

of May 25, 2008

[Parkersburg-New Hartford tornado damage track poster \(pdf 1MB\)](#)



[A detailed pdf file containing damage pictures related to the EF scale can be found by clicking here.](#)

[Parkersburg-New Hartford National Weather Service Service Assessment](#)

Summary of National Weather Service Services, Radar Images and Damage Survey

NWS personnel have rated the Parkersburg-New Hartford-Dunkerton tornado as **EF 5 (correlated to wind speeds up to 205 MPH)** on the **Enhanced Fujita Scale** at the locations of maximum damage. This is the first EF5 tornado in Iowa since the Jordan tornado of June 13, 1976.

A large and destructive tornado moved across Butler and Black Hawk counties on Sunday May 25th. The initial touchdown occurred near the Butler and Grundy county line, 2 miles south of Aplington at 4:48 pm CDT and quickly grew in size and intensity as it approached Parkersburg. The tornado was nearly 3/4s of a mile wide as it moved through the southern end of Parkersburg at 4:59 pm CDT. Significant structural damage occurred in the town of Parkersburg including 100 to 200 homes destroyed. The tornado maintained size and intensity as it move towards New Hartford. At 5:09 pm CDT the storm moved just north of New Hartford once again causing significant structural and tree damage. The tornado weakened around 3 miles east of New Hartford with lesser damage as it moved east to north of the Waterloo and Cedar Falls area. Significant straight line winds occurred along and just south of the tornado track with preliminary estimates of 90 to 100 mph. The tornado then grew in size to near 1.2 miles wide north of Dunkerton causing substantial damage to a farmstead there. The tornado lifted just before entering Buchanan county.

The image below depicts the approximate damage path. The width of the path varied, ranging from around 1/2 mile wide in Parkersburg to just over a mile wide northwest of Dunkerton. The outer green line implies the approximate outer extent of the tornado damage, the blue shaded area indicates EF-2 or greater damage, and the pink area indicates EF-4 or greater damage. Click on the image for a larger version.



Tornado path was determined using information provided by Iowa Helicopter, Civil Air Patrol and Tim Marshall.

FINAL STORM SURVEY RESULTS

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IAZ004>007-015>017-023>028-033>039-044>050-057>062-070>075-
081>086-092>097-280930-

PUBLIC INFORMATION STATEMENT
NATIONAL WEATHER SERVICE DES MOINES IA
430 PM CDT TUE MAY 27 2008

...FINAL DAMAGE SURVEY RESULTS FOR BUTLER AND BLACK HAWK COUNTIES...

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THE FOLLOWING IS A FINAL ASSESSMENT FOR THE DAMAGE THAT OCCURRED OVER

BUTLER AND BLACK HAWK COUNTIES ON MAY 25TH.

* **EVENT DATE:** MAY 25TH

* **ESTIMATED START TIME:** 4:48 PM CDT

* **EVENT TYPE:** EF5 IN PORTIONS OF PARKERSBURG AND NORTH OF NEW HARTFORD

* **EVENT LOCATION:** 2 MILES S APLINGTON TO PARKERSBURG TO NEW HARTFORD AND ACROSS NORTHERN BLACK HAWK COUNTY.

* **PEAK WIND:** MAXIMUM WINDS OF 205 MPH

* **AVERAGE PATH WIDTH:** PATH WIDTH RANGED FROM 0.6 TO 0.7 MILES NEAR PARKERSBURG TO JUST NORTH OF NEW HARTFORD. THE PATH WIDTH CONSTRICTED TO NEAR ONE QUARTER MILE WIDE EAST OF NEW HARTFORD TO NORTH OF WATERLOO. PATH WIDTH INCREASED TO NEAR 1.2 MILES WIDE NORTH OF DUNKERTON BEFORE DISSIPATING NEAR THE BLACK HAWK AND BUCHANAN COUNTY LINE.

* **PATH LENGTH:** 43 MILES

* **INJURIES:** PRELIMINARY 70

* **FATALITIES:** PRELIMINARY 6

* **DISCUSSION/DAMAGE:** SIGNIFICANT STRUCTURAL DAMAGE OCCURRED ACROSS THE SOUTHERN END OF PARKERSBURG AND ALONG A PATH TO JUST NORTH OF NEW HARTFORD. NUMEROUS STRUCTURES COMPLETELY DESTROYED FROM PARKERSBURG TO NEAR NEW HARTFORD. THE TORNADO CONTINUED EASTWARD TO JUST NORTH OF THE WATERLOO AND CEDAR FALLS AREA. SIGNIFICANT DAMAGE ALSO OCCURRED NORTH OF DUNKERTON WHERE THE TORNADO INCREASED TO ITS GREATEST PATH WIDTH. ADDITIONAL EF2 TO EF3 DAMAGE OCCURED NORTHEAST OF DUNKERTON BEFORE THE TORNADO LIFTED SHORTLY BEFORE MOVING INTO BUCHANAN COUNTY. THIS STORM ALSO PRODUCED SUBSTANTIAL STRAIGHT LINE WIND DAMAGE ALONG THE SOUTHERN PERIPHERY OF THE STORM JUST SOUTH OF THE TORNADO TRACK. PRELIMINARY ESTIMATES THAT STRAIGHT LINE WINDS OF 90 TO 100 MPH OCCURRED WITH THIS STORM. AT 537 PM CDT THE WATERLOO AIRPORT RECORDED A 93 MPH WIND GUST. INITIAL SURVEY RESULTS SUGGEST THAT STRAIGHT LINE WIND DAMAGE WAS THE CAUSE OF THE SEVERE DAMAGE AT THE RECREATIONAL VEHICLE DEALERSHIP NORTH OF CEDAR FALLS.

ADDITIONAL INFORMATION INCLUDING IMAGES...APPROXIMATE STORM TRACK...RADAR DATA...AND PRELIMINARY TIME LINE ARE AVAILABLE AT THE NATIONAL WEATHER SERVICE DES MOINES WEBSITE AT:

WWW.CRH.NOAA.GOV/DMX

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FOR REFERENCE...THE 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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Timeline

PUBLIC INFORMATION STATEMENT
NATIONAL WEATHER SERVICE DES MOINES IA
329 PM CDT TUE MAY 27 2008

...PRELIMINARY TIME LINE FOR THE MAY 25TH PARKERSBURG-NEW HARTFORD-DUNKERTON TORNADO...

**330 PM CDT --STORM PREDICTION CENTER ISSUES TORNADO WATCH 363 FOR MUCH OF IOWA INCLUDING BUTLER AND BLACKHAWK COUNTIES.

**422 PM CDT --STORM-BASED TORNADO WARNING ISSUED FOR NORTHEASTERN GRUNDY... NORTHEASTERN HARDIN...BUTLER...AND SOUTHEASTERN FRANKLIN COUNTIES. TORNADO WARNING INCLUDES THE CITIES OF APLINGTON AND PARKERSBURG.

**446 PM CDT --FOLLOW-UP STORM-BASED TORNADO WARNING ISSUED FOR NORTHERN GRUNDY AND SOUTHEASTERN BUTLER COUNTIES. WARNING INCLUDES THE CITIES OF APLINGTON...PARKERSBURG...AND NEW HARTFORD. WARNING TEXT: THE TORNADO WILL BE NEAR PARKERSBURG BY 500 PM CDT.

**448 PM CDT --INITIAL TORNADO TOUCHDOWN 2 MILES SOUTH OF APLINGTON NEAR THE BUTLER-GRUNDY COUNTY LINE.

**451 PM CDT --FOLLOW-UP STATEMENT TO TORNADO WARNING ISSUED. STATEMENT TEXT: THE TORNADO WILL BE NEAR PARKERSBURG BY 500 PM CDT.

**458 PM CDT --FOLLOW-UP STATEMENT TO TORNADO WARNING ISSUED. STATEMENT TEXT: THE TORNADO WILL BE NEAR NEW HARTFORD BY 510 PM CDT.

**459 PM CDT --TORNADO MOVES INTO THE SOUTHERN PART OF PARKERSBURG.

**502 PM CDT --FOLLOW-UP STATEMENT TO TORNADO WARNING ISSUED. STATEMENT TEXT: THE TORNADO WILL BE NEAR NEW HARTFORD BY 510 PM CDT.

**504 PM CDT --STORM-BASED TORNADO WARNING ISSUED FOR NORTHERN BLACKHAWK AND BREMER COUNTIES. WARNING INCLUDES NORTHERN PORTIONS OF WATERLOO...CEDAR FALLS... AND AREAS NORTH OF DUNKERTON.

**509 PM CDT --TORNADO HITS HOUSING SUBDIVISION ONE MILE NORTH OF NEW HARTFORD.

**521 PM CDT --STORM-BASED TORNADO WARNING ISSUED FOR BLACKHAWK AND SOUTHERN BREMER COUNTIES. WARNING INCLUDES WATERLOO...CEDAR FALLS...AND DUNKERTON.

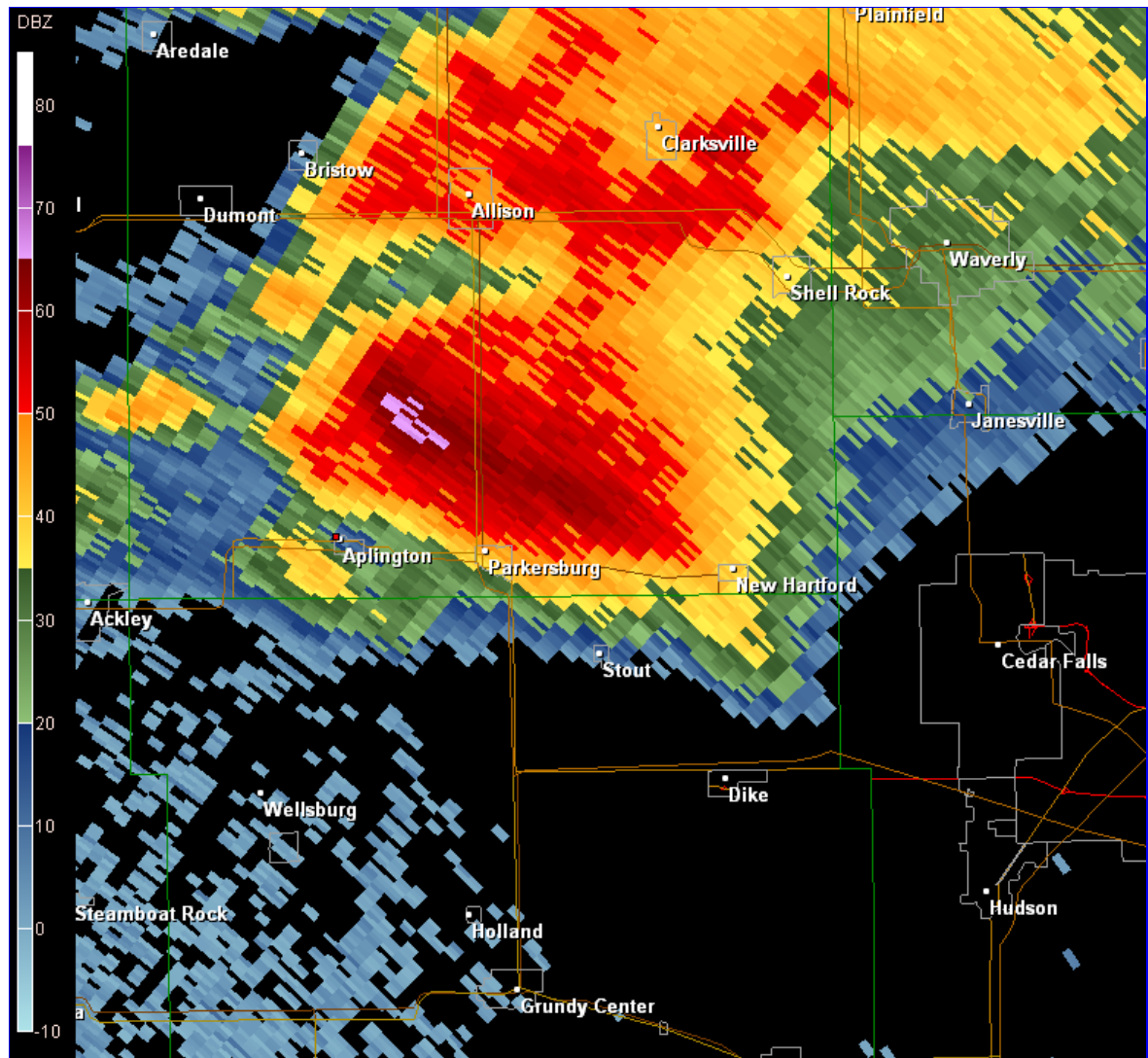
**522 PM TO 550 PM CDT --TORNADO MOVES INTO NORTHERN BLACKHAWK COUNTY AND CONTINUES EAST...PRODUCING DAMAGE JUST NORTH OF CEDAR FALLS AND WATERLOO.

**537 PM CDT --STORM-BASED TORNADO WARNING ISSUED FOR NORTHERN BLACKHAWK COUNTY. WARNING INCLUDES WATERLOO...CEDAR FALLS...AND DUNKERTON. STATEMENT TEXT: THE TORNADO WILL BE NEAR DUNKERTON BY 550 PM CDT.

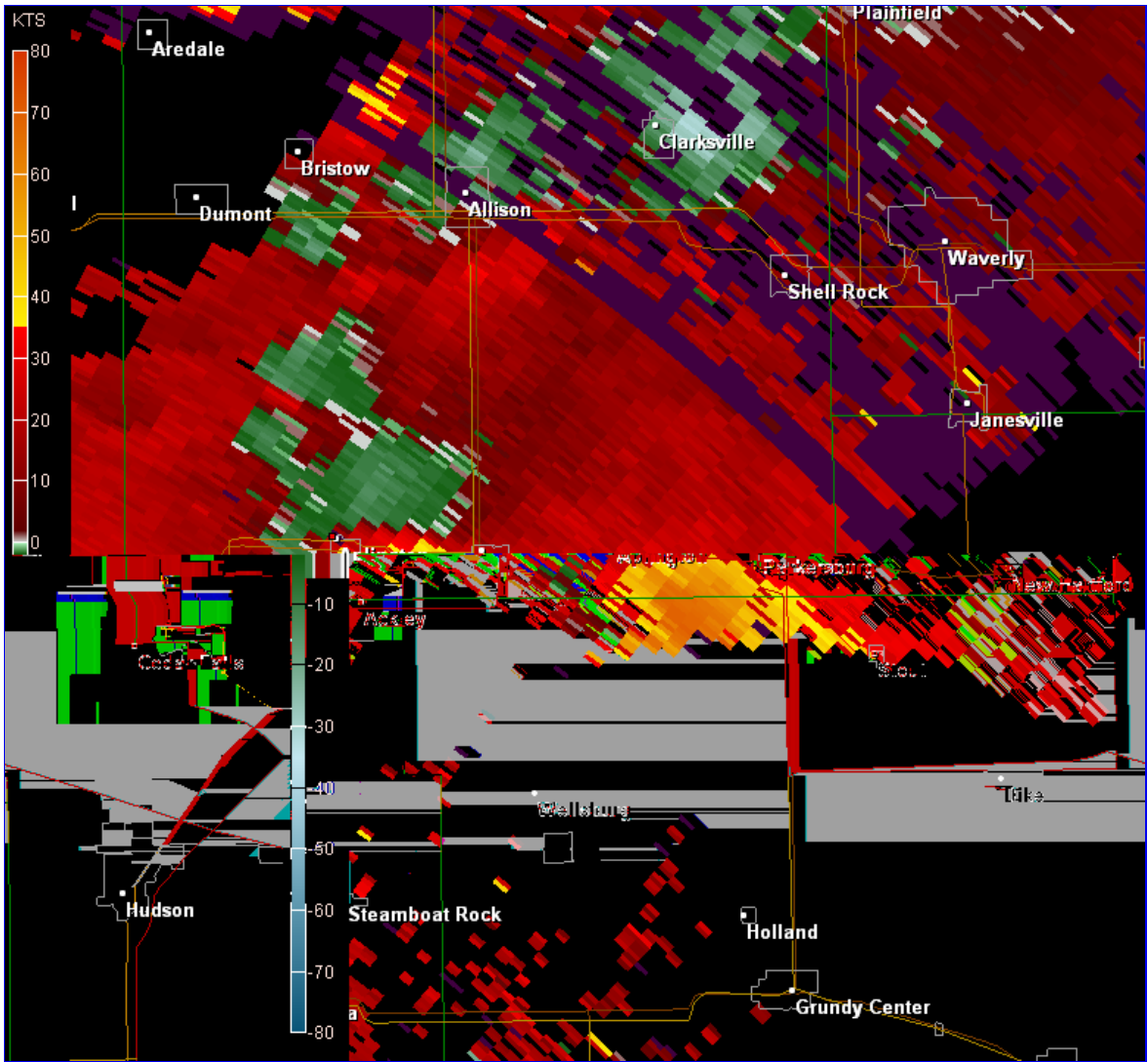
**551 PM CDT --TORNADO HITS FARMHOUSE 3 MILES NORTH OF DUNKERTON.

**558 PM CDT --TORNADO LIFTS JUST BEFORE ENTERING BUCHANAN COUNTY.

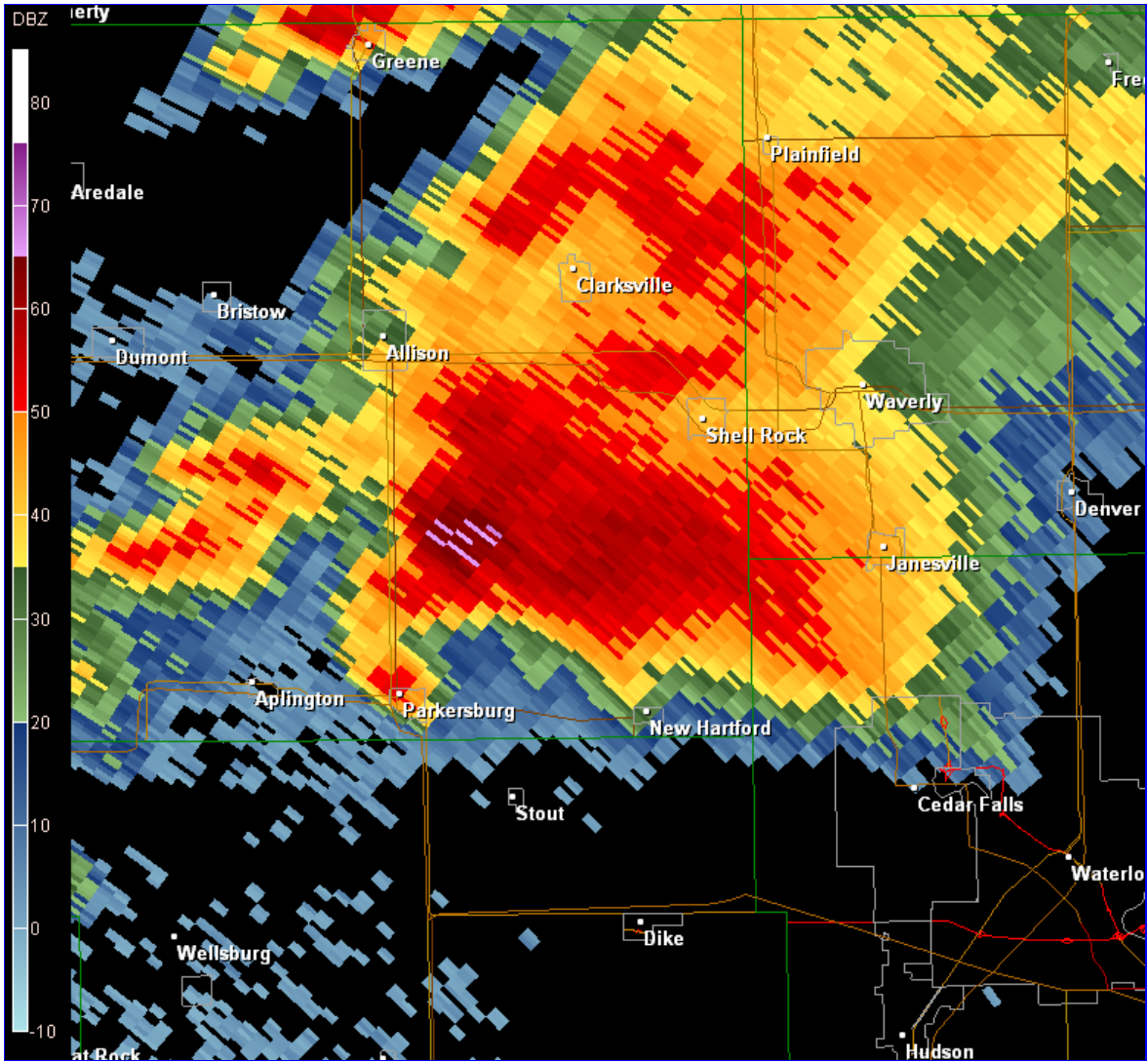
The images below depict base reflectivity and storm relative motion from the NWS WSR-88D radar in Des Moines. Captions follow each picture.



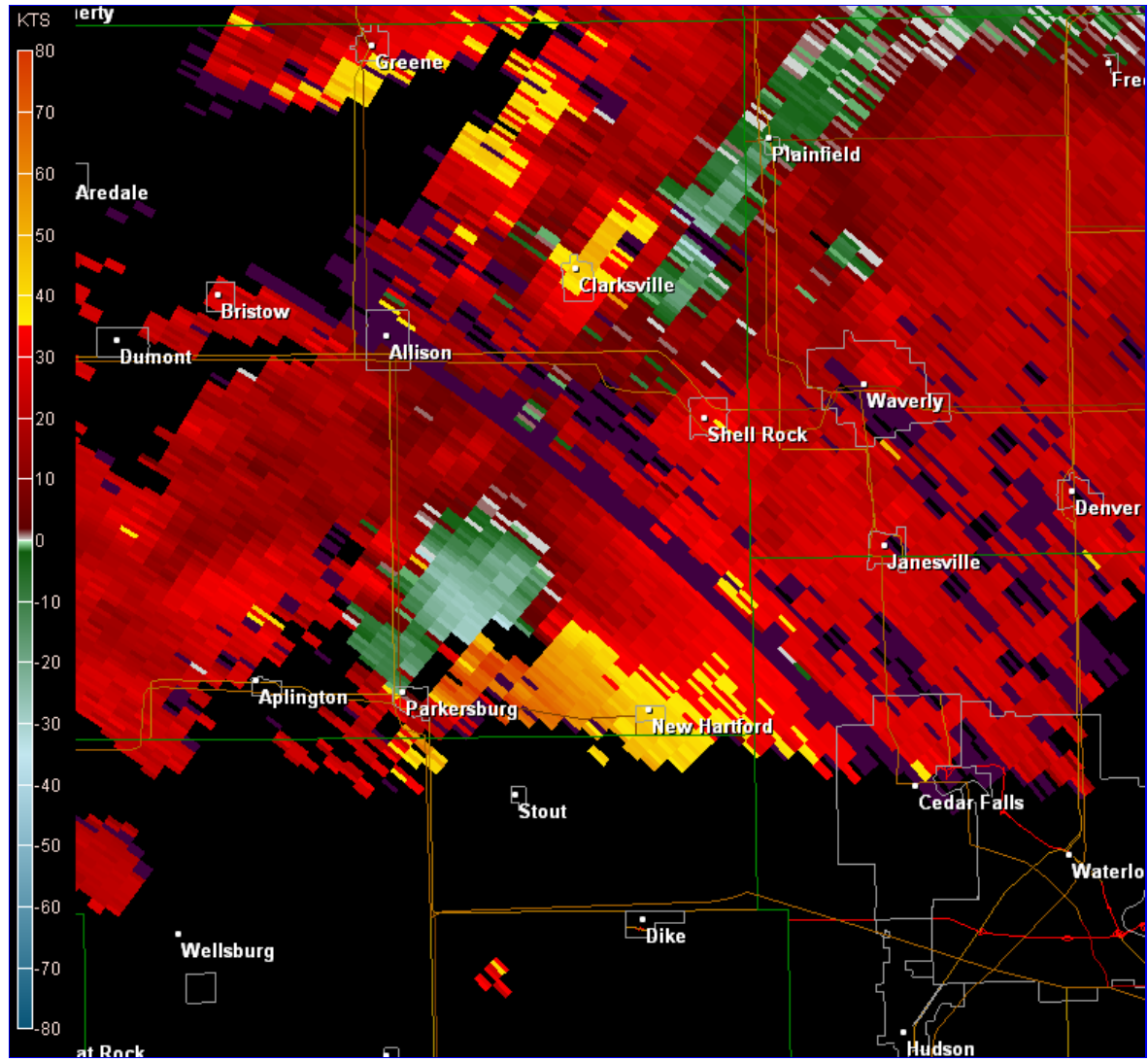
4:50 p.m. base reflectivity image from the NWS WSR-88D in Des Moines. Two minutes after initial tornado touchdown on the Butler-Grundy county line south of Aplington.



4:50 p.m. storm reflectivity image from the NWS WSR-88D in Des Moines. Two minutes after initial tornado touchdown on the Butler-Grundy county line south of Aplington. Shades of green depict motion toward radar, 80 miles to the southwest whereas reds and oranges depict motion away from the radar.

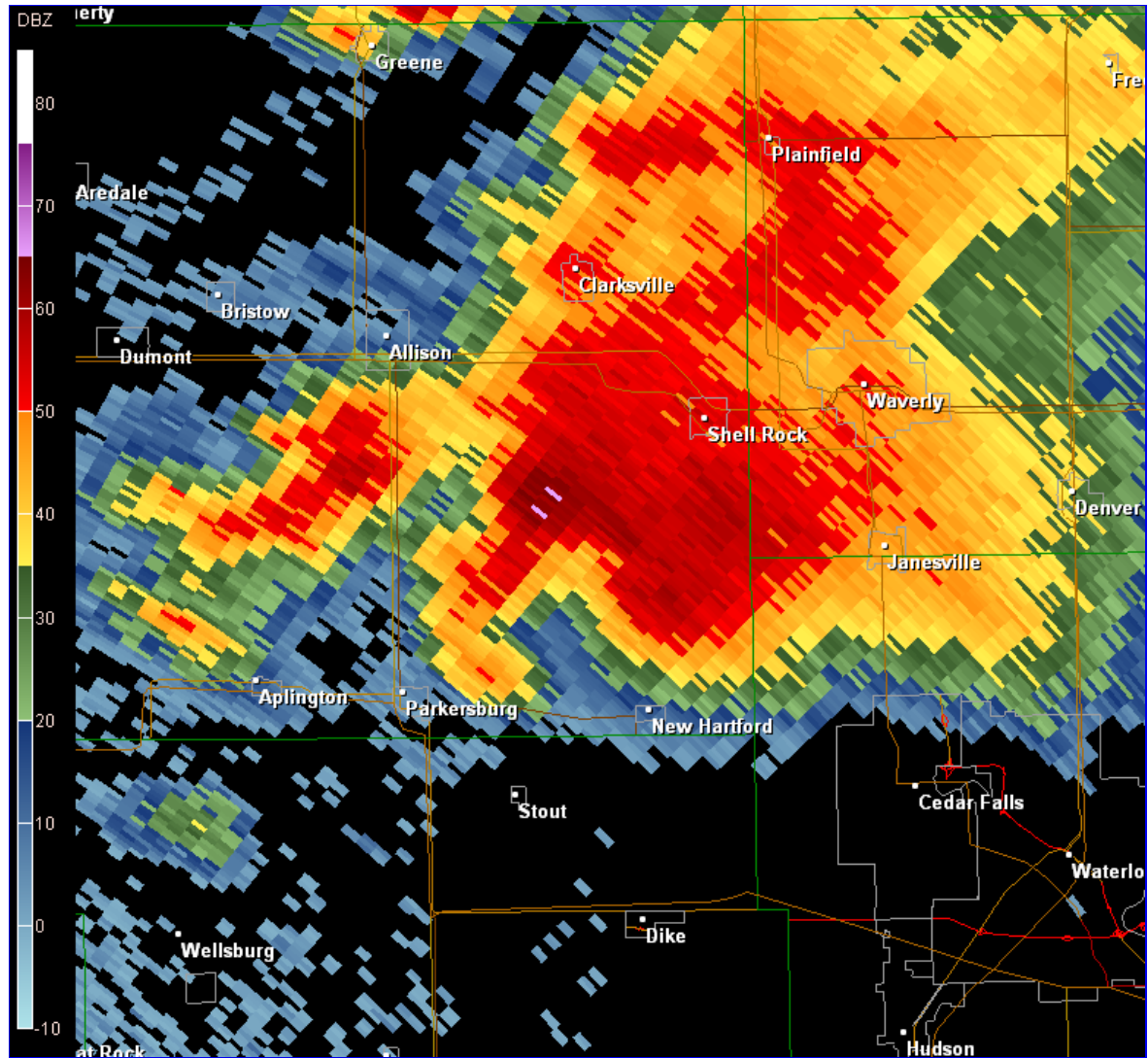


4:59 p.m. base reflectivity image from the NWS WSR-88D in Des Moines. This is around the time the tornado entered Parkersburg.

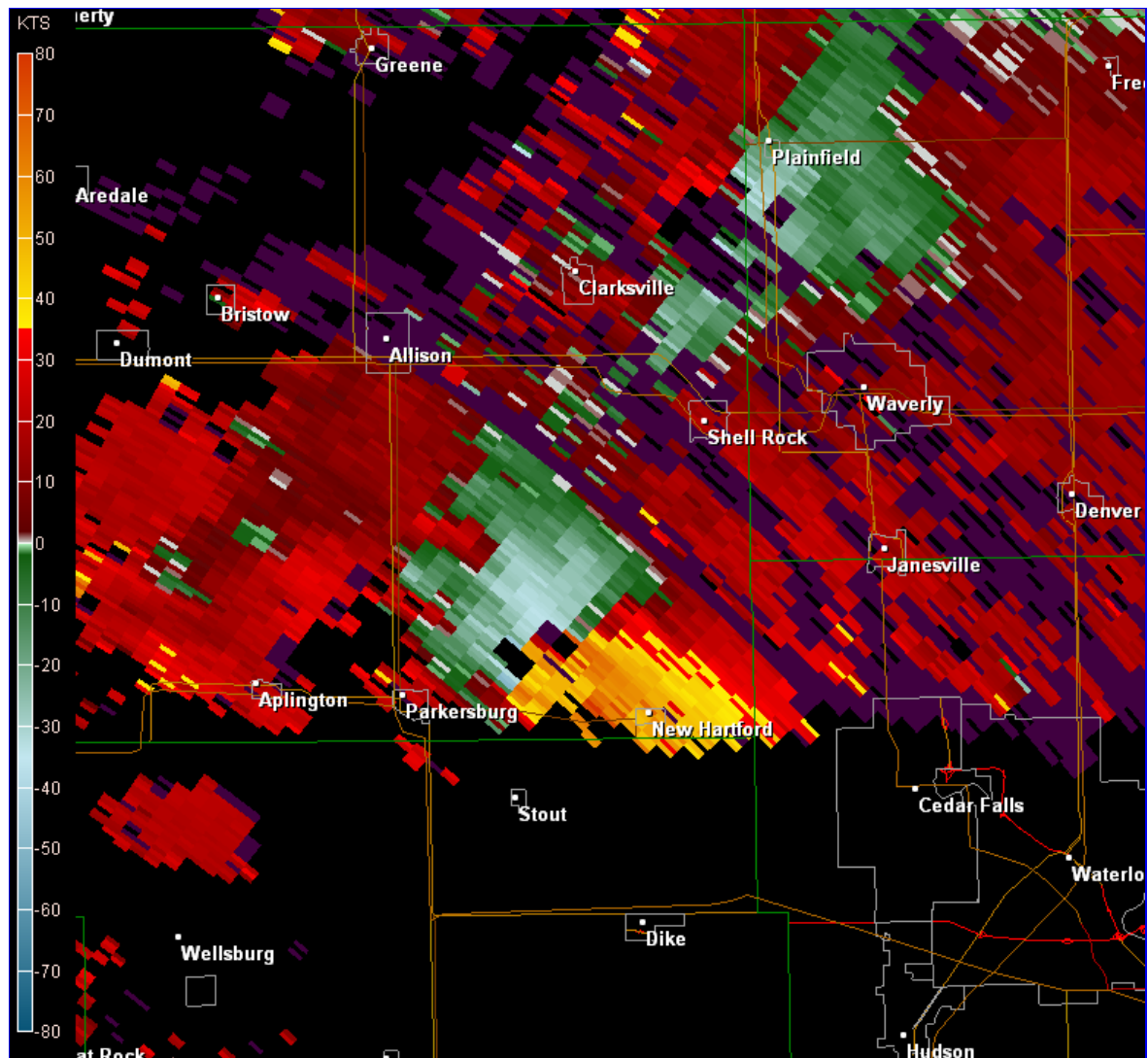


4:59 p.m. storm reflectivity image from the NWS WSR-88D in Des Moines. This is around the time the tornado entered Parkersburg. Shades of green depict motion toward radar, 80 miles to the southwest whereas reds and oranges depict motion away from the radar.

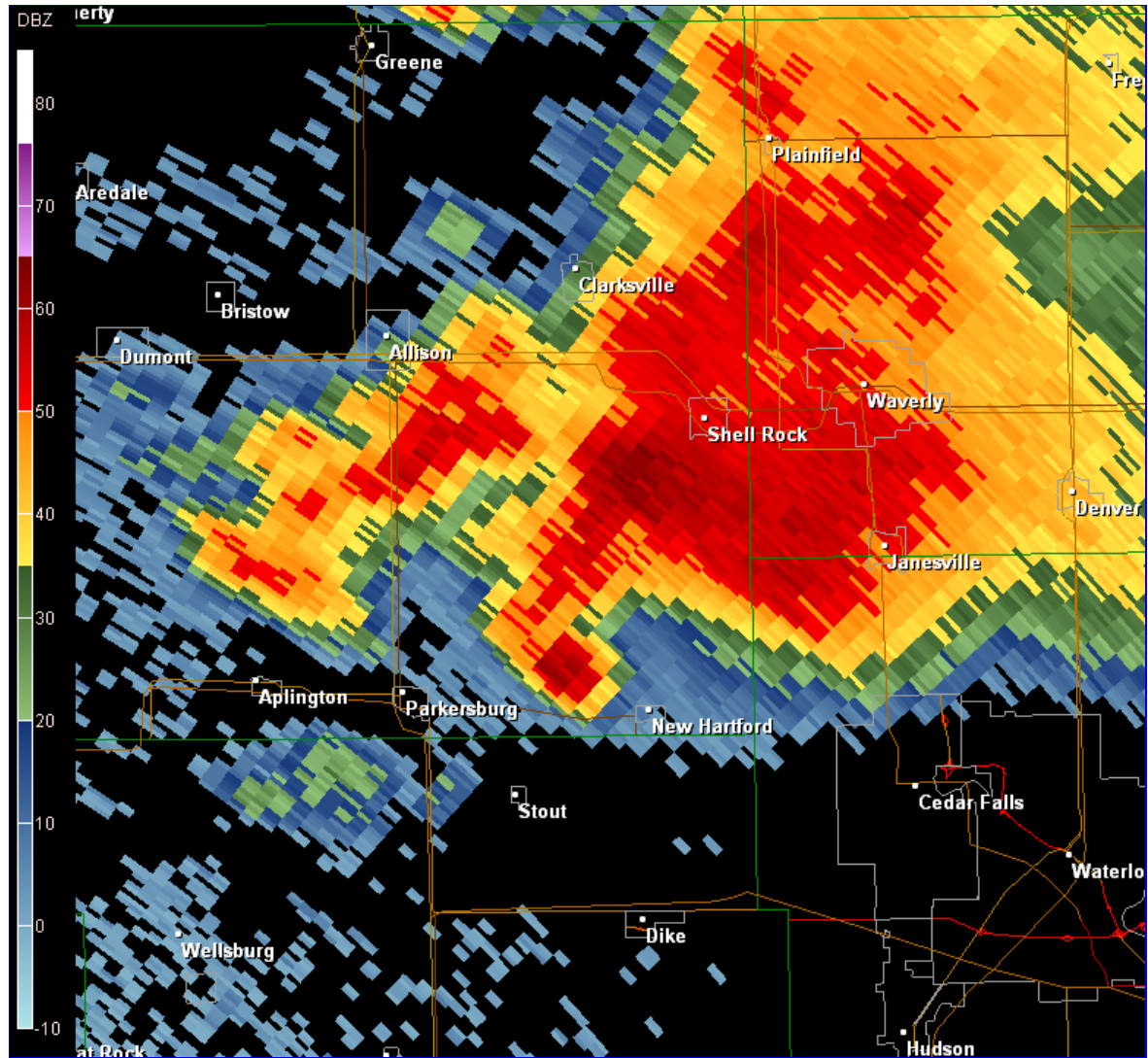
Photo of the tornado between Parkersburg and New Hartford around 5:05 pm. Photo taken by NWS Des Moines Meteorologist Rod Donavon 1.5 miles south of New Hartford.



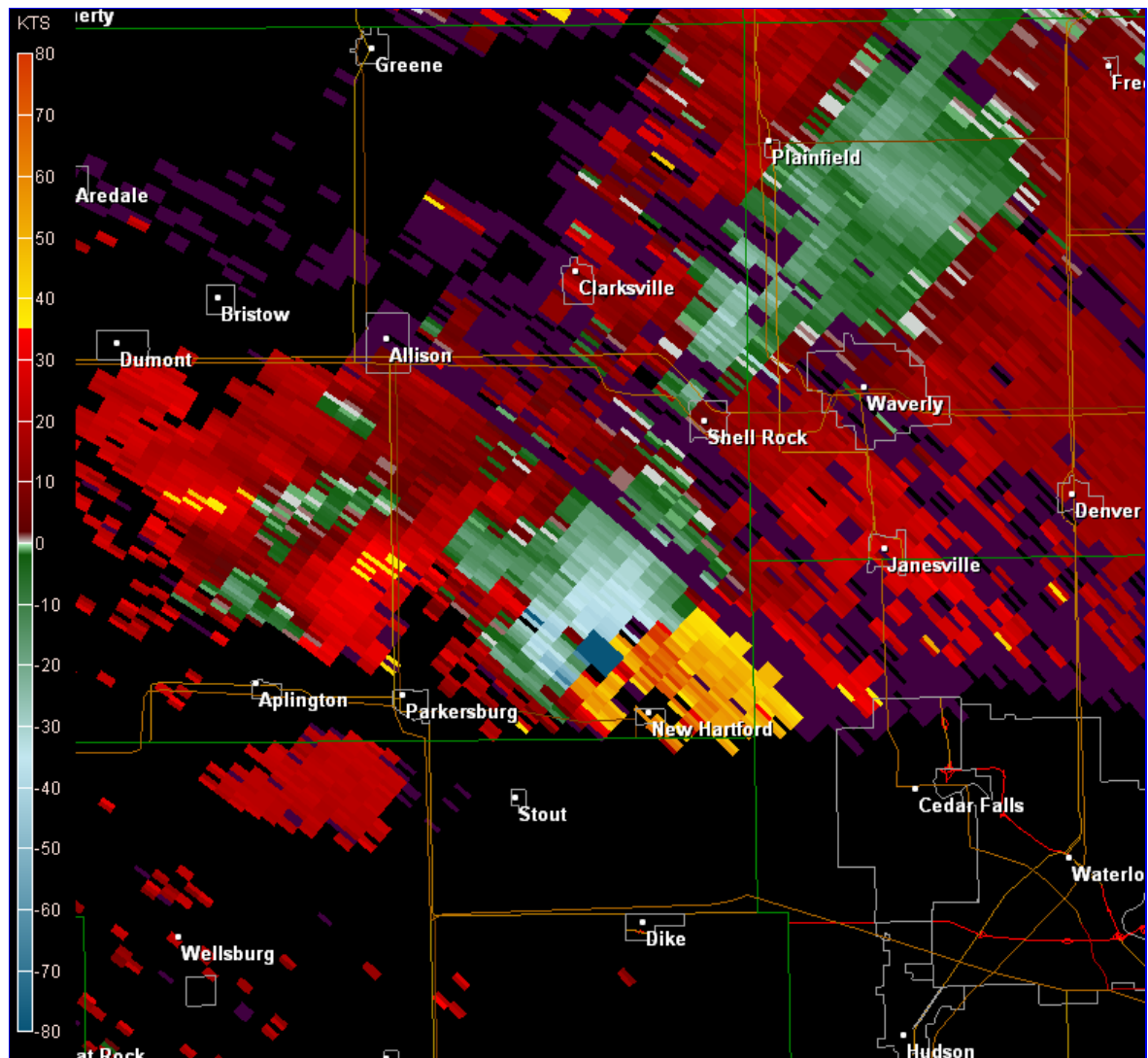
5:04 p.m. base reflectivity image from the NWS WSR-88D in Des Moines. The tornado has exited Parkersburg and is heading toward New Hartford. This is near the time of the above tornado photo.



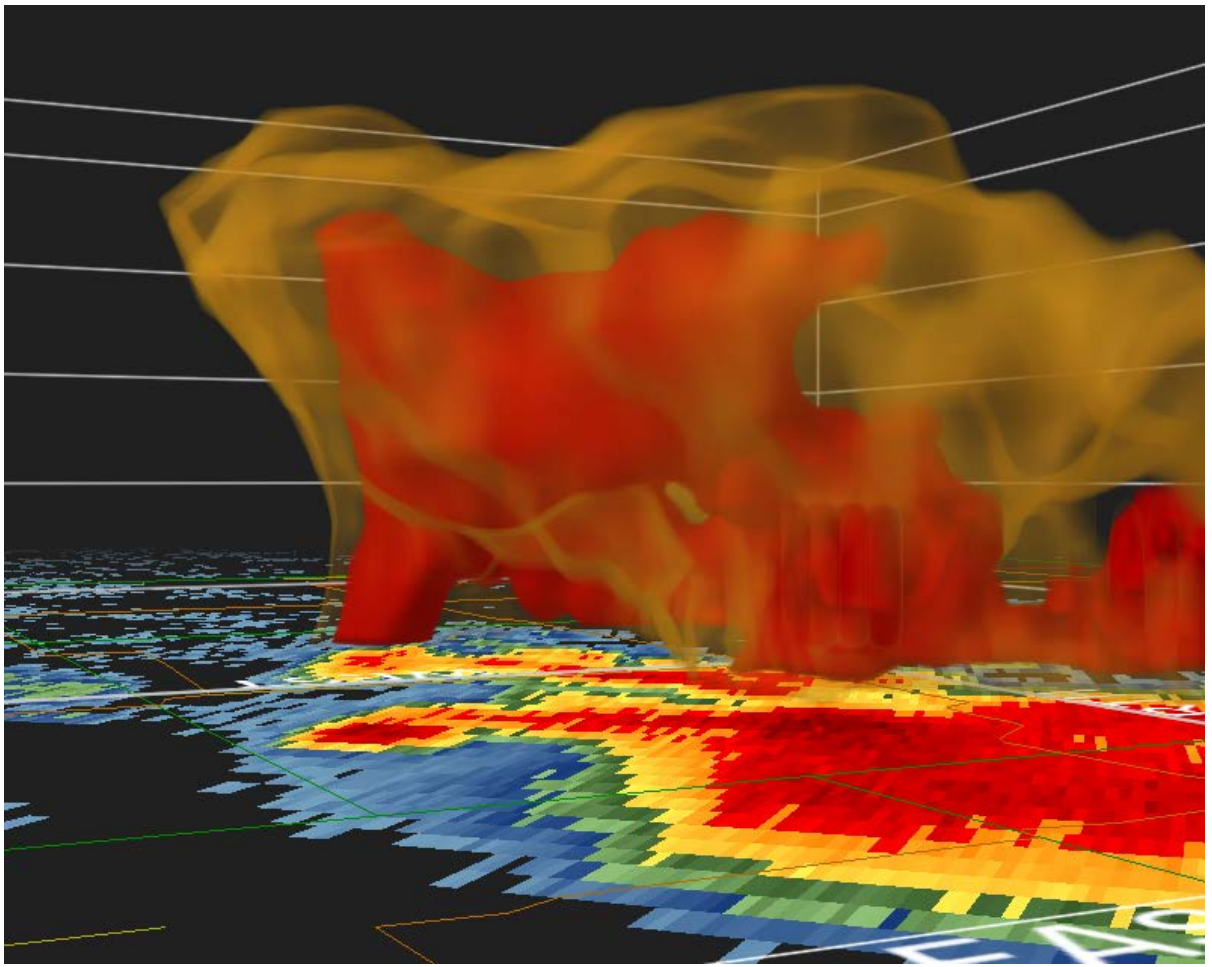
5:04 p.m. storm relative velocity image from the NWS WSR-88D in Des Moines. The tornado has exited Parkersburg and is heading toward New Hartford. In this case, the tornado is near or just above the "g" in Parkersburg and near the time of the Tornado photo above.



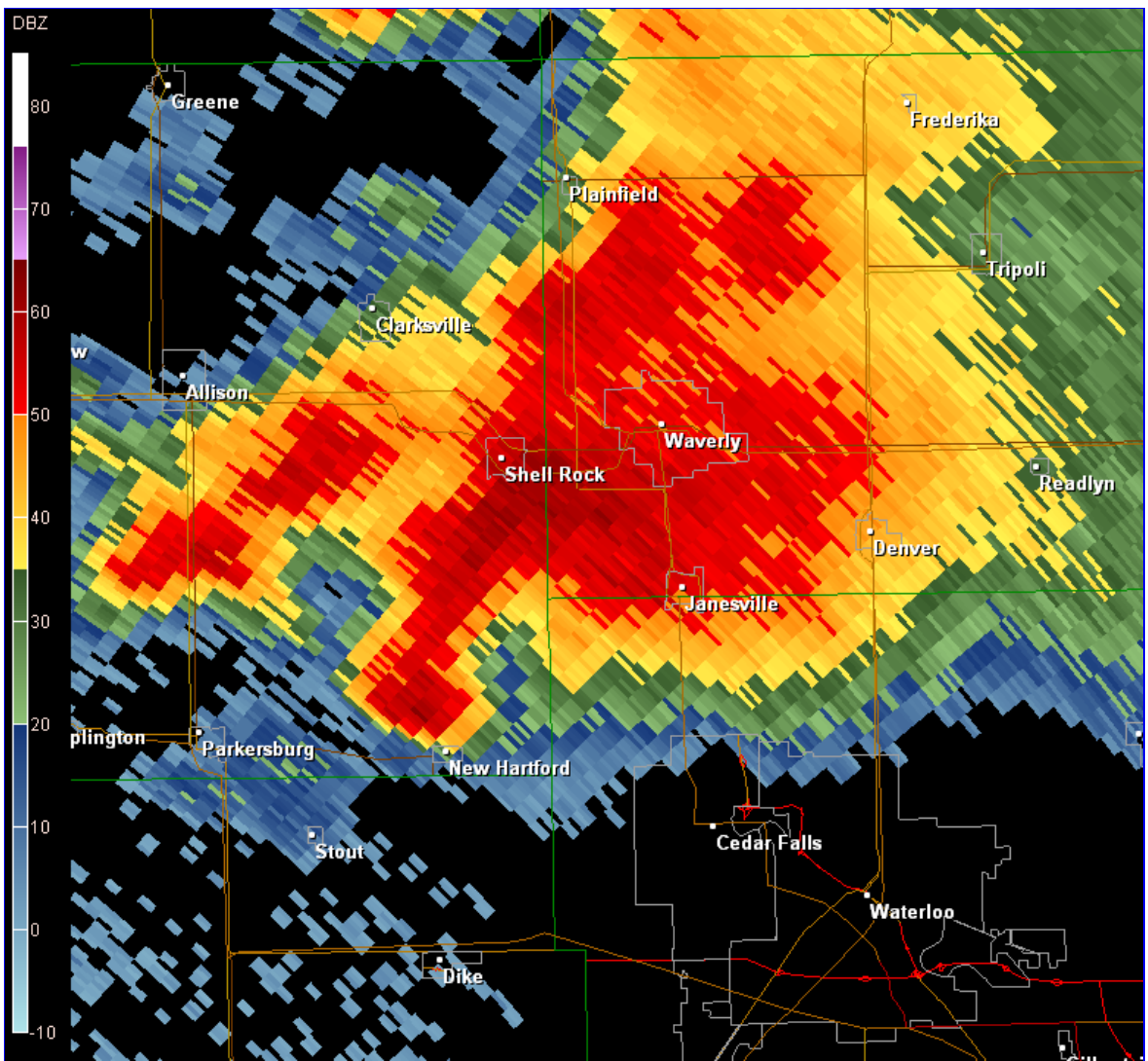
5:08 p.m. base reflectivity image from the NWS WSR-88D in Des Moines. Shortly after this time, the tornado causes damage in New Hartford.



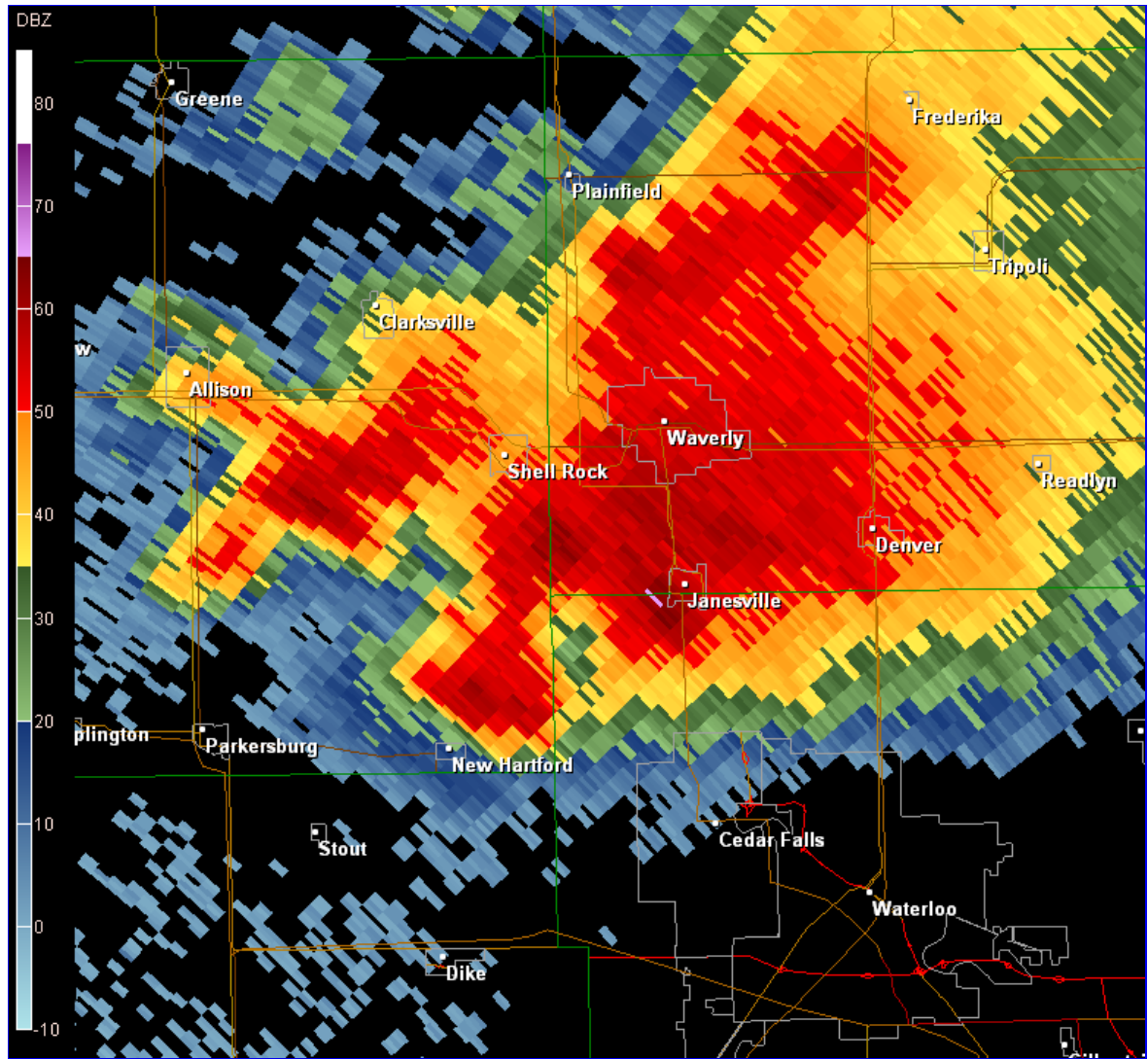
5:08 p.m. storm relative velocity image from the NWS WSR-88D in Des Moines. Shortly after this time, the tornado causes damage in New Hartford.



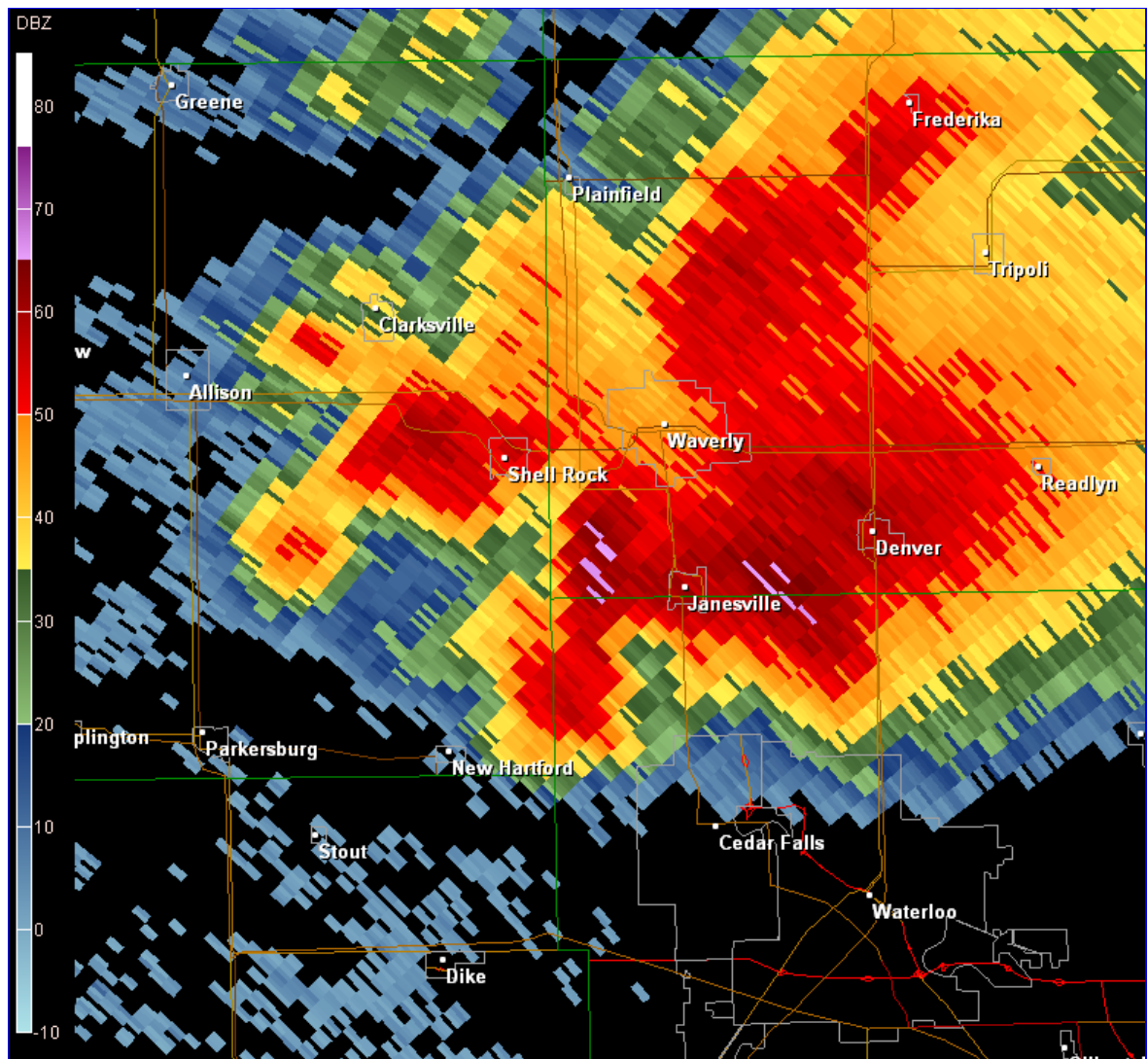
5:08 p.m. KDMX WSR 88D volumetric reflectivity view of the supercell from the east southeast. Notice the Descending Reflectivity Core (DRC) on the left near the area of the tornado.



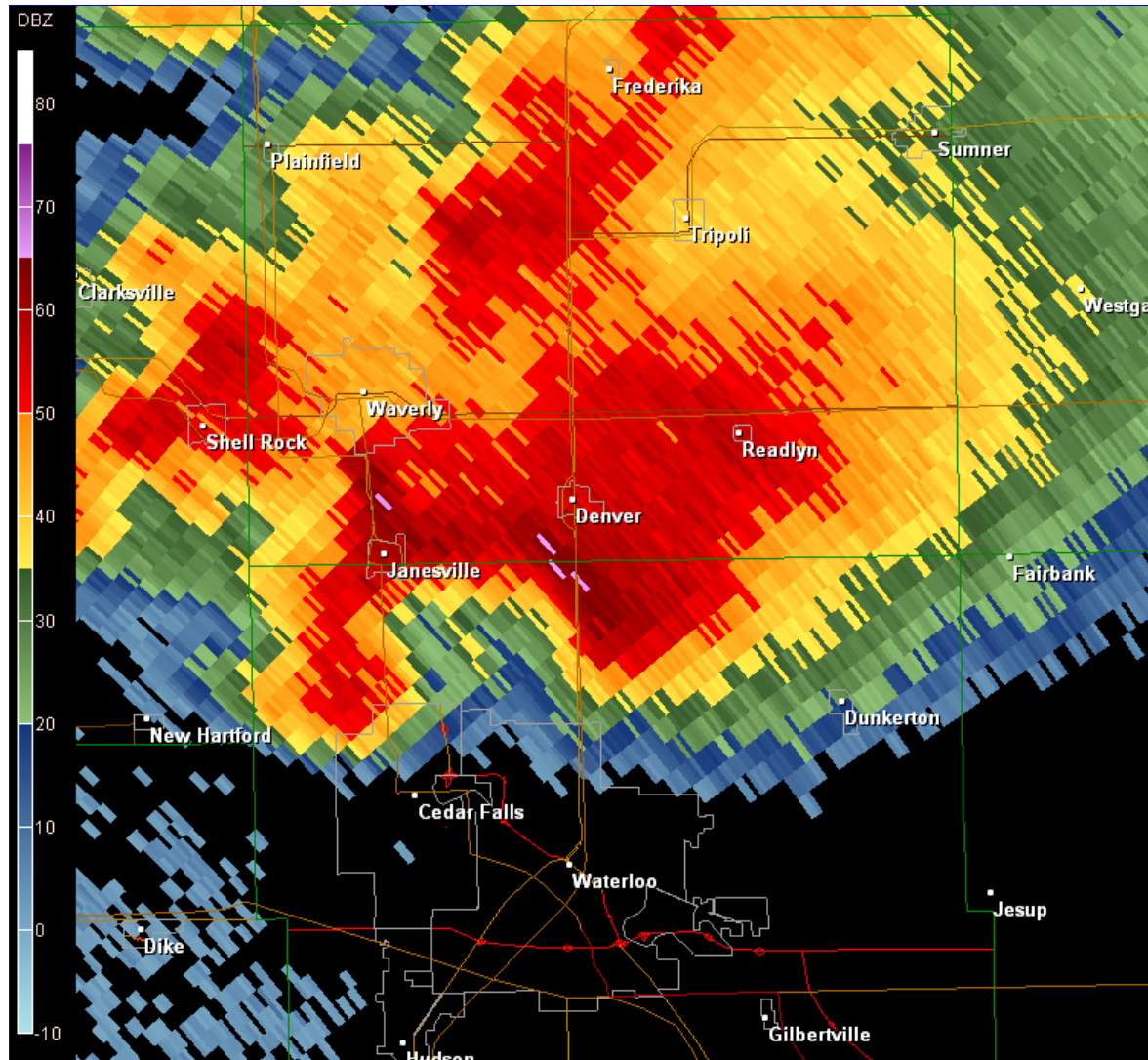
5:13 p.m. base reflectivity image from the NWS WSR-88D in Des Moines. The tornado exits New Hartford.



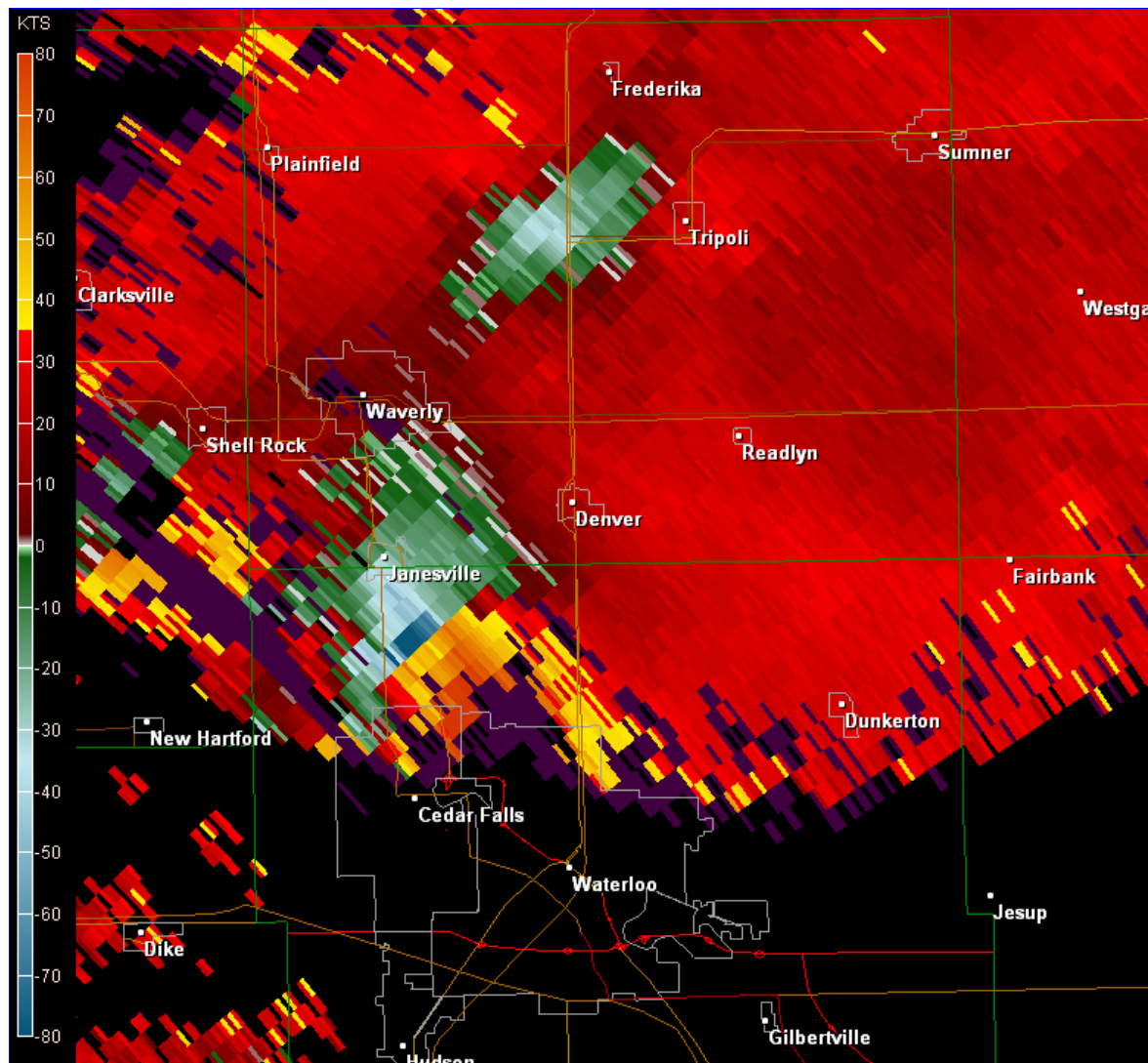
5:17 p.m. base reflectivity image from the NWS WSR-88D in Des Moines. The tornado crosses into northern Black Hawk county.



5:22 p.m. base reflectivity image from the NWS WSR-88D in Des Moines. The tornado begins to effect areas just northwest of Cedar Falls.



5:26 p.m. base reflectivity image from the NWS WSR-88D in Des Moines. The tornado continues to move east just north of Cedar Falls or even right in the northern edge of the town.



5:26 p.m. storm relative velocity image from the NWS WSR-88D in Des Moines. The tornado continues to move east just north of Cedar Falls or even right in the northern edge of the town. Shortly after this time, at 5:35 p.m., a 93 mph wind gust was recorded at the Waterloo Airport which is in the extreme northwest part of Waterloo.

A Sampling of Storm Survey Photos from the Parkersburg Area

(click for a larger view)





Historical Iowa Tornadoes

SINCE 1950...IOWA HAS EXPERIENCED FIVE F5 TORNADOES AND FORTY-TWO F4'S. ONLY THIRTEEN F4'S HAVE OCCURRED SINCE 1980 AND NO F5'S. THE LAST F5 TO OCCUR IN IOWA WAS ON JUNE 13, 1976 IN BOONE AND STORY COUNTIES NEAR THE HAMLET OF JORDAN. THE LAST F4 WAS APRIL 8, 1999 WHEN TWO F4'S TOUCHED DOWN IN PORTIONS OF SOUTHWEST AND CENTRAL IOWA. THE LAST TIME SIX DEATHS FROM A TORNADO OCCURRED IN IOWA WAS ON SEPTEMBER 16, 1978 WHEN SIX PEOPLE DIED IN MARSHALL AND POWESHIEK COUNTIES. THE LAST PATH LENGTH OF AT LEAST 48 MILES OCCURRED ON APRIL 11, 2001 WHEN A TORNADO TRACKED 60.5 MILES FROM MISSOURI BORDER IN RINGGOLD COUNTY TO NEAR PATTERSON IN WARREN COUNTY.

...F5'S IN IOWA SINCE 1950...

CASS AND ADAIR COUNTIES (SOUTHWEST OF ADAIR)	JUNE 27, 1953 10 MILE PATH	1 DEATH	2 INJURIES
WRIGHT COUNTY (BELMOND)	OCTOBER 14, 1966 10 MILE PATH	6 DEATHS	172 INJURIES
FRANKLIN/FLOYD/CHICKASAW AND HOWARD COUNTIES (CHARLES CITY)	MAY 15, 1968 63 MILE PATH	13 DEATHS	462 INJURIES
FAYETTE COUNTY (OELWEIN)	MAY 15, 1968 13 MILE PATH	5 DEATHS	156 INJURIES
BOONE AND STORY COUNTIES (JORDAN)	JUNE 13, 1976 21 MILE PATH	NO DEATHS	9 INJURIES

...F4'S IN IOWA SINCE 1980...

DECATUR AND WAYNE COUNTIES	JUNE 2, 1980 32 MILE PATH	NO DEATHS	OR INJURIES
DECATUR/WAYNE/LUCAS/ MONROE/MAHASKA/KEOKUK/ AND IOWA COUNTIES	JUNE 7, 1984 117 MILE PATH	2 DEATHS	117 INJURIES
WOODBURY AND MONONA COUNTIES	JULY 28, 1986 12.5 MILE PATH	NO DEATHS	1 INJURY
POLK AND JASPER COUNTIES	SEPT. 28, 1986 20 MILE PATH	NO DEATHS	OR INJURIES
ADAMS/UNION/RINGGOLD AND DECATUR COUNTIES	MAY 24, 1989 50 MILE PATH	NO DEATHS	OR INJURIES
HAMILTON/STORY/HARDIN/ MARSHALL AND TAMA	MAY 24, 1989 66 MILE PATH	NO DEATHS	OR INJURIES
HARDIN AND GRUNDY COUNTIES	MAY 30, 1989 11 MILE PATH	NO DEATHS	3 INJURIES
LINN/JONES/DELAWARE	MAY 13, 1990	NO DEATHS	OR INJURIES

AND DUBUQUE COUNTIES	19 MILE PATH	
CARROLL/SAC/CALHOUN AND POCAHONTAS COUNTIES	MAY 27, 1995 37 MILE PATH	NO DEATHS OR INJURIES
UNION/ADAIR/GUTHRIE AND DALLAS COUNTIES	MAY 27, 1995 55 MILE PATH	NO DEATHS 2 INJURIES
GUTHRIE/GREENE AND CARROLL COUNTIES	MAY 27, 1995 30 MILE PATH	NO DEATHS 1 INJURY
TAYLOR/ADAMS/CASS AND ADAIR COUNTIES	APRIL 8, 1999 49 MILE PATH	NO DEATHS 3 INJURIES
UNION/MADISON AND DALLAS COUNTIES	APRIL 8, 1999 56 MILE PATH	NO DEATHS 1 INJURY

Supporting and Background Informational Links

- [Enhanced Fujuta Scale](#)
- [Tornado Facts and Safety Tips](#)

Special Thanks

Iowa Helicopter for its Aerial Survey and Track maps
Iowa Homeland Security and Emergency Management for funding the Civil Air Patrol flights
Civil Air Patrol for its aerial flight and pictures
Iowa State University , Department Aerospace Engineering for expert analysis
National Weather Service offices in La Crosse and Quad Cities for expert analysis
