

Living with Extreme Weather: An Integrative Approach



2016 National Tornado Summit

John Ferree

Dr. Alicia Knoedler

Dr. Walker Ashley

Dr. Joseph Ripberger



Our Esteemed Panel

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Dr. Walker Ashley – Associate Professor, Northern Illinois University; Consulting Meteorologist, StormForensics.com

Dr. Joseph Ripberger - Deputy Director for Research at the National Institute for Risk and Resilience and the Center for Risk and Crisis Management at the University Oklahoma.

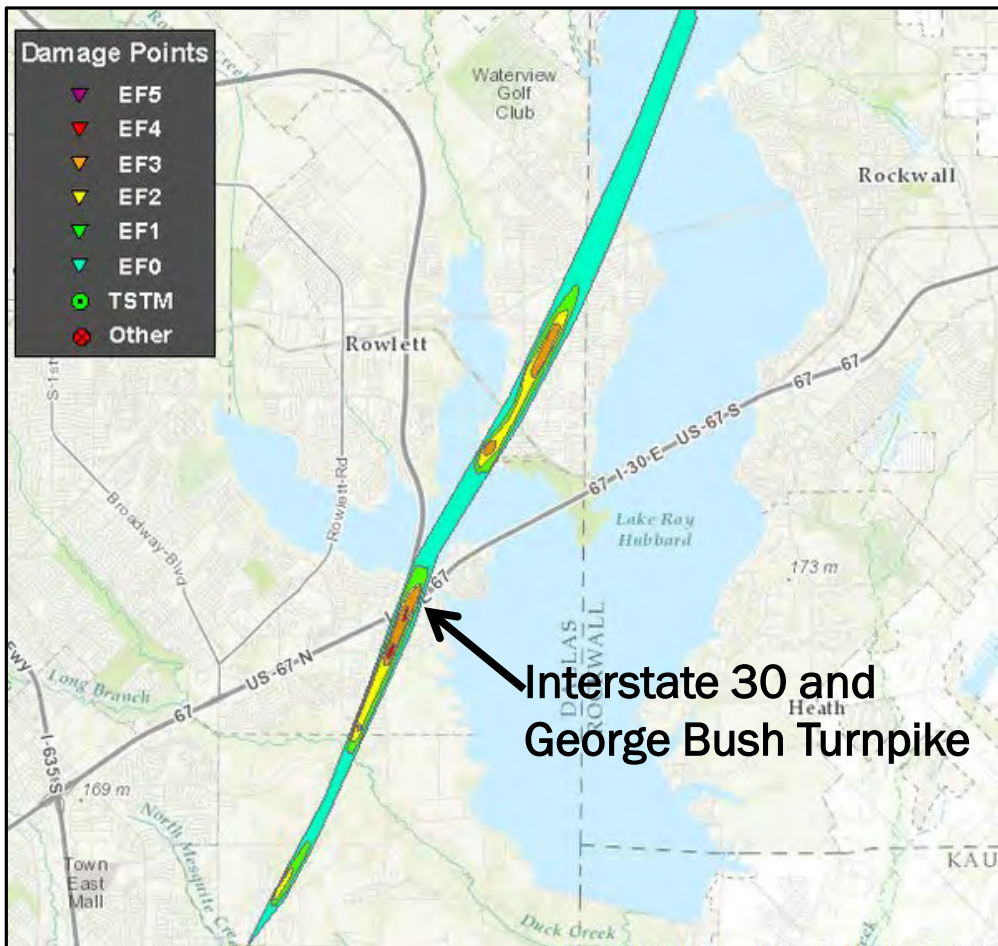
Moderator – John Ferree –Severe Storms Services Leader, National Weather Service



Did warnings go unheeded or unheard?

December 26, 2015

- 8 of 12 fatalities at intersection of I-30 and George Bush Turnpike
- ~ 13 minutes between Tornado Warning and tornado crossing intersection
 - Earlier warning - 47 minutes to intersection
- Tornado moving NE at 50 MPH



A Vital Conversation – Dec. 2011 Science Imperatives – April 2012



Weather Ready Nation:
A Vital Conversation on
Tornadoes and Severe Weather



A Community Report



March 2012

MEETING SUMMARIES

WORKSHOP ON WEATHER READY NATION

Science Imperatives for Severe Thunderstorm Research

BY MICHAEL K. LINDELL AND HAROLD BROOKS

NOAA and the National Science Foundation sponsored *Weather Ready Nation: Science Imperatives for Severe Thunderstorm Research* to move forward research initiatives to better understand, forecast, and warn for tornadoes and severe weather. Prior to the workshop, teams of authors produced white papers summarizing the state of the science in eight areas and addressed issues raised by previous studies (e.g., National Research Council 2003, 2006, 2011; OFCM 2010; SAB/SSWG 2009; UCAR 2012). Workshop participants were instructed to read the white papers before arriving at the conference venue.

RESEARCH ISSUES. The major issues identified in the Birmingham workshop are categorized below in terms of the eight white paper topics. A number of issues crossed disciplinary lines and thus were discussed in more than one disciplinary group. Consequently, the allocation of issues to groups is somewhat arbitrary.

WEATHER READY NATION: SCIENCE IMPERATIVES FOR SEVERE THUNDERSTORM RESEARCH

WHAT: More than 60 attendees representing the disciplines of civil engineering, communication, economics, emergency management, geography, meteorology, psychology, public health, public policy, sociology, and urban planning met to discuss the major issues facing severe thunderstorm research, forecasting, and warning and make recommendations for research support and policy changes.

WHEN: 24-26 April 2012

WHERE: Birmingham, Alabama

Physical understanding for improved forecasts. The principal point of discussion on this issue was the need for advances in meteorological theory and observational methods that would result in a better understanding of the causes of missed events (i.e., improved probability of detection) and a reduction in the number of false alarms. In addition, workshop participants identified a need for research that would result in a better understanding of wind effects on structures.

Forecast and warning process. Most groups noted a need to improve forecast accuracy, especially an investigation of the utility of new storm observation platforms—ranging from storm penetrating aircraft to instrumentation of personal vehicles. Participants also proposed studies of forecaster staffing and training, as well as the identification and dissemination of “best practices” in local National

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<http://www.nws.noaa.gov/com/weatherreadynation/workshops.html>



National Weather Service



Living with Extreme Weather: An Integrated Workshop to Understand and Improve Societal Response – May 2015

Keystone Recommendation:

- Structured framework or facilitation mechanism to coordinate the many activities needed to realize the component of the Weather Ready Nation vision involving social sciences

Next Step:

- Create a National Alliance that will serve researchers and operational practitioners to collaboratively study challenging problems at the nexus of social/behavioral/ economic sciences and extreme environmental events .