



# Tornadoes and Strong Gradient Winds

February 20<sup>th</sup>, 2014

## Damage Surveys

### Tornado #1

#### EF2 Tornado: Pike County, Illinois

MARTINSBURG IL TO 1.5 MILES NORTHEAST OF DETROIT IL, (PIKE COUNTY)

RATING: EF-2  
ESTIMATED PEAK WIND: 120 MPH  
PATH LENGTH: 12.0 MILES  
PATH WIDTH: 80 YARDS  
FATALITIES: 0  
INJURIES: 1

START DATE: FEB 20 2014  
START TIME: 225 PM CST  
START LOCATION: MARTINSBURG PIKE COUNTY  
START LAT/LON: 39.518 / -90.841

END DATE: FEB 20 2014  
END TIME: 235 PM CST  
END LOCATION: 1.5 MILES NORTHEAST OF DETROIT  
END LAT/LONG: 39.633 / -90.670

The tornado developed over the north side of Martinsburg, Illinois. One home sustained minor roof and fascia damage and one window was damaged along the south side of the home. A few large trees and several large branches were downed by the tornado. The tornado then traveled east-northeast and sheared a path of large pine trees 30 to 40 feet tall half a mile north of Martinsburg along and west of County Road 11. Many of the pine trees were snapped from near the base to half way up the trunk. The width of this damage area was 80 yards. The next damage was found approximately 300 yards south of the intersection of County Road 7 and 205th Avenue. A one story residence home sustained minor fascia damage and a few pine trees were snapped at the bases. The tornado then totally destroyed a medium size machine shed on the south side of Watsons Cemetery east of the intersection. Several tomb stones were damaged. Approximately 300 yards east of the cemetery another farmstead sustained damage. Two empty medium size grain bins were destroyed while another machine shed was destroyed. Damage was found again at another farmstead located 1 mile west of Detroit, Illinois. The east side of a two story farm house was moved off its foundation by 5 inches while part of the east side of the roof was tossed to the east. The upper half of a large barn was removed and tossed to the east. One old machine shed was completely destroyed while two canvas hoop sheds were completely destroyed. Debris from the machine sheds were tossed a quarter of a mile to the east. The tornado crossed Illinois Route 106 about a mile west of Detroit and damaged several large trees. The tornado then directly hit a hog building which was supported by steel I-beams. The southern part of the structure was pushed to the north and northeast. Debris from the roof of this structure was tossed over half a mile to the northeast. The damage width over this area was 80 yards wide. Damage to this structure was rated EF-2. The tornado continued to the northeast before lifting and dissipating about a mile north northeast of Detroit on the east side of County Road 14.

# Damage Surveys

## Tornado #2

### EF1 Tornado: Madison/Bond County, Illinois

3.4 MILES NORTHEAST OF HIGHLAND IL (MADISON COUNTY) TO 3.3 MILES SOUTH-SOUTHWEST OF GREENVILLE IL, (BOND COUNTY)

RATING: EF-1  
ESTIMATED PEAK WIND: 105 MPH  
PATH LENGTH: 12 MILES  
PATH WIDTH: 50 YARDS  
FATALITIES: 0  
INJURIES: 0

START DATE: FEB 20 2014  
START TIME: 357 PM CST  
START LOCATION: 3.4 MILES NORTHEAST OF HIGHLAND  
START LAT/LON: 38.7575 / -89.6151

END DATE: FEB 20 2014  
END TIME: 412 PM CST  
END LOCATION: 3.3 MILES SOUTH-SOUTHWEST OF GREENVILLE  
END LAT/LONG: 38.8432 / -89.4147

The tornado touched down about 3.4 miles northeast of Highland, in Madison County, on Trestle Road causing window, roof and tree damage to a home, and then totally destroyed a large commercial metal storage building just northeast of the home. The tornado then crossed the county line into Bond County. The tornado continued to produce intermittent tree damage as it headed northeast and crossed Illinois Route 143 and then totally destroyed a farm outbuilding along Pokey Road. Another farmstead was struck northeast of the farm outbuilding, where the tornado totally destroyed a pole barn and produced extensive damage to a home from a falling oak tree. The tornado continued to produce damage to trees and outbuildings as it moved northeast with roof and siding damage also occurring to a home on Millersburg Road. It lifted and dissipated just southwest of the intersection of Airport Avenue and Dudleyville Road, three miles south of Greenville.

# Damage Surveys

## Tornado #3

### EF1 Tornado: Fayette County, Illinois

2.8 MILES NORTHWEST OF BROWNSTOWN IL TO 5.0 MILES NORTH-NORTHEAST OF BROWNSTOWN IL, (FAYETTE COUNTY)

RATING: EF-1  
ESTIMATED PEAK WIND: 105 MPH  
PATH LENGTH: 4.8 MILES  
PATH WIDTH: 50 YARDS  
FATALITIES: 0  
INJURIES: 0

START DATE: FEB 20 2014  
START TIME: 436 PM CST  
START LOCATION: 2.8 MILES NORTHWEST OF BROWNSTOWN  
START LAT/LON: 39.155 / -88.998

END DATE: FEB 20 2014  
END TIME: 442 PM CST  
END LOCATION: 5.0 MILES NORTH-NORTHEAST OF BROWNSTOWN  
END LAT/LONG: 39.618 / -88.931

The tornado developed 2.8 miles northwest of Brownstown or 0.3 miles north of the intersection of County Roads 1900N and 1375E. One large old tree was down while several large branches along a row of trees were snapped two thirds up the trunk. The damage path was approximately 40 yards wide and damage intensity was rated EF0. Two witnesses observed the tornado near the intersection of County Roads 2000 N and 1450 E. The tornado was rain wrapped and skipped over this area. One large machine shed was damaged about 150 yards southwest of this intersection while the southern part of another barn southeast of the intersection was severely damaged. Debris from both structures were tossed about one third mile to the northeast. At the intersection of 2100 N and 1600 E three tall wooden transmission line poles were snapped two thirds up the pole at the intersection. Approximately 50 yards to the southeast of this intersection a medium size machine shed was severely damaged with the east and south sides of the shed shredded and tossed one third mile to the northeast. The tornado continued northeast and destroyed a large machine shed housing farm equipment. The tornado totally shredded the metal panels and tossed them over one third mile to the north. A medium size machine shed approximately one half mile to the northeast of the large machine shed lost a few metal roof panels.

## Damage Surveys

### Tornado #4

#### EF1 Tornado: Montgomery County, Illinois

(continued into WFO Lincoln's county warning area, Shelby & Christian Counties, rated EF2)

4 MILES SOUTH SOUTHEAST OF NOKOMIS IL TO 7.9 MILES EAST NORTHEAST OF NOKOMIS IL,  
(MONTGOMERY COUNTY)

RATING: EF-1  
ESTIMATED PEAK WIND: 100 MPH  
PATH LENGTH: 6.3 MILES  
PATH WIDTH: 50 YARDS  
FATALITIES: 0  
INJURIES: 0

START DATE: FEB 20 2014  
START TIME: 409 PM CST  
START LOCATION: 4 MILES SOUTH SOUTHEAST OF NOKOMIS  
START LAT/LON: 39.2586 / -89.2340

END DATE: FEB 20 2014  
END TIME: 414 PM CST  
END LOCATION: 7.9 MILES EAST NORTHEAST OF NOKOMIS END  
LAT/LONG: 39.3132 / -89.1396

The tornado touched down 4 miles south southeast of Nokomis at the intersection of E 25th Road and Mt. Zion Trail. In this location it took a large section of shingles off of a garage roof and twisted the entire structure slightly off its foundation. A little further to the northeast it took a large section of roof off of a barn. Some of the metal panels from the roof were thrown about half a mile to the northeast of the structure. Just northeast of the barn, a double trussed metal transmission tower was blown down. Damage in this area was rated EF1. The tornado continued to the northeast. Just north of the intersection of Oconee Avenue and E 28th Road, a two foot diameter oak tree was uprooted. Also, in this location there was a 50yard wide path of major tree damage. Several trees were uprooted on the west side of Litz Road, about six tenths of a mile north of the intersection of Litz Road and CR 2050N. From there the tornado continued to the northeast and crossed into Shelby County (WFO Lincoln's county warning area), about a third of a mile south of the intersection of E 30th Road and N 22nd Avenue. For Montgomery County portion of the tornado, the maximum intensity was EF1 with a max wind speed of 100 mph. The path length of this segment was 6.3 miles and a max width of 50 yards. (This portion of the tornado information is from the survey done by WFO Lincoln for Christian and Shelby Counties) The initial path through Shelby County consisted mainly of tree damage. However, the tornado damaged several properties to the south and east of Pana, before crossing back into Shelby County 3 miles east of Pana. The tornado increased in intensity after it crossed into western Shelby County, doing significant damage to the roof of a house and causing one minor injury, about 3 miles north-northwest of Tower Hill. The tornado continued to the northeast, dissipating near the intersection of county roads 1700 North and 1200 East, or roughly 3 miles west-southwest of Westerveldt. Overall the maximum intensity was EF2 (in Shelby County about 3.5 miles north northwest of Tower Hill). The total path length was 22.2 miles with a max path width of 200 yards.

## Damage Surveys

### HIGHEST MEASURED WIND GUSTS FROM THURSDAY FEBRUARY 20, 2014

LOCATION	SPEED	TIME/DATE
ST CHARLES SMARTT FIELD	67	0402 PM 02/20
ALTON-ST LOUIS RGNL ARPT	63	0445 PM 02/20
LAMBERT-ST LOUIS INTL ARPT	62	0259 PM 02/20
CENTRALIA MUNICIPAL AIRPORT	60	0515 PM 02/20
LITCHFIELD	60	0535 PM 02/20
SCOTT AFB	59	0542 PM 02/20
COLUMBIA REGIONAL AIRPORT	59	0133 PM 02/20
SPIRIT OF ST LOUIS AIRPORT	58	0333 PM 02/20
HANNIBAL	58	0155 PM 02/20
CAHOKIA-PARKS AIRPORT	55	0433 PM 02/20
QUINCY REGIONAL-BALDWIN FIELD	55	0319 PM 02/20
JEFFERSON CITY MEMORIAL ARPT	55	0155 PM 02/20
MEXICO	54	0159 PM 02/20
1 WSW VANDALIA	54	0305 PM 02/20
4 SE COLUMBIA	53	0135 PM 02/20
SALEM-LECKRONE APT	52	0535 PM 02/20
1 WSW WILLIAMSBURG	52	0205 PM 02/20
1 SSE MONROE CITY	51	0200 PM 02/20
1 S FARMINGTON	50	0700 PM 02/20
7 ESE COLUMBIA	48	0135 PM 02/20
PITTSFIELD	46	0555 PM 02/20
WASHINGTON RGNL ARPT	46	0655 PM 02/20
1 ENE NOVELTY	45	0450 PM 02/20
1 SSE COOK STATION	43	0320 PM 02/20
1 SW SAINT LOUIS-MOBOT	41	0519 PM 02/20
FARMINGTON	40	0535 PM 02/20



## Damage Photos



Tornado #1

Watson Cemetery had a few tombstones blown over. Also, several large tree limbs snapped were snapped at cemetery.



Tornado #1



Tornado #1



# Damage Photos



Tornado #2



Tornado #3



## Damage Photos



Tornado #4



Tornado #4



Please note that while the severe weather data presented in this event synopsis has been quality controlled, it is still considered unofficial. Official reports & statistics for severe weather events can be found in the **Storm Data** publication (<http://www.ncdc.noaa.gov/IPS/sd/sd.html>) or **Storm Events Database** (<http://www.ncdc.noaa.gov/stormevents/>), available from the National Centers for Environmental Information (NCEI) web page [formerly the National Climate Data Center (NCDC)].

More detailed tornado track information can be accessed using the National Weather Service Damage Assessment Toolkit for all tornadoes beginning in 2012. <https://apps.dat.noaa.gov/StormDamage/DamageViewer/>

***Any questions regarding this event review should be address to [w-lsx.webmaster@noaa.gov](mailto:w-lsx.webmaster@noaa.gov)***