

# Tornado damage survey--March 22nd tornadoes--southern Iowa

Below is information on the storm damage surveys conducted by the National Weather Service in Des Moines, Iowa.

Thank you to the property owners who allowed us on to their properties to document and photograph the damage they experienced.

Note: if some of the below pictures and graphics do not load, click your browser's Refresh button to re-load this page.

- [Northwest Madison County](#)
- [Cass County--3 1/2 miles southeast of Massena](#)

For reference, the Enhanced Fujita tornado scale classifies tornadoes into the following categories:

- EF0: wind speeds of 65 to 85 mph.
- EF1: wind speeds of 86 to 110 mph.
- EF2: wind speeds of 111 to 135 mph.
- EF3: wind speeds of 136 to 165 mph.
- EF4: wind speeds of 166 to 200 mph.
- EF5: wind speeds of greater than 200 mph.

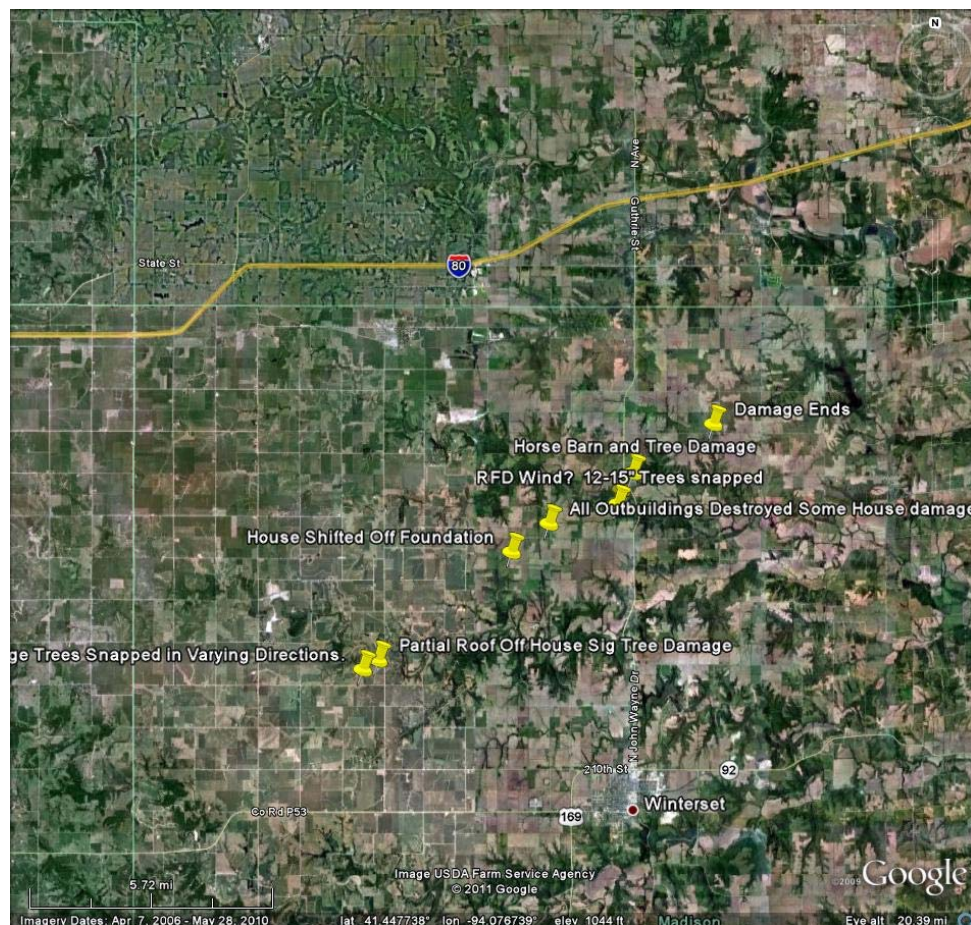
## Northwest Madison County

Thank you to Iowa Helicopter for their assistance in the survey for northwest Madison County.

- [Damage pictures](#)
- [Damage map](#)
- [Public Information Statement](#)

In addition to the below damage reports, livestock were killed in this tornado, including cows and geese.

Damage map – [download Google Earth kmz file by clicking here](#) .



## Damage pictures



House that slid off its foundation.  
*Photo by NWS Des Moines, Iowa.*



Boards driven through minivan. At same site of house that slid off its foundation. *Photo by NWS Des Moines, Iowa.*



Sheared anchor strap. At same site of house that slid off its foundation. *Photo by NWS Des Moines, Iowa.*



Anchored sill plate. At same site of house that slid off its foundation.  
*Photo by NWS Des Moines, Iowa.*



House with partial roof removal.  
*Photo by NWS Des Moines, Iowa.*

## Public Information Statement

PNSDMX  
IAZ004>007-015>017-023>028-033>039-044>050-057>062-070>075-081>086-  
092>097-240930-

PUBLIC INFORMATION STATEMENT...CORRECTION  
NATIONAL WEATHER SERVICE DES MOINES IA  
420 PM CDT WED MAR 23 2011

...FINAL DAMAGE SURVEY RESULTS FOR NORTHWEST MADISON COUNTY...

...EF2 TORNADO DAMAGE ASSESSED...

THE FOLLOWING IS A FINAL ASSESSMENT FOR THE DAMAGE THAT OCCURRED OVER  
MADISON COUNTY ON MARCH 22ND.

\* EVENT DATE: MARCH 22ND

\* ESTIMATED START TIME: 6:15 PM CDT

\* EVENT TYPE: EF2 TORNADO

\* EVENT LOCATION: 7 MILES NORTH WEST OF WINTERSET TO 10 MILES  
NORTH NORTHEAST OF WINTERSET

\* PEAK WIND: 120 MPH

\* AVERAGE PATH WIDTH: AROUND ONE HALF MILE (THANK YOU IOWA HELICOPTER)

\* PATH LENGTH: 11 MILES (THANK YOU IOWA HELICOPTER)

\* INJURIES: NONE KNOWN

\* FATALITIES: NONE

\* DISCUSSION/DAMAGE: A TORNADO TOUCHED DOWN 10 MILES NORTHWEST OF  
WINTERSET AROUND 6:15 PM CDT. THE TORNADO WAS CHARACTERIZED BY A  
LARGE CIRCULATION UP TO 0.8 TENTHS OF A MILE WIDE (IOWA  
HELICOPTER) AND GENERALLY OF EF1 (90-100 MPH WIND) STRENGTH.  
EYEWITNESSES REPORT THE TORNADO WAS RAIN WRAPPED AND DIFFICULT  
TO DISTINGUISH FROM THE RAIN SHIELD AS IT APPROACHED THEM FROM  
THE SOUTHWEST. THE TORNADO MOVED ACROSS SEVERAL  
RESIDENCES...MANY OF WHICH HAD BROKEN WINDOWS AND SOME ROOF  
DAMAGE ALONG WITH SIGNIFICANT TREE AND OUTBUILDING DAMAGE. ONE  
NEWLY CONSTRUCTED HOUSE THAT WAS NEAR COMPLETION...SLID OFF ITS  
FOUNDATION WITH THE METAL ANCHOR STRAPS EITHER SHEERED OFF OR

PULLED OUT OF THE CONCRETE FOUNDATION. THIS DAMAGE IS CONSISTENT WITH WINDS AROUND 120 MPH WHICH ARE EF2 STRENGTH. THE ROOF STRUCTURE REMAINED INTACT AND WAS AIDED BY HURRICANE CLIPS. SEVERAL OTHER RESIDENCES SUFFERED PARTIAL ROOF REMOVAL WITH NO HURRICANE CLIPS NOTED. ONE OTHER LOCATION HAD NUMEROUS TREES EITHER UPROOTED OR TOPPED AND SEVERAL OUTBUILDINGS WITH THE ROOFS BLOWN OFF. OBJECTS NEAR THE GROUND DID NOT SUFFER NEAR AS MUCH DAMAGE SUGGESTING THE PEAK WINDS AT THIS LOCATION WERE JUST OFF THE SURFACE. THE TORNADO LIFTED AROUND 10 MILES NORTH NORTHEAST OF WINTERSSET OR 5 MILES SOUTH OF VAN METER AROUND 6:35 PM CDT.

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FOR REFERENCE...THE ENHANCED FUJITA TORNADO SCALE CLASSIFIES TORNADOES INTO THE FOLLOWING CATEGORIES:

- EF0...WIND SPEEDS 65 TO 85 MPH.
- EF1...WIND SPEEDS 86 TO 110 MPH.
- EF2...WIND SPEEDS 111 TO 135 MPH.
- EF3...WIND SPEEDS 136 TO 165 MPH.
- EF4...WIND SPEEDS 166 TO 200 MPH.
- EF5...WIND SPEEDS GREATER THAN 200 MPH.

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DONAVON/FILLBACH

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### Cass County—3 1/2 miles southeast of Massena

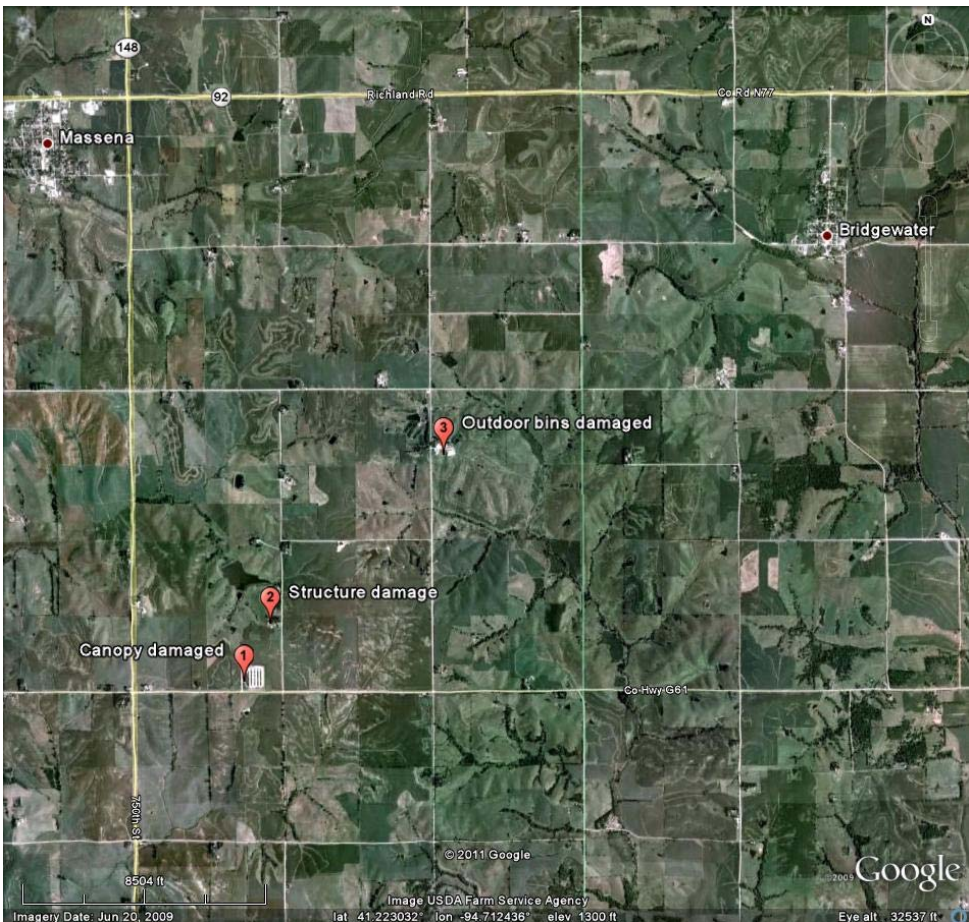
- [Damage pictures](#)
- [Damage map](#)
- [Public Information Statement](#)

#### Damage pictures



Location #1--canopy damaged. Photo by NWS Des Moines, Iowa. Location #2--structure damage. Photo by NWS Des Moines, Iowa. Location #3--outdoor bins damaged. Photo by NWS Des Moines, Iowa.

Damage map – [download Google Earth kmz file by clicking here](#) .



#### Public Information Statement

PNSDMX  
IAZ004>007-015>017-023>028-033>039-044>050-057>062-070>075-081>086-  
092>097-240815-

PUBLIC INFORMATION STATEMENT  
NATIONAL WEATHER SERVICE DES MOINES IA  
309 PM CDT WED MAR 23 2011

...FINAL DAMAGE SURVEY RESULTS FOR 3 1/2 MILES SOUTHEAST OF MASSENA...

...LOW-END EF-1 TORNADO...

THE FOLLOWING IS A FINAL ASSESSMENT FOR THE DAMAGE THAT OCCURRED OVER  
3 1/2 MILES SOUTHEAST OF MASSENA ON MARCH 22 2011.

\* EVENT DATE: MARCH 22 2011.

\* ESTIMATED START TIME: 530 PM.

\* EVENT TYPE: EF1 TORNADO.

\* EVENT LOCATION: 3 1/2 MILES SOUTHEAST OF MASSENA.

\* PEAK WIND: 89 MPH.

\* AVERAGE PATH WIDTH: 200 YARDS.

\* PATH LENGTH: 2 1/2 MILES.

\* INJURIES: NONE KNOWN.

\* FATALITIES: NONE KNOWN.

\* DISCUSSION/DAMAGE: THE TORNADO TOUCHED DOWN APPROXIMATELY 1/2  
MILE EAST OF THE INTERSECTION OF IOWA HWY 148 AND COUNTY HWY  
G61. IT DAMAGED THE CANOPY TO AN OUTDOOR STORAGE BUILDING AND  
TIPPED OVER SOME INDUSTRIAL MACHINERY. IT CONTINUED NORTHEAST  
AND DAMAGED A STRUCTURE...AND CAUSED SOME MINOR ADDITIONAL  
DAMAGE TO A FARMSTEAD NORTH OF THE INTERSECTION OF COUNTY HWY  
G61 AND 760TH ST. FINALLY...IT DAMAGED SOME OUTDOOR STORAGE  
BINS SOUTH OF THE INTERSECTION OF COUNTY HWY G53 AND 770TH ST.  
IT THEN LIFTED.

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FOR REFERENCE...THE ENHANCED FUJITA TORNADO SCALE CLASSIFIES  
TORNADOES INTO THE FOLLOWING CATEGORIES:

EF0...WIND SPEEDS 65 TO 85 MPH.

EF1...WIND SPEEDS 86 TO 110 MPH.

EF2...WIND SPEEDS 111 TO 135 MPH.

EF3...WIND SPEEDS 136 TO 165 MPH.

EF4...WIND SPEEDS 166 TO 200 MPH.

EF5...WIND SPEEDS GREATER THAN 200 MPH.

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ZOGG/JOHNSON