

Tornado and Hail Event

October 18th, 2004

Overview

During the afternoon and early evening hours of Monday, October 18th, 2004 a severe weather outbreak occurred across the eastern Ozarks, southeast Missouri, and southern Illinois. A warm front draped across Missouri and Illinois separated two very different air masses. To the north of the front, temperatures were only in the upper 40s with a persistent east wind, while to the south of the front, southerly winds and mostly sunny skies allowed a very warm, moist, and unstable atmosphere to pool across the southern half of Missouri. As the powerful upper-level system and surface dryline crossed the mid-Mississippi River Valley, convection erupted across the eastern Ozarks. A favorable vertical shear profile in the atmosphere allowed the convection to quickly develop into rotating thunderstorms, also known as supercells. Tornadoes, severe hail, and damaging winds were reported with these storms as they tracked across southeast Missouri into southwest Illinois.

Damage surveys conducted by National Weather Service personnel revealed that nine tornadoes hit parts of Washington, Iron, and Madison counties. Two supercell thunderstorms were responsible for the tornadoes. One storm produced five tornados in Washington County while the other produced two tornadoes in Iron County and two in Madison County.

Damage Surveys

Washington County Tornadoes

A series of 5 weak tornadoes formed quickly and moved across parts of central Washington County Missouri. The first tornado occurred about 4:08 PM CDT and damaged the Potosi lumberyard about 0.5 mile northeast of Potosi along highway 21. Three buildings were severely damaged by the tornado. Seven people were injured. One was kept overnight at a local hospital while the other six were treated and released. The overall damage path was about 0.2 mile long and 80 yards wide. The tornado was rated F1.

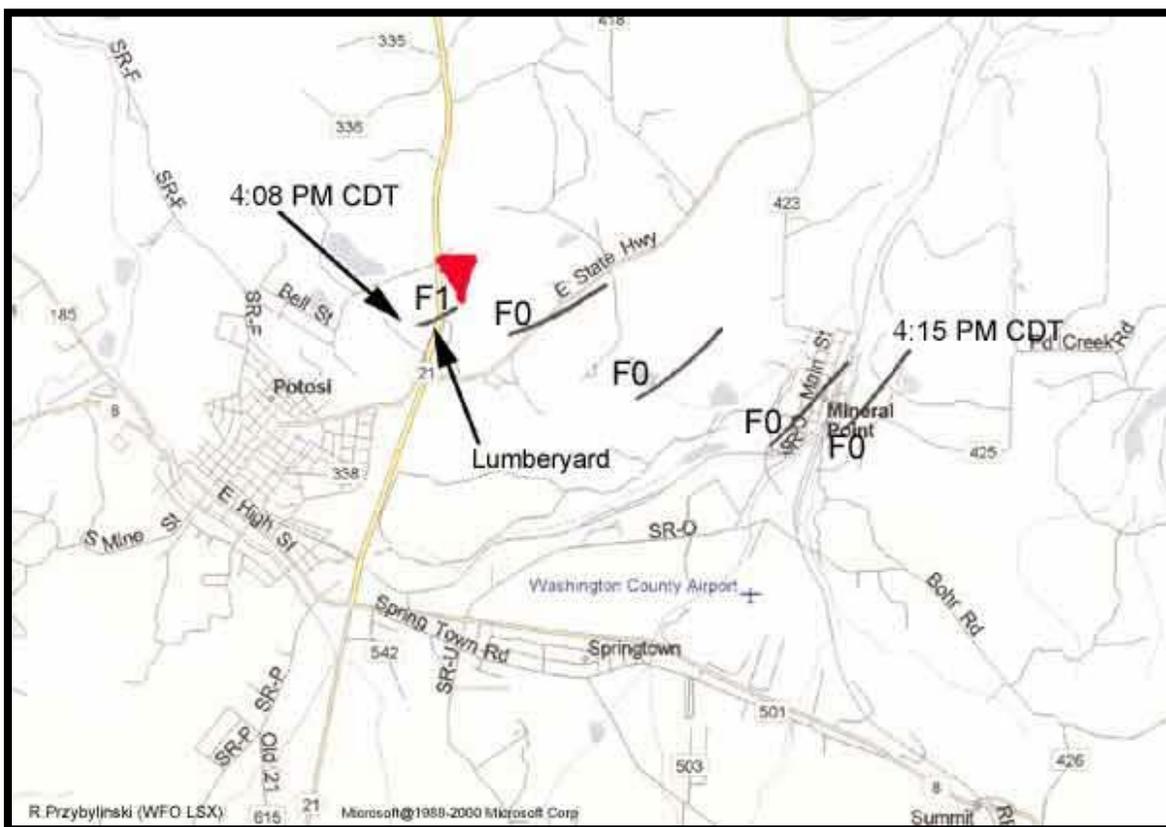
The second tornado started about 4:10 PM CDT about 1 mile northeast of Potosi and moved northeast along Highway E. One home, one mobile home and a storage building were damaged. Several trees were either uprooted or snapped off. This tornado was about 0.75 mile long, 50 yards wide and was rated F0.

About one minute later, the third tornado was observed in an open field about 1.5 miles east northeast of Potosi. A few large trees were uprooted or snapped off along a 0.75 mile track that was 40 yards wide. The tornado was rated F0.

The fourth and fifth tornadoes affected the town of Mineral Point. The fourth tornado was first observed about 4:12 PM CDT and traveled northeast for 0.75 mile across the central part of town. One home and several mobile homes sustained varying degrees of damage. Several large trees were snapped off and others pushed over. The damage path was about 0.75 mile long and 40 yards wide. The tornado was rated F0.

The fifth tornado was spotted at almost the same time and started on the southeast side of Mineral Point. One home suffered minor roof damage and several mobile homes were also damaged. Trees were snapped off or uprooted. The overall damage path was 0.75 mile long and 40 yards wide. The tornado was rated F0.

Hail at least 2 inches in diameter fell before the tornadoes in Mineral Point.



Map of the tornadic damage tracks associated with the Washington County supercell. Five tornadic damage tracks were uncovered during the survey. We wish to extend our appreciation to Mr. Paul Merrill (EMA - Washington County) for his assistance.

Damage Surveys

Iron and Madison County Tornadoes

A National Weather Service damage survey revealed that a supercell thunderstorm produced four tornadoes across Iron and Madison counties...from Ironton to northeast of Fredericktown.

The first tornado occurred from about 4:26 to 4:30 PM CDT and first caused damage on the north end of Shepherd Mountain Lake. Trees were downed and damaged on both sides of the lake as the tornado moved east at about 40 miles an hour. The tornado moved into western portions of Ironton downing and snapping off trees on West Boulder Drive. On Lake Drive, part of the roof of the Iron County Health Department was blown off and landed about 75 yards away. A storage shed in this same area was also destroyed with part of it landing in power lines. The majority of the damage was due to downed and snapped off trees. Power lines and poles were down primarily because of the trees and limbs. About a dozen homes suffered minor damage involving downed trees or roof shingles blown off. One car was damaged by a large tree limb. The maximum width of the damage was 400 yards and the damage path was 1.8 miles. The tornado was given a rating of F1 with top winds of 75 to 100 miles an hour. Hail up to golfball size fell before the tornado.

The second tornado was small and short lived and struck 3 miles east of Ironton in the Killarney Shores area. This tornado hit about 4:35 pm CDT and downed and snapped off trees along a 0.5 mile long and 100 yard wide path. This tornado was rated F0.

The third tornado occurred along a 1.5 mile long, 250 yard wide path about 3 miles northwest of Fredericktown in Madison county. Witnesses observed the tornado form in an open field and then moved east crossing Highway H and causing damage at the Country Star Community Mobile Home Park. The majority of the damage was from downed trees or large tree limbs. A home just south of the park suffered major damage from a large downed tree. Another home just east of the park suffered minor roof damage and had four windows blown in. The tornado crossed U.S. Highway 67 near County Road 220 and caused damage in the White Tail Crossing neighborhood. Trees were downed and snapped off in the neighborhood. This tornado was rated F0 and occurred from about 4:59 pm to 5:02 pm CDT. The fourth tornado first caused damage about 5:10 pm CDT, 3 miles north northeast of Fredericktown. The tornado crossed County Road 217 and blew off parts of the roof of a barn, caused minor roof damage to a home and downed and snapped off trees. The tornado moved east and destroyed a stand alone garage at a home on County Road 219 just north of County Road 221. The owner of the home was outside and saw the tornado coming. He moved inside to an interior bathroom for shelter just before the tornado arrived. The tornado continued east causing intermittent tree damage. The next significant damage occurred near the end of the tornado's track just north of Higdon along County Road 257. A home had most of the roof shingles blown off and a couple of windows blown in. The owner commented that he ended up with about 2 inches of leaves in his home. A trampoline in the backyard was picked up, blown to the north and wrapped around a tree. A 14 foot boat that was on a pond behind the house ended up about 100 yards away suspended in some trees. This tornado had a total damage path of 5.5 miles and a maximum width of 100 yards. It was rated F1.

Damage Photos



Another view of the home damage along the east side of East State Highway caused by the second of five tornadoes.

Damage to a house trailer, and home along the east side of East State Highway (one mile northeast of Potosi Missouri) from the second of five tornadoes. Viewing southeast.



Damage Photos



Debris from the buildings along the east side of Highway 21. Viewing south.

Total view of the first building. Viewing west. The tornado approached the lumberyard from the west.



Damage Photos



Example of missiles embedded within the sheet metal associated with the first building.

Damage to a third building near the western part of the lumberyard. Part of this building was totally destroyed. Viewing north-northeast.



Damage Photos



Damage to the first and largest of three buildings at the Potosi Lumberyard from the first of five tornadoes. This area of damage occurred approximately 1/2 mile north-northeast of Potosi. Damage intensity was rated high-end of F1. Viewing north-northeast.

Damage to a second building near the southern part of the lumberyard. The western part of this building which housed plywood sustained the greatest degree of damage. The tornado was moving from left to right. Viewing northeast.



Damage Photos



Close-up of unanchored shed rolled into a mobile home and some snapped trees in the Country Star Mobile Home Community.

Damage to a mobile home and trees uprooted in the Country Star Mobile Home Community along State Road H, northwest of Fredericktown .



Damage Photos



Windows were blown out while numerous large limbs and trees were down by the fourth tornado. Several witnesses reported two tornadoes in the Mineral Point area. The fourth tornado crossed the central part of the town while the fifth tornado caused damage to house trailers and trees along the far east side of town.

Damage caused by the fourth of five tornadoes along the southwest side of Mineral Point. One pine tree was snapped while a second large tree was uprooted. The tornadoes were moving north-northeast along the forward side of the larger mesovortex. Viewing northeast.



Damage Photos



Roof and front porch damage to the small home near the intersection of County Roads 257 and 261. A portion of the front porch was thrown around 125 yards into the woods to the east of the house.

East looking view from the rear of the small home near the intersection of County Roads 257 and 261. Note small boat which was hurled around 100 yards into the woods from a pond next to the home.



Damage Photos



Trampoline thrown northward and wrapped around a tree from the rear of a small home near the intersection of County Roads 257 and 261.

North facing view of the destroyed garage and debris field along the east side of County Road 219 northeast of Fredericktown. Note the single story home which is just north of the garage was completely untouched by the tornado.



Damage Photos



Destroyed minimally-anchored and unattached garage along east side of County Road 219 northeast of Fredericktown. Strewn debris from the garage is shown in the previous picture.

Looking east, remnants of a destroyed detached garage strewn along the path of the tornado. Location is along east side of County Road 219 northeast of Fredericktown.



Damage Photos



More tree damage along County Road 217 northeast of Fredericktown.

Tree damage near County Road 217 northeast of Fredericktown.



Damage Photos



Iron County Health Center in rear center of picture behind the yellow utility company truck. A portion of the Health Center roof carried some 75 yards to the northeast in the lower center of the picture along with missiles in the lower right corner.

Missiles (pieces of debris) originating from the Iron County Health Center roof driven into the ground around 75 yards away on the north side of Russell Street.



Damage Photos



Several trees with the tops snapped off on Edison Ct. in Ironton.

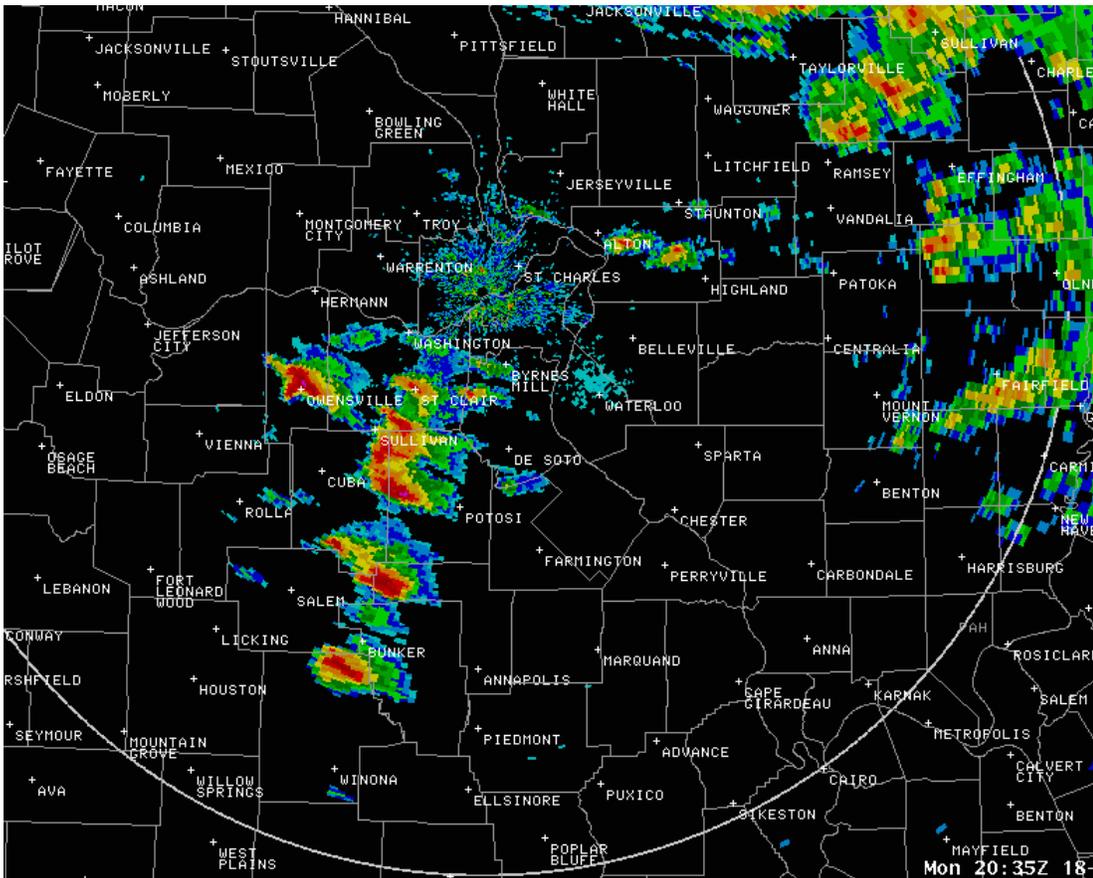
A south view from the rear of a house at the corner of Wayne and Russell Streets in Ironton. Note remnants of the metal shed in the power lines behind the house and its original location in the foreground of the picture.



Looking west from Wayne St. in Ironton. Numerous trees either snapped or uprooted.

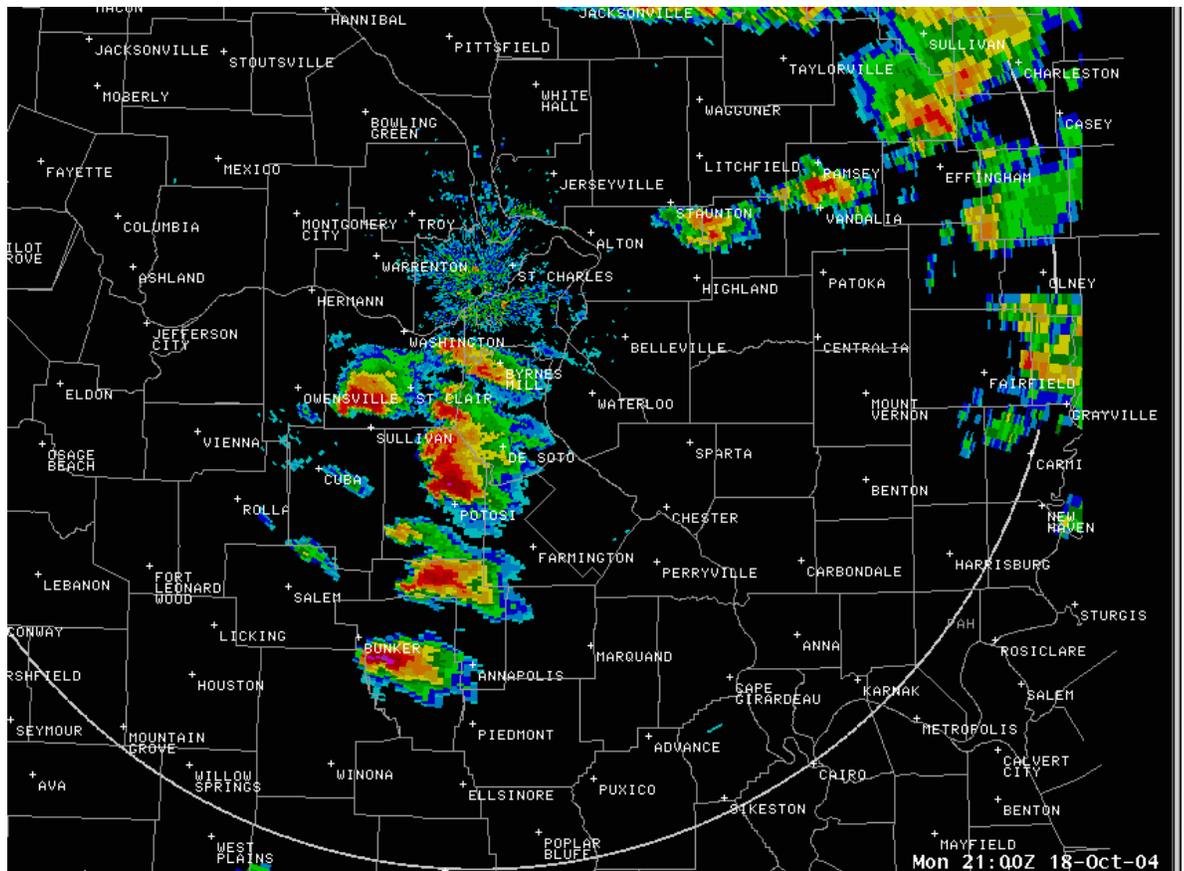


Radar Data

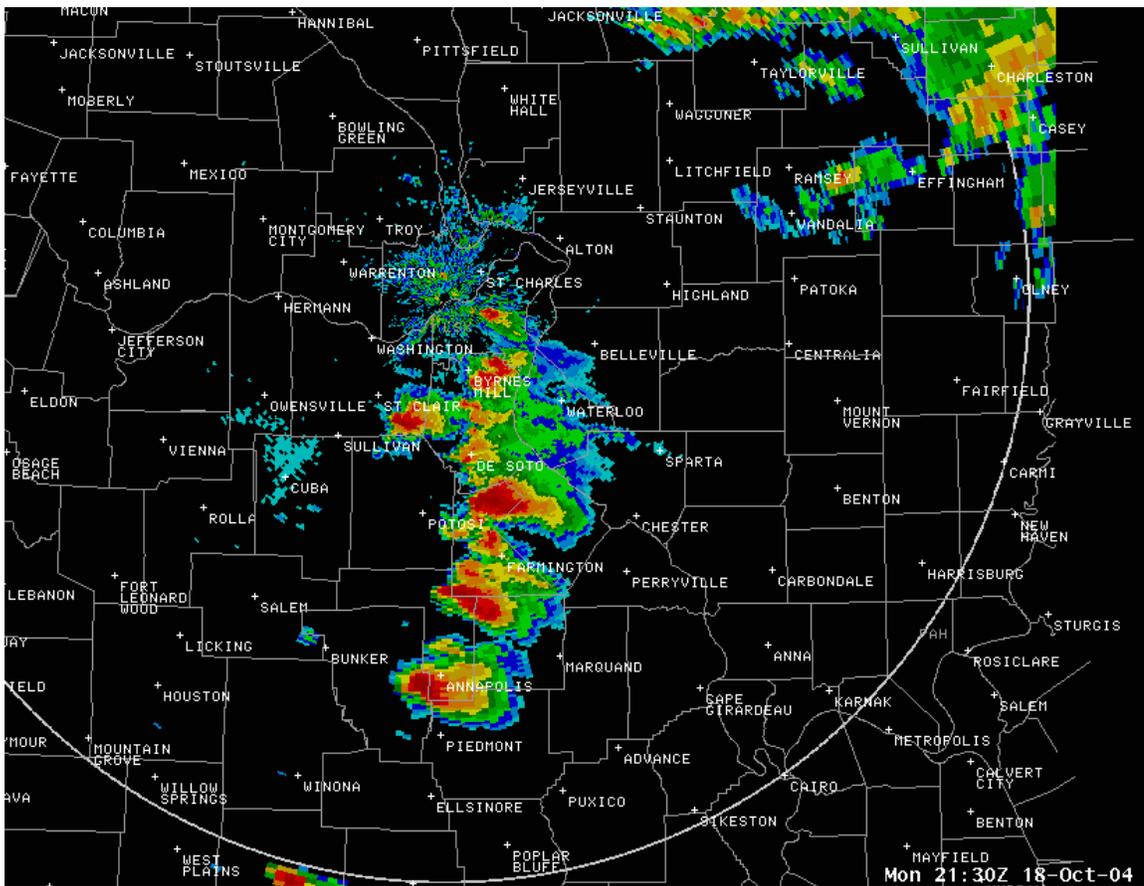


3:30 PM CDT - Supercells began to develop with the mid afternoon heat and increased in size and intensity as they moved across the southern portion of our area producing large hail and damaging winds.

4:00 PM CDT - The strongest cell moves through Washington county producing hail the size of hen eggs and spawning several small tornadoes shortly after 4:00 PM

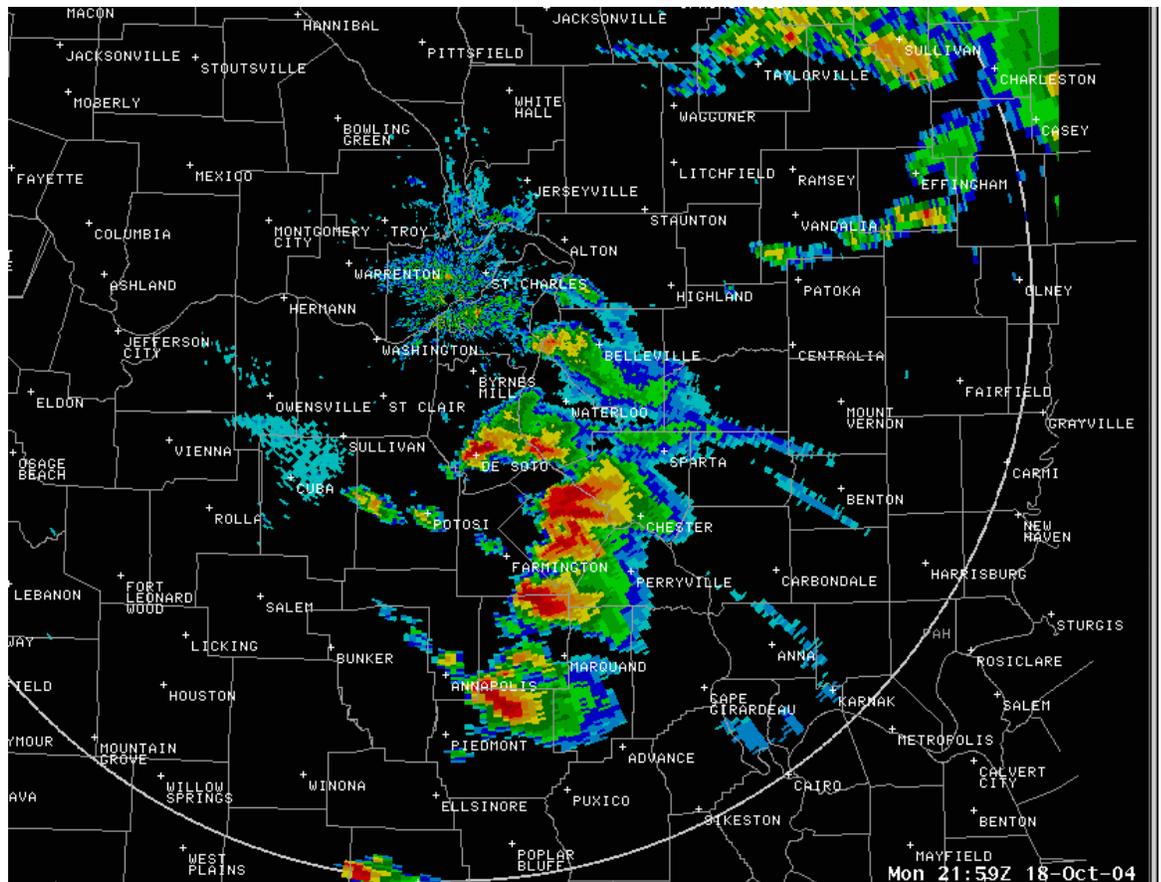


Radar Data



4:30 PM CDT - The cluster of cells continues to dump large hail over portions of St. Francois county, eastern Iron and Madison counties. Tornado damage was reported in Ironton.

5:00 PM - St. Genevieve and Madison counties bear the brunt of the storms with large hail, damaging winds and a tornado touchdown.



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