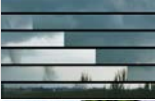






U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service

Johnson County, Iowa Severe Weather Risk Assessment

Quick-Response Severe Weather Threats

Tornado	In extreme cases, wind speeds can exceed 200 mph; however, 74% have wind less than 110 mph. Most fatalities occur with the stronger tornadoes. Recommendation: <i>Seek immediate shelter in a basement without windows.</i>	
Severe Thunderstorm Wind	Severe wind speeds range from near 60 mph (scattered damage, typically tree branches) to over 120 mph (widespread tornado-like damage). Recommendation: <i>Seek immediate shelter indoors away from windows. For winds over 70 mph, seek shelter in a basement without windows.</i>	
Large Hail	Can reach the size of softballs. Recommendation: <i>Seek immediate shelter indoors away from windows.</i>	

Severe Weather Injuries/Fatalities in Johnson County, IA - 1995-2011

	Injuries	Fatalities	Notes
Tornado	47	0	Tornado injuries from 5/15/1998 and 4/13/2006.
Thunderstorm Wind	12	1	Wind fatality on 5/29/2011; injuries from 6/29/1998.

Severe Weather Events in Johnson County, IA - 1995-2011

	Severe Hail (quarter or larger)	Extreme Hail (golf ball or larger)	Severe Wind (58 mph or greater)	Extreme Wind (70 mph or greater)	Tornado
Total Events	28	15	48	19	11
Average per year	1.6	0.9	2.8	1.1	0.6
Most in one year	7	4	9	4	6

Severe Weather Warnings* for Johnson County, IA - 1995-2011

Warning Basis	Tornado Warnings	Severe Thunderstorm Warnings**
	Tornado indicated by radar or trained spotters	Thunderstorm with wind over 58 mph and/or quarter sized (1") hail or larger
Average lead time*	12 minutes	20 minutes
Average per year*	2	10
Most in one year*	6	22

*Statistics are for guideline purposes, calculated from county-based warnings before storm-based warnings went into effect in Oct. 2007.
**Severe Thunderstorm Warnings were issued under the 3/4" hail threshold. This threshold changed to quarter sized (1") hail in April 2009. Numbers listed here are based on an estimated 30% reduction in the number of warnings due to the change in hail criteria.

Notes

- Hail golf ball sized and larger can break house and car windows.
- Severe thunderstorm wind over 70 mph can down whole trees.
- A recent local study suggests wind forecasts in Severe Thunderstorm Warnings are accurate +/- 10 mph.
- The greatest risk factors for tornado fatalities include being outdoors or in a mobile home, overnight hours, weekends or holidays, and occurrences outside the normal "season".

Johnson County, IA Risk Assessment *(continued)*

Other Thunderstorm Threats

Lightning:

- Warnings are not issued for lightning because all thunderstorms produce lightning, and all cloud-to-ground lightning is potentially fatal.
- When thunder can be heard or lightning seen, the lightning is within “striking distance”.

Recommendation: Remain indoors during all thunderstorms due to the lightning threat. Wait 30 minutes after the last thunder is heard before resuming outdoor activities.



Flash Floods:

- A flash flood occurs within a very short time (generally 6 hours or less) relative to the rainfall.
- Flash Flood Warnings are issued for those storms that produce extreme rainfall rates leading to flash floods.
- Currently, the average lead time for Flash Flood Warnings is 55 minutes.

Recommendation: Initiate flash flood mitigation measures. Flood prone streets should be monitored and barricaded as necessary. People living in flood-prone areas should move to higher ground.



Additional Information

For more information, contact:

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Resources

National Weather Service..... www.weather.gov
National Storm Event Database..... www.ncdc.noaa.gov
Storm-Based Warnings..... www.weather.gov/sbwarnings