National Oceanic and Atmospheric Administration

Weather-Ready Nation
Saving Lives and Livelihoods

Unidata Policy Committee – May 14, 2012
LeRoy Spayd – NOAA/NWS
Outline

- NWS Weather Ready Nation
- NOAA Budget
- Profilers
- Network of networks
- GOES status
A Changing World

2010: Unprecedented Disasters

Deepwater Horizon
Over 100 days’ deployment

“Snowmaggedon”
DC – Baltimore Paralyzed for 7 days

Iceland Volcanic Ash
$2B Aviation Impacts
A Changing World
2011: A Year of Extremes

14 Weather and Climate Billion Dollar Disasters
A Changing World

Increased Vulnerability to High-Impact Weather

Natural Disasters in the United States, 1980 – 2011
Number of Events, Annual Totals

U.S. Natural Catastrophe Update

2011 Total
171 Events

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

Population Shifts, Technological Dependence

World Population: 1950-2050

- 3 Billion
- 4 Billion
- 5 Billion
- 6 Billion
- 7 Billion
- 8 Billion
- 9 Billion

Source: U.S. Census Bureau, International Data Base, June 2008 Update.

Population Living in Coastal Watershed Counties, 1970 - 2030

- 53% of the nation’s total population lives in coastal counties in 2011 (17% of the total land area excluding Alaska).
  Source: Woods & Poole and NOAA, 2010

- 54.4 million increase in U.S. coastal county population from 1970 to 2011 (or a 47% increase).
  Source: Woods & Poole and NOAA, 2010

- 13.6 million expected increase in U.S. coastal county population by 2020 (or an 8% increase).
  Source: Woods & Poole and NOAA, 2010

Mean Center of Population for the United States: 1790 to 2010

- 2010 Mean Center of Population: Located near Baltimore, MD
- Mean Center of Population - County of Center of Population - State or State Equivalent - County or County Equivalent

U.S. DEPARTMENT OF COMMERCE Economics and Statistics Administration U.S. Census Bureau

Prepared by the Geography Division
NOAA’s Response to the Challenge

Four Pillars of NOAA’s Success

CRITICAL ENVIRONMENTAL INTELLIGENCE

COMPUTATION & MODELING

RESEARCH

OBSERVATIONS

PEOPLE
NOAA’s Response

Build a Weather-Ready Nation

What is a Weather-Ready Nation?
- Society is Prepared for and Effectively Responds to Weather-Dependent Events

What will it take to build a Weather-Ready Nation?
- NOAA Evolves Operations
  - Enhanced decision support services, a common operating picture from latest observation platforms and models, community risk assessments
  - NOAA leads integration of Weather, Water, Climate IDSS with help from social scientists
- NOAA Energizes Partners in National Movement for Weather-readiness
  - National Dialogue with partners: series of symposiums to assess why the nation is more vulnerable and identify how to improve preparedness
  - NWS leads partnered public education initiative to improve societal response to weather information and warnings
  - Americans will know how and when to take action
NOAA Evolves Service Operations

Six NWS Pilot Projects:

- Impact-Based Decision Support Services (IDSS):
  - Urban region – Sterling, Va.,
  - Coastal region – New Orleans
  - Regional level – Fort Worth
  - National level – Silver Spring

- Integrated environmental services – WFO Tampa, FL
- Mesoscale Science – WFO Charleston, WV

Build a Little, Test a Little, Field a Little
Building a WRN through Technology

Satellites and Hurricane Irene
Building a WRN through Technology

Dual Pol Radar and Branson Tornado
Initiated a National Conversation

Improve public understanding of increasing vulnerability to extreme weather

Stimulate discussion with public, partners, and stakeholders on solutions for reducing impacts

Evaluate opportunities for improving:

- User-driven impact-based forecasts/warnings
- Integration of social and natural sciences into services
- Service delivery across the weather enterprise
- Community planning and impacts mitigation
Norman WRN National Conversation

**Key Actions**

1. Integrate social and physical sciences – from research to operations
2. Review strategies to reduce false alarms
3. Update warning dissemination strategy
4. Advance physical modeling of severe weather (Warn on Forecast)
5. Improve outreach and education to supported agencies and groups: FEMA, emergency managers, threatened communities.
6. Evolve the NWS Service Assessment following major severe weather outbreaks into one more like the NTSB assessments following major transportation disasters.
NOAA Budget – FY 12

- Enacted Budget $ 4.9M
- NWS Reprogramming notice sent to Congress to support BASE budget
- If Reprogramming not approved, NWS has a $28M problem in FY 12
- NWS dealing with structural deficit by significantly reducing HDQ budgets and travel. Lapsed labor increased from 9 to 11% of positions in FY 12.
NOAA Budget – FY 13

- Total request of $5.1B
- The FY13 budget request includes some painful sacrifices such as program reductions and, in a few cases, the cancellation of valuable programs.
- Steps we’re taking to minimize negative impacts to NOAA’s workforce
  * We’ll offer voluntary early retirement authority and voluntary separation incentive payments to select positions;
  * We’ll rely more on internal hires, rather than external hires, which will allow us to fill the highest-priority positions while offering options to affected employees;
  * We’ll manage hiring carefully to use attrition to help us reach our funded personnel levels.
The Senate CJS bill would move the procurement and management of NOAA’s satellite programs to NASA, with NOAA maintaining operations.

According to Subcommittee Chairwoman Barbara Mikulski (D-MD), this move would eliminate duplicative satellite management among the agencies and finally deal with the “continual cost overruns” in NOAA which have resulted in cuts to other parts of the agency in recent years, including research accounts. Chairwoman Mikulski stated that satellite costs now equal 37 percent of the total NOAA budget and “NOAA and the Department of Commerce have shown little will to rein in those costs.”

The Subcommittee expects this movement would save $117 million in FY 2013. Chairwoman Mikulski also noted that NOAA has “eaten up its goodwill with the Subcommittee,”

Budget reduced to $ 3.4B

House keeps satellite procurements in NOAA
FY 13 budget NWS

- FY 12 ORF - $731.5M
- FY 13 PB - $729.2M
- FY 13 Senate - $741.1M
- FY 13 House - $740.6M
- NWS has ongoing structural deficit issues for O&M funding for observations and increasing facility costs
Profilers

- FY 12 reprogramming request still at Congress asking to use O&M funds from Profilers to cover BASE shortfall
- FY 13 presidents budget requests a decrease in funding of $2.4M
  - To maintain Profilers (3) in Alaska for volcanic ash
  - Due to frequency interruptions once European Galileo satellites are launched
Network of Networks

- NWS awarded a contract in late February to a consortium of networks representing all of the mesonets that have been partners in the National Mesonet effort since 2010.
- This consortium represents about one-dozen state mesonets and two private companies that operate nationwide networks (Earth Networks and Weatherflow).
- Data is provided from ~8K sites, 1500 of which are mobile. In addition to standard meteorology, many networks provide soil moisture/temp, and solar radiation.
- There are many networks that are "going vertical" and test technologies that provide PBL profiles of wind, q, and T.
- Envision this continuing to be a thrust of growth for the program so long as Congress continues to direct the money.
### GOES–R Milestones

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**Launch Readiness Oct. 2015**

**Development**

**Integration and Testing**