

# Severe Weather Outbreak

June 27<sup>th</sup>, 2011

## Overview

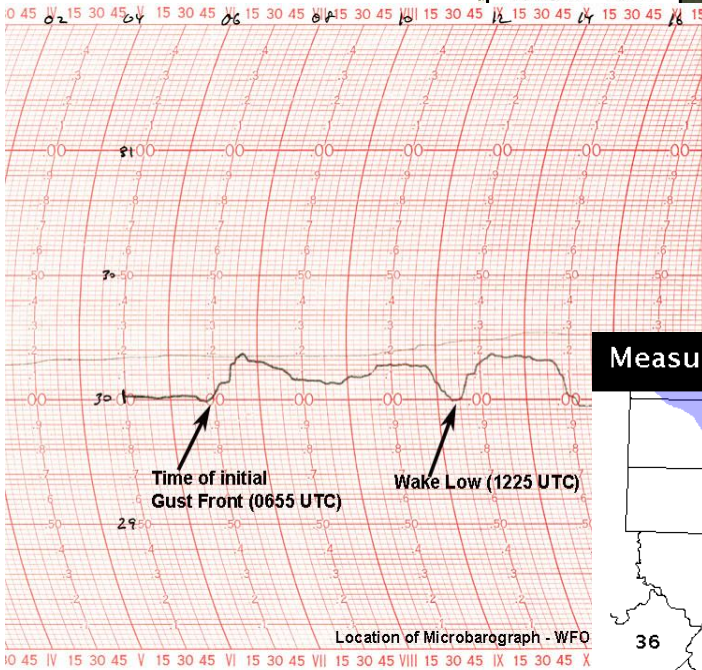
A powerful complex of thunderstorms, known as a bow echo, moved across Missouri and Illinois during the early morning hours of June 27<sup>th</sup>, 2011. The line, which raced east at 60 to 70 mph, produced widespread winds of 40 to 60 mph along and north of a Jefferson City to St. Louis line. Storm assessment teams from the National Weather Service in St. Louis evaluated the most intense damage which occurred over northeast Missouri and west-central Illinois. From the extreme damage that occurred in localized areas, it appears that wind speeds reached 70 to 100 mph. The extensive nature of the damage caused power outages to at least 55,000 customers. Some did not have power return until Tuesday night.

Over northeast Missouri, the greatest damage occurred over Lewis and extreme northeast Marion Counties. The damage suggested winds in excess of 70 mph began near La Belle, and then fanned out to the east and south into the Canton, La Grange, and West Quincy areas. Intermittent, but significant, tree damage occurred over this area, with one uprooted tree crushing a house in Lewistown (the five occupants escaped unharmed). The tree damage was most widespread from Canton to just south of La Grange, with extreme tree damage noted at Wakonda State Park just south of La Grange. The extensive nature of the damage, and size of the uprooted trees, suggests wind speeds of 70 to near 100 mph from near Canton into the park. In addition to the tree damage, several farm outbuildings were destroyed south of Lewistown on Highway J, and a few power poles were also damaged across the region.

In west-central Illinois the greatest damage was in Adams County, and primarily consisted of uprooted and snapped trees. The most concentrated damage occurred along and west of Interstate 172 and Illinois Route 336, including the Quincy area. The extensive tree damage in this area suggested winds reached speeds of over 80 mph. This damage stretched across the northwest half of the county, with somewhat higher winds apparently occurring along the Highway 24 corridor to near the Brown County border. Although most of the damage to structures was limited to shingles and fascia, a few buildings sustained more severe structural damage. A hog barn south of Ursa was destroyed, a machine shed in Bloomfield was blown down, and a cinder block building in Camp Point had the entire roof removed. An area of even more extensive tree damage occurred along Highway 57 just south of Turtle Lake Road where a narrow intense area of damage indicated wind speeds of 90 to 100 mph.

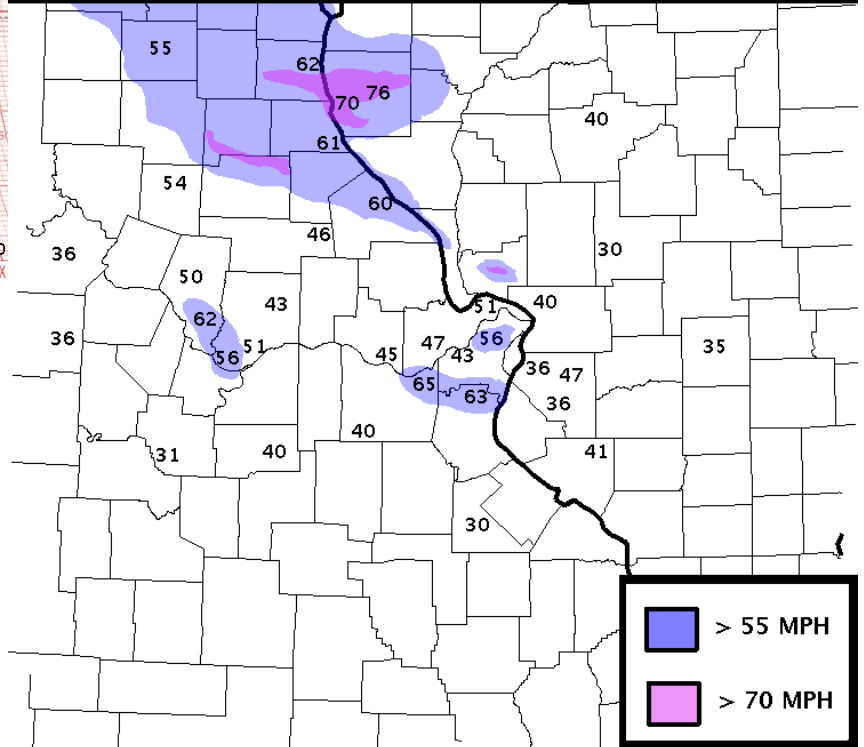
In southwest Illinois, a narrow swath of winds in excess of 80 mph damaged power poles and a grain bin just south of Jerseyville. The bow echo also produced two tornadoes in Shelbina and that information is included below.

# Environment



Microbarograph from WFO St. Louis located in Weldon Spring, Missouri. Annotated by Ron Przybylinski.

Measured Wind Gusts For Bow Echo Event June 27th 2011



# Damage Surveys

## Two EF1 Tornado Tracks In Shelbina (Shelby County, Missouri)

The first tornado formed near Elm Street and Douglas Avenue, north of U.S. Highway 36 at approximately 1255 AM CDT. The roof and walls of a corrugated steel building buckled on the west and south sides, along with a portion of the roof. The tornado moved across U.S. Highway 36 and destroyed three unoccupied house trailers. Debris was tossed about 100 yards from the trailers. The tornado continued to move east-southeast and caused roof damage to the town power and water plants on Chestnut Street west of Shelby Street. A portion of the gables holding the roof of the power plant was uplifted and tossed approximately 50 yards to the east. Much of the water plant's roof was removed and tossed 40 to 50 yard to the east. The tornado then caused minor roof damage on homes and snapped numerous large trees about 10 to 20 feet from the base. Some of the large branches fell on top of vehicles. The tornado then caused extensive damage to the roof of the two story town museum on Center Street (Highway 15). Several bricks fell to the ground from the top of the museum roof. Additional tree damage was found east and southeast of the town museum building.

Damage Rating = EF1 (Peak wind speeds of 105 mph)  
Track Length = 1.2 miles  
Damage Width = 50 to 70 yards

The second tornado damage track was just to the south of the first tornado. It began west of South Center Street, where significant tree damage occurred. Some of the trees fell on top of homes. The tornado traveled east-southeast and hit an assisted living home on Shelbina Avenue. Roof damage was found at this location. Other large trees were damaged in the vicinity of the assisted living home. The tornado continued to the east-southeast and destroyed a large machine shed built in 2008. The east, south and west sides and the roof of the machine shed were tossed into several corn fields. The tornado then crossed County Road 441, where it hit a tree line with several trees snapped 15 to 20 feet from the base and tree trunk diameters ranging from 1 to 2.5 feet. The width of the damage in this area was 50 yards.

Damage Rating = EF1 (Peak wind speeds of 100 mph)  
Track Length = 1.2 miles  
Damage Width = 40 to 70 yards



## Highest Wind Gusts

### Measured Wind Gusts

KUIN...QUINCY	76 MPH	0135 AM CDT
KCOU...COLUMBIA	62 MPH	0128 AM CDT
KHAE...HANNIBAL	61 MPH	0127 AM CDT
KJEF...JEFFERSON CITY	56 MPH	0138 AM CDT
KSTL...ST. LOUIS	56 MPH	0241 AM CDT

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)***