

Storm Survey and Damage Review

Parkersburg, Iowa EF-5 Tornado



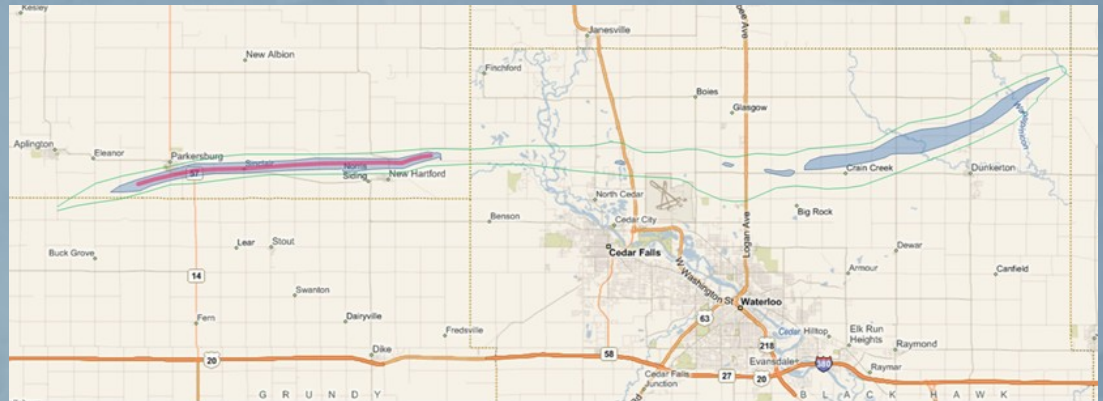
You can prepare for this, but.....

Karl Jungbluth, Science and Operations Officer
WFO Des Moines



Parkersburg, Iowa EF-5 Tornado

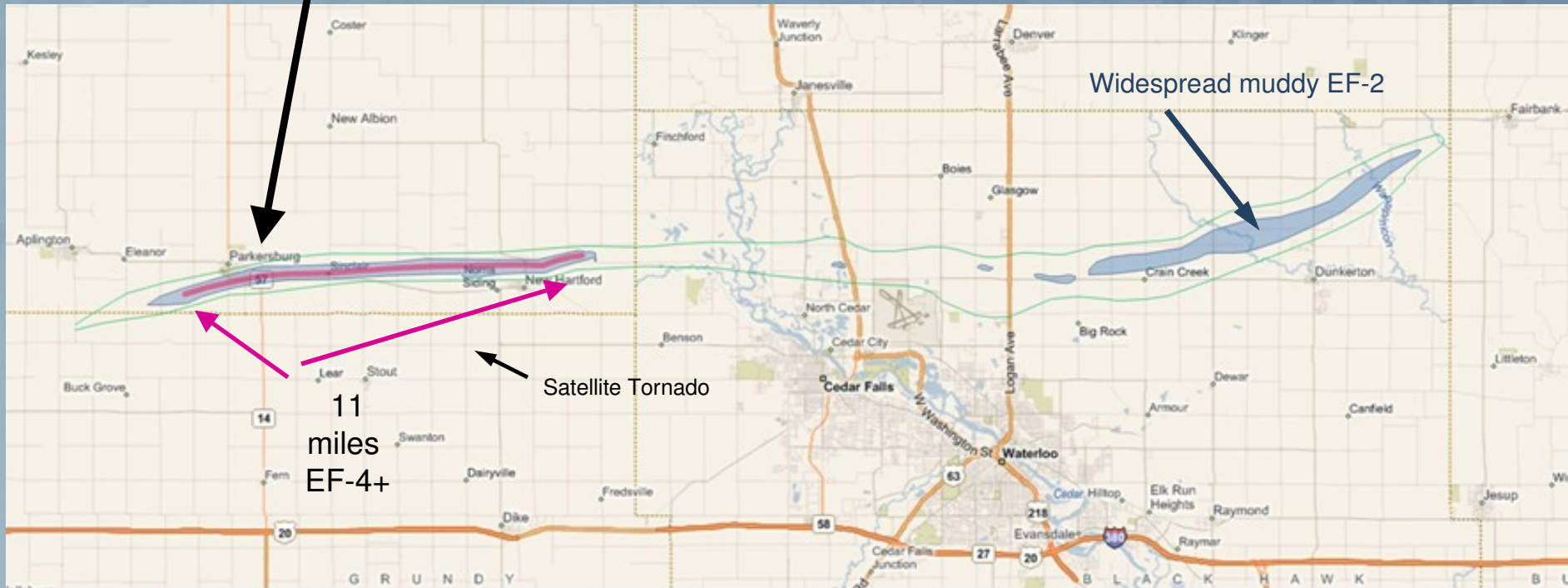
- Challenges of a very long track violent tornado
 - 43 mile track, nearly 25 miles of EF-2+
- How do you make the decision to go from EF-4 to EF-5?
- Quick Response Team (QRT) utilized, plus input from experts
- Lessons learned



[43 miles]

Parkersburg and New Hartford, Iowa EF-5 Tornado

Aerial surveys by CAP, John McLaughlin (IowaHelicopter.com) and Tim Marshall - continuous 43 mile track



7 fatalities in Parkersburg, one 3 miles W and one 1 mile N of New Hartford

Over 100 homes totally leveled with EF-4 or EF-5 damage (Marshall 24th SLS)



Parkersburg, Iowa EF-5 Tornado

- Day 1 after the tornado (May 26) :
 - One damage survey team from DMX
 - Aerial surveys coordinated with Civil Air Patrol and local TV meteorologist (IowaHelicopter.com)
 - Before noon, it was obvious we had EF-4 or greater
 - Began QRT process
 - Attempted to sample the entire track



Parkersburg, Iowa EF-5 Tornado

- Day 2 after tornado (May 27):
 - QRT team met in Parkersburg
 - Karl Jungbluth (DMX)
 - Roger Vachalek (DMX)
 - Donna Dubberke (DV)
 - Dr. Partha Sarkar (ISU)
 - Todd Shea (ARX)
 - One vehicle, due to congestion in heavily damaged areas
 - Focused on the most severe damage



Parkersburg, Iowa EF-5 Tornado

- Started on west end of track – worked east
- Examined...
 - Hardest hit locations
 - Construction methods / ages of homes
 - Failure locations
 - Distribution of debris and vegetation
 - Talked with residents



Looking east down Circle Drive.

4 miles west of Parkersburg EF-1

- Cross-checked spotter reports and aerial photos of beginning of track



One mile WSW of Parkersburg, Iowa EF-4



Courtesy CAP

777 m42, 33' 17.586"92, 48' 35.574"



Parkersburg, Iowa EF-5 Tornado



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EF-3 +



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506 HWY 57



Couple almost pulled from basement.



Parkersburg, Iowa EF-5 Tornado



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High School –
Some load bearing walls collapsed



EF-2 or 3

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Marshall, Jungbluth and Baca (2008) - 24th SLS Conference



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Tim Marshall and Dr. Sarkar could not rate the poles above 100-120 MPH failure range.

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Debris Distribution

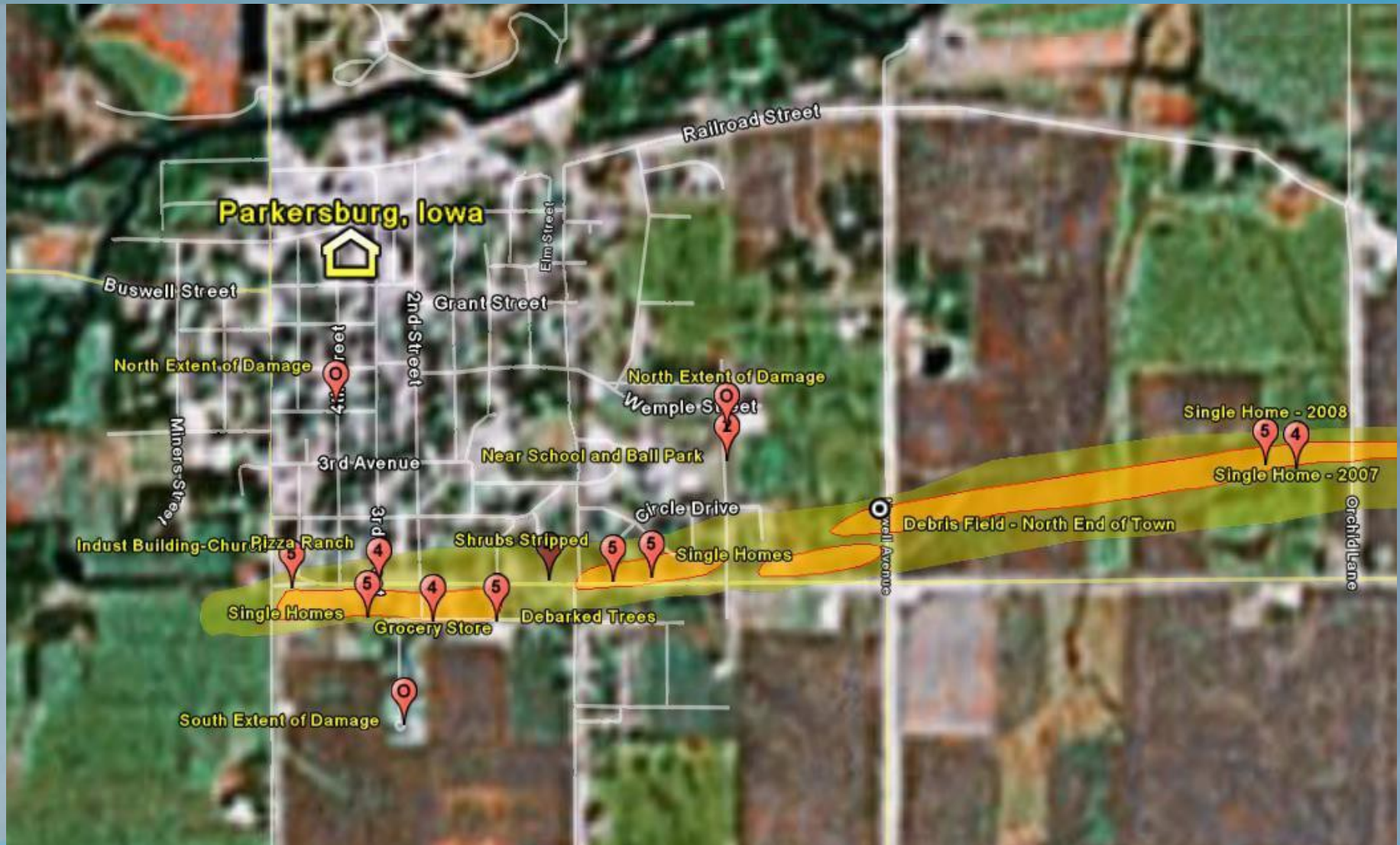


*National Weather Service
Des Moines, IA*

Parkersburg, Iowa EF-5 Tornado



Parkersburg, IA Assessment



East edge of Parkersburg – new construction



Parkersburg, Iowa EF-5 Tornado



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A couple blocks south of the extreme damage



Sinclair elevator – 2 miles East of Parkersburg



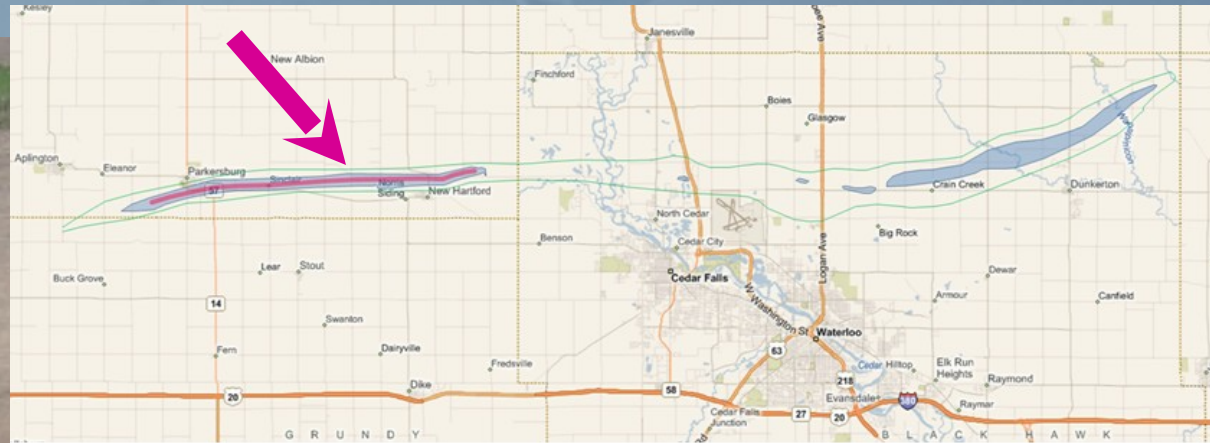
Bins on north side of track axis



East

West

5 miles East of Parkersburg, Iowa



783 m42, 35' 3.816"92, 40' 14.82"



New Hartford, Iowa EF-5 Tornado

8 miles east of Parkersburg



793 m42, 34' 50.388"92, 35' 57.63"



*National Weather Service
Des Moines, IA*

New Hartford, Iowa EF-5 Tornado

8 miles east of Parkersburg



New Hartford, Iowa EF-5 Tornado



2 miles farther east

South



West



Parkersburg, Iowa EF-5 Tornado

Circulation reorganizes

RFD dominated



Northeast of Waterloo



5/26/2008 10:02:21 AM (-5.0 hrs) Lat=42.5664 Lon=-92.86529



Loops and ropes several times

Northeast of Waterloo



West



Last 10 miles of Track

Mud-slinging EF1-2



Many farmsteads – the only building standing was the house



Long duration EF-1

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Lessons Learned

- More teams on the ground
 - Ask your neighbors for help!
 - Prepare early
- Talk to people in the air – real time
 - They know where the worst damage is
 - EMs and local officials may be too busy with response, but talk with them too.
- Take along a designated driver
 - One surveyor and one driver is not enough.



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Lessons Learned

- Start the QRT process, consulting with experts
 - earlier
 - Line up your life lines early
 - Get as much preliminary information on damage as possible
 - Be cautious, “totally destroyed” might mean “the roof is off”
- Get to the damage quickly
 - Cleanup begins at daybreak
 - Within 2 days, swept clean is a result of heavy equipment



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Acknowledgements



Civil Air Patrol
John McLaughlin (IowaHelicopter.com)
Tim Marshall
Jeff Johnson (DMX)
Todd Shea (ARX)
Donna Debberke (DVN)
Dr. Partha Sarkar (ISU)
Roger Vachalek (DMX)
Dan McCarthy (IND)
Jim Keeney (NWS Central Region)
DMX Staff
People of Parkersburg



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*National Weather Service
Des Moines, IA*

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Operational EF Scale	
EF Number	3 Second Gust (mph)
0	65-85
1	86-110
2	111-135
3	136-165
4	166-200
5	Over 200

