

Societal Impacts of Recent Severe Weather Events

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Information

Changing from what **WAS** to what **IS** the future of integrated weather studies

Knowledge

Changing from what **WAS** to what **IS** the future of integrated weather studies

Understanding

Changing from what **WAS** to what **IS** the future of integrated weather studies

Empower

(Knowledge is Power)

Enable

Changing from what **WAS** to what **IS** the future of integrated weather studies

To Understand the Knowledge that has increased with Information

Empowering Users to _____

Communication

Two Way Communication

Changing from what **WAS** to what **IS** the future of integrated weather studies

**Need to understand what
information is needed to
help empower people**

***Communication
of that information***

Our Mission...

The communication of information to increase and improve users' knowledge and understanding

(which should lead to their empowerment)

**Perhaps it will lead to their
empowerment to protect
themselves and their property...**

We don't really protect lives and property... we enable and empower people to...

The Point is...

- We can serve the users of our information better if we:
 - Know who those users are
 - Understand those users
 - Learn how our information is used
 - Communicate with the users

We all know...

- We can put out the best warning or the best forecast...
- But what good is it if users don't:
 - Receive it
 - Understand it
- *We really need to ask !!!*

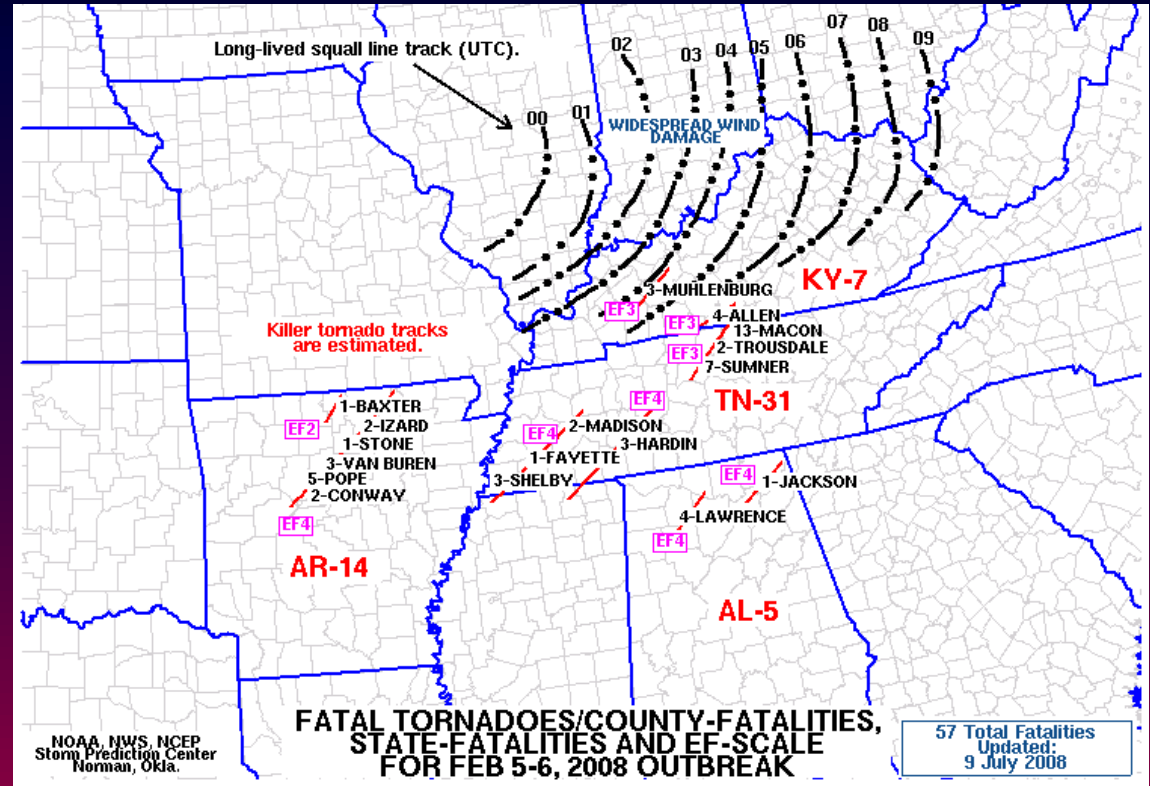
The Super Tuesday (5-6 Feb. 2008) NWS Service Assessment

Service Assessment (SA) Teams are activated to evaluate the NWS performance during significant high-impact events

- Investigated/Evaluated:
 - Storm Prediction Center
 - 6 Weather Forecast Offices
 - CWSU Memphis (Air Traffic Control Support)

February 5-6, 2008, tornado outbreak

- 82 tornadoes, 5 rated a 4 on Enhanced Fujita Tornado Scale
- 57 fatalities; most since May 31, 1985, and 13th of all time
- 350+ injuries
- Over \$400M in property damage



- Dubbed Super Tuesday Tornado Outbreak

Super Tuesday Tornado Outbreak

- First to include a societal impacts component in charter and in the Corporate Board briefing
- Qualitative Analysis of victims
- Complex findings... not singular in any aspect
- Beginning to point “fuzzy arrows” at issues/problems
- Student interest in UNL Severe Storms Class

Societal Impacts Motivation

- **This was a well-warned event ...**
 - Why did so many people die?
 - Why don't people do what they're “*supposed*” to do ... to make the “*right*” decision?
- **We don't understand why we feel we put “good” weather information out there and people don't make the “right” decision!**
 -
 -
 -
- **BUT, what is the “right” decision?**
- **Is there a “right” decision?**
- **How and why do decisions get made?**

Findings – knowledge

- People get information from multiple sources
 - Mostly commonly via television
 - Also commonly from other people (family, friends, neighbors, co-workers)
- People get information multiple times
- NOAA Weather Radio not common
- Misconceptions about sirens

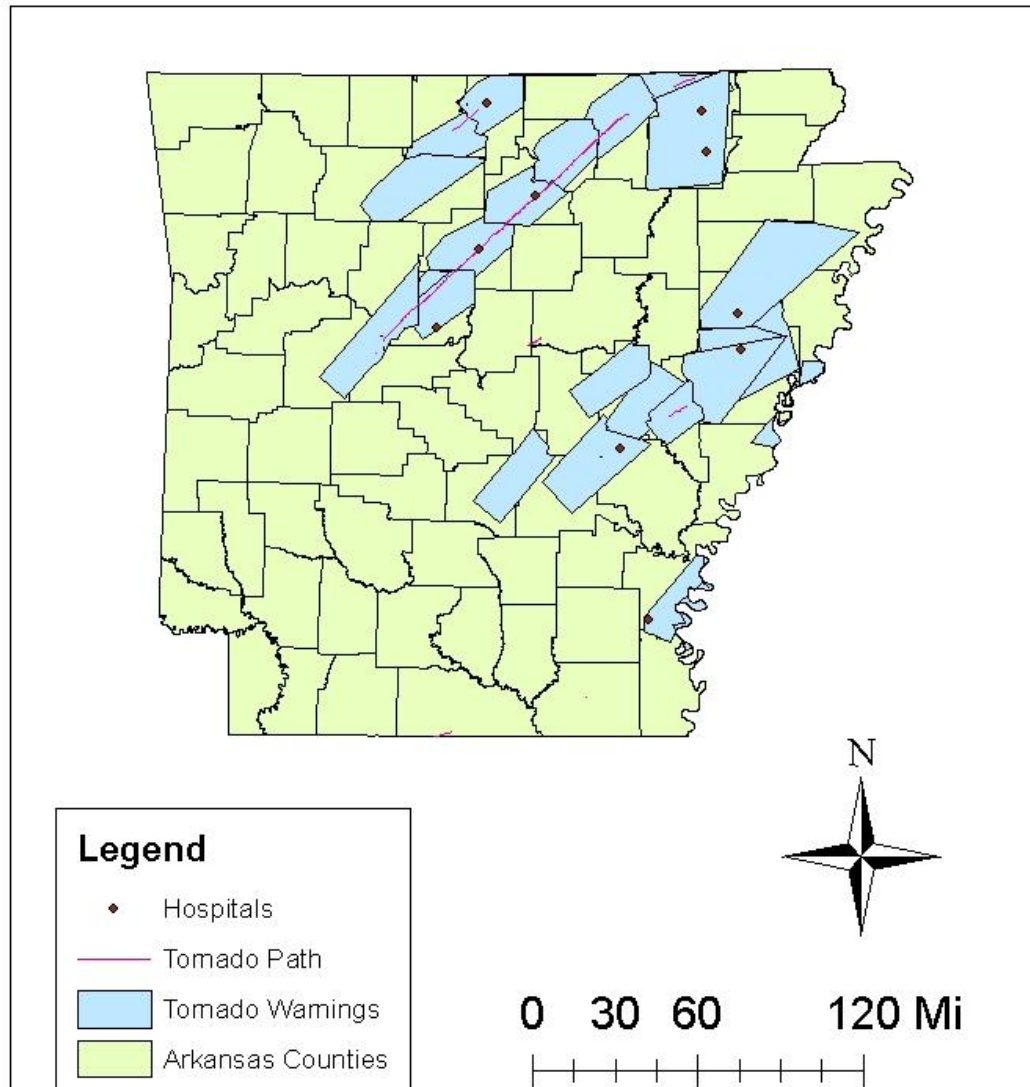
Findings – decision-making

- Often think of decision-making as a singular event
- Happens numerous times and ways throughout the warning process
- Implicit part of people's gathering and interpreting weather information
- Focusing on sheltering
 - Vast majority of people who received warning information sought shelter in best location available to them

GIS Data in Warnings ?

- Campgrounds
- Outdoor festivals/events
- Hospitals
- Schools
- Specific information
 - In warnings
 - On pre-event conference calls
 - Phone calls

Super Tuesday Outbreak Tornadoes in Arkansas



Little Sioux Boy Scout Camp

- EF3 tornado
- 4 Boy Scouts killed, dozens injured
- 12 minute lead time
- Implications inside the WFO
- Impact on Boy Scouts
 - Those affected
 - Future outings
 - Their preparedness
 - Their warning systems

June 8, 2008 Omaha Tornado

- Unwarned EF2
- 2:20 AM
- Public response, local govt. response
- Change in *policy* (siren policy)

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We BARELY know what they were...

But it's worth finding out!!!

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