



August 2020 Derecho

Christopher Hogan



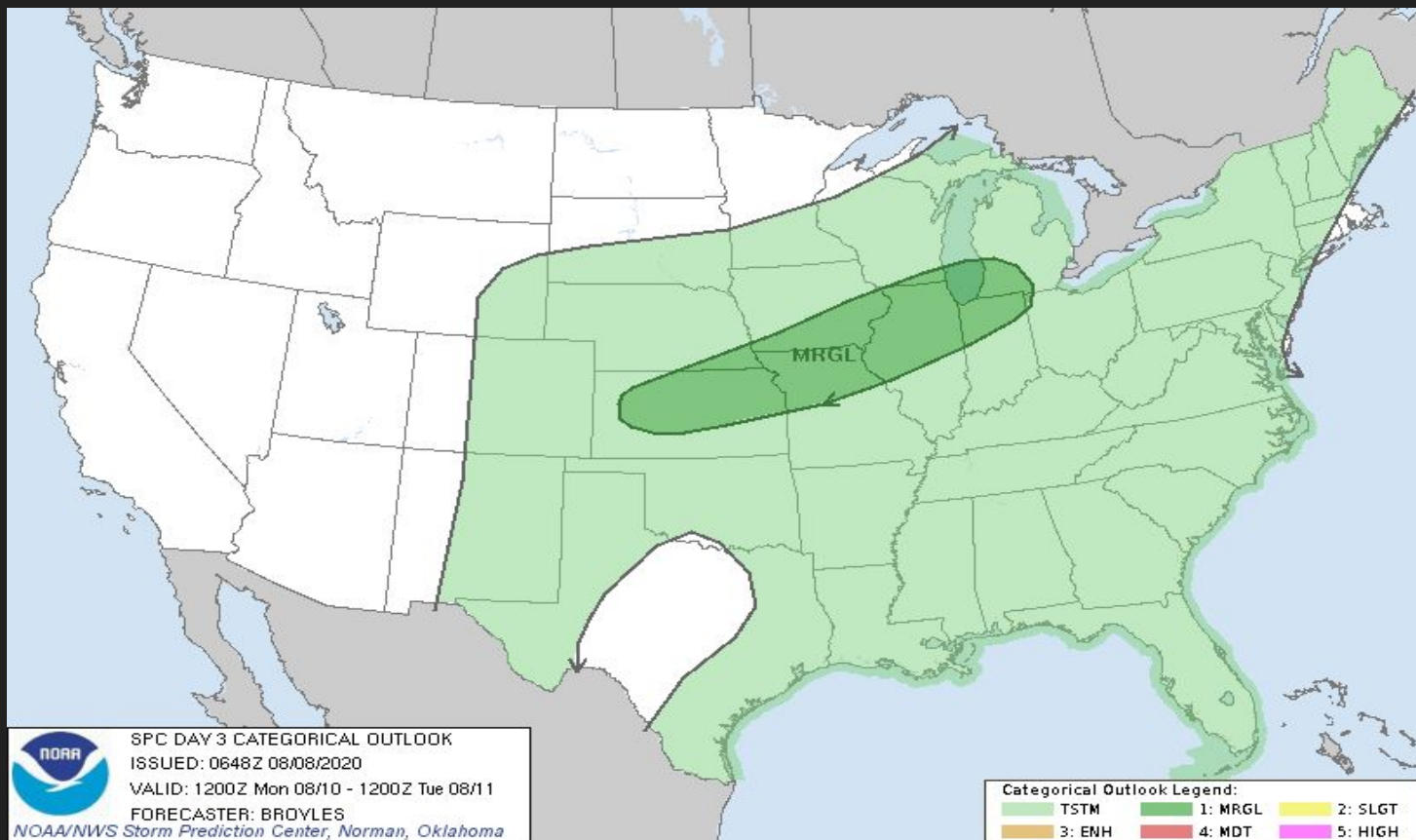
Why I am doing this

- First major weather pattern I was a part of (that I remember)
- Coolest thing I have ever witnessed
- Affected me personally
- Did a paper on derechos in Met 120

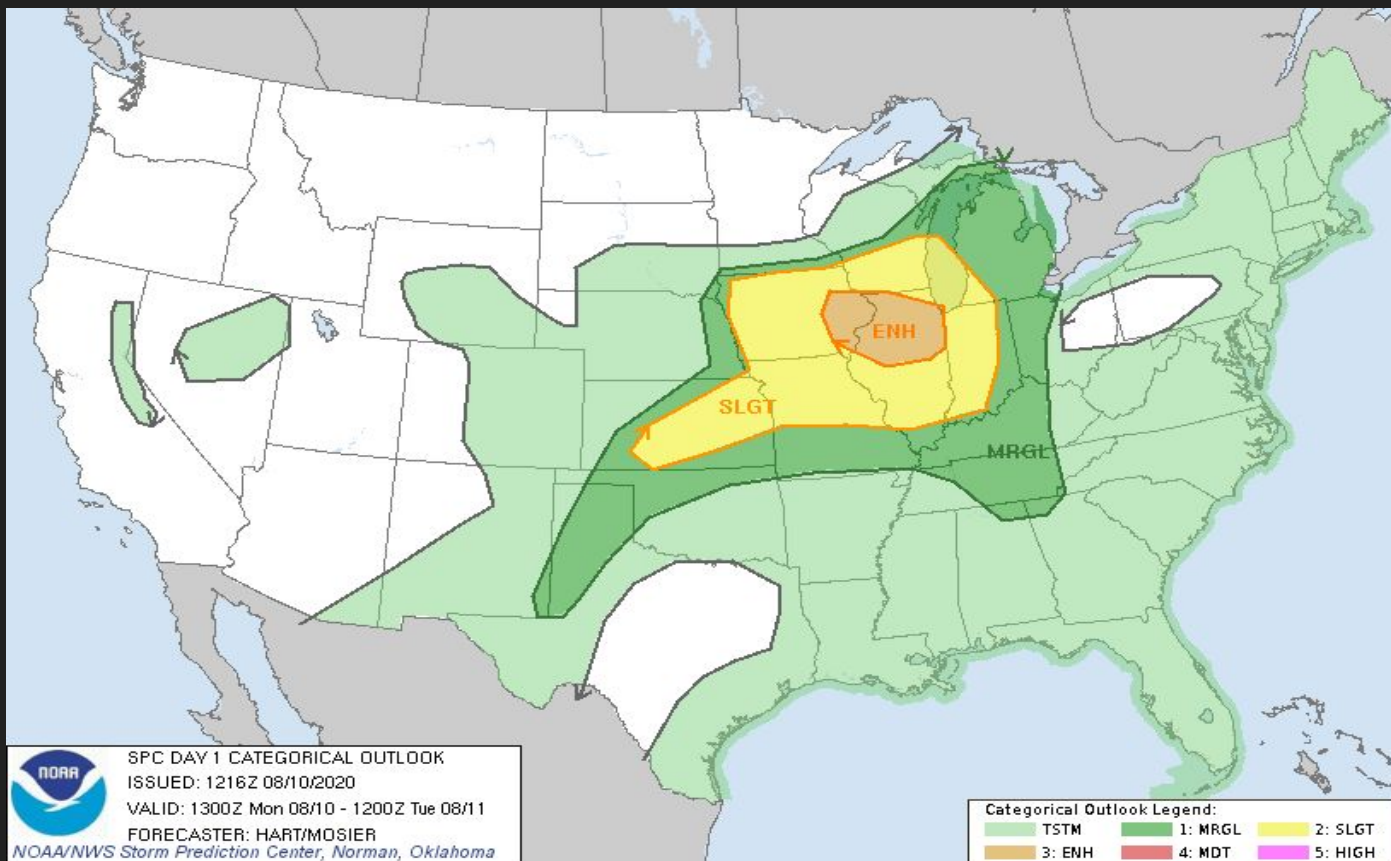
<http://davieswx.blogspot.com/2020/08/the-august-10-2020-midwest-derecho-how.html>



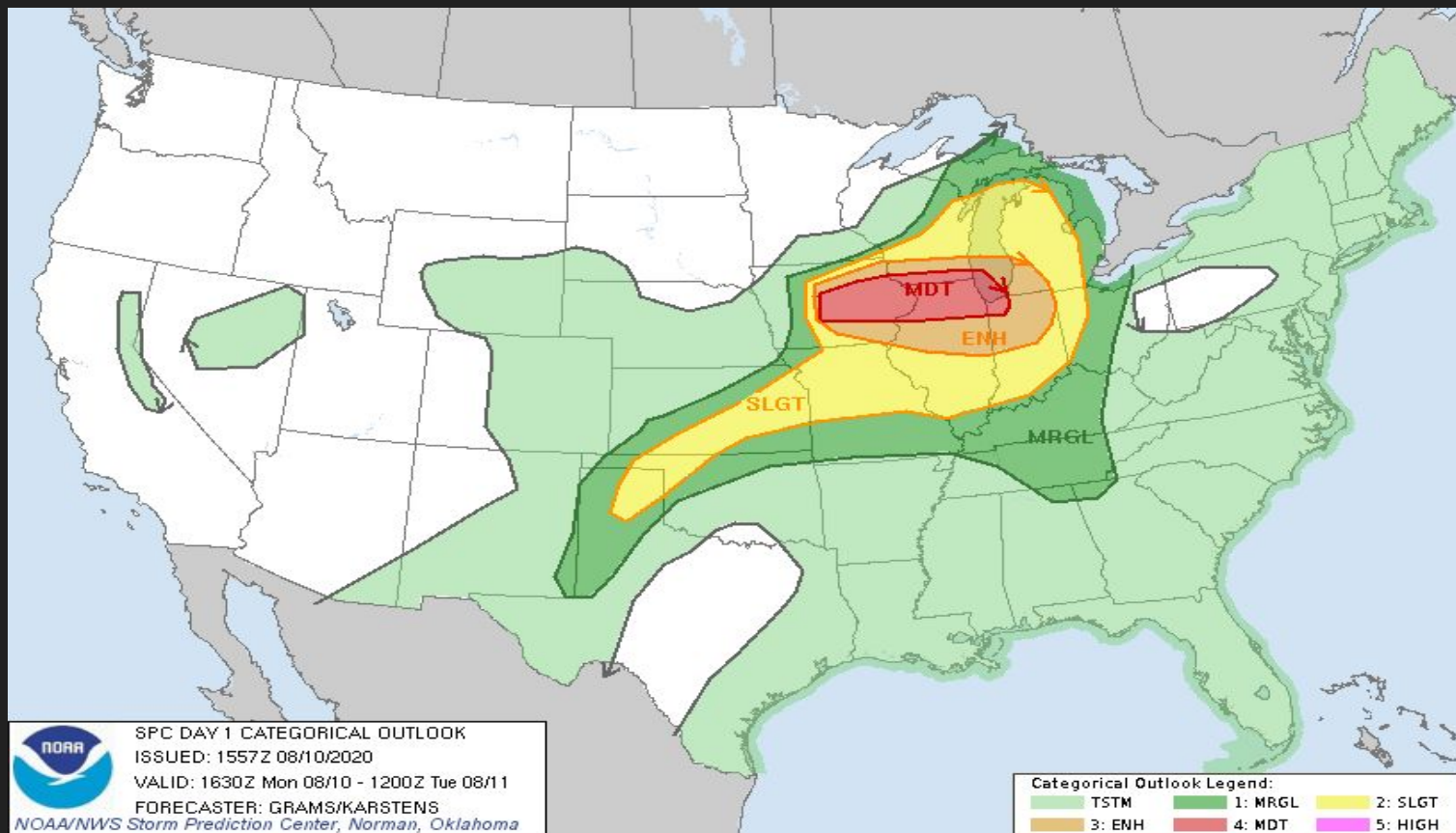
SPC Outlook 3 day outlook (August 8th 2020)



SPC Outlook day of (August 10 2020) 7:16 am



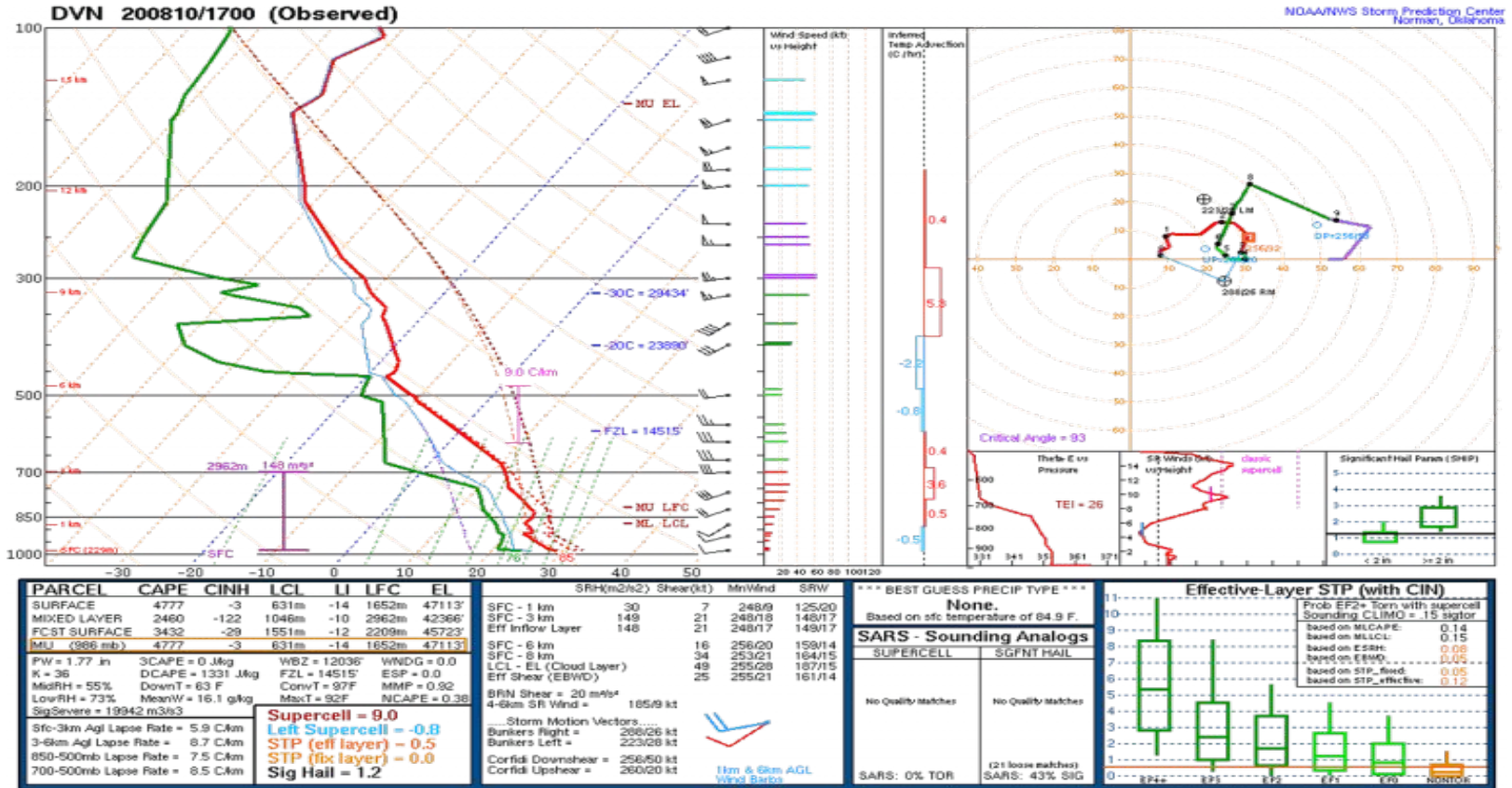
Less than 4 hours later (Wow)



Why So Sudden?

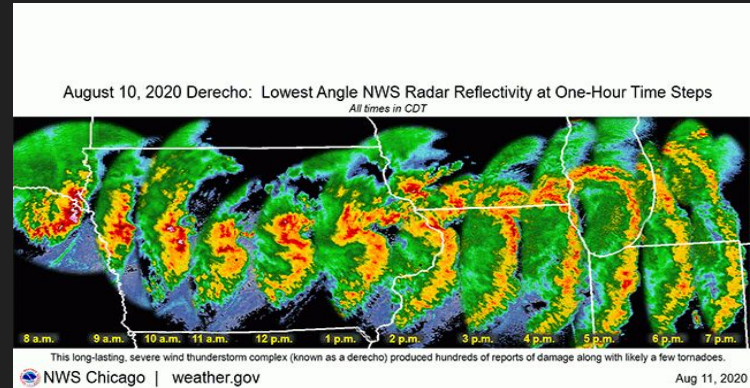
- The Severe Storms Radar conference presentation
- The models they used showed that convection was supposed to occur at night and get rid of the CAPE.
- That did not occur and they mis-forecasted it saying the storm wouldn't be so strong
- Finally figured it out in the end and last minute changed to moderate risk

17 UTC Davenport Municipal Airport (IA)



What Happened Exactly

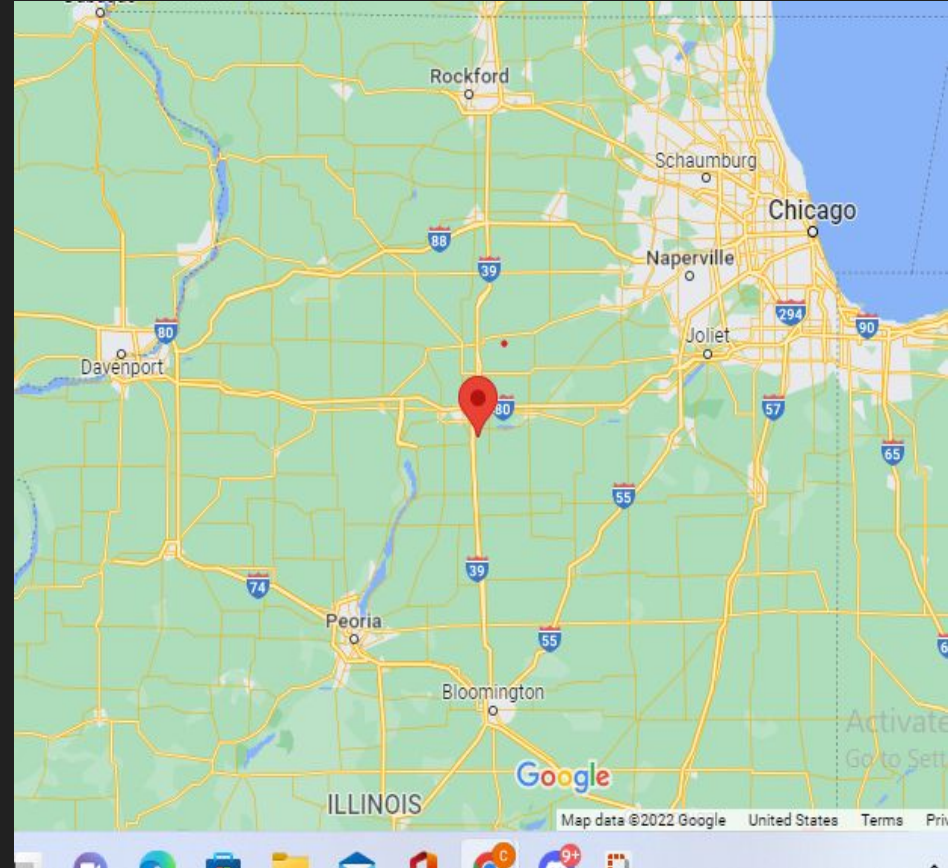
- Large Squall line (Bow echos)
- Sustained wind gusts of 70 mph
- Peak wind of 126 mph in Iowa
- 25 confirmed smaller scale tornadoes
- Traveled for a long time and covered a lot of area
- Straight line wind damage was main damage



Cool video from Oglesby Illinois

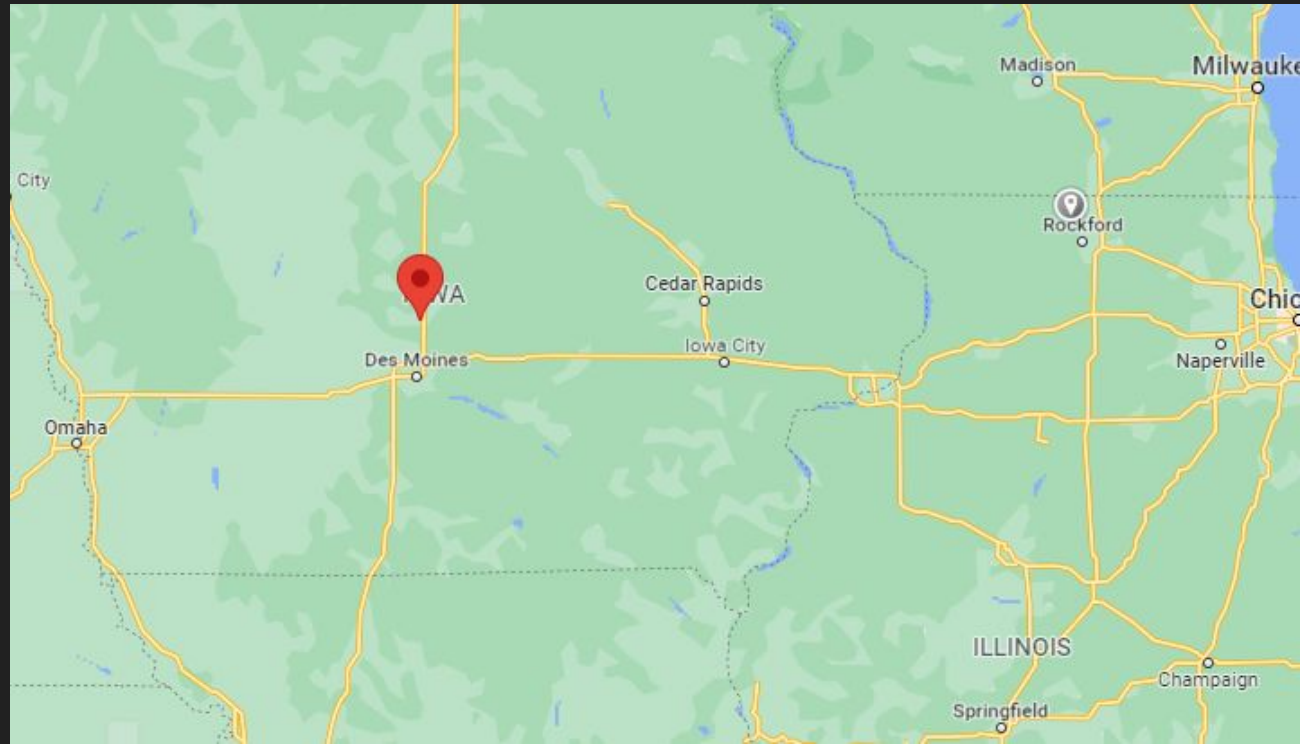
<https://youtu.be/N3qaOEKNxnI>

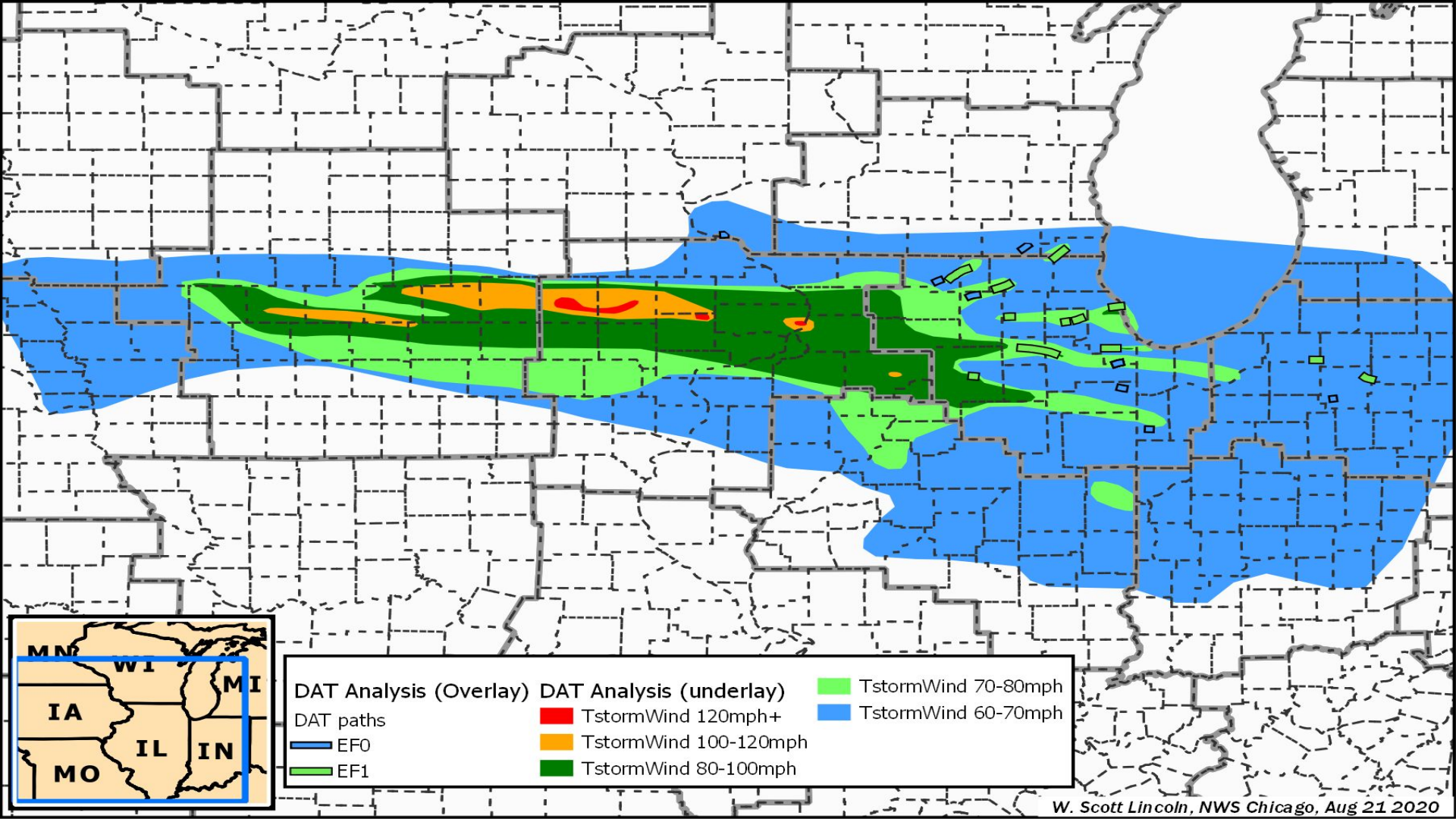
Leading edge of the derecho



Huxley, Iowa

<https://youtu.be/ap3g2BeMKLU>





DAT Analysis (Overlay)

- DAT paths
- EF0
- EF1

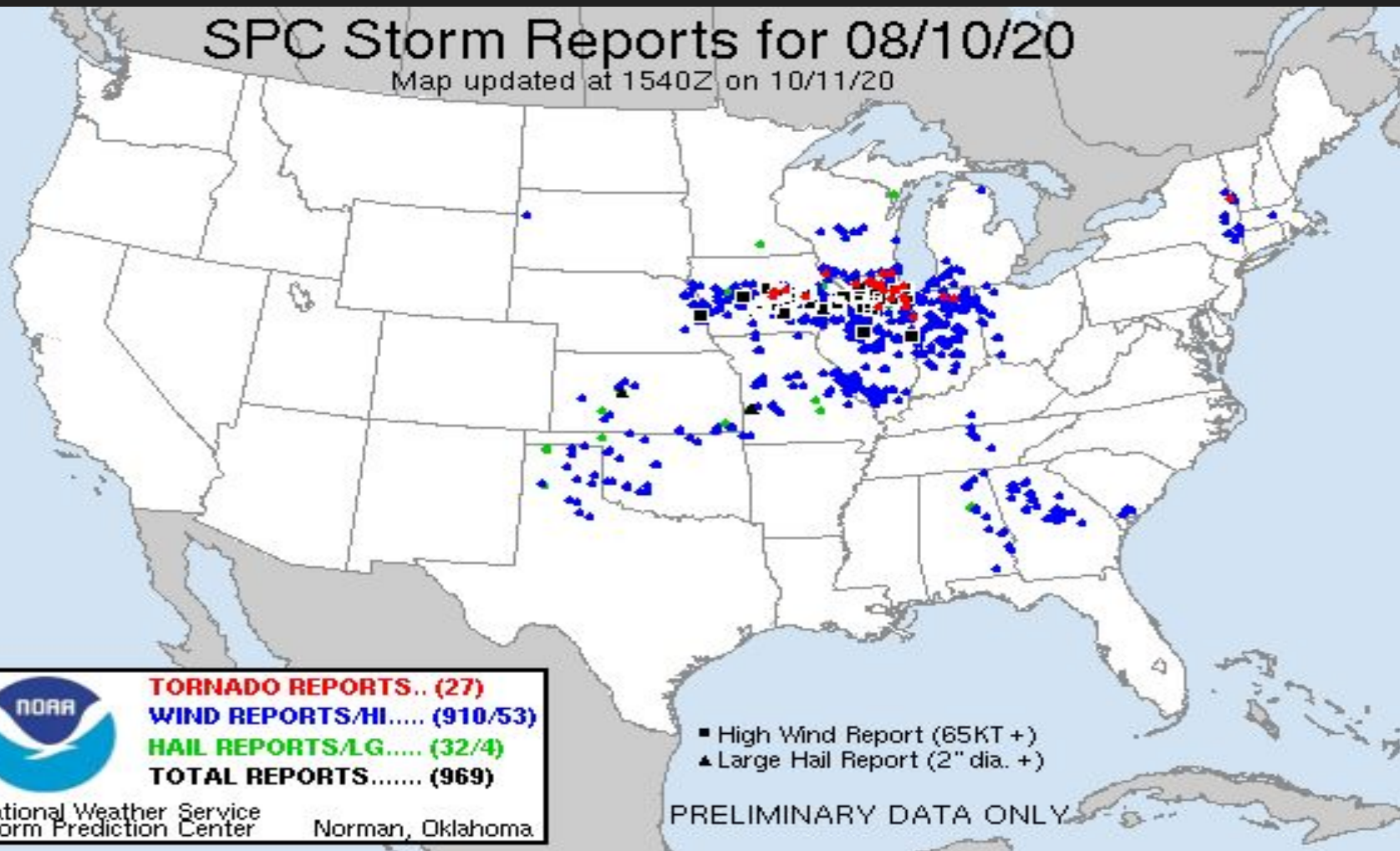
DAT Analysis (underlay)

- TstormWind 120mph+
- TstormWind 100-120mph
- TstormWind 80-100mph

- TstormWind 70-80mph
- TstormWind 60-70mph

SPC Storm Reports for 08/10/20

Map updated at 1540Z on 10/11/20



TORNADO REPORTS.. (27)
WIND REPORTS/HI..... (910/53)
HAIL REPORTS/LG..... (32/4)
TOTAL REPORTS..... (969)

■ High Wind Report (65KT +)
▲ Large Hail Report (2" dia. +)

PRELIMINARY DATA ONLY

National Weather Service
Storm Prediction Center Norman, Oklahoma

Effects of this Derecho

- Most costly thunderstorm in history (11 billion dollars in damage overall)
- 3 days after, 100,000 people in Illinois and 200,00 in Iowa without power
- Destroyed houses, utility lines, uprooted trees
- 4 fatalities (low compared to extensive damage)
- Destroyed Iowa's economy for a long time
- Destroyed agriculture infrastructure (silos, grain bins imploded)
- 14 million acres of crops were destroyed (66 percent of the 21.3 million acres of corn and soybeans planted in 2020).







Sources

US Department of Commerce, N. O. A. A. (2020, October 9). *Midwest derecho - August 10, 2020, updated: 10/8/20 12 pm*. National Weather Service. Retrieved April 19, 2022, from https://www.weather.gov/dvn/summary_081020

US Department of Commerce, N. O. A. A. (2021, September 10). *August 10, 2020: Corn belt derecho*. August 10, 2020: Corn Belt Derecho. Retrieved April 19, 2022, from <https://www.weather.gov/lot/2020aug10>

Wikipedia. (2022, April 15). *August 2020 Midwest derecho*. Wikipedia. Retrieved April 19, 2022, from https://en.wikipedia.org/wiki/August_2020_Midwest_derecho#Impact_and_damage