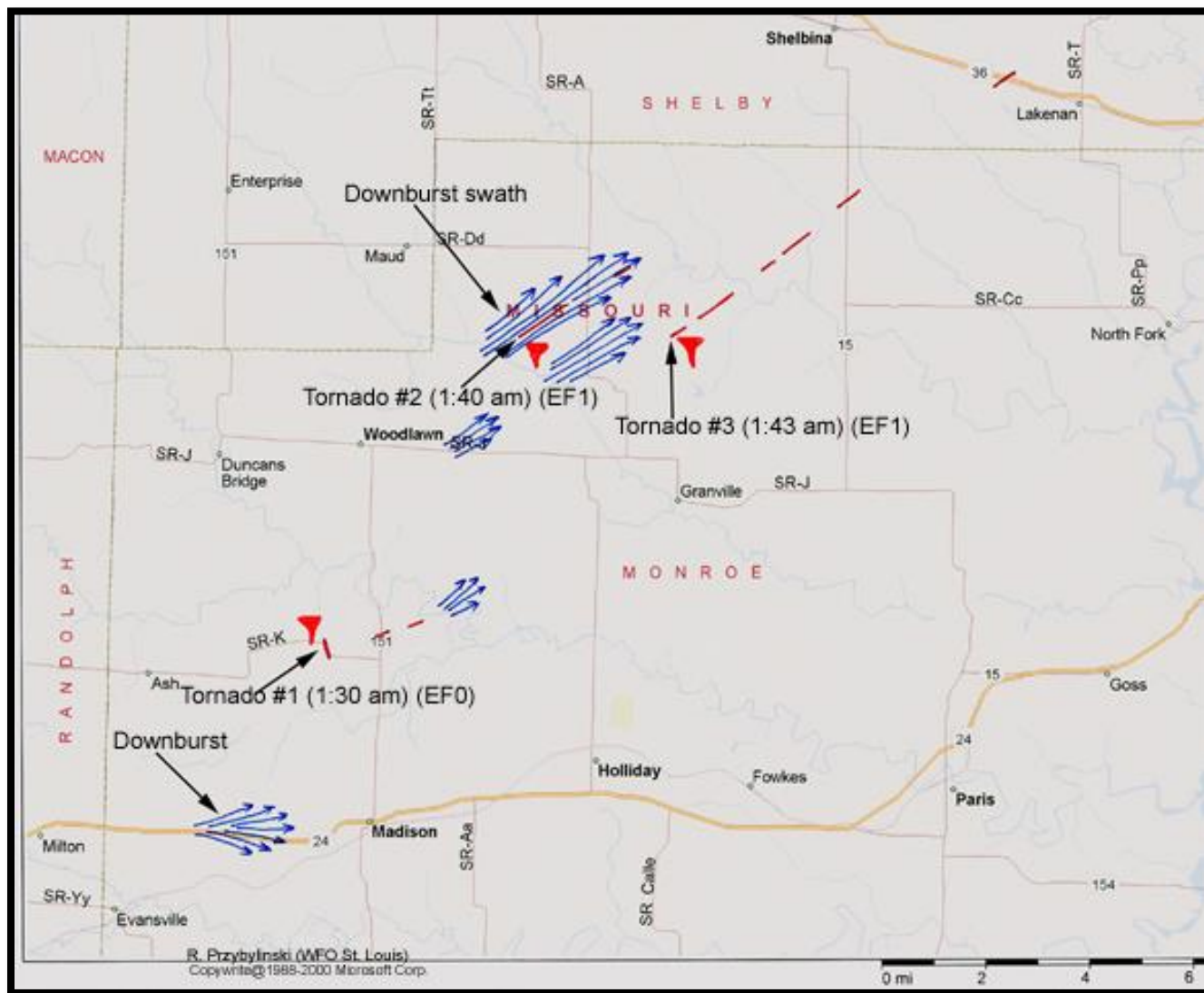


### Overview

During the early morning of March 1<sup>st</sup>, 2007, a bow echo system over central Missouri moved east-northeast through parts of northeast Missouri and west-central Illinois during the early morning hours. The bow echo was responsible for producing damaging winds, small hail and three weak tornadoes over western Monroe county while a supercell along the southern part of the bow echo produced some wind damage and hail over northern Ralls County. The bow echo was north of a warm front which extended from a deep low pressure system west of Columbia, Missouri to just south of St. Louis and across southern Illinois. Unseasonably warm, moist and unstable air was moving north towards central Missouri while cooler moist air was present north of the warm front. Damage assessments were conducted over parts of northeast Missouri. The damage was caused by both straight-line winds and 3 tornadoes. The tornadoes occurred over parts of Monroe and Shelby counties.



Mapping of the March 1<sup>st</sup>, 2007 bow echo event over parts of northeast Missouri.

## Damage Surveys

A machine shed was partially damaged by a microburst along U.S. Highway 24 two and a half miles west of Madison, Missouri. Debris from the machine shed showed a divergent type pattern. The nearby farm home sustained minor roof and siding damage. The damage occurred at approximately 1:30 am CST.

The first tornado occurred along Highway K and 1 mile west of Highway 151. A machine shed was completely destroyed with the debris field extending some 300 yards to the south and southeast. Sections of the sides and top of the machine shed damaged the roof of a farm home and another machine shed on Highway K. The tornado damage path extended about 1/3 mile and was 50 yards wide. Witnesses reported the tornado occurred at 1:30 am CST. The tornado was rated EF0. The tornado briefly touched down a second time at the intersection of Highway 151 and County Road 136. This location is approximately 3.5 miles north of Madison, Missouri. The tornado caused slight roof damage to a home while several large tree limbs were down at this location. The damage width was 30 yards wide. The tornado occurred at approximately 1:33 am CST at this location. The tornado briefly touched down a third time at the intersection of County Roads 117 and 136. Several large pine trees were either topped or snapped at the base. Another machine shed sustained slight roof damage at this intersection. The tornado occurred at approximately 1:35 am CST. The total intermittent damage path of the tornado was 2 miles long while damage associated with this tornado was rated EF0.

Additional wind damage occurred near County Roads 141 and 146 or approximately 4.5 miles northeast of Madison, Missouri. Several large tree limbs and a few trees were down by the high winds. Damaging straight-line winds were responsible for damaging a grain bin and a machine shed approximately 2 miles west of the intersection of Highway A and County Road 182. The grain bin and a fuel tank were ripped loose from their mooring and pushed north-northeastward 40 to 60 yards. Debris from the machine shed was observed as much as 50 yards to the northeast. This damage occurred at approximately 1:40 AM CST. Another machine shed located 1.5 mile west of the intersection of County Roads 182 and 169 was completely destroyed by a second tornado. The debris area stretched approximately 1/2 mile to the northeast from the original location. Four cows were killed by flying debris. The width of the tornado damage was 50 to 60 yards. The tornado was located along the leading edge of a larger swath of damaging straight-line winds. The tornado occurred just after 1:40 am CST. Several power poles along Highway A between Highway DD and 1 mile north of the intersection of Highway A and County Road 182 were downed by high winds. The damage area extended 0.8 of a mile along Highway A. The second tornado briefly touched down a second time on County Road 211 damaging trees and a pole barn at approximately 1:45 AM CST. Debris from the pole barn was thrown over 100 yards. The total length of the intermittent tornado track was 3.2 miles in length. Damage from the second tornado was rated EF1.

A second group of power poles along Highway A between County Road 182 and 0.5 mile south of 182 were downed by high winds.

Damage from a third tornado was discovered three quarters of a mile south of the intersection of County Roads 284 and 215. The tornado would have occurred here around 143 am according to radar data. Here a metal machine shed, a pole barn and house were damaged. The tornado apparently traveled northeast with numerous structures, automobiles and trees damaged along County Road 284. One house had the entire corner of the roof and walls removed by the tornado, while a mobile home suffered extensive damage with one half of the structure being completely destroyed as it was flipped over. Further northeast along County Road 239 another farm suffered damage. A machine shed was partially destroyed with missile debris observed in a camper that was parked on the property. The debris field stretched for 100 yards northeast. To the northeast of this property, another farm suffered damage. A newer pole barn was destroyed with its debris being thrown up to 75 yards downwind. In addition a large grove of mature cedar trees averaging 1 foot in diameter were snapped off at this location. Further northeast on Highway 15 north of the intersection of County Road 386, more power poles were snapped off and a pole barn suffered minor exterior damage to the siding and roof. The tornado continued northeast across the county line into Shelby County with the last point of interest occurring along U.S. Highway 36, around 2 miles west of Lakenan. Here another pole barn was destroyed with the apparent debris field stretching 150 yards to the northeast. This last surveyed point would have sustained damage from the tornado around 149 am according to radar data. The tornado damage track from the third tornado was intermittent. The path length of the third tornado was approximately 10 miles with a damage width between 50 to 100 yards. Damage from the third tornado was rated EF1.

# Damage Photos



# Damage Photos



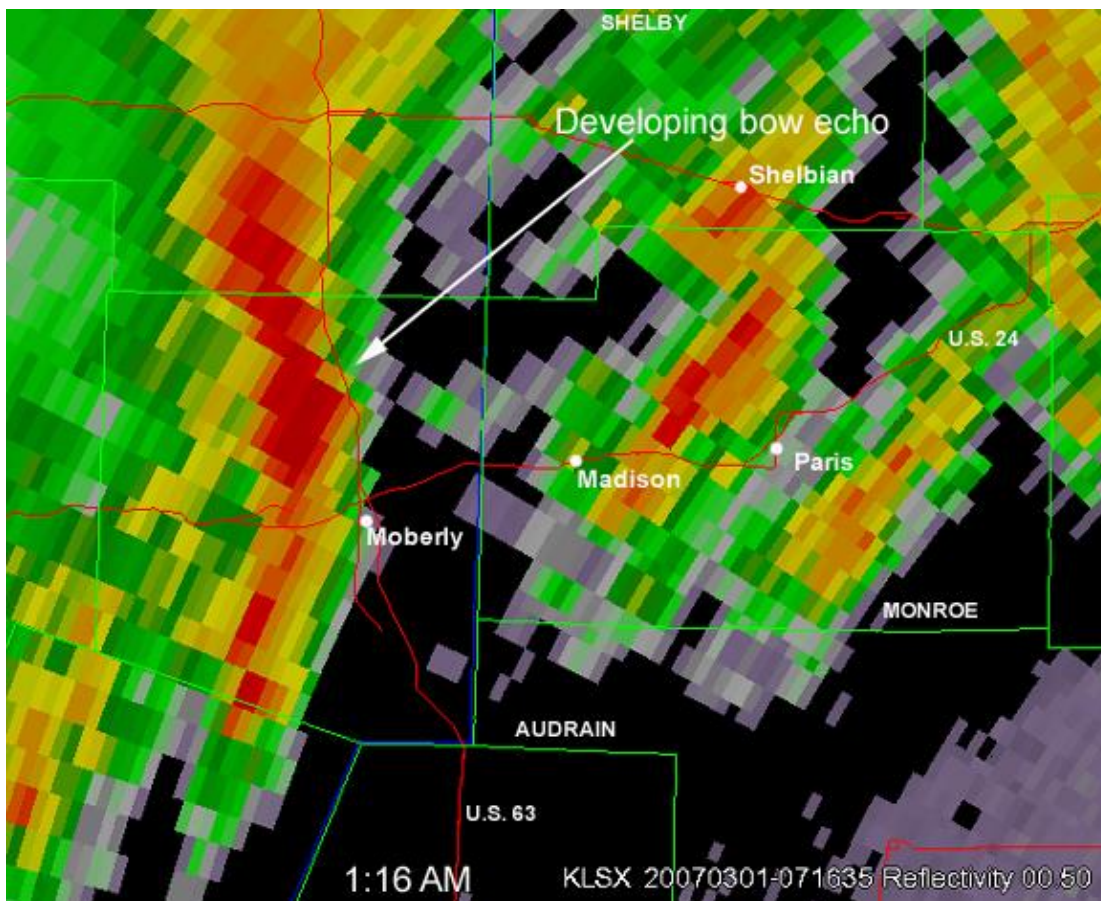
# Damage Photos



# Damage Photos



## Radar Data



Radar image taken at 1:16 AM. Note the developing bow echo over central Randolph county.

Radar image taken at 1:31 AM. Note the bow echo has moved into western Monroe county. Three non-supercell tornadoes occurred along the leading edge of the bowing segment over parts of west and north central Monroe County.



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)***