Risk Perception, Vulnerability, and Communication for Extreme Weather Events

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Extreme weather and climate events continue to plague the United States in tandem with increased societal exposure and susceptibility stemming from higher population densities in hazardous locations and the exacerbated frequency and intensity of some hazards in association with anthropogenic climate change. In this presentation I will focus on severe thunderstorm hazards, and specifically on risk perception, vulnerability, & communication in the tornado context. Despite advances in forecasting and detection of severe thunderstorms over the past several decades, the calendar year 2011 saw over 500 deaths from tornadoes in the United States for the first time since 1953. These events renewed interest in social science research related to severe thunderstorm hazards in order to better understand how people perceive danger from tornadoes and act (or fail to act) to protect themselves and their families when tornadoes threaten.

I will highlight two of my recent research projects and connect these to my current research. The first seeks to understand how people interpret and potentially act upon spatially explicit visual depictions of tornado warnings. Survey participants viewed and responded to hypothetical warning maps with varying representations of risk at locations distributed evenly across the maps. The results suggest several key concepts for spatially explicit risk communication to elicit appropriate and timely protective action. The second research project focuses on manufactured housing residents, an especially vulnerable sub-population which comprises nearly half of tornado fatalities. The project used a mixed method research design to better understand why very few manufactured housing residents follow the recommendation to evacuate to a tornado shelter or other sturdy building during a tornado warning. Based on interviews and survey data, many residents do not believe their manufactured home to be an unsafe sheltering location, while others who would like to evacuate are often very uncertain about appropriate timing and destinations for evacuation. I will conclude by discussing how future work will incorporate risk perception, vulnerability, and communication within a single geospatial modeling framework.

This seminar will be webcast live at:
http://ucarconnect.ucar.edu/live
Recorded seminar link can be viewed here:
https://www.mmm.ucar.edu/events/seminars

Thursday, 18 January 2018, 3:30 PM
Refreshments 3:15 PM
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