

Office of Science and Technology Policy

NWS Performance Highlights 2011

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NWS Vision & Mission

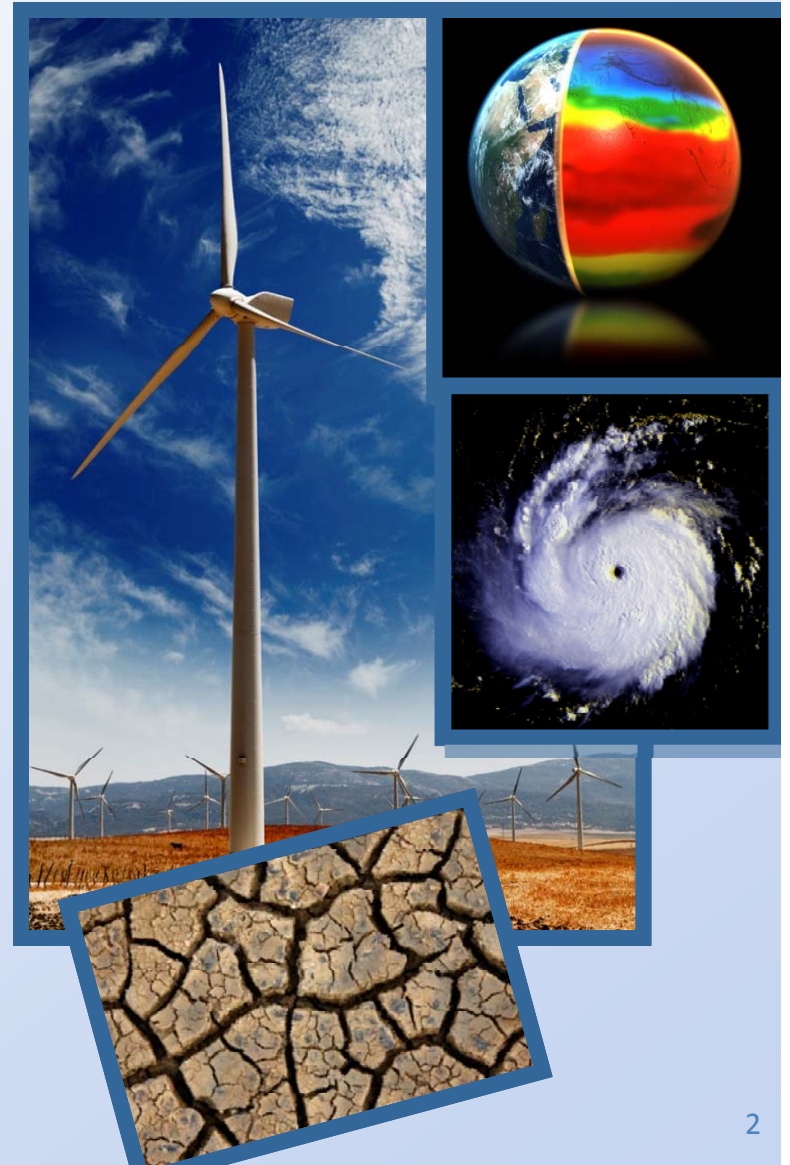
Vision

**A Weather-Ready Nation:
Society is Prepared for and
Responds to Weather-Dependent
Events**

Mission

**Provide weather, water, and
climate data, forecasts and
warnings**

- **Protect life and property**
- **Enhance national economy**



NWS Local Presence



2011: A Year of Extremes

More than 500 Fatalities



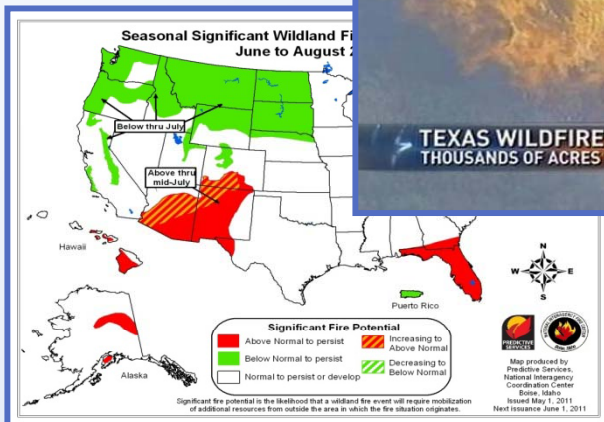
~1,400 Tornadoes



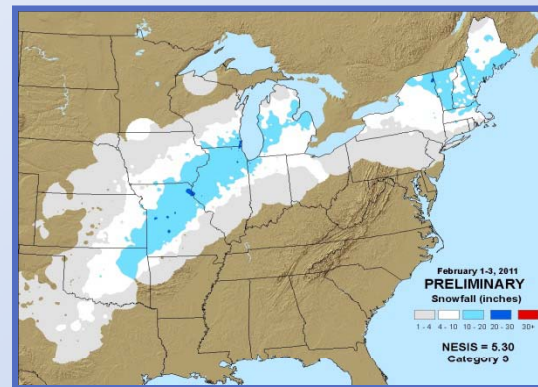
Historic U.S. Floods



Pacific Tsunami



3 Million Acres Burned



Devastating Blizzards



2011 Upper Midwest, Ohio River Valley, Lower Mississippi River Flooding

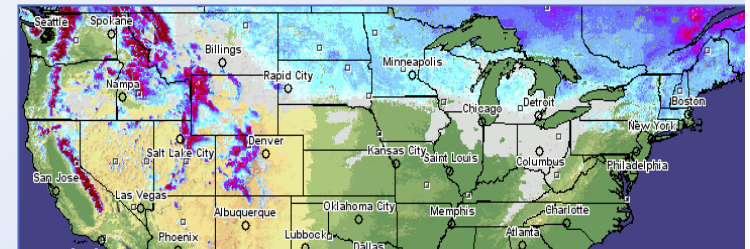
- **Wet Winter/Spring**
- **NWS Outlooks & Forecasts prepared communities**
 - *Communities proactively evacuated when spillways opened and levies breached*



Upper Midwest Flooding

➤ Impacts

- Major to record flooding
 - Red River of the North, Minnesota River and Upper Mississippi from Saint Paul to near Saint Louis
- Affected Agriculture, Infrastructure, and Economy
- Communities prepared



Widespread Snow Cover –
through Mid-March

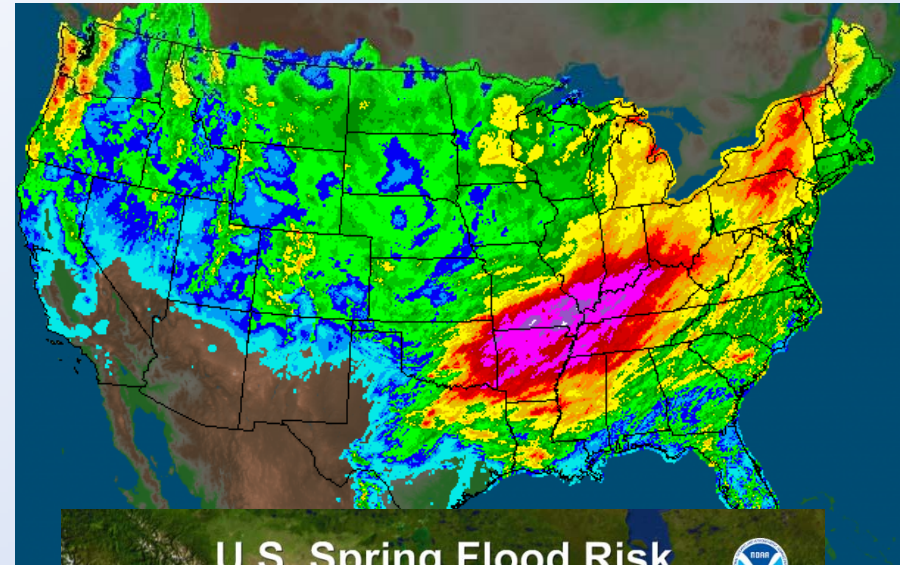
North Central U.S. Spring Flood Risk



Ohio River Valley, Lower Mississippi Flooding

➤ Impacts

- *Record flooding*
 - **Mississippi River from Cairo, IL to the Mouth of the Mississippi River**
- *Severe impact on Agriculture, Infrastructure, Navigation, Transportation and Economy*
- *Estimates upwards of \$10-Billion in losses*
- *Communities prepared*



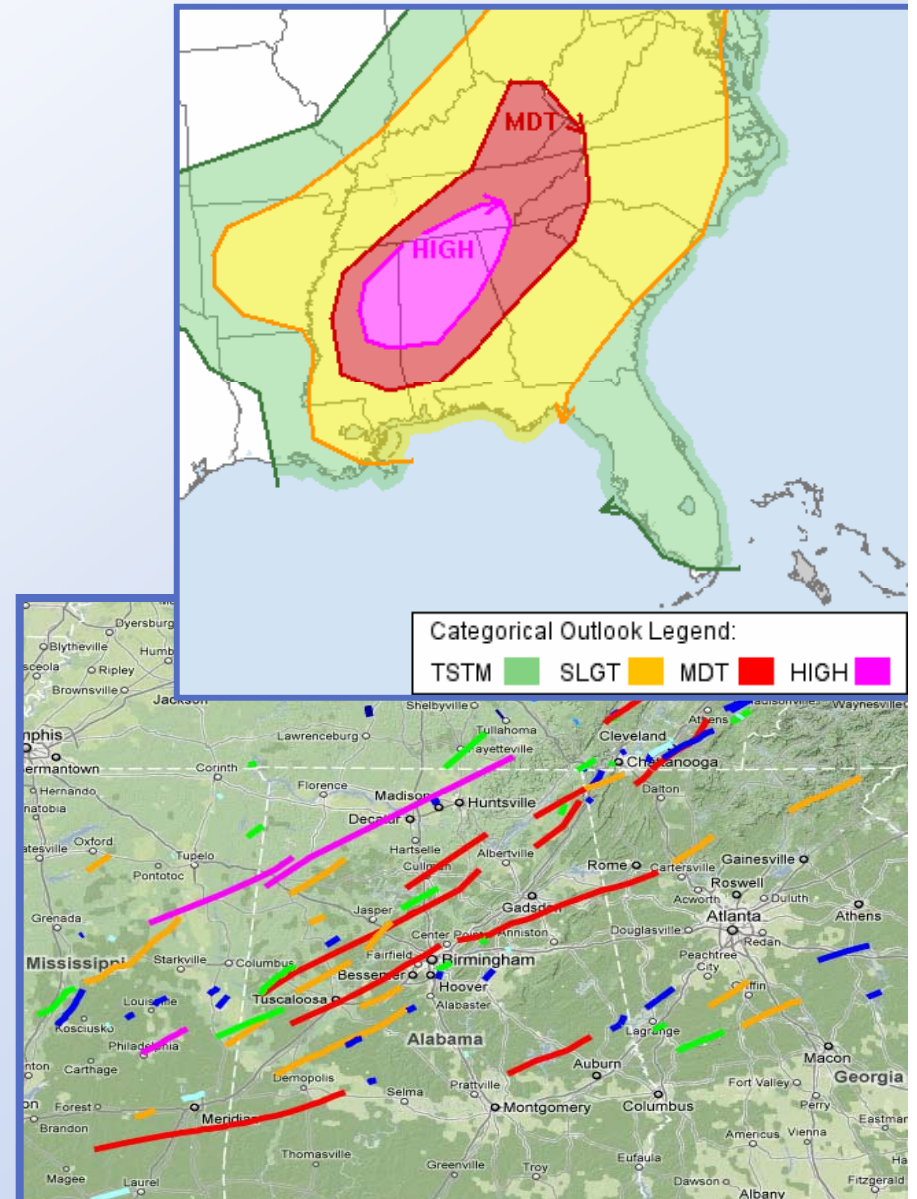
2011 Historic Tornado Year

Year-to-date

- 1,396 tornadoes (preliminary)
- Record was 1,817 in 2004
- 518 fatalities
- 7th deadliest year on record

April Tornadoes

- 875 tornadoes—record month
- 300 on April 27 alone
- 360 fatalities



2011 Historic Tornado Year

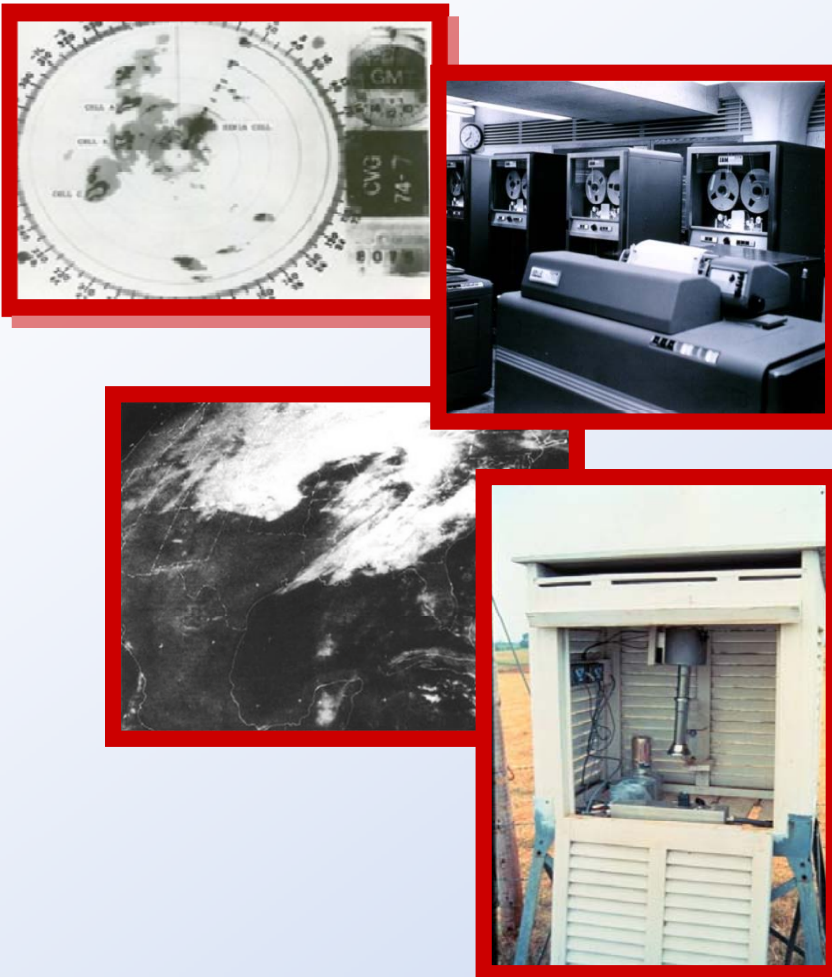
- **May 22, Joplin EF-5 tornado**
 - *139 fatalities*
 - *Deadliest single tornado since modern record keeping began in 1950*
 - *8th deadliest in U.S. history*
- **Early Warning**
 - *Outlooks: 5 days before*
 - *Watches: Hours before*
 - *Warnings: 24 minutes*



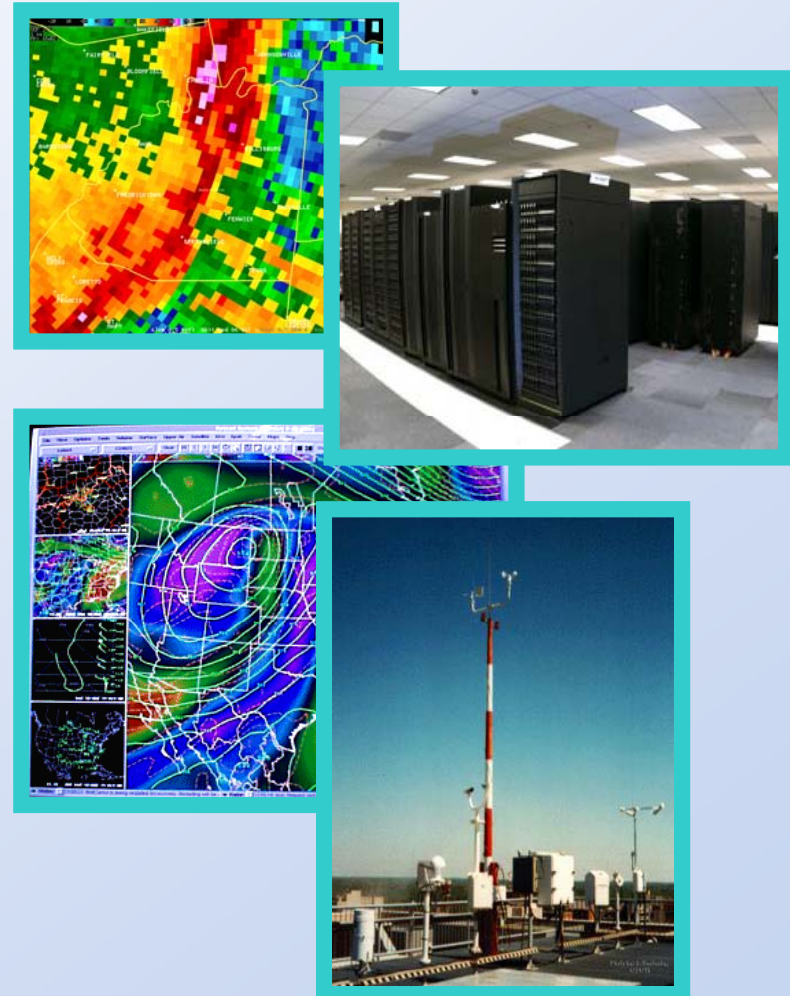
NWS Modernization

Enabled Successes

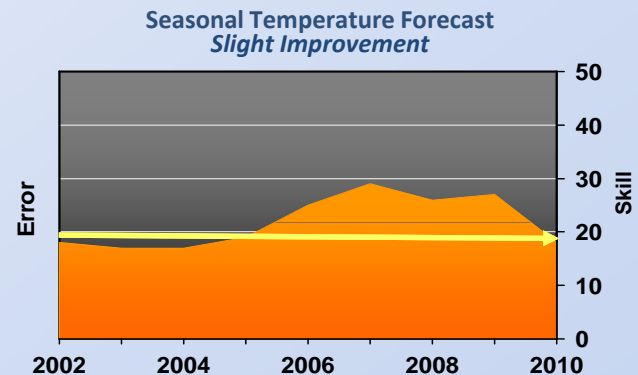
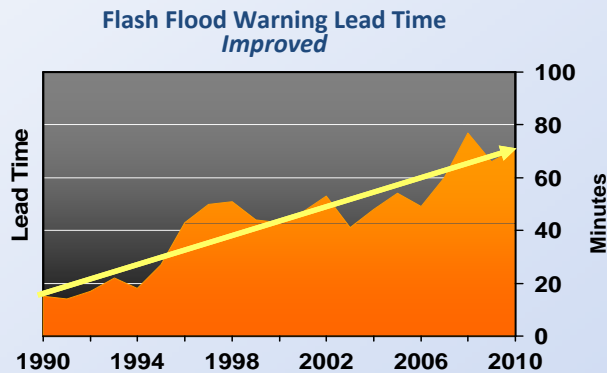
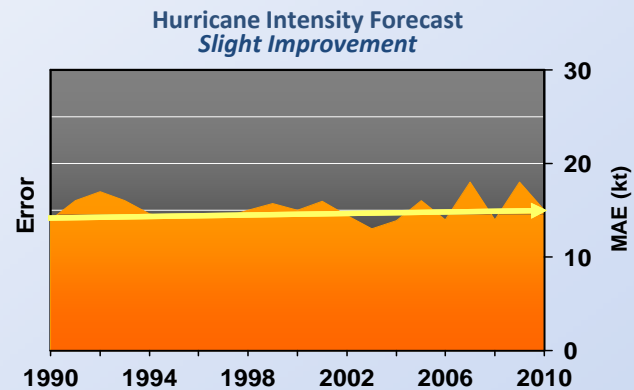
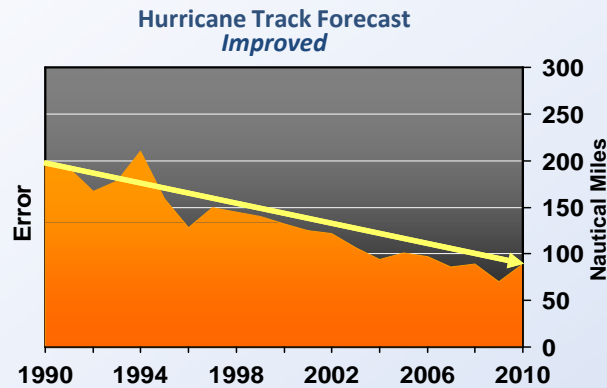
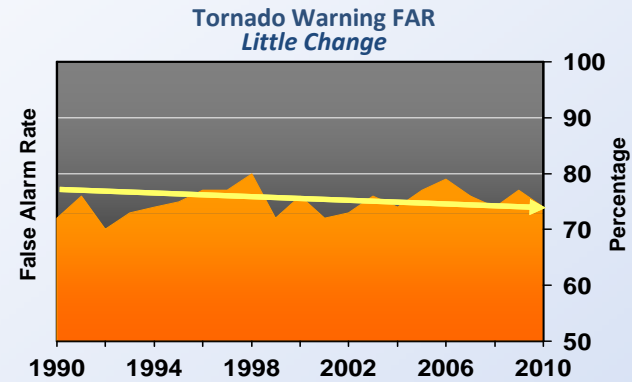
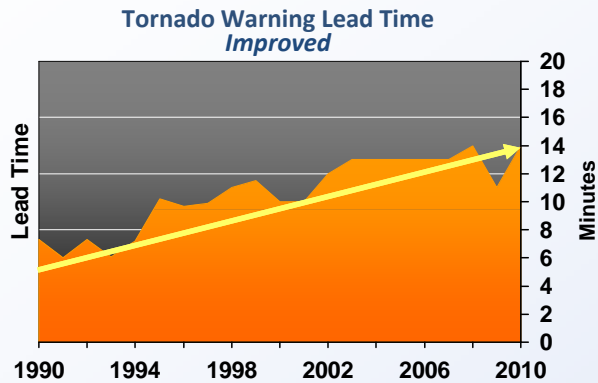
1970s...



1990s-Present



Services Improved But More To Do



A Changing World

- **Growing population and demographic trends**
- **Frequency of high-impact weather**
- **Technological dependence**
- **Water availability and quality**

We Are Asking The Tough Questions

- **Are we doing enough to save lives?**

- *Better prepared communities...*
- *Warnings get to every American...*
- *Motivate people to take action...*

- **What will help us save more lives?**

- *Better observations and models...*
- *More boots on the ground...*
- *Public preparedness...*
- *Social and behavioral sciences...*

Challenges

- **High operational tempo past 6 months**
 - *Numerous long duration threats across the country*
 - **Blizzards affecting up to 100 million people**
 - **Weeks of tornado outbreaks**
 - **Months of floods**
 - **Months of wildfires requiring multiple week deployments**
 - *NWS working before, during, and after events*
 - *Personnel deploying and redeploying to other regions, long shifts*
- **Continuing high-impact events**
 - *June 1 start of expected above-normal hurricane season*

Summary

- **NWS performance arises from the Modernization investment**
- **Nation faces increasing risks from high-impact weather**
- **Significant science and technology challenges remain**

