National Weather Service
Building a Weather-Ready Nation

Friends and Partners of Aviation Weather

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2011: A Year of Extremes

- 546 Fatalities from 1,676 Tornadoes
- Historic U.S. Floods
- Heat Wave
- 6 Million Acres Burned
- Devastating Blizzards
A Changing World

Increased Vulnerability to High-Impact Weather

Natural Disasters in the United States, 1980 – 2011

Number of Events (Annual Totals 1980 – 2010 vs. First Six Months 2011)

First Six Months 2011
98 Events

- Geophysical events
  (Earthquake, tsunami, volcanic eruption)
- Meteorological events
  (Storm)
- Hydrological events
  (Flood, mass movement)
- Climatological events
  (Extreme temperature, drought, forest fire)

Source: MR NatCatSERVICE
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Billion Dollar U.S. Weather Disasters 1980 - 2010

- Actual damage amounts at the time of the event
- Damage amounts normalized to 2007 using a Gross National Product (GNP) inflation index
- Number of events per year that exceed a cost of 1 billion dollars in damages

Years (1980 - 2010)

NOAA/NESDIS/NCDC

NCDC; Property Claim Services (PCS)
Winter Storms
Tsunami
2011 Historic Tornado Year
Flooding

North Central U.S. Spring Flood Risk as of Feb 17, 2011

(Febuary 17, 2011) The initial release of the Hydrologic Assessment only focused on the North Central U.S. and will be updated on February 24. The final 2011 assessment to be issued March 17th will include a hydrologic assessment for the entire United States.
Hurricanes
Space Weather
The Situation

• Extreme impacts are real threat
  – Societal changes: Vulnerable infrastructure, population growth and density in high-risk areas

• NWS has done an extraordinary job
  – Saved countless lives
  – Homes and business are still standing after floods

• Aviation driven by day to day weather in addition to high impact weather
  – Increasing confidence in high impact forecasts
  – Challenges remain in certain day-to-day forecasts
NWS Roadmaps

MISSION

NOAA/NWS Strategic Plan

ROADMAP

| Services | Workforce | S&T |

How NWS meets user needs
People who make everything happen
S&T that enables services

Where NWS wants to be
How NWS Operates
What We’re Doing Now

• Science and Technology
  – Dual Pol, IWRSS, JPSS, HFIP, TRWG, NextGen

• Weather-Ready Roadmap
  – Provides practical and tangible actions
  – Developed in cooperation with NWSEO and provides new and exciting opportunities
  – Test projects: testing WRN Roadmap concepts in strategic locations across the country
Challenges Ahead

• Moving forward in an uncertain fiscal environment
  – Funding new S&T as well as focusing on services
  – NextGen concepts threaded throughout Roadmaps

• Changing the culture to allow innovation and failure
  – Lessons learned from failed pilots as well as successful ones – “fail well”