

# Severe Weather and Flash Flooding

April 17<sup>th</sup>-18<sup>th</sup>, 2013

## Overview

A slow moving storm system brought severe weather to the region during the afternoon and evening hours of April 17th. Several rounds of heavy rainfall resulted in areas of flash flooding during the night of April 17 and the day of April 18th. Following are the preliminary damage survey results from two tornadoes that occurred near the city of Paris in Monroe County, Missouri, photos and a description of the significant wind damage and hail that occurred in central Missouri. Also included are flooding photos and two day rainfall amounts from April 18th.

## EF1 Tornado near Paris, Missouri

The thunderstorms that moved over parts of southwest and south central Monroe County, Missouri spawned a series of brief tornado touchdowns from 11 miles southwest to 2 miles south of Paris Missouri.

EF1 TORNADO...

BEGIN TIME/LOCATION: 4/17/13...0531 PM  
9.5 MILES SW OF PARIS...MISSOURI

END TIME/LOCATION: 4/17/13...0541 PM  
2 MILES S OF PARIS...MISSOURI

MAXIMUM ESTIMATED WIND SPEED: 90 MPH

PATH LENGTH: 7 MILESTHE FIRST STRUCTURAL DAMAGE OCCURRED AT A FARMSTEAD SOUTHWEST OF THE CORNER OF HIGHWAYS M AND C. A FEW LARGE PANELS FROM A MACHINE SHED WAS TOSSED TO THE EAST NORTHEAST. A FEW LARGE TREES WERE SNAPPED NEAR THE BASE ON THE NORTHEAST CORNER OF HIGHWAYS M AND C. THIS DAMAGE WAS CAUSED BY STRAIGHT LINE WINDS.

THE FIRST TORNADO BRIEFLY TOUCHDOWN IN SOUTHWEST MONROE COUNTY A MILE NORTH OF THE INTERSECTION OF HIGHWAYS M AND C ON HIGHWAY C. SIX POWER POLES WERE SNAPPED AT THE BASE OF THE POLE. WIDTH OF THE DAMAGE IN THIS LOCATION WAS 100 YARDS AND DAMAGE WAS RATED EF1.

FURTHER NORTHEAST...THE TORNADO BRIEFLY TOUCHED DOWN ON COUNTY ROAD 840 JUST EAST OF INTERSECTION WITH COUNTY ROAD 819. A BARN WAS SEVERELY DAMAGED. DEBRIS FROM THE BARN WAS TOSSED TO THE EAST ABOUT 100 YARDS. THE TORNADO CONTINUED TO TRAVEL TO THE NORTHEAST...WHERE IT BRIEFLY TOUCHED DOWN AGAIN...JUST SOUTH OF MISSOURI HIGHWAY AA...JUST WEST OF INTERSECTION WITH COUNTY ROAD 835. TWO MACHINE SHEDS IN THIS LOCATION SUSTAINED MINOR TO MODERATE DAMAGE. ALSO...A LARGE BARN SUSTAINED SIGNIFICANT DAMAGE WHERE THE SOUTH PART OF THE BARN WAS REMOVED. DAMAGE WIDTH IN THIS AREA WAS 70 YARDS WIDE. DAMAGE WAS RATED LOW END EF1. FURTHER TO THE EAST...ON MISSOURI HIGHWAY AA...JUST WEST OF INTERSECTION WITH COUNTY ROAD 857...NUMEROUS LARGE TREES WERE SNAPPED AT THE BASE AND SHOWED A CONVERGENT DAMAGE PATTERN. WIDTH OF DAMAGE IN THIS AREA WAS OVER 60 YARDS WIDE AND THE DAMAGE WAS ONLY ON THE NORTH SIDE OF MISSOURI HIGHWAY AA. DAMAGE IN THIS LOCATION WAS RATED LOW END EF1.

THE TORNADO CONTINUED TO TRAVEL TO THE NORTHEAST AND BRIEFLY TOUCHED DOWN ONE LAST TIME JUST WEST OF HIGHWAY 15...TWO MILES SOUTH OF PARIS MISSOURI. THREE MACHINE SHEDS SUSTAINED SIGNIFICANT DAMAGE WITH DEBRIS BEING THROWN 300 TO 400 YARDS TO THE NORTH NORTHWEST. DAMAGE WAS RATED EF1 IN THIS LOCATION. OVERALL THE PATH LENGTH WAS 7 MILES...WITH A MAX DAMAGE WIDTH OF 70 YARDS. THE TORNADO WAS RATED EF1.



# EF0 Tornado near Paris, Missouri

EF0 TORNADO...

BEGIN TIME/LOCATION: 4/17/13...0535 PM

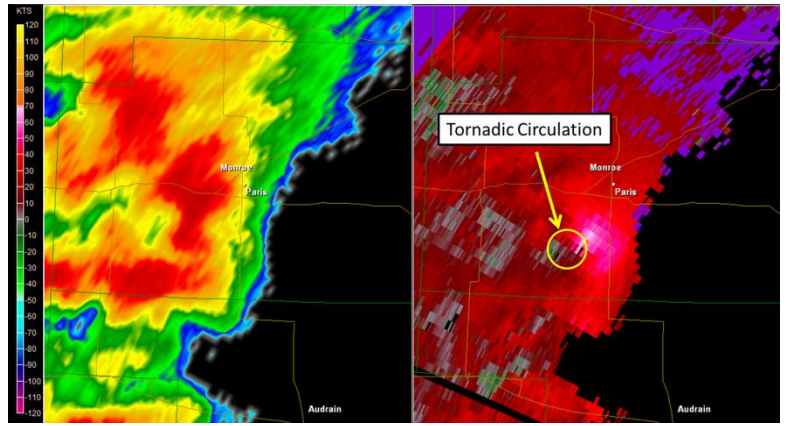
6.5 MILES SSW OF PARIS...MISSOURI

END TIME/LOCATION: 4/17/13...0536 PM

6.5 MILES SSW OF PARIS...MISSOURI

MAXIMUM ESTIMATED WIND SPEED: 75 MPH

PATH LENGTH: LESS THAN A TENTH OF A MILE



Annotated WSR-88D Radar Image at 5:35 p.m.

A SECOND TORNADO...ABOUT HALF A MILE SOUTH OF THE FIRST TORNADO

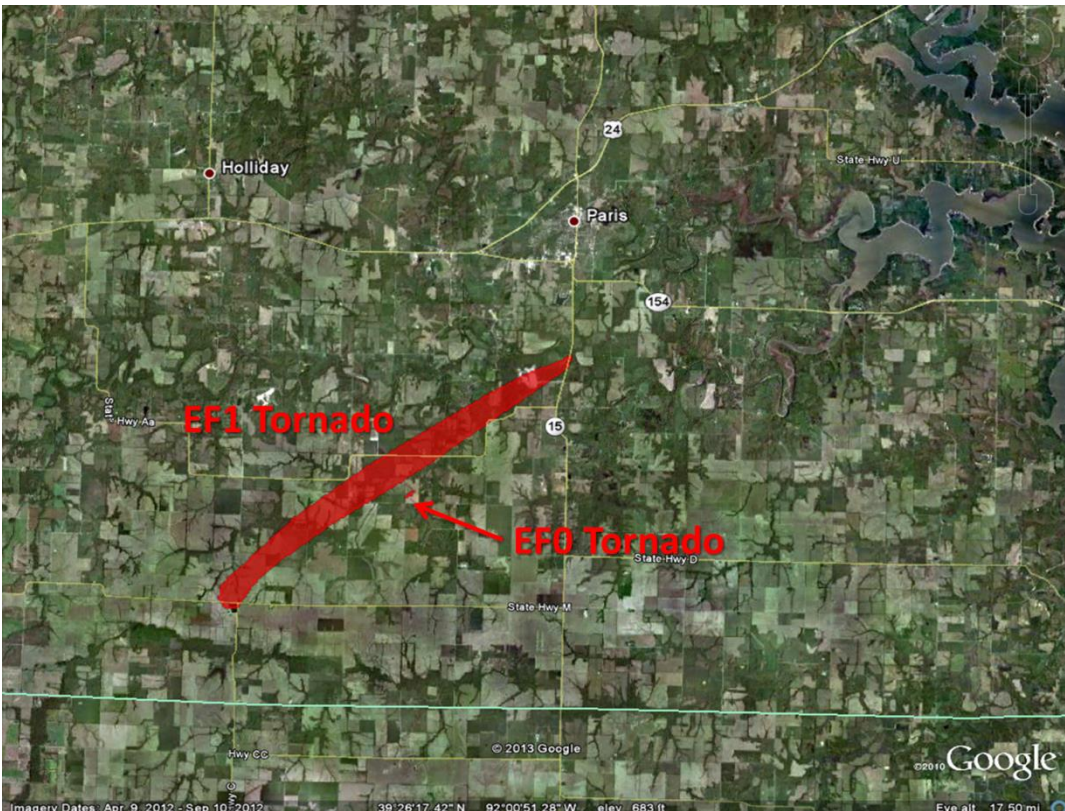
BRIEFLY TOUCHED DOWN ON COUNTY ROAD 835...HALF A MILE NORTH OF THE

INTERSECTION WITH COUNTY ROAD 840. A BARN SUSTAINED MINOR TO

MODERATE DAMAGE...WHERE 2X4 MISSILES WERE DRIVEN INTO THE ROOF OF

THE BARN. WIDTH OF DAMAGE WAS 30 TO 40 YARDS WIDE WITH A PATH LENGTH

OF LESS THAN A TENTH OF A MILE. THE TORNADO WAS RATED EF0.



EF1 and EF0 Tornado Track Outline south of Paris (Monroe County, MO).

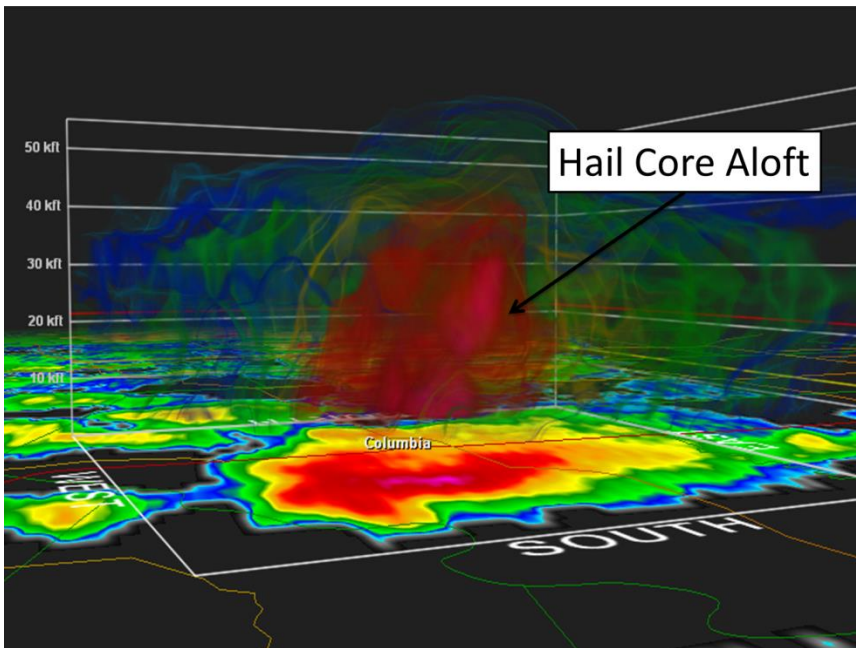
## **Straight Line Wind Damage Monroe City, Missouri**

DOWNBURST WIND DAMAGE BEGAN 5 MILES SOUTHWEST OF MONROE CITY IN MONROE COUNTY...MAINLY CONSISTED OF PINE TREES AND ONE BARN. THE BARN LOST SEVERAL SECTIONS OF ITS ROOF. FURTHER NORTHEAST ALONG U.S. HIGHWAY 24...TREE DAMAGE WAS OBSERVED. CEDAR AND OAK TREES WERE DAMAGED.

ON THE FAR SOUTHWEST PORTIONS OF MONROE CITY...NINE HOMES SUSTAINED ROOF DAMAGE WHERE SHINGLES WERE REMOVED. ALSO...SEVERAL LARGE TREE LIMBS...BETWEEN THREE AND NINE INCHES IN DIAMETER WHERE BLOWN DOWN. IN TOWN...THE ROOF OF A RETAIL STORE WAS REMOVED AND DISPLACED APPROXIMATELY 80 YARDS TO THE NORTHEAST. ADDITIONAL TREE DAMAGE WAS OBSERVED ON THE EAST SIDE OF MONROE CITY IN A RESIDENTIAL AREA. TWO GRAIN BINS...LOCATED ON COUNTY ROAD J...IN FAR NORTHWESTERN RALLS COUNTY...SUSTAINED MINOR DAMAGE. THE GRAIN ELEVATOR SUSTAINED MINOR DAMAGE AS WELL. THERE WAS MINOR TREE LIMB DAMAGE THAT EXTENDED FOR ABOUT A MILE SOUTH OF THE GRAIN BINS. THIS DAMAGE WAS PART OF THE LARGER AREA OF WIND DAMAGE THAT EXTENDED FROM NORTHEAST MONROE COUNTY INTO NORTHWESTERN RALLS COUNTY. WINDS WERE ESTIMATED BETWEEN 70 AND 80 MPH OVER THIS AREA.

## Large Hail in Columbia, Missouri

A supercell thunderstorm brought hail up to the size of baseballs to Columbia, Missouri. Below is a three dimensional radar image of the powerful thunderstorm and hail images from KOMU-TV.



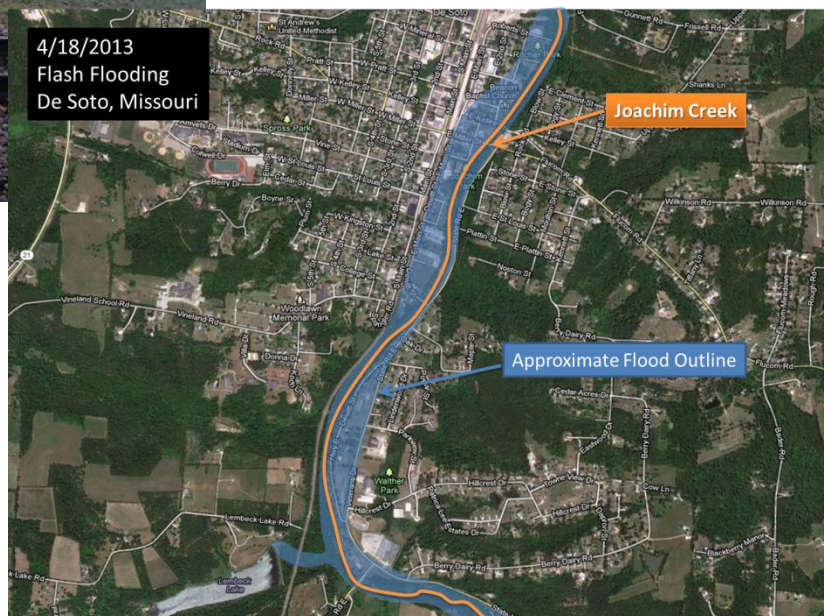
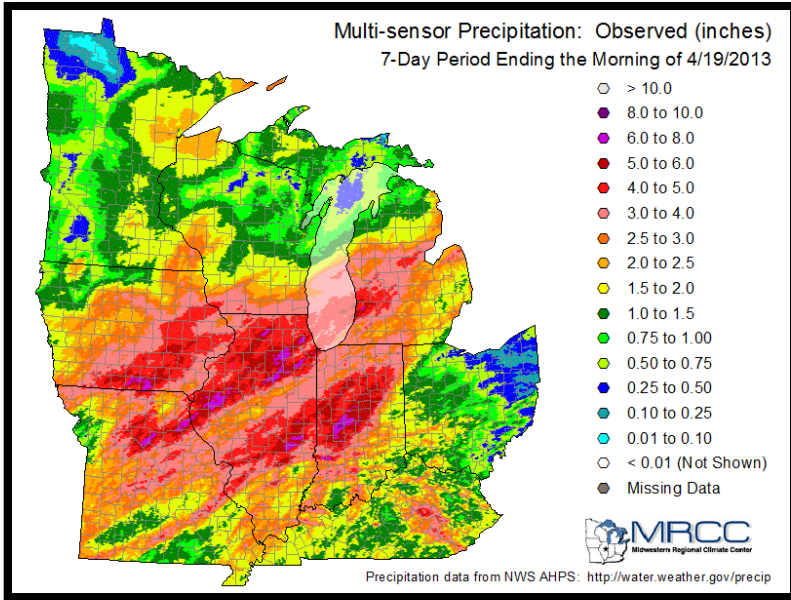
3D Radar Imagery of Supercell Approaching Columbia, Missouri.



# Heavy Rainfall and Flash Flooding - 4/17-18/2013

Locally heavy rainfall from training thunderstorms led to flash flooding from the Ozarks, through east central Missouri and into south central Illinois. One area that experience flash flooding was De Soto Missouri, where an 80 year old woman lost her life after driving into a flooded roadway and her car was swept downstream in Joachim Creek.

Below is an image of the rainfall that was observed over the seven day period ending 4/19/2013. This excessive rainfall across the Midwest and Great Lakes led to significant and in some cases record river flooding.



## 48 Hour Precipitation Totals 4/17-4/18

### FIRST ORDER STATIONS

SAINT LOUIS : 2.48  
COLUMBIA : 1.93  
COOPERATIVE OBSERVATIONS...UNLESS OTHERWISE STATED

### IN NORTHEAST MISSOURI...

CANTON L/D20 : 4.56  
CLARENCE 6 N : 5.06 DCP  
EDINA : 4.36  
HANNIBAL : 3.19  
MONTICELLO : 5.19 COCORAHS  
NOVELTY 1 E : 4.45  
PALMYRA 1 W : 5.48 COCORAHS  
SHELBYNA : 3.93  
STEFFENVILLE : 5.14  
TAYLOR 4 SW : 4.61 DCP

### IN EAST-CENTRAL MISSOURI...

DE SOTO : 4.38  
FESTUS : 4.49

### IN SOUTHEAST MISSOURI...

FARMINGTON 1 NNE : 4.33 SPOTTER  
POTOSI 5SW : 4.11  
VIBURNAM : 4.37

### IN WEST-CENTRAL ILLINOIS...

QUINCY 4 SE : 4.02 COCORAHS  
RIPLEY : 3.64

### IN CENTRAL ILLINOIS...

RAMSEY : 3.64

### IN SOUTHWEST ILLINOIS...

ALBERS : 3.24  
BELLEVILLE-SCOTT AFB : 5.20  
BELLEVILLE 3 SE : 5.65 SPOTTER  
EDWARDSVILLE 2W : 3.23  
FREEBURG : 4.13 DCP  
GREENVILLE 2NE : 4.30 SPOTTER  
HECKER : 4.77 DCP  
HIGHLAND : 3.94  
HILLSBORO : 3.11  
MASCOUTAH 1 WSW : 4.33 COCORAHS  
MOUNT OLIVE 1E : 3.18  
SAINT LIBORY : 3.02

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)***