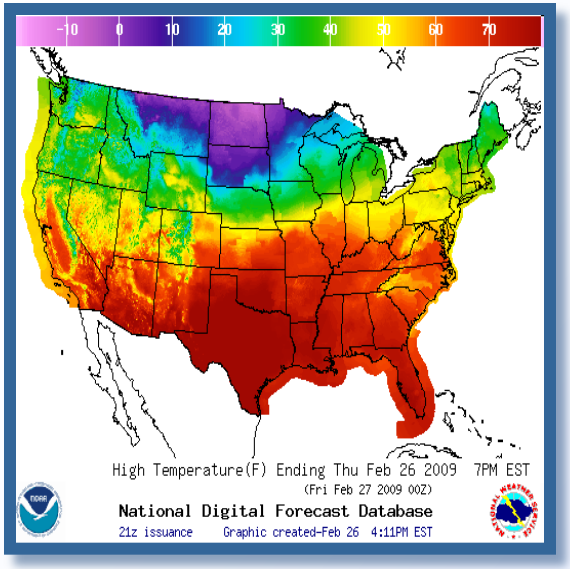
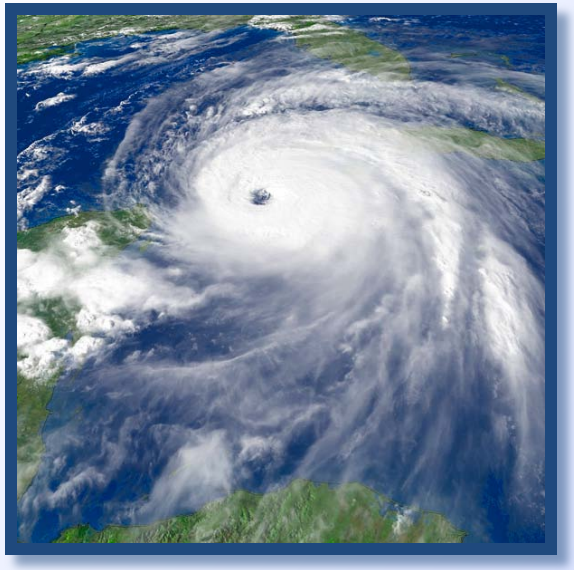




National Oceanic and Atmospheric Administration

Natural Disasters and Economic Impacts: Building a Weather-Ready Nation

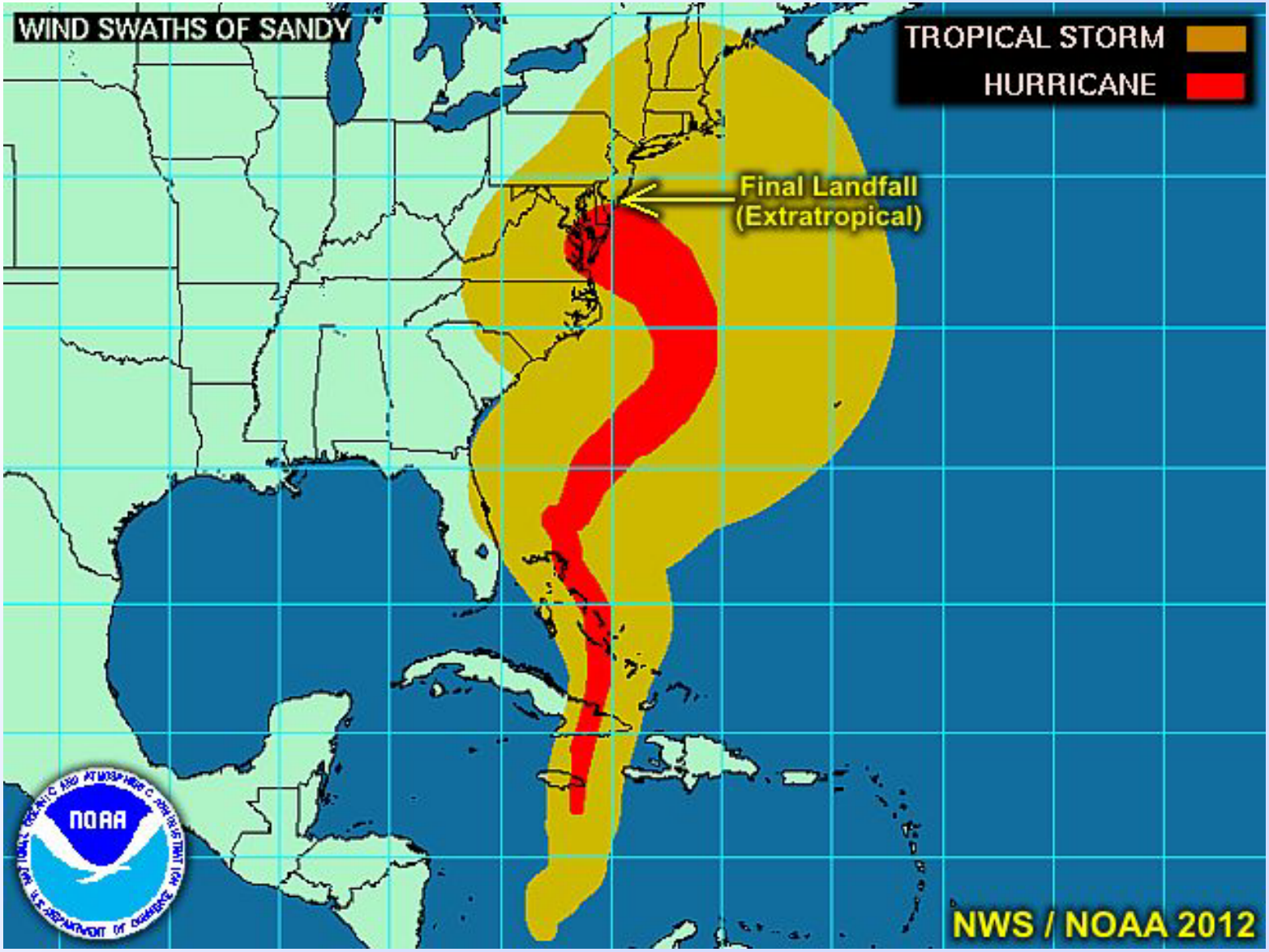
Christopher Strager

NWS Advisor for Science and Service Integration
National Defense Industrial Association
Arlington, VA
November 14, 2012

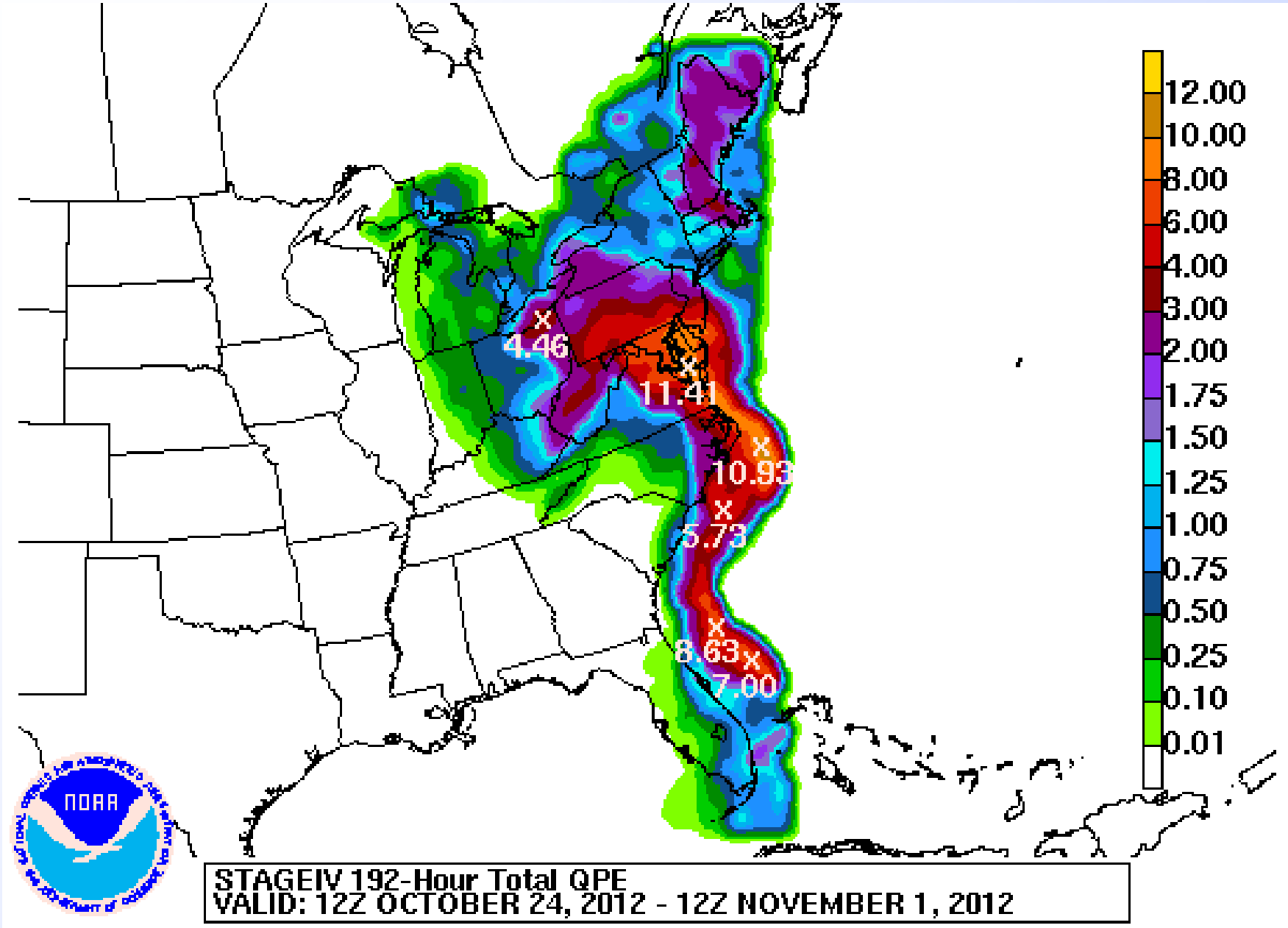
Superstorm Sandy

Meteorological Data

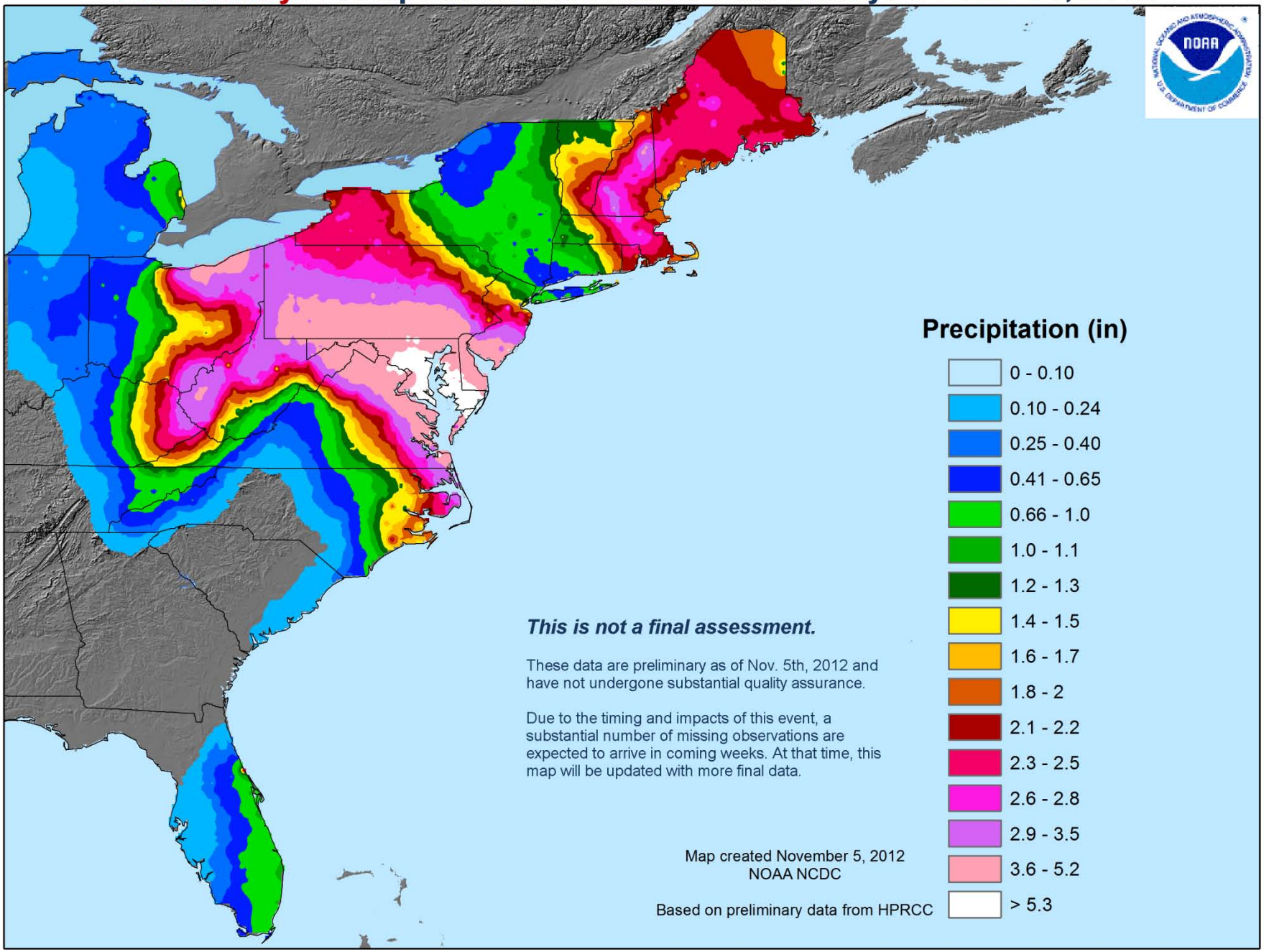
Sandy Wind Field



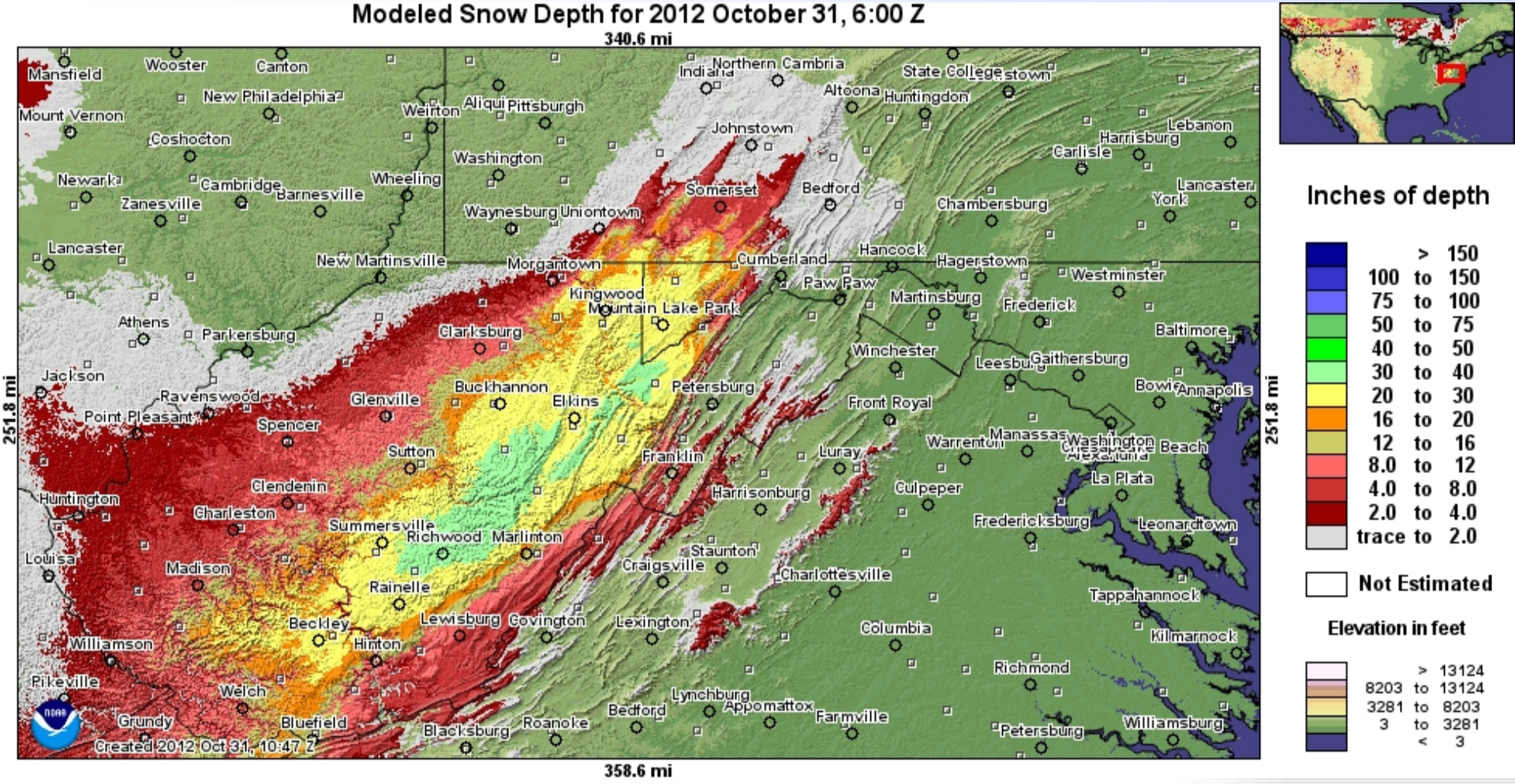
Sandy Total Rainfall



Preliminary: Precipitation associated with Sandy: Oct. 23-31, 2012



Snow Depth – October 31



Highest Reported Total: 36” in Webster County, WV

Sandy "Fast Facts"

- Sandy had all-time lowest central pressure to make landfall north of Cape Hatteras, NC (940 MB)
- Tropical storm-force winds measured 950 miles in diameter
- Sandy covered 1.8 million square miles
  - Over half the size of the continental US
- Highest water level occurred at Bergen Point, NY with 14.6 feet
- Highest storm total rainfall: Easton MD with 12.49"
- Highest storm total snowfall 36" in Webster County, WV
- Highest wind gust on land: 140 mph, at Mount Washington, NH

Superstorm Sandy

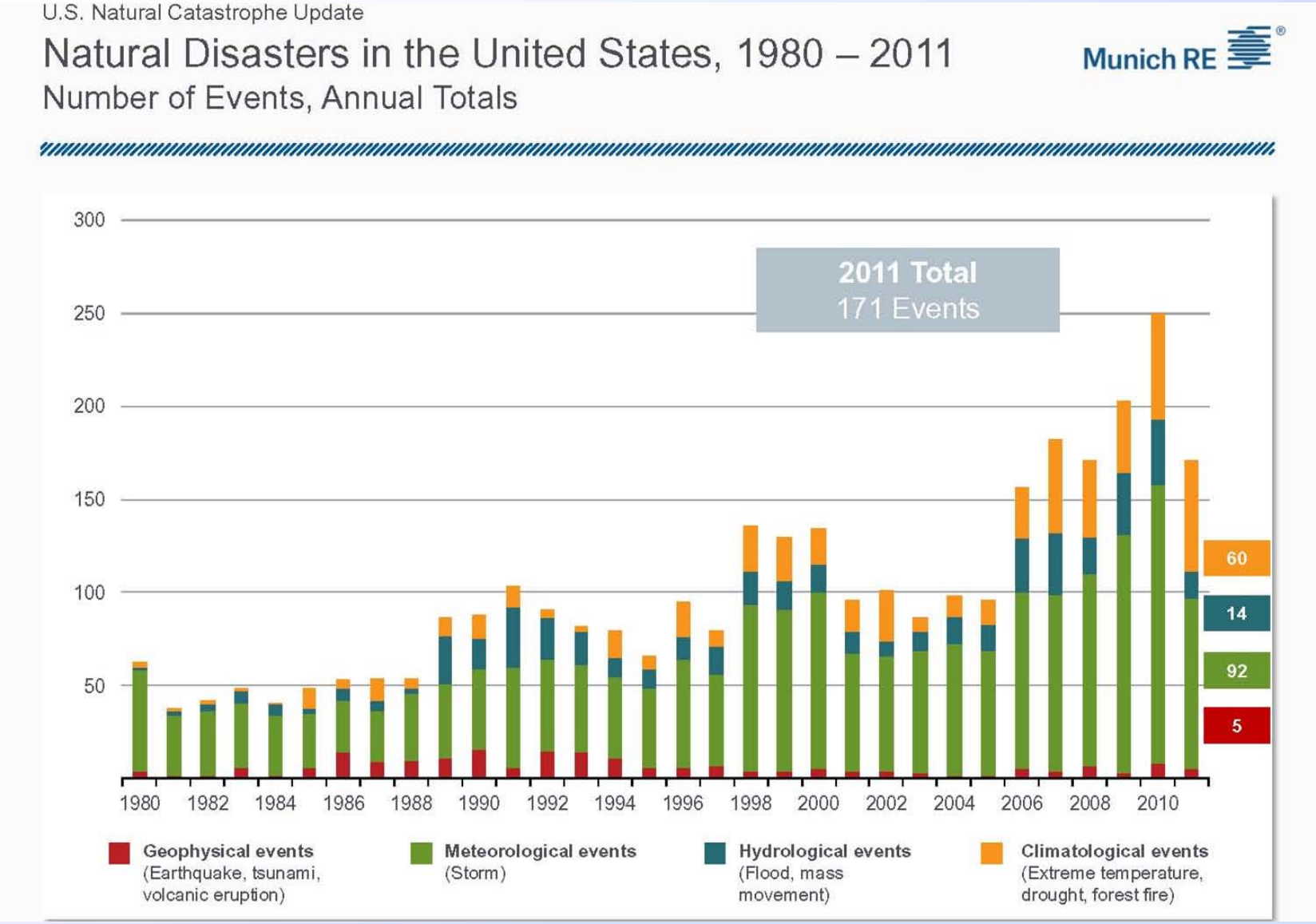
Social and Economic Impacts

- 69 deaths in the Caribbean; 55 US deaths
- 17 US states affected; damages between $30-$50 billion
- 8.5 million without power at the height of the storm
- Over 18,000 airline flights canceled
- Evacuation zone from Ocean City, MD to Dartmouth, MA (400 miles of coastline)

LaGuardia airport – Courtesy of Jet Blue

A Changing World

Increased Vulnerability to High-Impact Weather



A Changing World

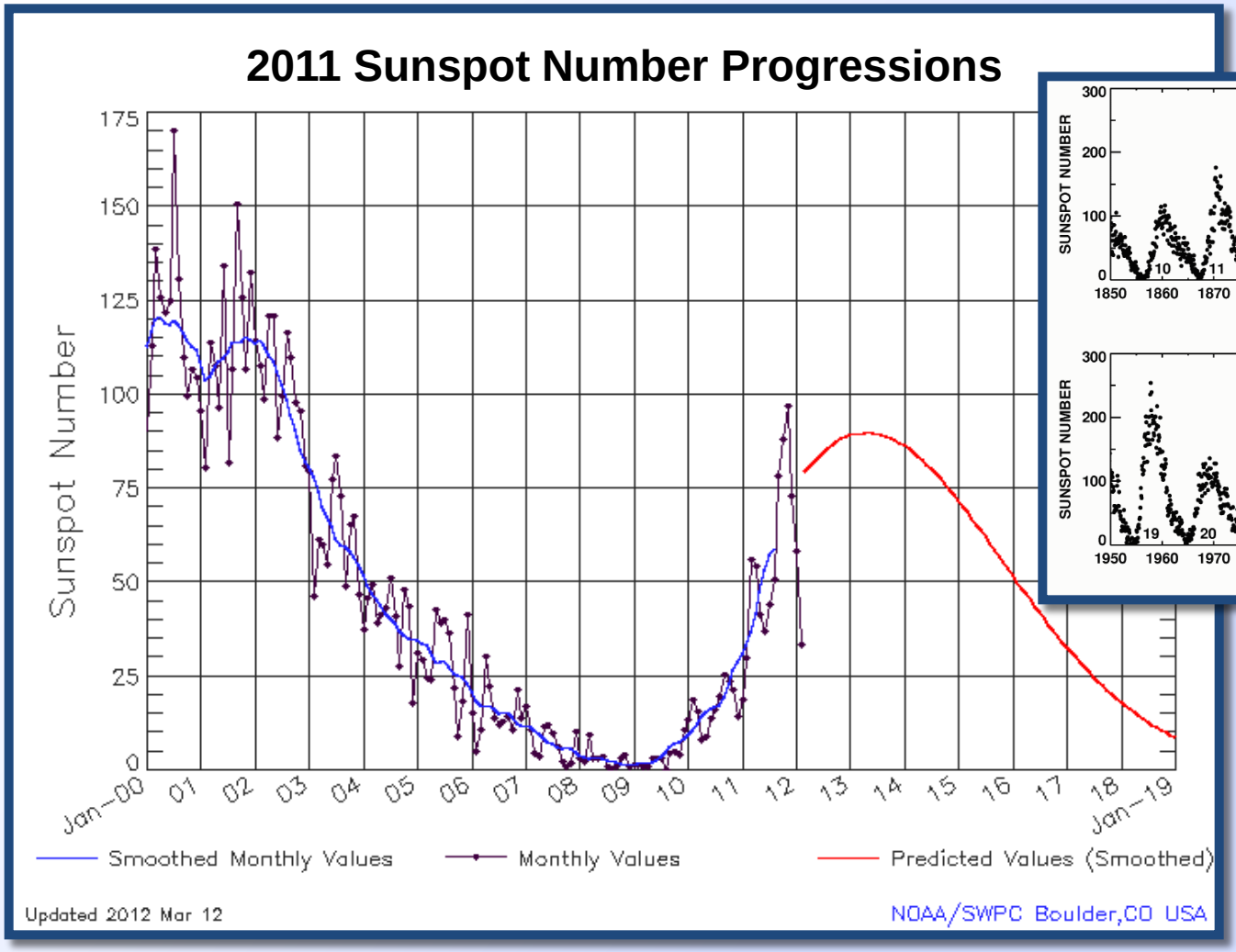
Weather Impacts on Sectors:

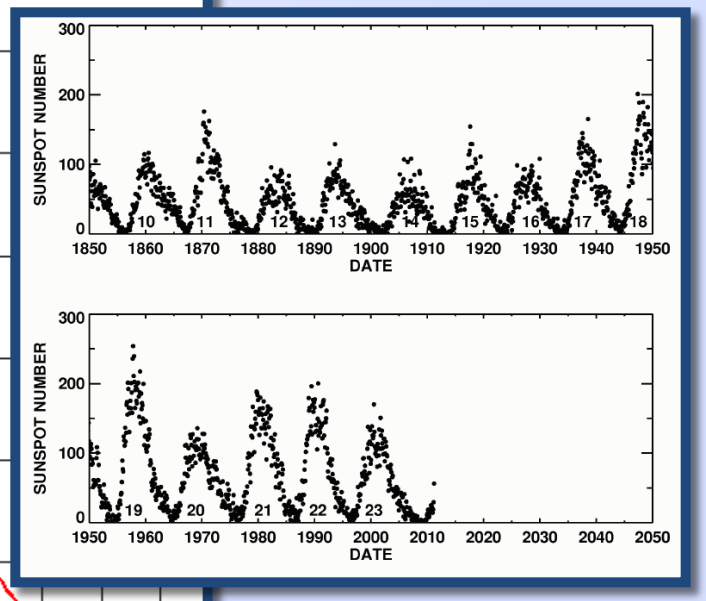
Air Travel Flight Delays

- $40 Billion Yearly Cost to U.S.
- Weather Responsible for 2/3 Delays

Looking Ahead: Primary Threats in 2013

Space Weather

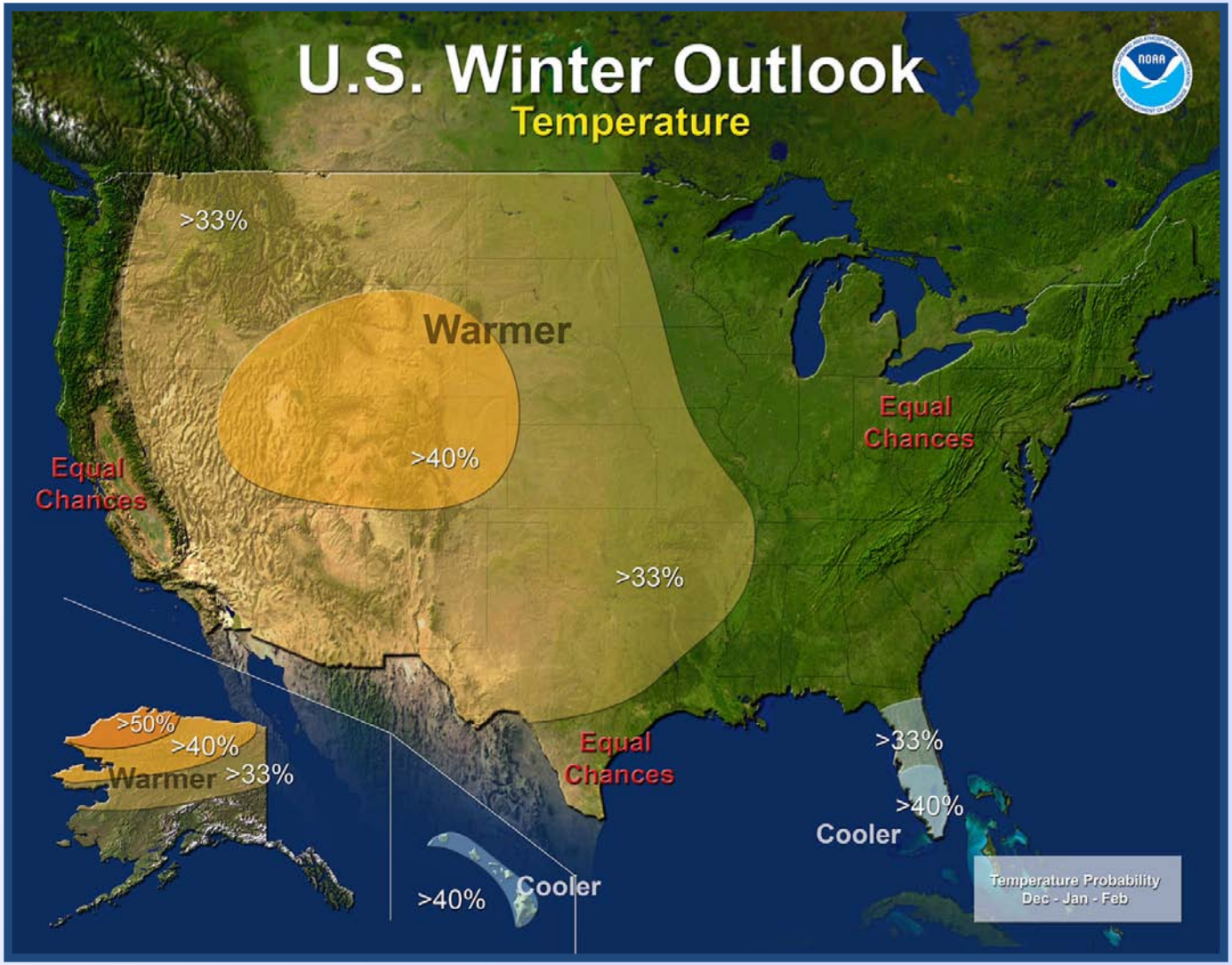




- **Solar minimum in December 2008**
- **Solar Cycle 24 now well underway**
- **Cycle 24 maximum forecast - May 2013**

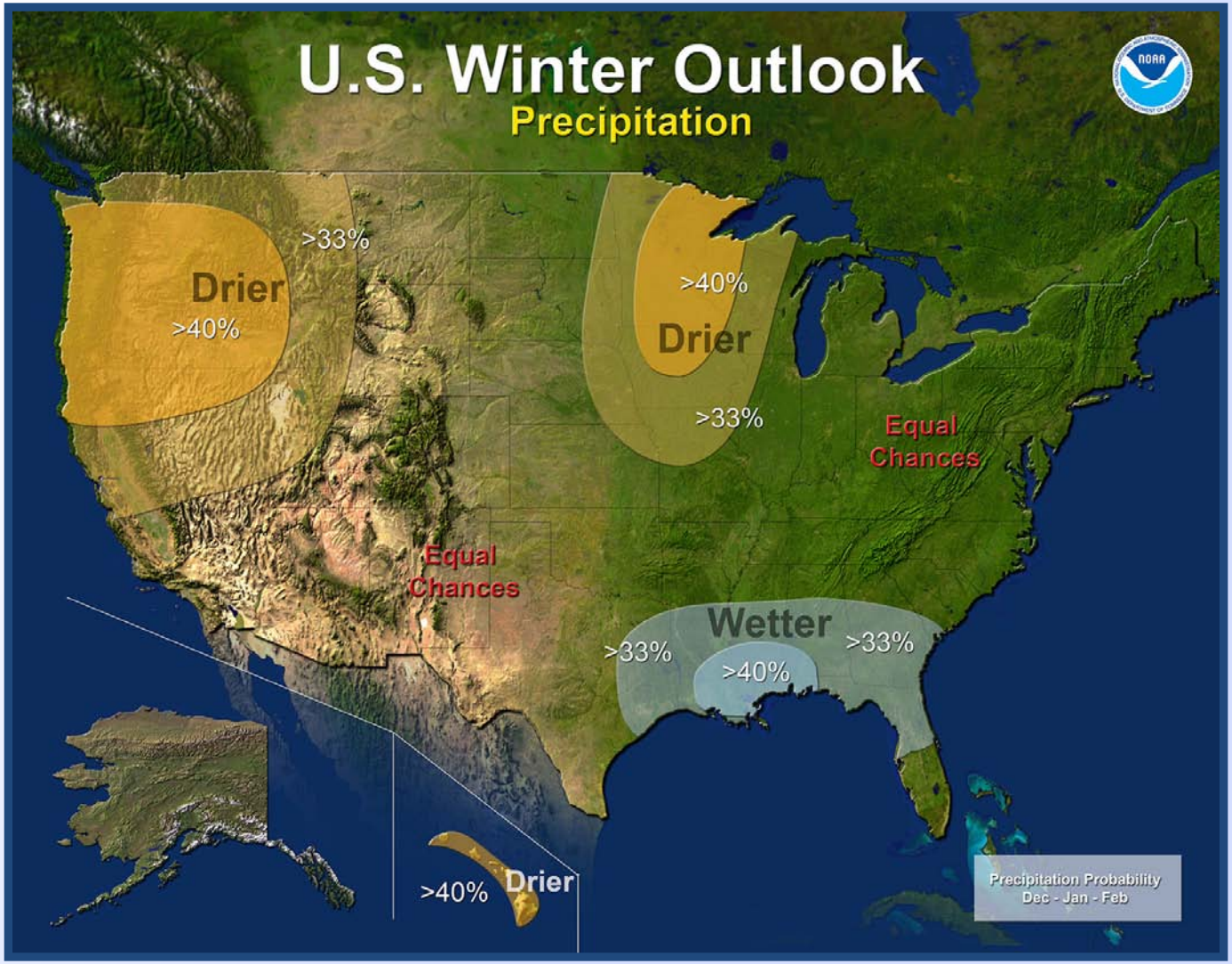
Winter Outlook

Temperature



Winter Outlook

Precipitation



Building a Weather-Ready Nation

Looking Forward – Four Years and Beyond

Becoming a Weather-Ready Nation is about building community resilience in the face of increasing vulnerability to extreme weather.

NOAA's NWS is developing new decision support services, improving technology to track and forecast storms, and expanding its dissemination efforts to achieve far-reaching national preparedness for weather events.

Building a Weather-Ready Nation

Emphasis on Decision Support Services

- Provide superior decision support and foundational information services
  - NWS will use our unique, local relationships with Core Partners to help them to better prepare our communities for extraordinary events
- Invest in Science and Technology
  - Use state-of-the-art technology and cutting-edge science to provide the best service possible
- Empower our workforce
  - Workforce is trained and equipped to meet America's evolving needs
  - Emergency Response Specialists (ERS) are accessible on-site and through remote technologies to provide Impact-based Decision Support Services (IDSS)

Building a Weather Ready Nation

NWS Partnerships


NATIONAL WEATHER SERVICE