Perspectives on Resiliency

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The Resilience Cycle

Photon to Forecast

Monitor

Weather-Ready Nation
National Oceanic and Atmospheric Administration

Warn

React

Recover

Photo credit: ctpost.com
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Weather-Ready Nation

- Building community resilience in the face of increasing vulnerability to extreme weather and water events
- NOAA lessons-learned from 2011 tornado season
  - Focus on the “last mile”: does the message delivered equal the message received?
  - Incorporate social science into improving the communication of watches & warnings
  - Issue impact-based forecasts and warnings
  - Use graphics to show affected areas
  - Improve outreach and education
- Consistent and more accurate forecasts improve response
  - FEMA prepositions recovery assets
  - State & local emergency managers prepare local communities
  - State & local authorities focus on hardening assets and response
Social Science Implications

• Impact-based forecasts & warnings
  - “2 inches of snow per hour” → “Roads will become impassible”
  - “Category 3 hurricane” →
    • “Winds will blow at 110-130 miles per hour”
    • “Devastating damage will occur”
    • “Trees will uproot and block roads”
    • “Electricity and water will be unavailable for several days to several weeks”

• Is there a limit to lead time?
Success Story – Moore, OK

• EF-5 tornado, May 20, 2013
  – 200 mph winds
  – 1 mile wide

• Timeline
  – May 14: threat identified
  – May 15: coordination with city
  – May 16: FEMA coordination and prepositioning of assets
  – May 20: 31 minutes warning

• 24 fatalities – significant reduction in loss of life
  – Southeastern U.S., April 27-28: 190 tornadoes, 311 fatalities
Summary

• The Weather-Ready Nation program so far:
  – Unprecedented amount of coordination at all levels of government
  – Key partnerships with industry, academia, and the media
  – Frequent education and outreach events
  – Leveraging media the public uses to clearly communicate

• It appears to be working....