

Diagnosing the August 2020 Midwest Derecho

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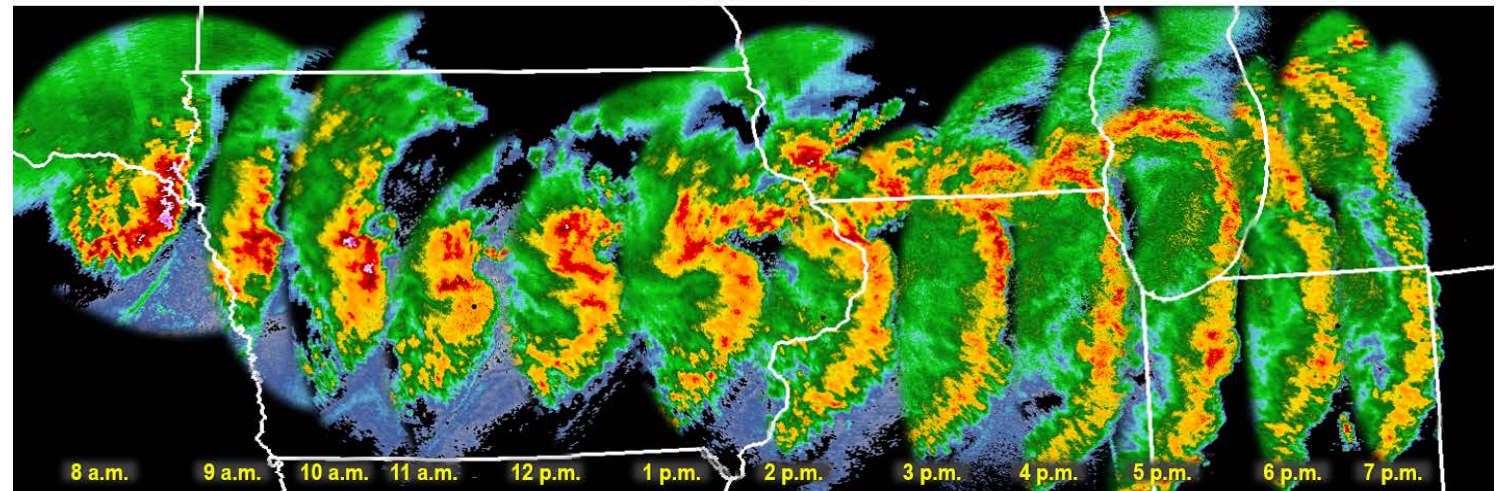
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August 10, 2020 Derecho: Lowest Angle NWS Radar Reflectivity at One-Hour Time Steps

All times in CDT



This long-lasting, severe wind thunderstorm complex (known as a derecho) produced hundreds of reports of damage along with likely a few tornadoes.

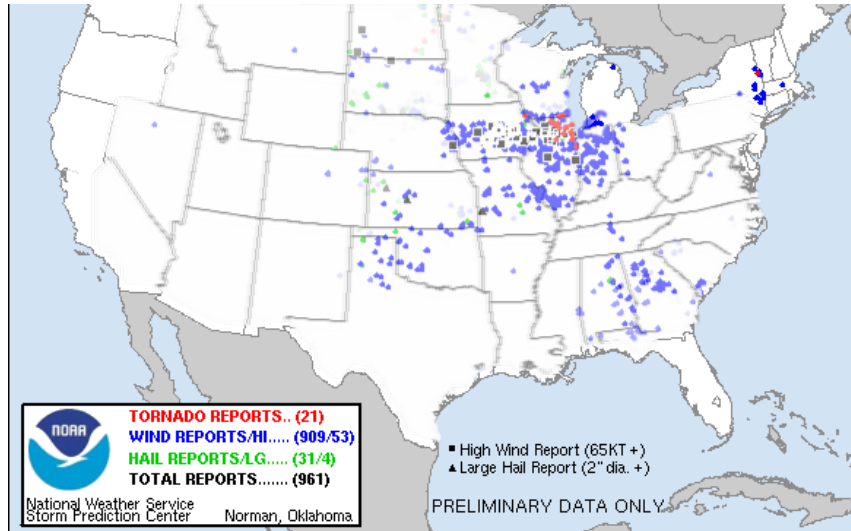
 NWS Chicago | weather.gov

Aug 11, 2020

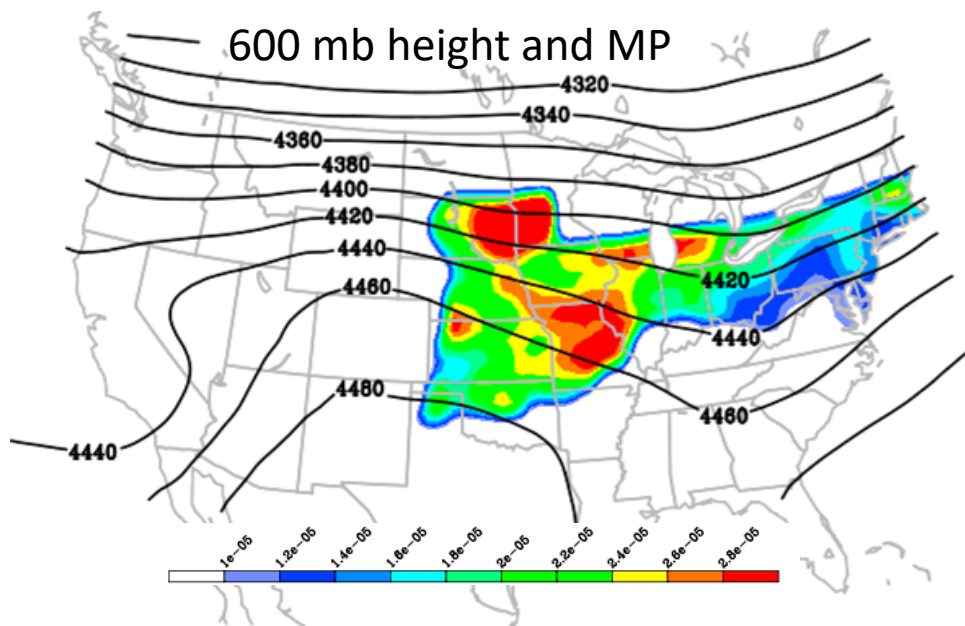
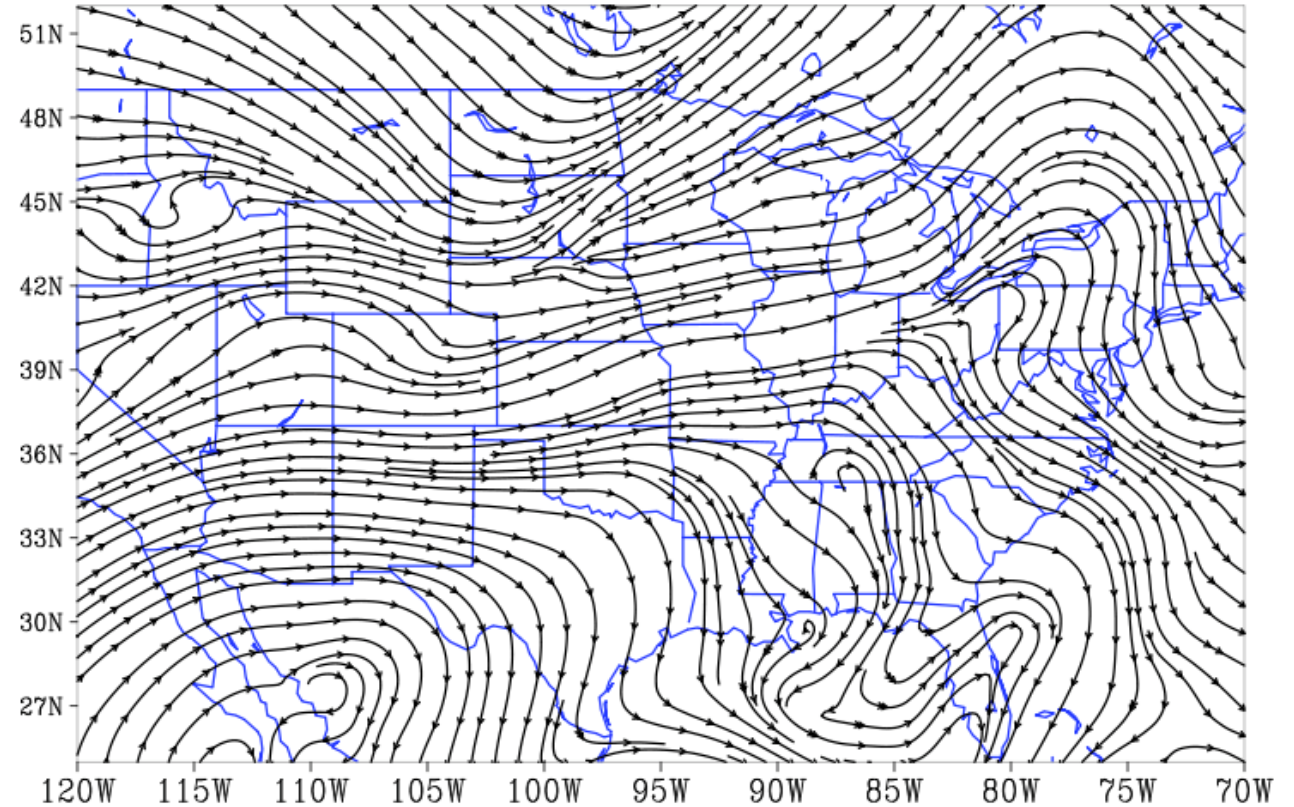
- Was this event associated with Midtropospheric Perturbation (MP)?
- What is the MP's and convective precipitation trend over that Midwest?

Midtropospheric Perturbation (MP) frequency and Storm report

SPC storm report: 8-11 August 2020

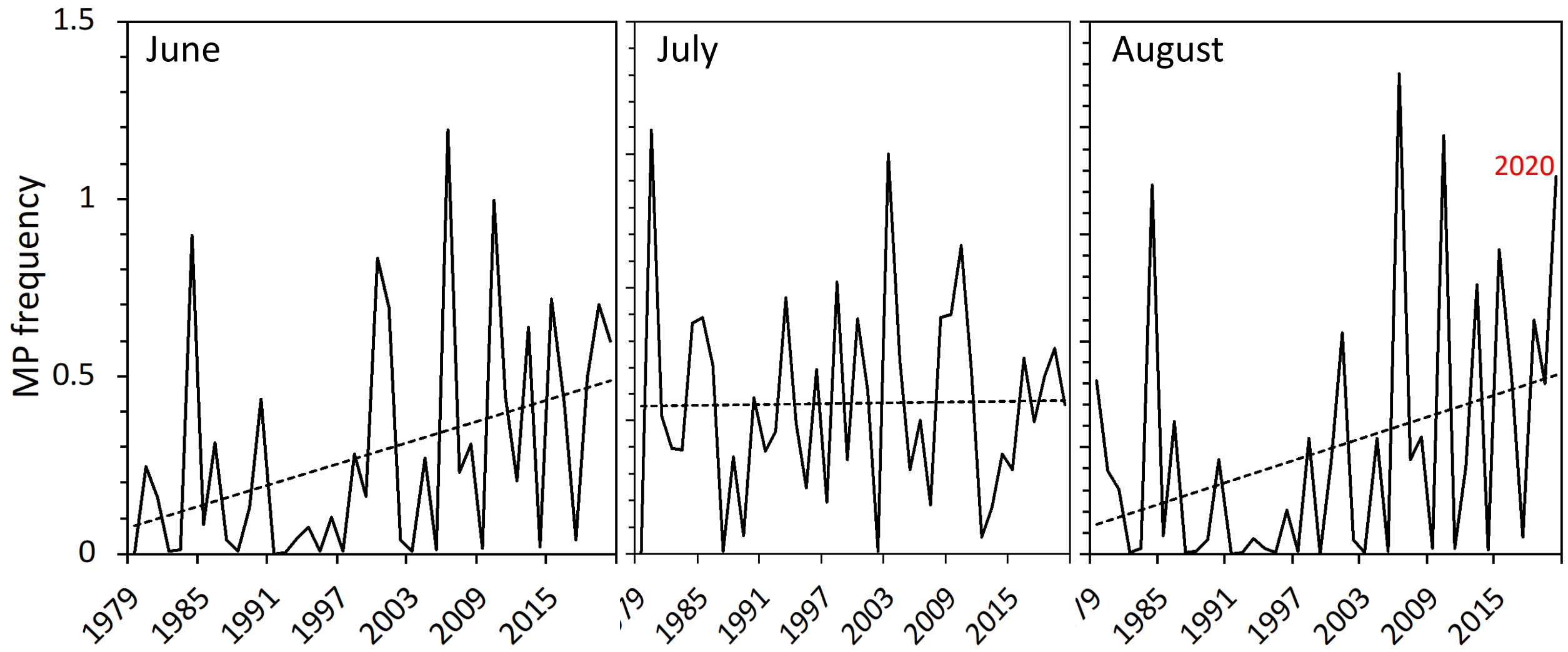


250 mb streamline: 18Z 10 Aug 2020



Both MP and larger scale forcing enhanced this extreme event

Midtropospheric Perturbation (MP) Summer Trend over Iowa

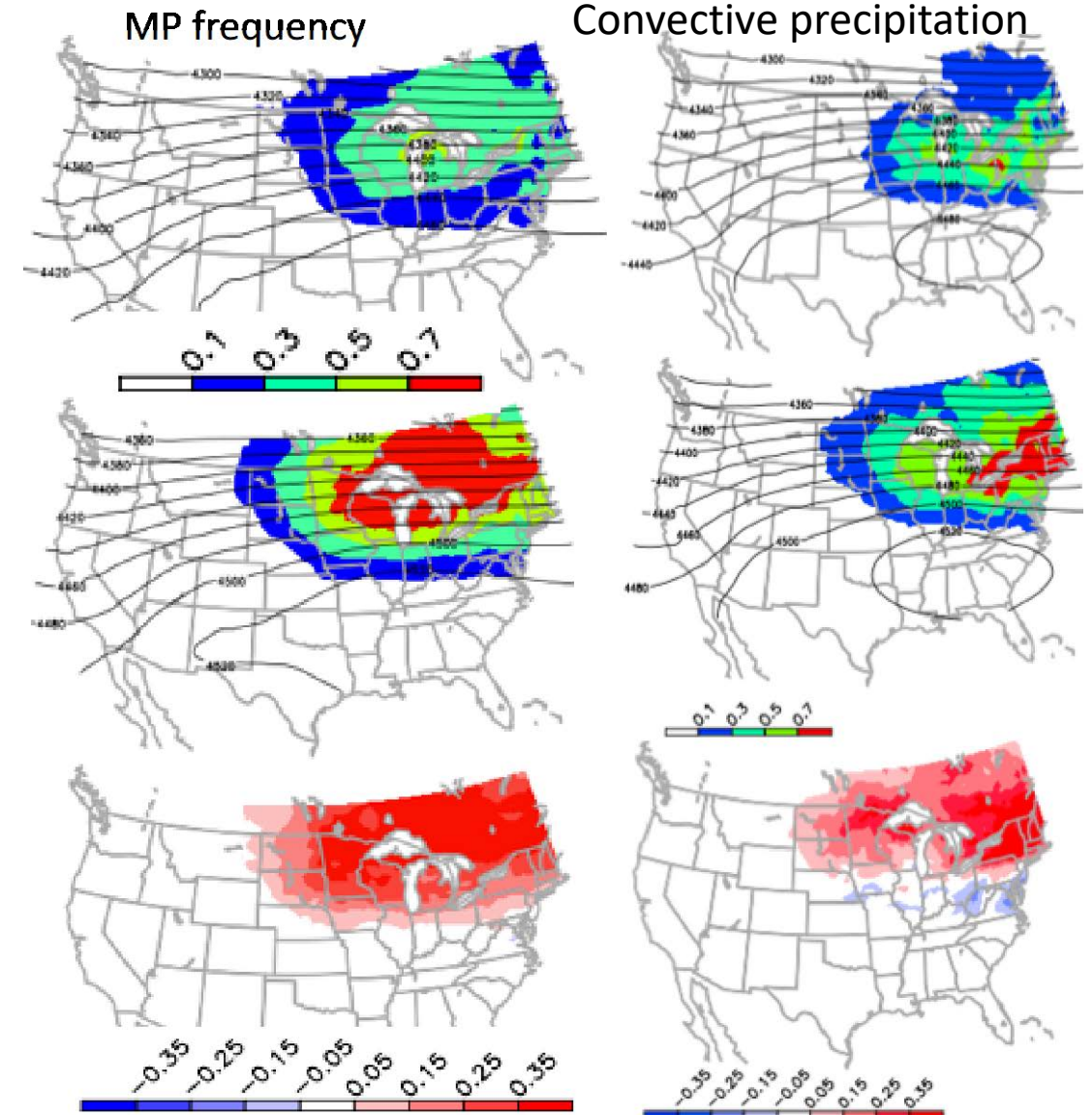


MP and Convective Precipitation: Regional Climate Model

Long Term Research Goals:

- How can we improve and predict extreme events in climate model?
- Which conditions are more important for this type of events; dynamics, thermodynamics and/or microphysics?

August only



Summer: Jun-Aug

