.68, -87.29]				
	06/21/19 17:55 CST		5K	Thunderstorm Wind (EG 61 kt)
	06/21/19 17:55 CST		0	Source: Law Enforcement
Several trees were down along Highway 104. A vehicle was stuck between trees.				
TODD COUNTY --- 1.6 NE SOUTH ZION [36.70, -87.26], 2.7 SW PINCHEM [36.67, -87.23]				
	06/21/19 17:57 CST		5K	Tornado (EF0, L: 2.81 mi , W: 60 yd)
	06/21/19 18:01 CST		0	Source: NWS Storm Survey
The tornado started along Hammacksville Road south of Trenton. It tracked through cornfields, with strong convergence noted within the downed corn. It also uprooted and broke several large limbs off of some trees. There is drone footage of the tornado track and eyewitness reports/pictures of the tornado. Maximum winds were estimated near 85 mph.				
<p>A severe weather outbreak occurred during the afternoon and early evening hours. An organized line of severe thunderstorms formed over the central Plains states during the night of the 20th. This bowing line of storms progressed southeast across the St. Louis area during the midday hours, then down across the lower Ohio Valley and southeast Missouri during the afternoon. Widespread wind damage was reported in parts of western Kentucky, along with several weak to moderately strong tornadoes. Very large hail was reported in a few locations. The atmosphere ahead of the storms became strongly unstable, with surface-based capes exceeding 4,000. Given the strong buoyancy, wind profiles were sufficiently strong for widespread severe weather. Deep-layer (0-6 km) wind shear values were no higher than about 30 knots, and 0-1 km shear was about 20 knots. Even though the region was under a broad 500 mb ridge, a moderately strong low-level feed of very moist and unstable air fueled the intense storms as they propagated southeastward.</p>				
UNION COUNTY --- 3.1 NE RALEIGH [37.75, -88.03], 4.6 NE RALEIGH [37.77, -88.01], 2.8 WNW UNIONTOWN [37.79, -87.98], 1.8 W UNIONTOWN [37.77, -87.96]				
	06/22/19 11:00 CST		0	Flood (due to Heavy Rain)
	06/30/19 23:59 CST		20K	Source: River/Stream Gage
MUHLENBERG COUNTY --- 2.1 SSW PARADISE [37.24, -86.99], PARADISE [37.27, -86.98], 1.5 E MARTWICK [37.33, -86.99], 3.9 ENE MOORMAN [37.40, -87.08], 1.1 NW MOORMAN [37.39, -87.16], 0.3 NNW SOUTH CARROLLTON [37.33, -87.15]				
	06/23/19 21:00 CST		0	Flood (due to Heavy Rain)
	06/29/19 00:00 CST		10K	Source: River/Stream Gage
MCCRACKEN COUNTY --- 2.0 NNW CECIL [37.13, -88.68], 1.5 E ROWLANDTOWN [37.10, -88.60], 1.3 ESE ROWLANDTOWN [37.09, -88.61], 2.1 NW CECIL [37.12, -88.70]				
	06/24/19 03:00 CST		0	Flood (due to Heavy Rain)
	06/30/19 23:59 CST		10K	Source: River/Stream Gage
The Ohio and Green Rivers rose back above flood stage late in the month. These river rises were in response to a series of nearly stationary fronts and outflow boundaries between the 16th and 24th. Numerous rounds of showers and storms occurred during this period. Rainfall totals during this time frame were between 3 and 6 inches. This round of river flooding was minor, consisting mostly of flooded bottomland fields, woodlands, and public park and recreation areas. Some lesser-traveled roads in the bottomlands were flooded. The flooding continued into July on the Ohio River.				
CHRISTIAN COUNTY --- OAK GROVE [36.67, -87.43]				
	06/22/19 14:24 CST		5K	Thunderstorm Wind (EG 56 kt)
	06/22/19 14:24 CST		0	Source: Public
Siding was peeled back from a house.				
WEBSTER COUNTY --- 0.6 E DIXON [37.52, -87.69], 0.4 SSW LISMAN [37.47, -87.73], 2.6 SW LISMAN [37.45, -87.77], CLAY [37.48, -87.83], 2.6 SSE SHELTON [37.54, -87.78]				
	06/22/19 15:48 CST		0	Flash Flood (due to Heavy Rain)
	06/22/19 19:30 CST		0	Source: Law Enforcement
State Route 132 West was closed in two areas. State Route 270 was flooded southwest of Dixon.				
<p>In the wake of an early morning thunderstorm complex, a line of storms formed as a result of daytime heating in the clearing area behind the first complex. Wind profiles were sufficiently strong for an organized line of storms, which produced isolated strong wind gusts in the afternoon hours. The line moved very slowly in some areas, resulting in isolated flash flooding.</p>				
HENDERSON COUNTY --- REED [37.85, -87.35]				

Storm Data and Unusual Weather Phenomena - June 2019

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	06/23/19 12:40 CST		5K	Thunderstorm Wind (EG 61 kt)
	06/23/19 12:40 CST		0	Source: Trained Spotter

Several trees were down, and power was out.

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

	06/23/19 12:43 CST		0	Hail (0.88 in)
	06/23/19 12:43 CST		0	Source: Public

MUHLENBERG COUNTY --- GREENVILLE [37.20, -87.18], PENROD [37.12, -87.00]

	06/23/19 12:45 CST		2K	Thunderstorm Wind (EG 52 kt)
	06/23/19 12:55 CST		0	Source: Law Enforcement

A tree was down near State Road 949 at Penrod. Another tree was down near Greenville.

CALLOWAY COUNTY --- 3.0 WNW KIRKSEY [36.72, -88.43]

	06/23/19 12:50 CST		0	Funnel Cloud
	06/23/19 12:50 CST		0	Source: Public

DAVIESS COUNTY --- 3.0 NW OWENSBORO [37.80, -87.16]

	06/23/19 13:13 CST		0	Hail (1.00 in)
	06/23/19 13:13 CST		0	Source: Trained Spotter

DAVIESS COUNTY --- ANDERSONVILLE [37.62, -87.08], KNOTTSVILLE [37.77, -86.90], THURSTON [37.80, -87.03], STANLEY [37.82, -87.25], WEST LOUISVILLE [37.70, -87.28]

	06/23/19 13:15 CST		0	Flash Flood (due to Heavy Rain)
	06/23/19 19:00 CST		0	Source: Emergency Manager

Some road closures were reported due to flooding.

CARLISLE COUNTY --- 2.1 NNW BARDWELL [36.90, -89.04], 2.1 N BARDWELL [36.90, -89.02]

	06/23/19 15:20 CST		20K	Tornado (EF1, L: 0.93 mi , W: 100 yd)
	06/23/19 15:21 CST		0	Source: NWS Storm Survey

Numerous trees were uprooted and snapped by this tornado, which passed across U.S. Highway 51. Peak winds were estimated near 110 mph. This was the first of three tornadoes that were spawned along a path extending northeastward to the Paducah area.

BALLARD COUNTY --- 1.0 SW BLANDVILLE [36.94, -88.96], 2.6 SE SLATER [36.99, -88.95]

	06/23/19 15:26 CST		10K	Thunderstorm Wind (EG 61 kt)
	06/23/19 15:28 CST		0	Source: Public

Just southwest of Blandville, two trees were snapped. A large tree fell through a home near Slater.

CARLISLE COUNTY --- 1.5 WNW MAGEE SPGS [36.93, -88.94], 1.4 WNW MAGEE SPGS [36.93, -88.94]

	06/23/19 15:27 CST		5K	Tornado (EF1, L: 0.15 mi , W: 150 yd)
	06/23/19 15:28 CST		0	Source: NWS Storm Survey

Trees were snapped and uprooted by this very brief tornado, which crossed Highway 121 near the Ballard County line. Peak winds were estimated near 110 mph. This tornado was the second of three that were spawned along a path from western Carlisle County to McCracken County.

BALLARD COUNTY --- 1.4 WSW LOVELACEVILLE [36.96, -88.84], 0.1 SW LOVELACEVILLE [36.97, -88.82]

	06/23/19 15:33 CST		5K	Tornado (EF1, L: 1.30 mi , W: 150 yd)
	06/23/19 15:35 CST		0	Source: NWS Storm Survey

The tornado touched down near Lovelaceville in Ballard County, but the vast majority of the track was in McCracken County. This tornado uprooted and snapped several trees before it crossed into McCracken County. The tornado crossed U.S. Highway 62 near the south edge of Lovelaceville. Peak winds in Ballard County were estimated near 100 mph. This was the third and longest of three tornadoes that occurred along a path from western Carlisle County to McCracken County.

CARLISLE COUNTY --- 2.0 E MILBURN [36.80, -88.84]

Storm Data and Unusual Weather Phenomena - June 2019

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	06/23/19 15:35 CST		10K	Thunderstorm Wind (EG 70 kt)
	06/23/19 15:35 CST		0	Source: NWS Storm Survey

Part of the roof of an old barn was blown off. The top of a silo was torn off.

MCCRACKEN COUNTY --- 4.2 SSW CAMELIA [36.97, -88.82], 1.0 ENE WOODLAWN [37.06, -88.55]

	06/23/19 15:35 CST		0.50M	Tornado (EF1, L: 15.98 mi , W: 150 yd)
	06/23/19 15:53 CST		0	Source: NWS Storm Survey

This tornado tracked from Ballard County east-northeast across McCracken County. The tornado stayed mainly over rural farm country of southwest McCracken County until it crossed the Lone Oak and Hendron communities near Paducah. The tornado finally dissipated as it crossed the south side of Paducah, a few miles northwest of Reidland. Although there was some minor roof damage to homes along the path, almost all of the damage was done to large, mature trees. Hundreds of trees were snapped or uprooted (50/50). Several sheds and outbuildings were damaged. Grain bins and barns were damaged on farms in rural southwest parts of the county. On the south side of Paducah, windows were blown out of a strip mall, signage to a business was destroyed, and there was roof damage to a former church. The two main areas of significant damage were along Gum Springs Road (near Lone Oak) and in the Hendron area. A large swath of straight-line damaging winds (up to 110 mph) paralleled the track about one-half mile south from the inception of the tornado until about Interstate 24, where they merged over the Hendron area and became a single smaller path to the south side of Paducah. Peak winds in the tornado were also estimated near 110 mph.

GRAVES COUNTY --- FANCY FARM [36.80, -88.78], 2.0 ENE FANCY FARM [36.81, -88.75]

	06/23/19 15:37 CST		8K	Thunderstorm Wind (EG 70 kt)
	06/23/19 15:40 CST		0	Source: NWS Storm Survey

A National Weather Service storm survey found scattered tree damage in and near Fancy Farm. Several trees had large broken limbs or were uprooted. One house sustained gutter and roof damage from falling limbs. Estimated peak winds were 80 mph.

BALLARD COUNTY --- 3.0 NNE GAGE [37.02, -88.86]

	06/23/19 15:38 CST		3K	Thunderstorm Wind (EG 56 kt)
	06/23/19 15:38 CST		0	Source: Public

Tree damage occurred off State Road 2532 near the McCracken County line.

GRAVES COUNTY --- 2.0 W HICKORY [36.82, -88.67], HICKORY [36.82, -88.63]

	06/23/19 15:45 CST		50K	Thunderstorm Wind (EG 78 kt)
	06/23/19 15:48 CST		0	Source: NWS Storm Survey

A microburst containing winds near 90 mph struck the Hickory area. Numerous large tree limbs and trees were down. An empty semi truck was overturned at a large chicken processing plant at Hickory. A large section of the east wall of a metal building was blown out after garage doors on the west side were opened by the wind. The damage swath was approximately 1.3 miles long and up to 250 yards wide.

MCCRACKEN COUNTY --- 4.0 W PADUCAH [37.08, -88.70]

	06/23/19 15:49 CST		15K	Thunderstorm Wind (MG 54 kt)
	06/23/19 15:49 CST		0	Source: Trained Spotter

About four miles west of Paducah, a wind gust to 62 mph was measured by a trained spotter. Downed trees and power lines blocked Kentucky Highway 305 between Interstate 24 and Highway 358 for several hours.

GRAVES COUNTY --- 5.0 SW SYMSONIA [36.87, -88.58]

	06/23/19 15:53 CST		5K	Thunderstorm Wind (EG 61 kt)
	06/23/19 15:53 CST		0	Source: Public

Trees were down.

MCCRACKEN COUNTY --- REIDLAND [37.02, -88.53]

	06/23/19 15:53 CST		3K	Thunderstorm Wind (EG 56 kt)
	06/23/19 15:53 CST		0	Source: Public

A large tree fell onto a fence and the side of a house. Soffit was blown off a home.

LIVINGSTON COUNTY --- 0.5 NW SMITHLAND [37.13, -88.41], 0.8 N SMITHLAND [37.14, -88.40]

	06/23/19 16:02 CST		0.10M	Tornado (EF1, L: 0.50 mi , W: 140 yd)
	06/23/19 16:03 CST		0	Source: NWS Storm Survey

Storm Data and Unusual Weather Phenomena - June 2019

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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This tornado began on the south side of town and peeled the roof back on a church. A mobile home was destroyed. Other homes in the path sustained minor roof damage. Large trees were snapped, and numerous large branches were down. There was also minor damage to a gas station canopy. Peak winds were estimated near 110 mph.

LIVINGSTON COUNTY --- 1.6 W VICKSBURG [37.18, -88.36], 1.3 WNW VICKSBURG [37.19, -88.35]

	06/23/19 16:07 CST		20K	Tornado (EF1, L: 0.79 mi , W: 125 yd)
	06/23/19 16:08 CST		0	Source: NWS Storm Survey

Numerous trees were uprooted and snapped along the three-quarter mile path. The tornado was in a very rural area about four miles northeast of Smithland. Peak winds were estimated near 110 mph.

MARSHALL COUNTY --- CALVERT CITY [37.03, -88.35], 4.0 NE BENTON [36.91, -88.30]

	06/23/19 16:07 CST		5K	Thunderstorm Wind (EG 65 kt)
	06/23/19 16:07 CST		0	Source: NWS Storm Survey

A line of thunderstorms downed some trees across northern Marshall County. About four miles northeast of Benton, a tree was uprooted, and a few large limbs were broken. At Calvert City, a tree was uprooted.

MARSHALL COUNTY --- 4.5 ESE TATUMSVILLE [36.92, -88.22], 4.7 N FAIRDEALING [36.92, -88.22]

	06/23/19 16:13 CST		1M	Tornado (EF1, L: 0.23 mi , W: 50 yd)
	06/23/19 16:14 CST		0	Source: NWS Storm Survey

A very brief tornado with maximum estimated winds of 100 mph damaged part of a marina on Kentucky Lake. A 50-yard section of the marina was twisted and overturned. This was one of three sections that extended into Kentucky Lake. A boat that was docked in this part of the marina was lifted onto the debris. The entire marina structure was shifted several feet and pulled away from the shore, dislodging several spud poles that anchored the floating marina structure to the lake bottom.

LIVINGSTON COUNTY --- BURNA [37.25, -88.37], SALEM [37.27, -88.25]

	06/23/19 16:15 CST		30K	Thunderstorm Wind (EG 65 kt)
	06/23/19 16:20 CST		0	Source: Public

A line of thunderstorms produced pockets of wind damage in northern Livingston County. In downtown Salem, windows were blown out of a business. Large trees were uprooted and power lines were down in and near Salem. A large tree was down at Burna.

WEBSTER COUNTY --- 2.0 W PROVIDENCE [37.40, -87.81], PROVIDENCE [37.40, -87.77]

	06/23/19 16:41 CST		30K	Thunderstorm Wind (EG 65 kt)
	06/23/19 16:44 CST		0	Source: NWS Storm Survey

A microburst snapped numerous large tree limbs and uprooted a few trees as it moved east through Providence. Large trees and power lines were down, including trees on houses. In particular, numerous trees were down in the Baptist Hill area on the west side of town.

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

	06/23/19 16:45 CST	1	0	Lightning
	06/23/19 16:45 CST		0	Source: Trained Spotter

Eyewitnesses observed lightning strike next to a woman on the campus of Murray State University. The 50-year-old woman immediately collapsed. CPR was administered, and she died shortly thereafter at a Tennessee hospital.

Direct Fatalities: F50OU

HOPKINS COUNTY --- BEULAH [37.27, -87.68]

	06/23/19 16:52 CST		1K	Thunderstorm Wind (EG 52 kt)
	06/23/19 16:52 CST		0	Source: Public

A tree was down near Highway 70 and Sixth Vein Road.

HOPKINS COUNTY --- 4.0 S MADISONVILLE [37.27, -87.50], HANSON [37.42, -87.48]

	06/23/19 17:00 CST		30K	Thunderstorm Wind (EG 65 kt)
	06/23/19 17:00 CST		0	Source: Mesonet

Widespread damaging winds accompanied a line of thunderstorms across the Madisonville area. Several trees were snapped or uprooted in Hanson. Large trees were down in Madisonville. A wind gust to 62 mph was measured at a mesonet site four miles south of Madisonville.

Storm Data and Unusual Weather Phenomena - June 2019

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
HENDERSON COUNTY --- ROBARDS [37.67, -87.55]				
	06/23/19 17:20 CST		1K	Thunderstorm Wind (EG 52 kt)
	06/23/19 17:20 CST		0	Source: Emergency Manager
Wires were down.				
MCLEAN COUNTY --- LIVERMORE [37.48, -87.13], 2.0 NE LIVERMORE [37.50, -87.10]				
	06/23/19 17:23 CST		5K	Thunderstorm Wind (EG 61 kt)
	06/23/19 17:26 CST		0	Source: Public
In Livermore, a tree was down on a house. The roof was torn off a tool shed. A couple miles northeast of Livermore, a large tree that was 100 to 150 years old was uprooted.				
MUHLENBERG COUNTY --- MOORMAN [37.38, -87.15]				
	06/23/19 17:26 CST		1K	Thunderstorm Wind (EG 52 kt)
	06/23/19 17:26 CST		0	Source: Public
A large tree was down.				
CHRISTIAN COUNTY --- HERNDON [36.73, -87.57], OAK GROVE [36.67, -87.43]				
	06/23/19 17:35 CST		5K	Thunderstorm Wind (EG 61 kt)
	06/23/19 17:45 CST		0	Source: Public
Trees were snapped in the Herndon and Oak Grove area. A shed was damaged.				
<p>Clusters of thunderstorms formed over western Kentucky early in the afternoon. Several of these storms produced large hail or damaging wind. However, the main event was a line of severe thunderstorms that entered southeast Missouri about mid-afternoon and then tracked east across western Kentucky late in the afternoon and early in the evening. Several EF-1 tornadoes were associated with this line, in addition to scattered pockets of wind damage. The storms occurred under a rather strong southwest wind flow ahead of a weak cold front over far western Missouri. A 500 mb shortwave trough over the western high Plains provided some additional support for the storms. The air mass was strongly unstable, with surface capes over 3000 j/kg.</p>				
MCCRACKEN COUNTY --- (PAH)BARKLEY ARPT PA [37.07, -88.77]				
	06/26/19 17:40 CST		0	Thunderstorm Wind (MG 50 kt)
	06/26/19 17:40 CST		0	Source: Official NWS Observations
A wind gust to 58 mph was measured at the automated observing system at Barkley Regional Airport.				
GRAVES COUNTY --- WINGO [36.65, -88.73]				
	06/26/19 18:09 CST		0	Hail (0.88 in)
	06/26/19 18:09 CST		0	Source: Public
GRAVES COUNTY --- 3.0 SSE MAYFIELD [36.69, -88.61], 2.0 SE MAYFIELD [36.71, -88.60]				
	06/26/19 18:25 CST		20K	Thunderstorm Wind (EG 61 kt)
	06/26/19 18:25 CST		0	Source: Public
Lots of large limbs were down. Several trees were snapped. There was minor shingle damage.				
MUHLENBERG COUNTY --- 2.0 SE GREENVILLE [37.18, -87.15]				
	06/26/19 18:43 CST		25K	Thunderstorm Wind (EG 65 kt)
	06/26/19 18:43 CST		0	Source: Emergency Manager
Trees were uprooted, and shingles were off a house on State Highway 1163. Large tree limbs were down.				
DAVISS COUNTY --- WHITESVILLE [37.68, -86.88], MASONVILLE [37.67, -87.03], THURSTON [37.80, -87.03], 2.5 ESE KNOTTSVILLE [37.76, -86.86]				
	06/26/19 21:31 CST		10K	Flash Flood (due to Heavy Rain)
	06/27/19 04:00 CST		0	Source: State Official

A car crashed due to flash flooding of a county road near Haynes Station and Whitesville. Vehicles were stalled in floodwaters, and there was widespread flooding of county roads.

Loosely organized clusters of thunderstorms produced isolated flash flooding, along with isolated damaging winds and hail. A

Storm Data and Unusual Weather Phenomena - June 2019

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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mesoscale vorticity center from earlier thunderstorms moved eastward across southern Missouri during the afternoon. Very warm and moist air in advance of this vorticity center contributed to strong instability, with mixed-layer capes around 3000. Around 25 to 40 knots of westerly flow in the mid levels of the atmosphere was sufficient for loosely organized thunderstorm clusters, a few of which were severe.

CHRISTIAN COUNTY --- HOPKINSVILLE [36.85, -87.48]

06/29/19 15:45 CST			10K	Lightning
06/29/19 15:45 CST			0	Source: NWS Employee

Lightning struck a tree, causing it to fall on a house. There was moderate damage to the roof and attic area.

Isolated thunderstorms formed during the heat of the afternoon. A thunderstorm produced a damaging lightning strike.

DAVIESS COUNTY --- OWENSBORO [37.77, -87.12]

06/30/19 19:05 CST			10K	Thunderstorm Wind (EG 56 kt)
06/30/19 19:05 CST			0	Source: Fire Department/Rescue

There were scattered reports of downed trees and power lines across the city.

A line of thunderstorms sank southward across northwest Kentucky, producing isolated wind damage. The thunderstorm complex moved southward on the east side of a mid-level high centered over Missouri. A warm, moist, and unstable air mass provided a favorable environment for the storms to maintain their intensity into the lower Ohio Valley.

MISSOURI, Southeast

CAPE GIRARDEAU COUNTY --- 3.4 ESE GULF JCT [37.25, -89.49], (CGI)CAPE GIRARDEAU [37.23, -89.57], 0.3 N GULF JCT [37.27, -89.55], 1.5 SSE NEELYS LNDG [37.48, -89.49], 3.0 ESE EGYPT MILLS [37.38, -89.42]

06/01/19 00:00 CST			0.20M	Flood (due to Heavy Rain)
06/30/19 23:59 CST			1M	Source: River/Stream Gage

The peak of a very prolonged river flood occurred about mid month. At the Cape Girardeau river gage, the river crested at 46.36 feet on the 10th. This was the 5th highest flood crest on record at Cape Girardeau, just slightly above the May 2011 flood but two feet below the Great Flood of 1993. The river rose above flood stage in mid March and stayed above flood stage into the summer. The crests in April and May were not as high as the June crest. There was extensive flooding of low-lying farmland and woods. About 21,000 total acres were flooded, of which 14,000 acres were cropland. Over a dozen county roads were closed in the county. The Red Star neighborhood of Cape Girardeau was flooded. Flooding of the diversion channel floodplain affected areas as far west as Dutchtown and Allenville. Shelters were opened for flood evacuees. Highway 74 was closed, including the on and off ramps from Interstate 55 at exit 93. Facilities at riverfront parks were closed, including the campground and boat ramp at Trail of Tears State Park. Railroad tracks through the county were shut down. The Army Corps of Engineers activated teams to conduct routine inspections of floodwalls and levees.

SCOTT COUNTY --- SCOTT CITY [37.25, -89.52], COMMERCE [37.15, -89.45], 3.4 NNW LUSK [37.08, -89.40], 3.5 N LUSK [37.08, -89.38], 1.8 ENE ILLMO [37.23, -89.47]

06/01/19 00:00 CST			50K	Flood (due to Heavy Rain)
06/30/19 23:59 CST			0.10M	Source: River/Stream Gage

Major flooding of the Mississippi River continued to inundate thousands of acres of crops. Although this was the fifth highest flood crest on record at Cape Girardeau, relatively few homes were flooded because of migration out of the flood plain in recent decades. Transportation in eastern parts of the county was difficult due to numerous flooded roads.

PERRY COUNTY --- ALTENBURG [37.63, -89.58], 1.0 SE WITTENBURG [37.64, -89.52], 2.9 E STARLAND [37.70, -89.53], 2.1 N BELGIQUE [37.86, -89.78], 0.6 SW BELGIQUE [37.82, -89.79]

06/02/19 00:00 CST			20K	Flood (due to Heavy Rain)
06/27/19 07:00 CST			0.10M	Source: River/Stream Gage

Major flooding occurred along the Mississippi River, inundating thousands of acres of cropland and closing numerous roads. Portions of Highways A, C, and E were closed.

MISSISSIPPI COUNTY --- BIRDS PT [36.97, -89.15], 1.9 WNW DORENA [36.59, -89.26], 1.4 NE DORENA [36.59, -89.21], 0.8 SW BELMONT [36.76, -89.13], 3.4 SE BIRDS PT [36.94, -89.11]

06/02/19 02:00 CST			10K	Flood (due to Heavy Rain)
06/22/19 05:00 CST			0.10M	Source: River/Stream Gage

Storm Data and Unusual Weather Phenomena - June 2019

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<p>The Mississippi River experienced major flooding above the confluence with the Ohio River. The river gage upriver at Cape Girardeau crested at 46.36 feet, which was the fifth highest crest on record. However, the river gage downriver at New Madrid only experienced minor flooding. Mississippi County is mostly agricultural, and most of the impacts were on cropland. County roads outside of the levee system were flooded. State Route VV was flooded and closed.</p>				
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NEW MADRID COUNTY --- NEW MADRID [36.60, -89.53], 1.4 ESE PORTAGEVILLE ARPT [36.45, -89.61], 1.5 NNE LINDA [36.44, -89.54], 6.3 ENE PT PLEASANT [36.48, -89.46], 5.5 E BAYOUVILLE [36.64, -89.27], 1.7 NW BAYOUVILLE [36.67, -89.39]				
	06/03/19 03:00 CST		0	Flood (due to Heavy Rain)
	06/30/19 23:59 CST		30K	Source: River/Stream Gage
<p>Minor flooding of the Mississippi River affected some cropland, as well as county roads near the river.</p> <p>Major flooding continued on parts of the Mississippi River through the month of June. The region remained stuck in a long-term wet pattern that continued through the spring and into early summer. Most locations were 1 to 2 inches above normal for the month of June. Some locations saw as much as 3 to 5 inches more rainfall than normal in June. Heavy rain in the upper parts of the Midwest sent another flood wave toward the middle part of the Mississippi, and another crest occurred around the 11th.</p>				
<hr/>				
BOLLINGER COUNTY --- 5.0 NW ZALMA [37.20, -90.14]				
	06/01/19 23:36 CST		1K	Thunderstorm Wind (EG 50 kt)
	06/01/19 23:36 CST		0	Source: Emergency Manager
<p>A large tree blocked Highway Y. The tree was cleared by a Missouri state road crew.</p> <p>High thunderstorm winds downed at least one tree. The storms occurred along a weak cold front as it sagged south behind low pressure over the eastern Great Lakes. The damaging wind occurred along the leading edge of a short bowing line of thunderstorms that developed on the back side of a large thunderstorm complex over southwest Illinois.</p>				
<hr/>				
BUTLER COUNTY --- POPLAR BLUFF [36.75, -90.40], 1.0 N POPLAR BLUFF [36.76, -90.40], 1.0 W POPLAR BLUFF [36.75, -90.42], 1.1 SW POPLAR BLUFF [36.74, -90.42]				
	06/06/19 15:50 CST		0	Flood (due to Heavy Rain)
	06/06/19 18:00 CST		0	Source: Emergency Manager
<p>Emergency management personnel reported urban and small stream flooding in Poplar Bluff, specifically along the business loop of U.S. Highway 67.</p> <p>Slow-moving thunderstorms with very heavy rain caused isolated minor flooding problems. The storms developed in response to daytime heating of a very moist air mass. A low pressure system drifted slowly eastward into the lower Mississippi Valley, tapping into a fetch of tropical moisture from the Gulf of Mexico.</p>				
<hr/>				
CARTER COUNTY --- 2.0 S HUNTER [36.85, -90.85]				
	06/16/19 14:18 CST		0	Hail (1.00 in)
	06/16/19 14:18 CST		0	Source: Public
<hr/>				
BUTLER COUNTY --- ROMBAUER [36.85, -90.28]				
	06/16/19 15:50 CST		0	Thunderstorm Wind (EG 52 kt)
	06/16/19 15:50 CST		0	Source: Trained Spotter
<p>A trained spotter estimated winds gusted to 60 mph.</p>				
<hr/>				
SCOTT COUNTY --- COMMERCE [37.15, -89.45]				
	06/16/19 16:40 CST		1K	Thunderstorm Wind (EG 52 kt)
	06/16/19 16:40 CST		0	Source: Trained Spotter
<p>A trained spotter estimated wind gusts to 60 mph blew down a tree limb.</p>				
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MISSISSIPPI COUNTY --- 0.5 ENE BERTRAND [36.92, -89.42]				
	06/16/19 17:05 CST		5K	Thunderstorm Wind (EG 56 kt)
	06/16/19 17:05 CST		0	Source: Law Enforcement

Trees were down near the intersection of U.S. Highway 62 and Missouri Route 77, blocking both roads.

As strong solar heating destabilized the atmosphere, numerous clusters of intense thunderstorms blossomed from southeast Missouri to southwest Indiana. Damaging winds up to around 60 mph occurred with several of the storms. The environment was characterized by moderate to strong instability and moderate wind shear. Effective bulk wind shear values of 25 to 40 knots were observed. The storms developed east of a weak low pressure center over central Missouri.

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
RIPLEY COUNTY --- FAIRDEALING [36.67, -90.62]				
	06/19/19 12:00 CST		0	Hail (1.00 in)
	06/19/19 12:00 CST		0	Source: Public
SCOTT COUNTY --- 5.0 W BLODGETT [37.00, -89.62]				
	06/19/19 12:50 CST		5K	Thunderstorm Wind (EG 56 kt)
	06/19/19 12:50 CST		0	Source: Law Enforcement
Trees were down along U.S. Highway 61 near Haywood City.				
CAPE GIRARDEAU COUNTY --- CAPE GIRARDEAU [37.30, -89.53]				
	06/19/19 13:15 CST		6K	Thunderstorm Wind (EG 56 kt)
	06/19/19 13:16 CST		0	Source: Emergency Manager
About a half-dozen trees were down in Cape Girardeau, mainly near the campus of Southeast Missouri State University.				
BUTLER COUNTY --- POPLAR BLUFF [36.75, -90.40], (P02)POPLAR BLUFF AR [36.77, -90.33]				
	06/19/19 18:30 CST		0.10M	Thunderstorm Wind (MG 58 kt)
	06/19/19 18:41 CST		0	Source: ASOS
In Poplar Bluff, several trees were blown down, and at least three small trailers were overturned. Just east of Poplar Bluff at and near the airport, damaging winds caused significant damage. A wind gust to 67 mph was measured by the Poplar Bluff airport's automated weather observation system. A parked small plane was overturned and pushed into a building. In the same general area, several telephone poles were knocked down. Numerous tree limbs and power lines were down. This damage was produced by a supercell thunderstorm that tracked east-southeast to New Madrid County.				
BUTLER COUNTY --- POPLAR BLUFF [36.75, -90.40]				
	06/19/19 18:35 CST		0	Hail (1.00 in)
	06/19/19 18:35 CST		0	Source: Broadcast Media
BUTLER COUNTY --- 1.9 SW POPLAR BLUFF [36.73, -90.43], 1.7 SE POPLAR BLUFF [36.74, -90.38], 1.6 NE POPLAR BLUFF [36.76, -90.38], 0.8 NW POPLAR BLUFF [36.76, -90.41]				
	06/19/19 18:42 CST		0	Flood (due to Heavy Rain)
	06/19/19 19:45 CST		0	Source: Emergency Manager
Street flooding was reported in typical flood-prone areas of the city.				
BUTLER COUNTY --- FISK [36.78, -90.22]				
	06/19/19 18:55 CST		0	Hail (1.25 in)
	06/19/19 18:55 CST		0	Source: Public
This hail was produced by the same supercell that passed through Poplar Bluff.				
NEW MADRID COUNTY --- LILBOURN [36.60, -89.62]				
	06/19/19 20:00 CST		0	Hail (1.00 in)
	06/19/19 20:00 CST		0	Source: Public
SCOTT COUNTY --- CHAFFEE [37.18, -89.67]				
	06/19/19 20:10 CST		0	Hail (1.00 in)
	06/19/19 20:10 CST		0	Source: Public
Winds were estimated at 30 to 40 mph.				
SCOTT COUNTY --- SCOTT CITY [37.25, -89.52]				
	06/19/19 20:20 CST		0	Hail (1.50 in)
	06/19/19 20:20 CST		0	Source: Trained Spotter

Clusters and short lines of thunderstorms developed during the afternoon hours. A few of these were accompanied by damaging winds and large hail. A second round of storms occurred during the evening hours. A couple of supercells developed over southeast Missouri and produced large hail up to ping pong ball size, along with damaging winds approaching 70 mph. Both rounds of storms developed south of a surface low that gradually deepened as it tracked east along the Interstate 70 corridor from Missouri into Illinois. Thunderstorm development was enhanced by large-scale ascent pivoting from the Ozark Plateau into the lower Ohio Valley, ahead of a

Storm Data and Unusual Weather Phenomena - June 2019

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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low amplitude mid-level trough. Daytime heating helped to increase instability, with mixed layer capes approaching 2000 J/kg. Vertical wind shear increased as 40 to 50-knot westerly winds gradually propagated eastward from the south central Plains.

CARTER COUNTY --- 4.0 NW VAN BUREN [37.04, -91.07], 4.0 NNW VAN BUREN [37.05, -91.05]

06/21/19 14:43 CST	1	20K	Thunderstorm Wind (EG 61 kt)
06/21/19 14:45 CST	2	0	Source: Emergency Manager

Within the Ozark National Scenic Riverways, a tree fell on a boat on the Current River. The boat was traveling downstream in the vicinity of the Waymeyer Shute river access point. The 22-year-old male driver of the boat was killed, and two passengers in their 20's were moderately injured. The injured parties were from the local area and were treated at a local hospital. In the same general vicinity, trees and large tree limbs were down on the north end of M Highway.

Direct Fatalities: M22BO

BOLLINGER COUNTY --- PATTON [37.50, -90.02], MARBLE HILL [37.30, -89.97]

06/21/19 15:00 CST		50K	Thunderstorm Wind (EG 61 kt)
06/21/19 15:10 CST		0	Source: Broadcast Media

Widespread damaging winds crossed much of the county. Numerous trees and power lines were down in parts of Bollinger County. At least one vehicle was damaged by a falling tree. Power lines were down at Patton. Four miles south-southwest of Patton, trees were snapped, and there was damage to the porch on a house.

CAPE GIRARDEAU COUNTY --- JACKSON [37.38, -89.67], 2.5 E DELTA [37.20, -89.70]

06/21/19 15:17 CST		0.10M	Thunderstorm Wind (EG 65 kt)
06/21/19 15:30 CST		0	Source: Broadcast Media

Widespread damaging winds accompanied a line of thunderstorms across much of Cape Girardeau County. Numerous trees and tree limbs were blown down. Bricks were blown from an apartment building in Jackson, and heavy tree damage occurred in the area. In Allenville, multiple trees and tree limbs were down. Siding was peeled off. In Cape Girardeau, windows were blown out of a store and some cars, along with roof and shingle damage. Near Delta, significant shingle damage occurred at a house.

WAYNE COUNTY --- 2.0 SSE GREENVILLE [37.10, -90.46]

06/21/19 15:20 CST		0	Hail (0.75 in)
06/21/19 15:20 CST		0	Source: Trained Spotter

SCOTT COUNTY --- CHAFFEE [37.18, -89.67], BENTON [37.10, -89.57]

06/21/19 15:27 CST		75K	Thunderstorm Wind (EG 61 kt)
06/21/19 15:40 CST		0	Source: Emergency Manager

Across the county, trees and power lines were down. Some of the trees were across roads. In the city of Chaffee, roofs were damaged and trees were down. Power outages were reported.

SCOTT COUNTY --- 3.0 WSW SCOTT CITY [37.23, -89.57], SCOTT CITY [37.25, -89.52]

06/21/19 15:29 CST		2K	Thunderstorm Wind (MG 63 kt)
06/21/19 15:35 CST		0	Source: ASOS

A wind gust to 72 mph was measured at the Cape Girardeau airport. Tree limbs were down in Scott City.

BUTLER COUNTY --- 0.6 W POPLR BLUFF DAVIS AR [36.90, -90.31], (P02)POPLAR BLUFF AR [36.77, -90.33]

06/21/19 15:30 CST		1K	Thunderstorm Wind (MG 51 kt)
06/21/19 15:33 CST		0	Source: Emergency Manager

A wind gust to 59 mph was measured at the automated observing station at the Poplar Bluff airport. Near the Wayne County line south of Wappapello, a large tree was blocking Highway T about a mile south of Route KK.

SCOTT COUNTY --- SCOTT CITY [37.25, -89.52]

06/21/19 15:30 CST		50K	Lightning
06/21/19 15:30 CST		0	Source: Broadcast Media

A church burned to the ground as a result of a lightning-related fire.

BUTLER COUNTY --- POPLAR BLUFF [36.75, -90.40]

Storm Data and Unusual Weather Phenomena - June 2019

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	06/21/19 15:49 CST		1K	Thunderstorm Wind (EG 56 kt)
	06/21/19 15:49 CST		0	Source: Public

A large tree was snapped. A photo was posted on social media.

MISSISSIPPI COUNTY --- CHARLESTON [36.92, -89.33], EAST PRAIRIE [36.78, -89.38]				
	06/21/19 15:50 CST		5K	Thunderstorm Wind (EG 61 kt)
	06/21/19 15:55 CST		0	Source: Trained Spotter

Trees and wires were blown down from Charleston to East Prairie. At least one large tree was uprooted. A street was blocked.

NEW MADRID COUNTY --- MATTHEWS [36.77, -89.58], NEW MADRID [36.60, -89.53]				
	06/21/19 16:08 CST		5K	Thunderstorm Wind (EG 56 kt)
	06/21/19 16:23 CST		0	Source: Emergency Manager

Trees were blown down at Matthews. Wind gusts were estimated from 60 to 70 mph by emergency management in New Madrid.

A severe weather outbreak occurred during the afternoon and early evening hours. An organized line of severe thunderstorms formed over the central Plains states during the night of the 20th. This bowing line of storms progressed southeast across the St. Louis area during the midday hours, then down across the lower Ohio Valley and southeast Missouri during the afternoon. Large areas of wind damage were reported in parts of southeast Missouri. The atmosphere ahead of the storms became strongly unstable, with surface-based capes exceeding 4,000. Given the strong buoyancy, wind profiles were sufficiently strong for widespread severe weather. Deep-layer (0-6 km) wind shear values were no higher than about 30 knots, and 0-1 km shear was about 20 knots. Even though the region was under a broad 500 mb ridge, a moderately strong low-level feed of very moist and unstable air fueled the intense storms as they propagated southeastward.

BUTLER COUNTY --- FAGUS [36.52, -90.27]				
	06/22/19 13:00 CST		0	Funnel Cloud
	06/22/19 13:00 CST		0	Source: Emergency Manager

A photo was taken of a rope-like funnel cloud extending less than halfway to the ground.

In the wake of an early morning thunderstorm complex, a line of storms formed as a result of daytime heating in the clearing area behind the first complex. Wind profiles were sufficiently strong for an organized line of storms, which produced a short-lived funnel cloud in the afternoon.

CARTER COUNTY --- 6.0 S ELLSINORE [36.84, -90.75]				
	06/23/19 12:54 CST		2K	Thunderstorm Wind (EG 56 kt)
	06/23/19 12:54 CST		0	Source: Emergency Manager

A couple of trees were down on Highway B between Highway 21 and U.S. Highway 60.

BUTLER COUNTY --- 9.0 WSW POPLAR BLUFF [36.70, -90.55], 4.0 S POPLAR BLUFF [36.69, -90.40]				
	06/23/19 13:15 CST		0.10M	Thunderstorm Wind (EG 65 kt)
	06/23/19 13:28 CST		0	Source: Trained Spotter

Widespread damage to trees and power lines was reported across southwest and south central Butler County. Trees were down on a house and cars on County Road 461. Roofs were damaged and numerous trees were down on County Road 470. Trees and power lines were damaged four miles south of Poplar Bluff.

STODDARD COUNTY --- DEXTER [36.80, -89.95], 4.0 S ADVANCE [37.04, -89.92]				
	06/23/19 14:05 CST		50K	Thunderstorm Wind (EG 65 kt)
	06/23/19 14:15 CST		0	Source: Public

A line of thunderstorms produced damaging winds across Stoddard County, mainly from Dexter north across the Bloomfield area. Trees were down off County Road 227 north-northwest of Bloomfield. Several trees were uprooted or snapped in Dexter. A large tree limb was down south of Advance.

STODDARD COUNTY --- BELL CITY [37.03, -89.83]				
	06/23/19 14:10 CST		0	Funnel Cloud
	06/23/19 14:10 CST		0	Source: Trained Spotter

CAPE GIRARDEAU COUNTY --- DELTA [37.20, -89.75]				
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Storm Data and Unusual Weather Phenomena - June 2019

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	06/23/19 14:22 CST		4K	Thunderstorm Wind (EG 61 kt)
	06/23/19 14:22 CST		0	Source: Trained Spotter
At Delta, siding was peeled back on a house and tree limbs were down.				
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CAPE GIRARDEAU COUNTY --- 3.0 SW CAPE GIRARDEAU [37.27, -89.57]				
	06/23/19 14:35 CST		0	Thunderstorm Wind (EG 52 kt)
	06/23/19 14:35 CST		0	Source: Trained Spotter
A trained spotter estimated 60 mph winds at exit 93 on Interstate 55, at the interchange with State Route 74.				
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NEW MADRID COUNTY --- NEW MADRID [36.60, -89.53]				
	06/23/19 14:55 CST		0.50K	Thunderstorm Wind (EG 52 kt)
	06/23/19 14:55 CST		0	Source: Public
A large tree branch was broken off.				
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MISSISSIPPI COUNTY --- CHARLESTON [36.92, -89.33], WYATT [36.92, -89.22]				
	06/23/19 15:05 CST		0	Thunderstorm Wind (EG 52 kt)
	06/23/19 15:15 CST		0	Source: Public
One-inch limbs were down between Charleston and Wyatt.				
<p>A line of severe thunderstorms entered southeast Missouri about mid-afternoon and then tracked east across western Kentucky and far southern Illinois late in the afternoon and early in the evening. Corridors of wind damage were associated with this line. The storms occurred under a rather strong southwest wind flow ahead of a weak cold front over far western Missouri. A 500 mb shortwave trough over the western high Plains provided some additional support for the storms. The air mass was strongly unstable, with surface capes over 3000 j/kg.</p>				
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RIPLEY COUNTY --- 8.0 N BRIAR [36.77, -90.97]				
	06/26/19 13:15 CST		1K	Thunderstorm Wind (EG 52 kt)
	06/26/19 13:15 CST		0	Source: Fire Department/Rescue
A tree was blown down on C Highway close to the Carter County line.				
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RIPLEY COUNTY --- 2.0 WNW BRIAR [36.66, -91.00]				
	06/26/19 13:40 CST		0	Hail (1.00 in)
	06/26/19 13:40 CST		0	Source: Broadcast Media
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CARTER COUNTY --- 2.8 SSE ELLSINORE [36.89, -90.73], 2.5 NNE ELLSINORE [36.96, -90.73], 2.2 NNW VAN BUREN [37.03, -91.03], 3.1 WSW CHICOPEE [36.97, -91.08], 1.3 ESE CHILTON [36.92, -90.90]				
	06/26/19 13:50 CST		5K	Flood (due to Heavy Rain)
	06/26/19 20:00 CST		0	Source: Trained Spotter
Four to five inches of water was over the roadway at the intersection of FF Highway and County Road 327. Flooding was reported in Van Buren.				
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RIPLEY COUNTY --- 1.7 WSW DONIPHAN [36.61, -90.85], 1.2 SW OWENMONT [36.61, -90.79], 0.9 S HILL TOP [36.64, -90.80], 1.6 NW DONIPHAN [36.63, -90.84]				
	06/26/19 14:00 CST		50K	Flash Flood (due to Heavy Rain)
	06/26/19 19:15 CST		0	Source: Broadcast Media
Swiftly moving water was observed on streets in Doniphan. The high school and elementary school were both damaged by flooding.				
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CAPE GIRARDEAU COUNTY --- 2.8 E JACKSON [37.38, -89.62]				
	06/26/19 16:25 CST		0	Hail (1.75 in)
	06/26/19 16:25 CST		0	Source: Broadcast Media
Golf ball hail was reported on Interstate 55 at mile marker 102.				
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NEW MADRID COUNTY --- HOWARDVILLE [36.58, -89.58]				
	06/26/19 16:42 CST		1K	Thunderstorm Wind (EG 52 kt)
	06/26/19 16:42 CST		0	Source: Broadcast Media

Storm Data and Unusual Weather Phenomena - June 2019

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
A tree was down.				
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MISSISSIPPI COUNTY --- EAST PRAIRIE [36.78, -89.38]				
	06/26/19 16:50 CST		1K	Thunderstorm Wind (EG 52 kt)
	06/26/19 16:50 CST		0	Source: Public
Large tree limbs were down in East Prairie.				
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MISSISSIPPI COUNTY --- 6.0 N WYATT [37.01, -89.22]				
	06/26/19 17:20 CST		2K	Thunderstorm Wind (EG 52 kt)
	06/26/19 17:20 CST		0	Source: Broadcast Media
A tree fell on Interstate 57 at mile marker 20 near the Mississippi River. The tree was cleared by the Missouri Department of Transportation.				
Loosely organized clusters of thunderstorms produced isolated damaging winds, flash flooding, and large hail. A mesoscale vorticity center from earlier thunderstorms moved eastward across southern Missouri during the afternoon. Very warm and moist air in advance of this vorticity center contributed to strong instability, with mixed-layer capes around 3000. Around 25 to 40 knots of westerly flow in the mid levels of the atmosphere was sufficient for loosely organized thunderstorm clusters, a few of which were severe.				
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STODDARD COUNTY --- 0.6 E PAXICO [36.95, -90.16], 2.7 N ACORN RIDGE [36.96, -90.06], 2.6 WSW AVERT [36.91, -89.87], BERNIE [36.68, -89.97], 1.8 E SHOVER [36.68, -90.07]				
	06/27/19 05:00 CST		10K	Flash Flood (due to Heavy Rain)
	06/27/19 15:00 CST		0	Source: Law Enforcement
West of Bernie, Highway U was flooded, and water was approaching several homes and businesses. Water was over Highway J between Puxico and Bloomfield. Numerous county roads were flooded. Access to homes and businesses was blocked by closed roads. A rainfall total of 3.82 inches in about 9 hours was reported in Dudley.				
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BUTLER COUNTY --- 1.8 SW HENDRICKSON [36.88, -90.50]				
	06/27/19 07:00 CST		1K	Thunderstorm Wind (EG 50 kt)
	06/27/19 07:00 CST		0	Source: Public
A tree fell across U.S. Highway 67 between the Black River bridge and the Highway 60 split.				
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BUTLER COUNTY --- BROSELEY [36.68, -90.25], NEELYVILLE [36.57, -90.50], HARVIELL [36.67, -90.47], HENDRICKSON [36.90, -90.48], ROMBAUER [36.85, -90.28]				
	06/27/19 08:00 CST		0	Flash Flood (due to Heavy Rain)
	06/27/19 11:00 CST		0	Source: Law Enforcement
Water was over roads.				
A very slow-moving thunderstorm complex dumped very heavy rainfall across parts of southeast Missouri during the early morning hours. Some flash flooding was reported, along with isolated strong winds.				