



# *Explaining the collective behavior of hazardous weather in support of risk management*

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Weather-related disasters are becoming more frequent. Risk management is charged with protecting lives and livelihoods, yet it is faltering. Commonly used risk management models and tools were built for yesterday's world. They model hazardous weather events with little connection to the multi-scale interactions that organize them, or the coupled Earth system processes that drive them.

Many risk managers want to know how bad the weather could get this year. Our science is far from being able to answer this question. Risk management provides a new lens to view our science. It focuses research at the scale interactions and processes that matter, and reveals major gaps in perspectives, methods, and theory.

The insurance industry is one of the most sophisticated users of UCAR/NCAR community science. This talk will start by briefly summarizing long-term partnerships between the industry and NSF NCAR. These partnerships demonstrate how fundamental and applied science advances can be paired with research outputs that are used to strengthen weather risk management. Current work in partnership with WTW — a global insurance broking, risk management, and advisory firm — will be presented that is investigating the processes driving changes in variability in weather hazards across scales. Changes in variability has received far less attention than changes in the mean yet variability changes exert far greater influence on the most impactful events...[Link to full abstract here.](#)

**Thursday, 29 May 2025, 2:00PM**

**Refreshments 1:45PM**

**Please also join colleagues for refreshments and informal discussion after the seminar until 3:30pm**

NCAR-Foothills Laboratory, 3450 Mitchell Lane

FL2-1022, Large Seminar

**Seminar will also be live webcast**

<https://sundog.ucar.edu/public/page/MMM>

Participants may ask questions during the seminar via Slido.