



National Weather Service

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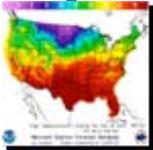
March 4, 2010

Norman, OK



Outline

- **2009 In Review**
- **Key Trends**
- **Decision Support Services**
- **Partnerships**



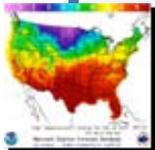
2009 in Review

Flooding

- Major flooding along Red River and elsewhere
- Avg. lead time for flash floods: 73 min.



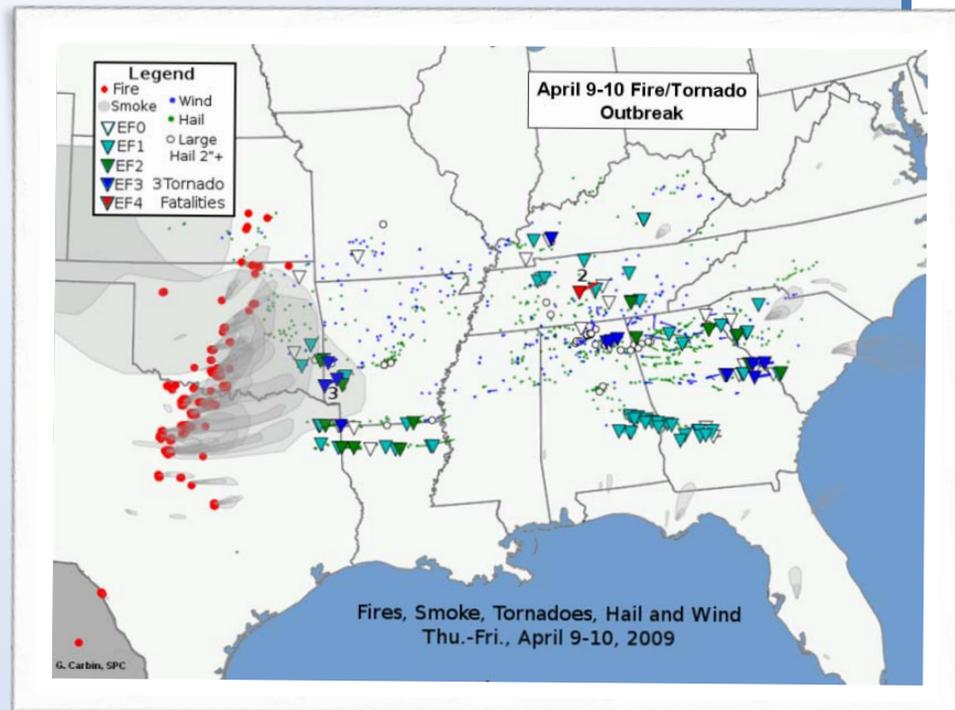
**National Flood Awareness Week
March 15-19, 2010**



2009 In Review

Tornadoes

- 1,160 tornadoes*
- April 9-10, 85 tornadoes from Oklahoma through the Carolinas
 - 5 fatalities
 - 15.6 minute avg. lead time
 - Outlook days in advance



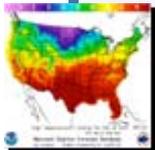
* Pending final analysis by SPC and NCEP



2009 In Review

Wildfires

- 78,792 wildfires (>5,900,000 acres burned)**
- April 9-10 Central and North Texas and Southern Oklahoma
 - **Texas**
 - Stoneburg town “burned over”
 - 3,500 acres and 103 homes destroyed
 - 2 fatalities
 - **Oklahoma**
 - 13 people injured
 - 3 dead
 - At least 100 homes destroyed
 - Oklahoma City, whole neighborhoods seared



2009 In Review

Tropical Cyclones

➤ **Below Average Season**

- *9 named storms*
- *3 hurricanes (two major Category 3 or higher)*

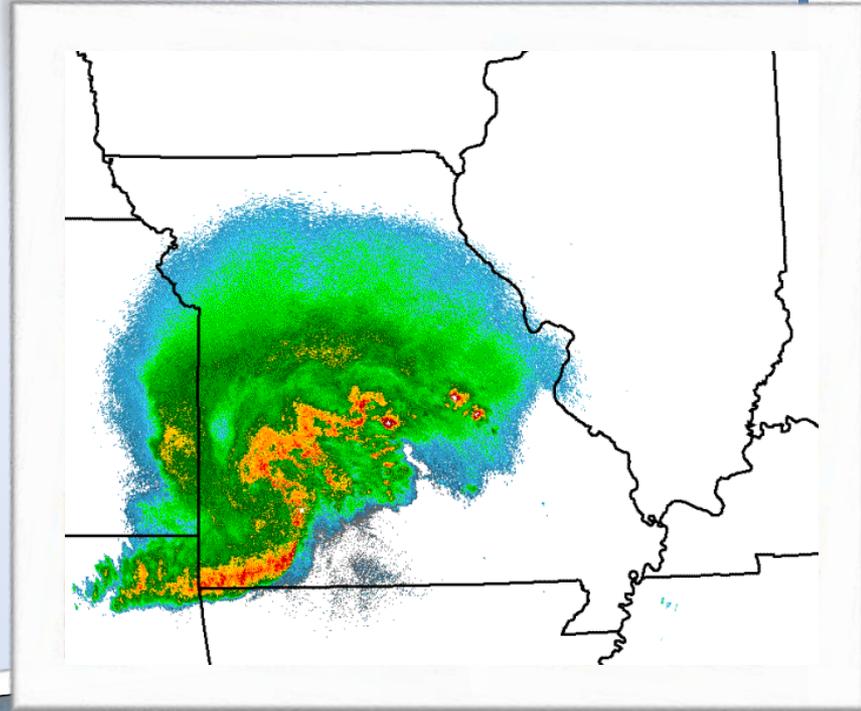
➤ **Seasonal Hurricane Outlook was accurate**



2009 In Review

Year of the Derecho

- **7 Well Defined Events**
- **May 8 Event**
 - *Hardest hit*
 - **KS, MO, AR, IL, IN, KY**
 - *100+ mph winds*
 - *6 fatalities*
 - *16 injuries*
 - *\$500M in damage*

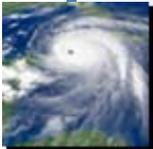
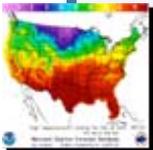


2009 In Review

El Niño

- El Niño Road Show (TX, CA, FL, WA, NC, AZ)
- Impacts across United States
- Forecast in advance
 - *Now a “Strong” El Niño*

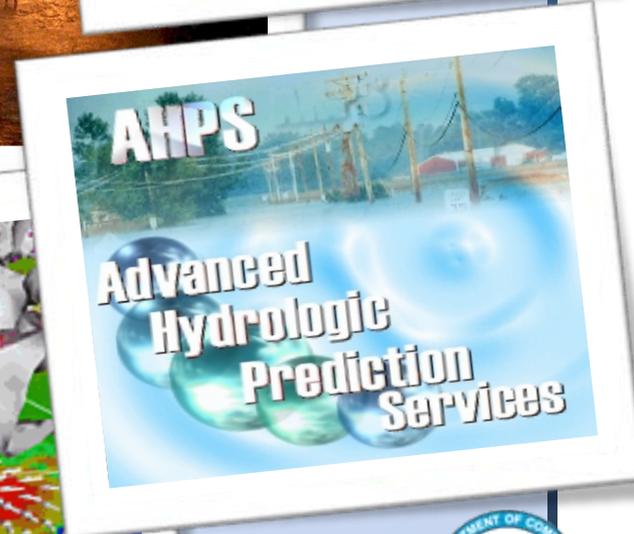
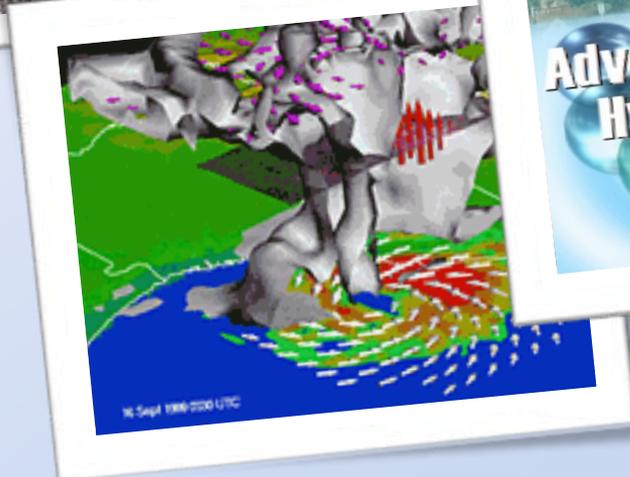
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Protecting Lives and Property



Key Trends

New Demands & Opportunities

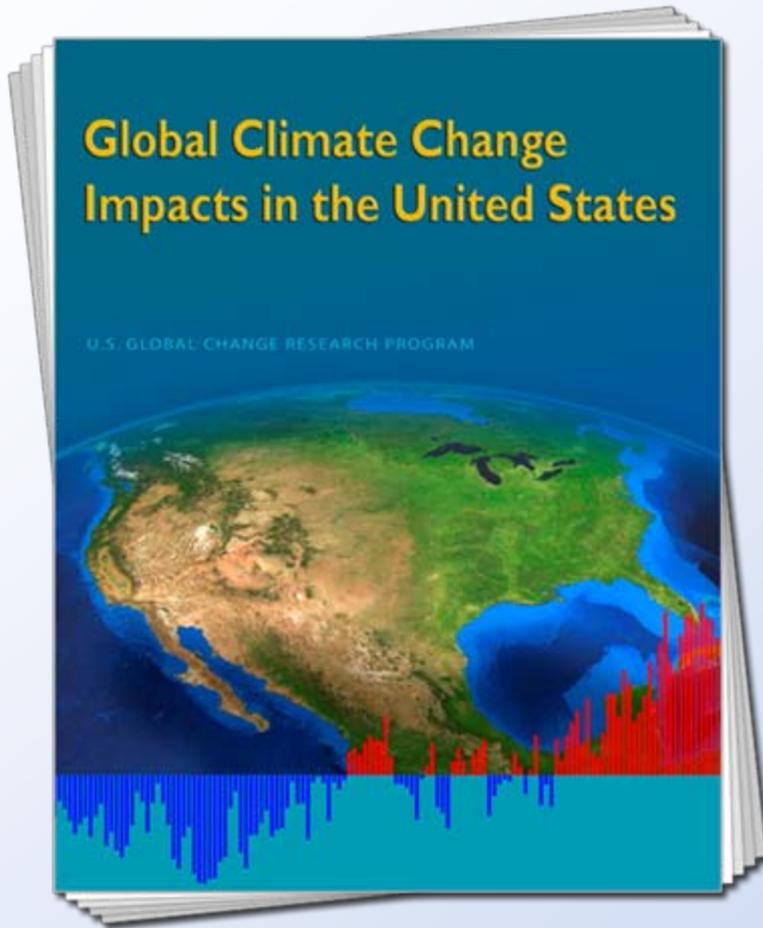
- Users needs growing
- Science and technology continue to advance



Key Trends: New Needs

Climate Services

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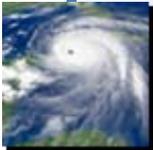
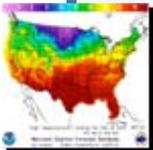
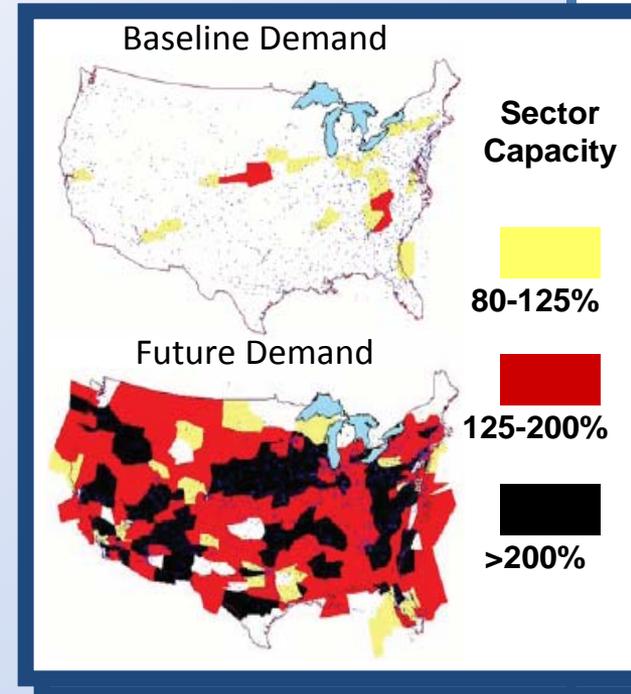
- **Societal Impacts**
 - *Agriculture*
 - *Wildfires*
 - *Energy*
 - *Water resources*
- **Seasonal Outlooks**
 - *Forecasts & warnings months in advance:*
 - **Hurricanes**
 - **Drought**
 - **Precip/Temperature**
 - **Spring Flood Outlook**
- **NOAA Climate Service**



Key Trends: New Needs

Increasing Air Traffic

- **Air traffic doubling by 2025**
- **Delays cost \$41 billion/year**
- **70% are weather related**
 - *NextGen goal of 2/3 reduction with better weather services by 2025*
 - *Aviation weather forecasts to exceed 80% accuracy*



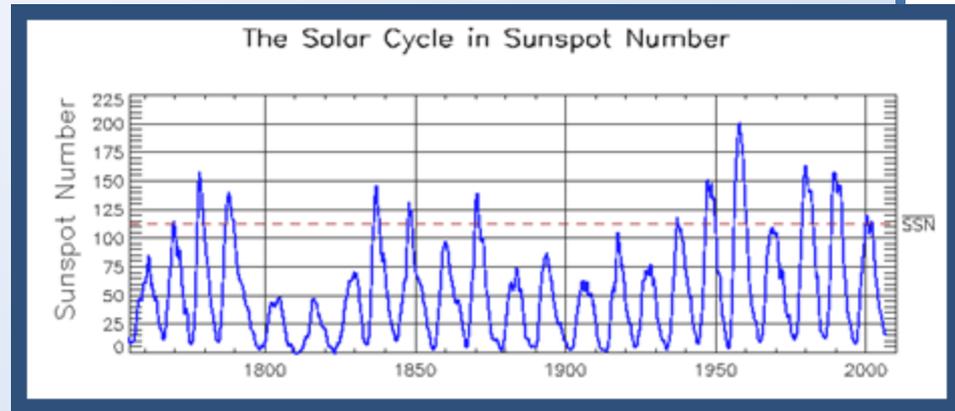
Key Trends: New Needs

Increasing Vulnerability to Solar Activity

- Next solar maximum is expected 2012-2013

- Space weather impacts:

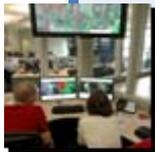
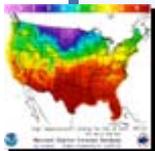
- *U.S. Satellites (GPS, Comms. etc.)*
- *Aviation*
- *Energy distribution*



- Lack of warning can disrupt:

- *Satellites: national and economic sectors*
- *Aviation: radiation at poles*
- *Energy: disrupts power grids—potential regional blackouts*

- **\$1-2 Trillion potential impact**



Key Trends: New Needs

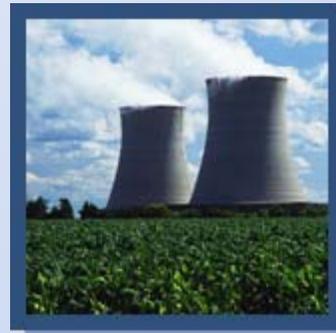
Energy Resources

➤ Administration Priority

- *Renewable Energy Initiative*
- *Goal: doubling our country's supply of renewable energy*

➤ NWS Role

- *Earth observations, models, and forecast services*
- *Partnership with private sector*



Key Trends

Looking Ahead

NWS Focus Areas:

- Improving forecasts & warnings
- Improving Decision Support Services

NWS Strategic Plan
Public Comment in Spring

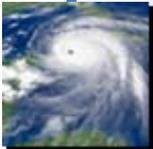
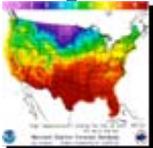


Decision Support

Successful Event

Red River of the North:

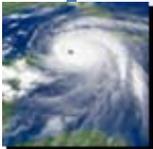
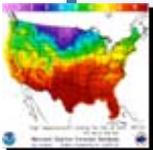
- Record flooding on Red River at Fargo
- Forecasts highlighted likelihood of major flooding
- Early alerts sent out
- Overall performance on first crest good
 - *Forecast quality*
 - *Coordinated decision support*



Decision Support

- Exploit our local knowledge
- Deliver information faster to where people are through new communication technologies
- Deliver local customer focused products
- Provide direct, expert collaboration

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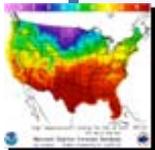
Forecast & Deliver
*Expert communication and support
for a changing environment and society*

A large control room with multiple computer monitors displaying weather data. Several people are working at the desks, looking at the screens. One person is standing and talking to another person who is sitting at a desk.

Local Knowledge **Local Service** **Accessible Communication**

Partnerships are Critical

- Science and technology creating new opportunities
- Global needs are expanding
- Private sector capabilities



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Protecting Lives and Property

