National Hydrologic Program Managers Conference

December 7, 2004

New Orleans, LA

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National Oceanic and Atmospheric Administration
Assistant Administrator for Weather Services

Inland Flooding This Hurricane Season

Thank You!

Agenda

- Goals
- Meeting the Challenge
- NWS's Hydrologic Services Program

NOAA's Mission Goals

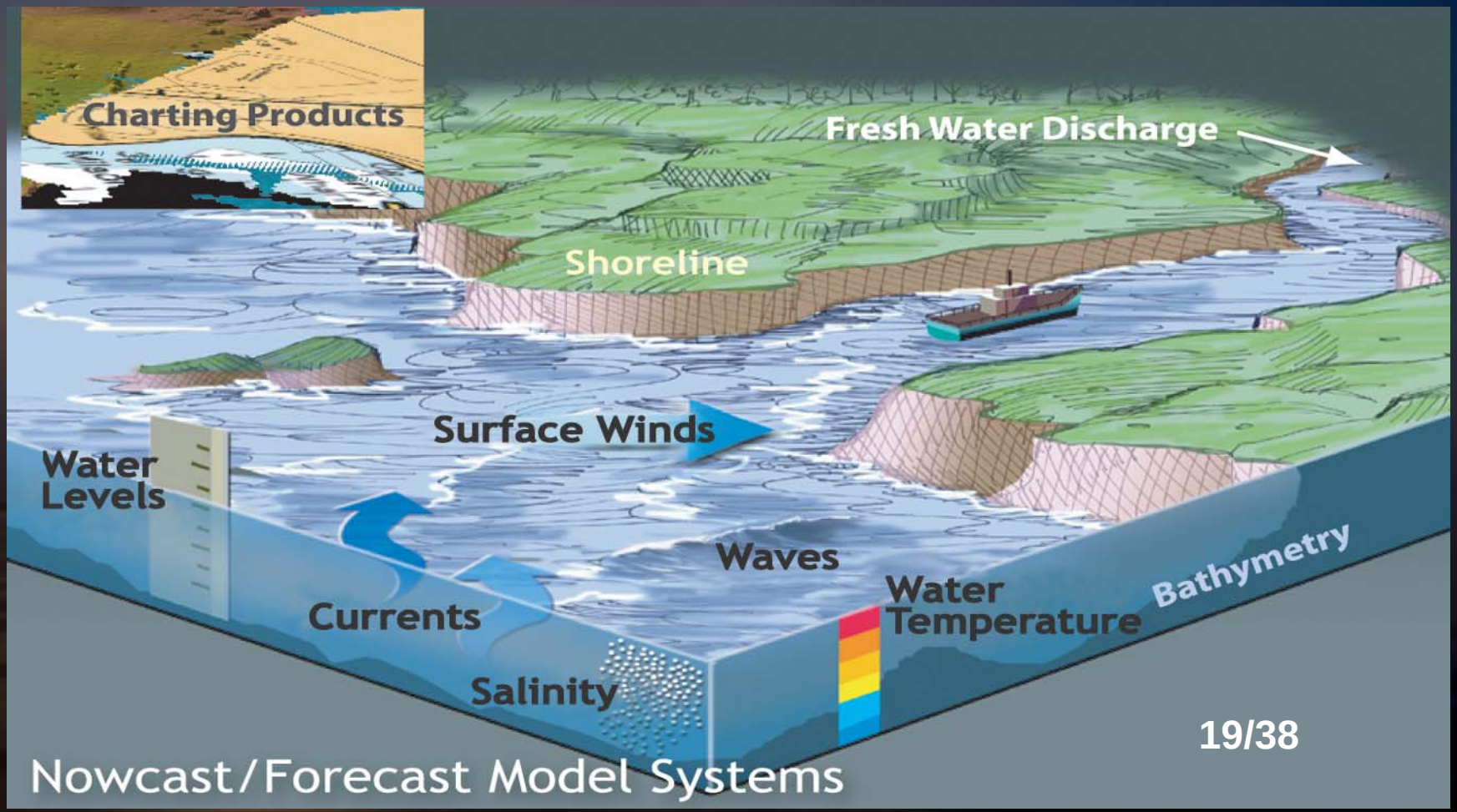
- **Four overarching goals for achieving NOAA's mission…**
  - Protect, restore, and manage the use of coastal and ocean resources through ecosystem management approaches
  - Understand climate variability and change to enhance society's ability to plan and respond
  - Serve society's needs for weather and water information
  - Support the Nation's commerce with information for safe and efficient transportation





NOAA's Mission Goals

Bringing It All Together



NWS Mission Goals

- Produce and deliver trusted information in a timely manner
- Incorporate proven advances in science and technology
- Reduce weather- and water-related fatalities
- Work with others to make the weather, water, and climate enterprise more effective
- NWS is more than weather

Hydrologic Service Program Goals

- Protect lives and minimize losses due to floods and droughts
- Increase economic benefits from water forecasts and information
- Improve ecosystem management and enhance America's coastal and ocean assets

Meeting the Challenge

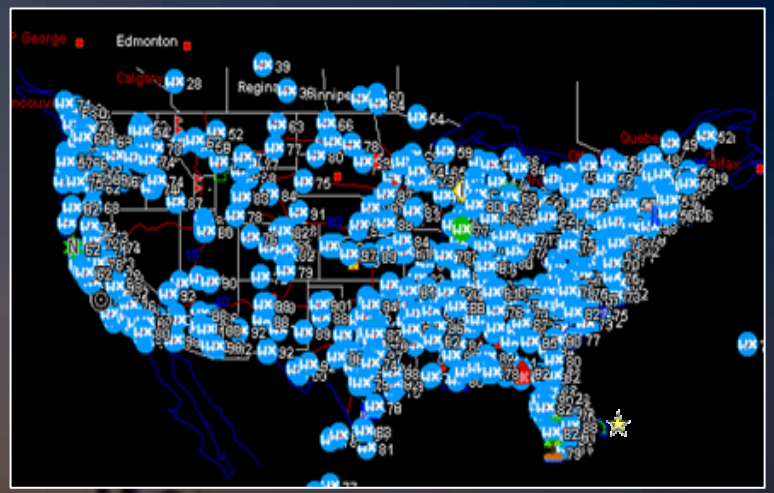
Global Earth Observing System of Systems

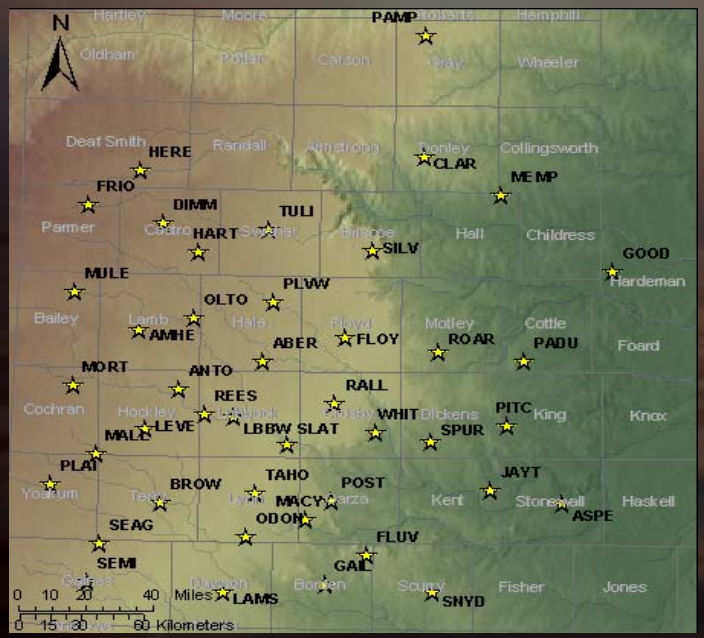
- **The environment is global: global systems are needed to meet NOAA's mission**
- **Observations are the basis of NOAA's mission**
  - **Build an effective "system-of-systems" infrastructure**
    - ***Transform "stove-piped" observations into an integrated system***
    - ***Enhance performance, continuity, and interoperability across NOAA***
    - ***Bridge and coordinate research-to-operations across all Mission Goals***
- **NOAA Observing System Architecture**

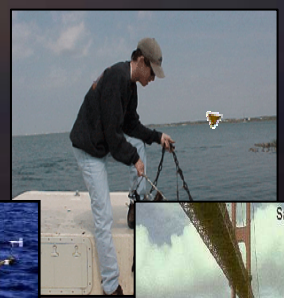
Meeting the Challenge

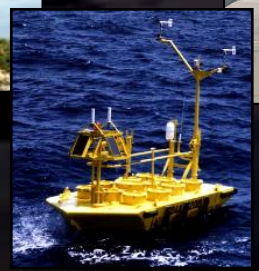
Increasing Earth Observing Systems

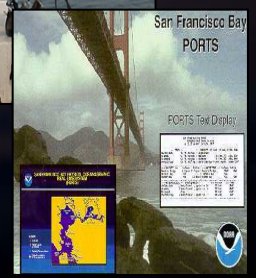
- International Observations
- Private Networks
- “COOP Modernization”











Meeting the Challenge

Success Depends on Collaboration

Meeting The Challenge

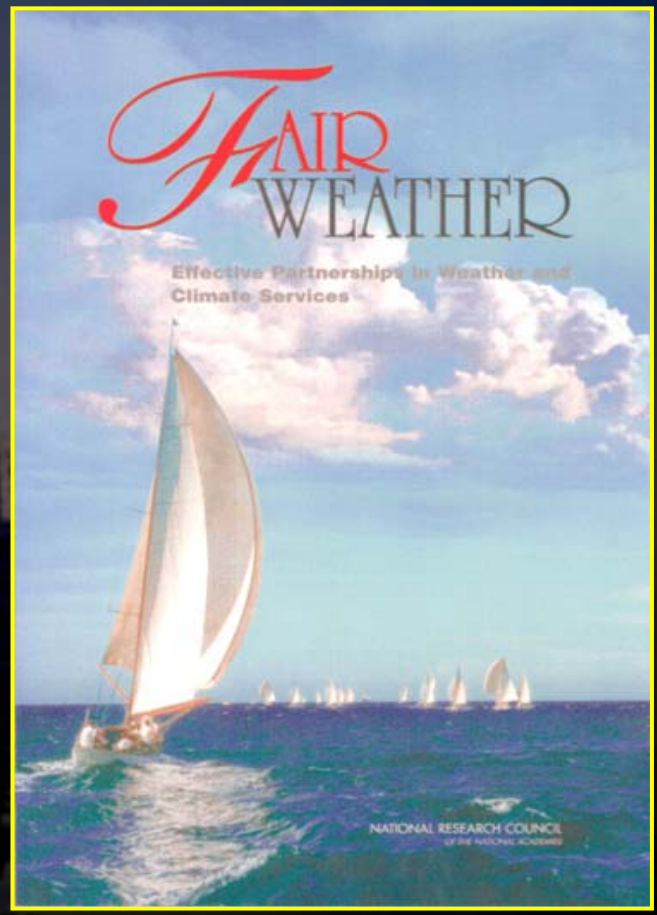
Service Delivery Depends on Collaboration

- Partner with DHS, e.g., NOAA Weather Radio All Hazards
- Emergency Management Community
- Media
- Private Sector Partners
- Outreach
  - Turn Around, Don’t Drown
  - First National Flood Safety Awareness Week - March 2005

Meeting the Challenge

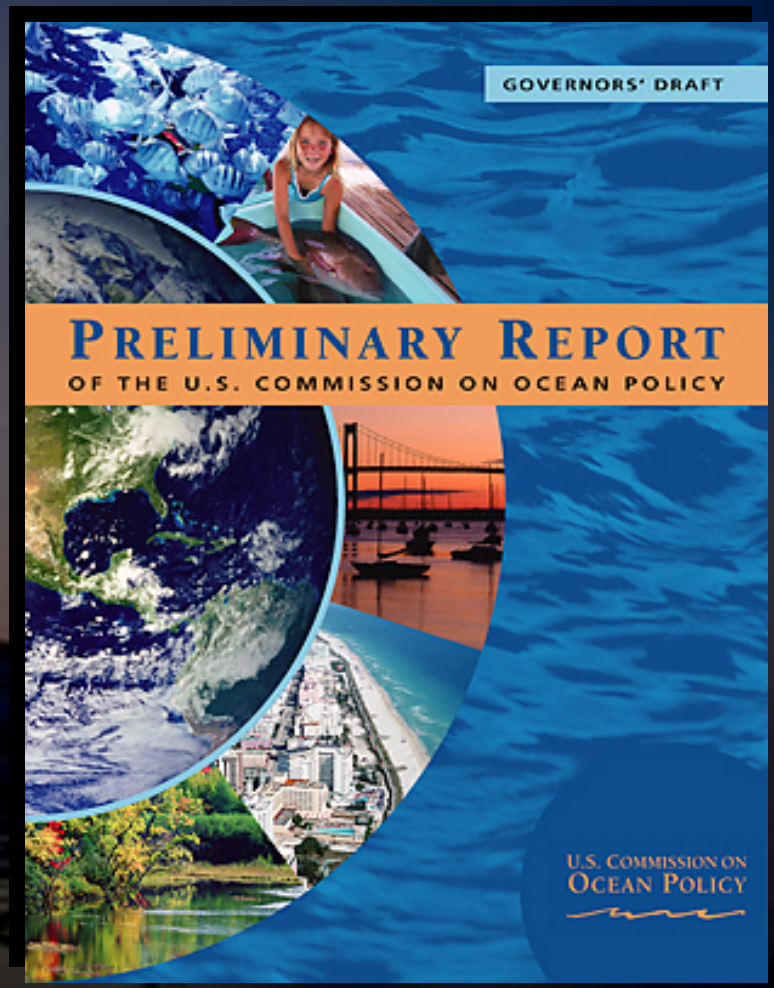
New NOAA Policy on Partnerships in the Provision of Environmental Information, published Dec. 1, 2004

- **Response to National Research Council's *Fair Weather: Effective Partnerships in Weather and Climate Services***
- **Today's partnerships are sound and functioning well**



Meeting the Challenge

- **U.S. Commission on Ocean Policy**
  - **Integrated Ocean Observing System**
  - **National Water Quality Monitoring System**



Meeting the Challenge

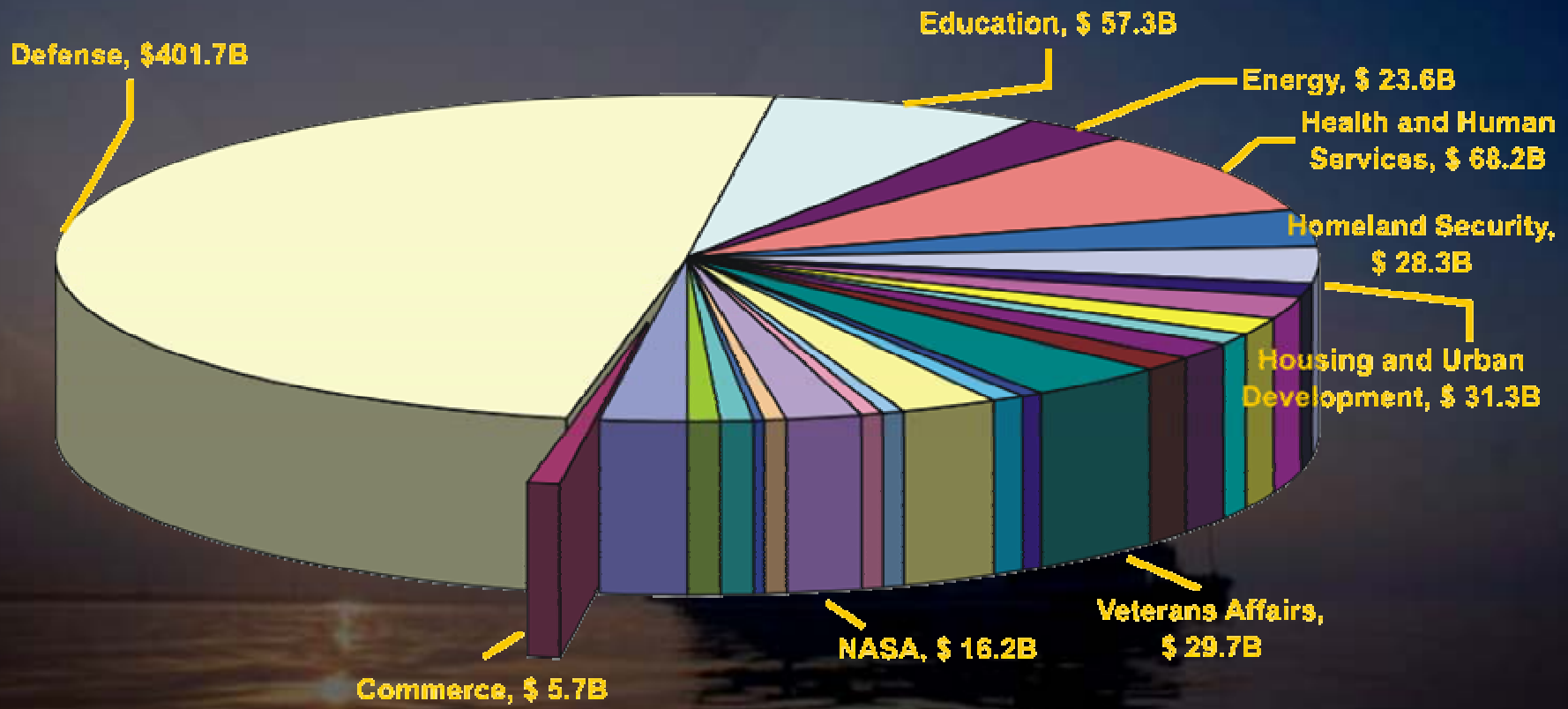
NOAA's New Operating Paradigm

Planning, Programming, Budgeting, and Execution System (PPBES)

- Employ sound business case decision-making
- Performance driven
  - Customer/partner focus
- Cross-cutting teams
  - Water Mission Goal: Gary Carter lead for all NOAA

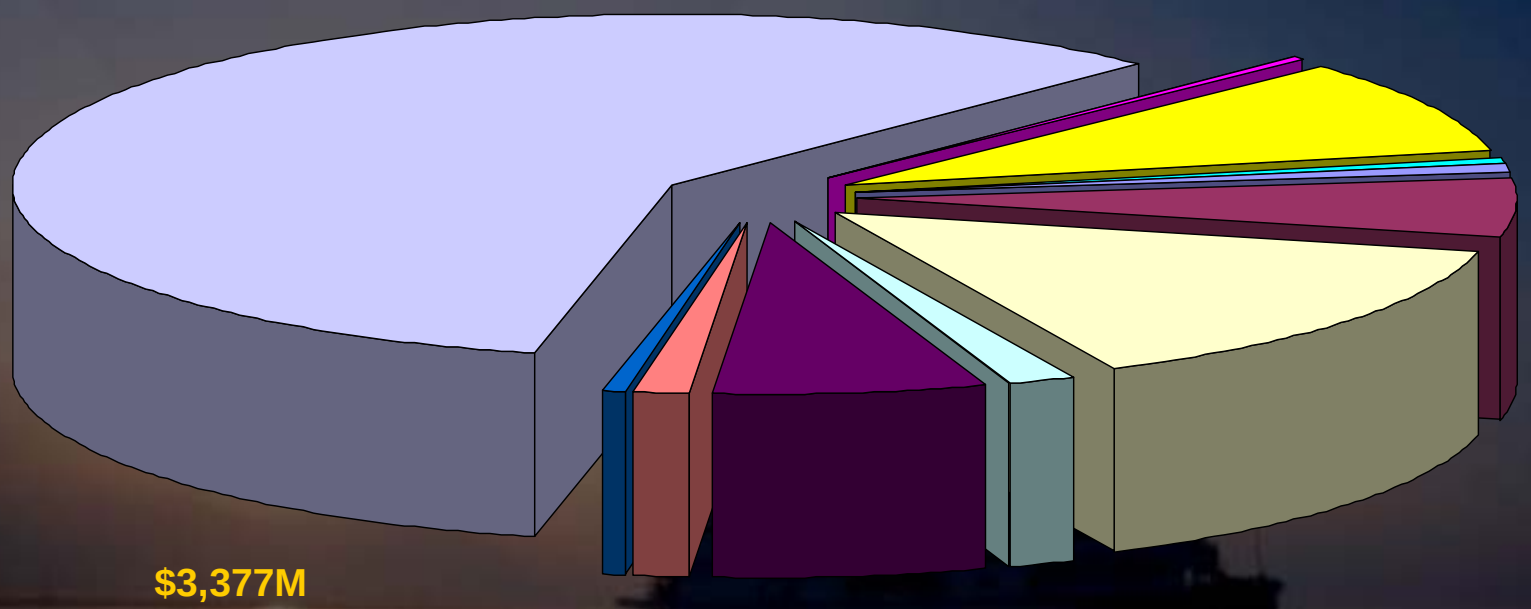
Meeting the Challenge

Discretionary Budget Authority by Agency, FY 05 Estimates ($818.4B)



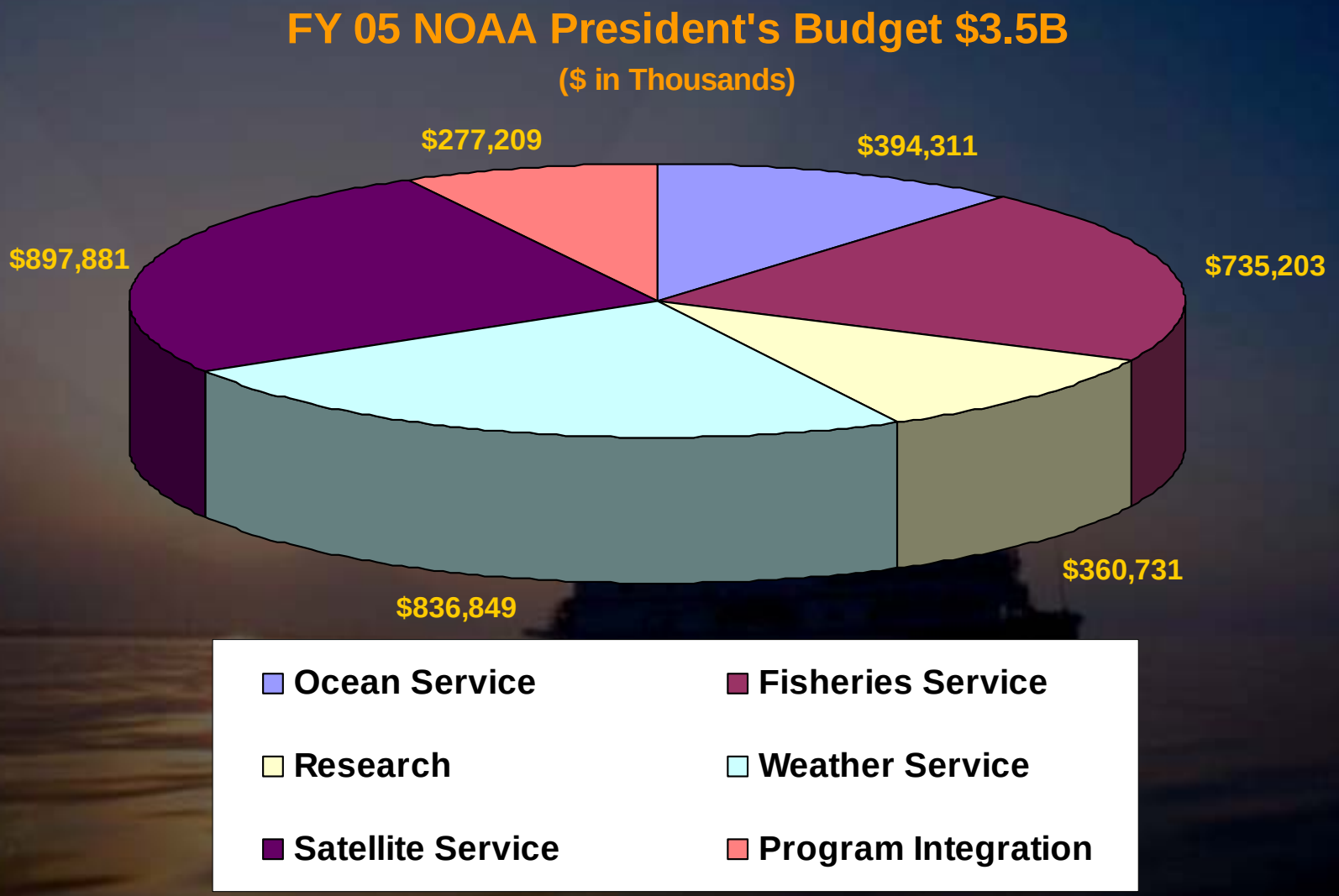
Meeting the Challenge

Department of Commerce (FY 05 Estimates, $5,716M)



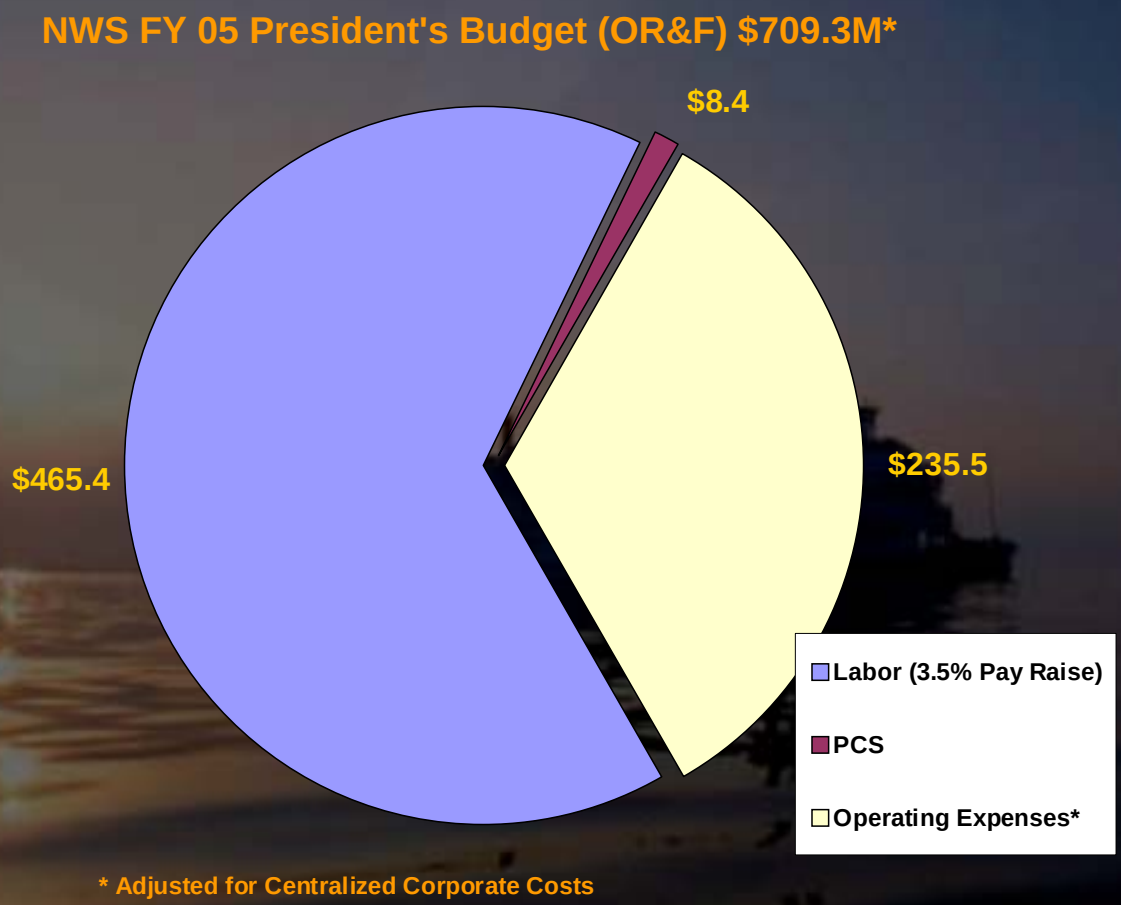
- Departmental Management
- Bureau of the Census
- International Trade Administration
- Minority Business Development Agency
- Patent and Trademark Office
- National Institute of Standards and Technology
- Economic Development Administration
- Economic and Statistics Administration
- Bureau of Industry and Security
- National Oceanic and Atmospheric Administration
- Office of Technology Policy
- National Telecommunications and Information Administration

Meeting the Challenge



Meeting the Challenge

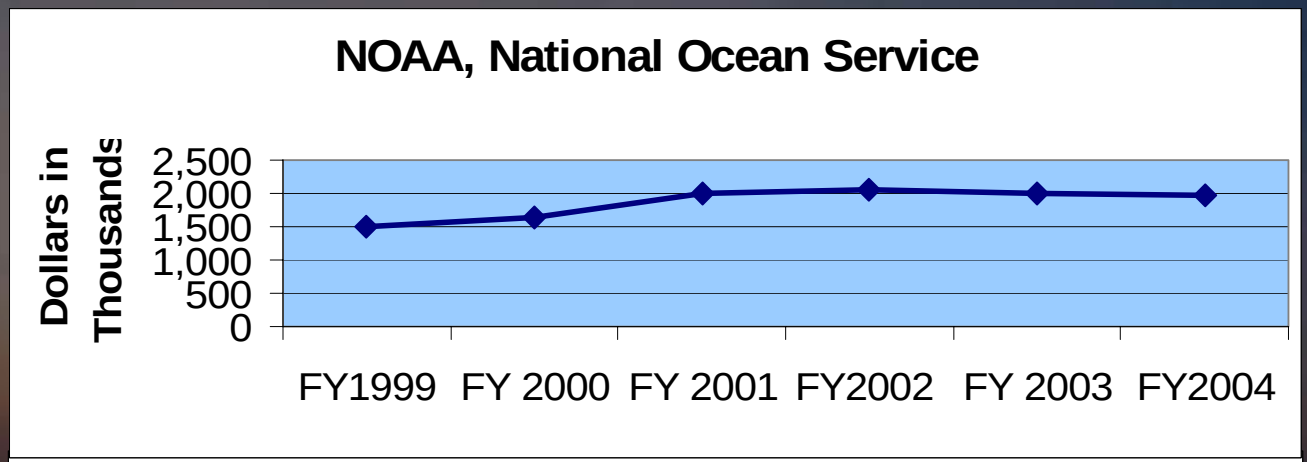
Budget Challenges Loom

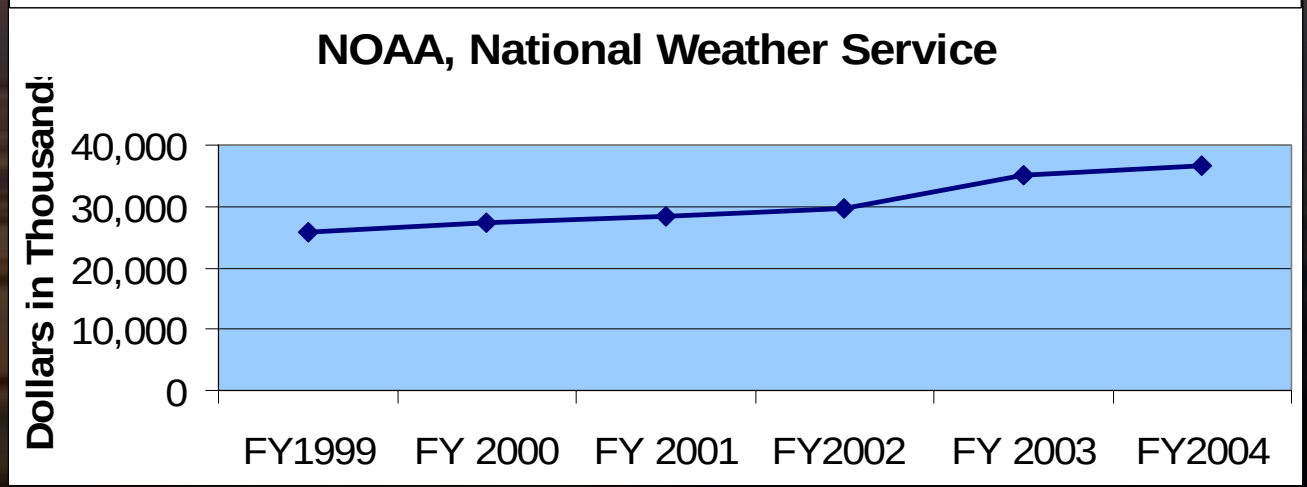


Meeting the Challenge

Resources Applied to Fresh Water Services Increasing

NOAA Funding Trend FY 1999-2004

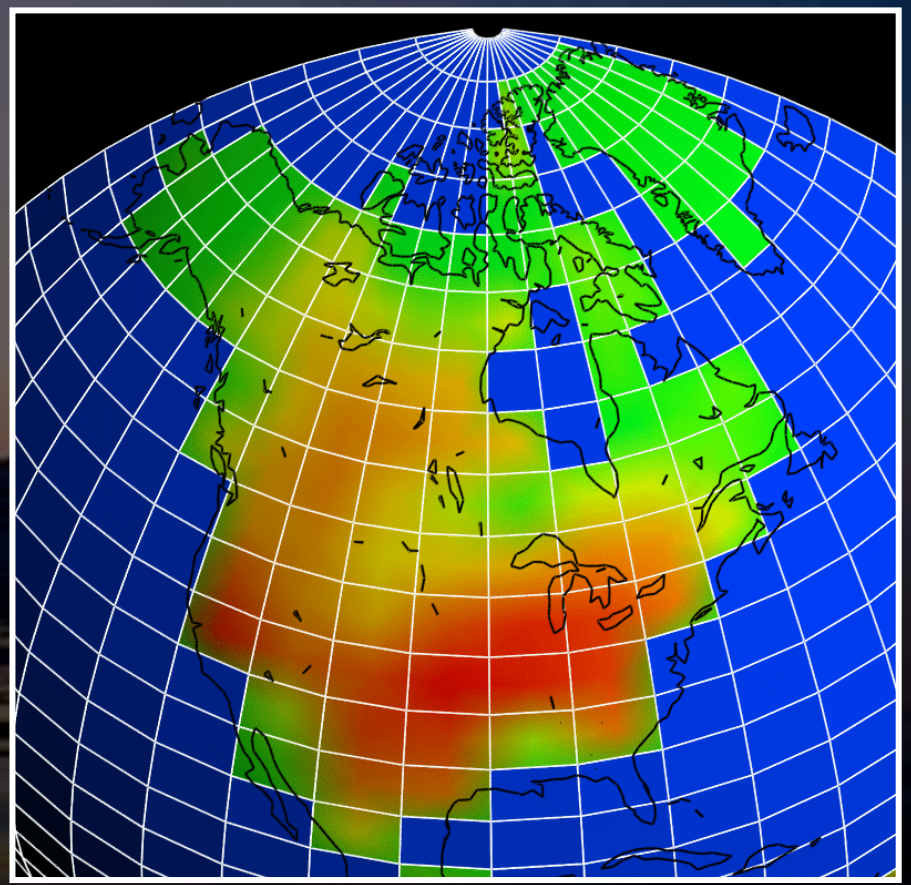




Hydrologic Services Program

Water Resources Initiative

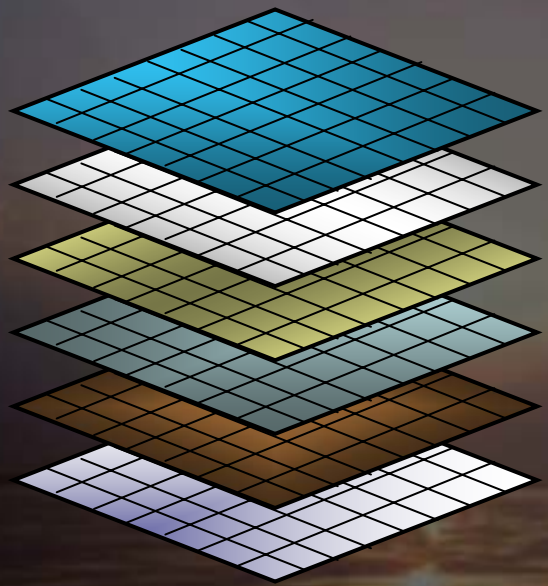
- Consistent water and soil condition forecasts delivered via a national digital database



Hydrologic Services Program

USGS Partnership

Debris Flow Watches and Warnings



- Terrain
- Land use/cover
- Soil type
- Precipitation Analyses
- Precipitation Forecasts
- Debris Flow Analyses
- Dissemination

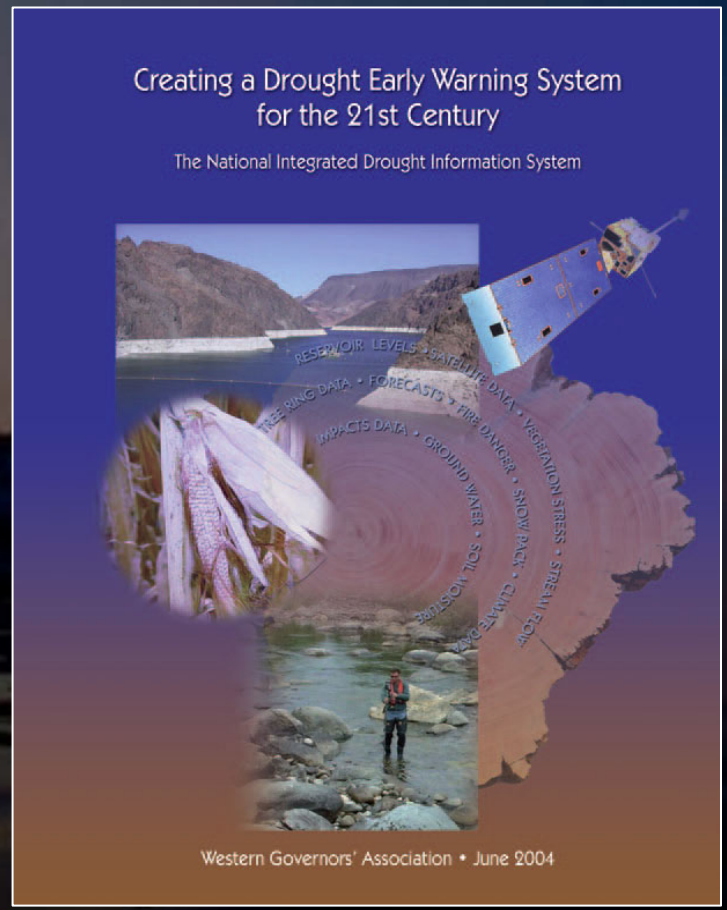
Capability:
NWS
USGS

Hydrologic Services Program

(with NWS Climate Services Program)

National Integrated Drought Information System

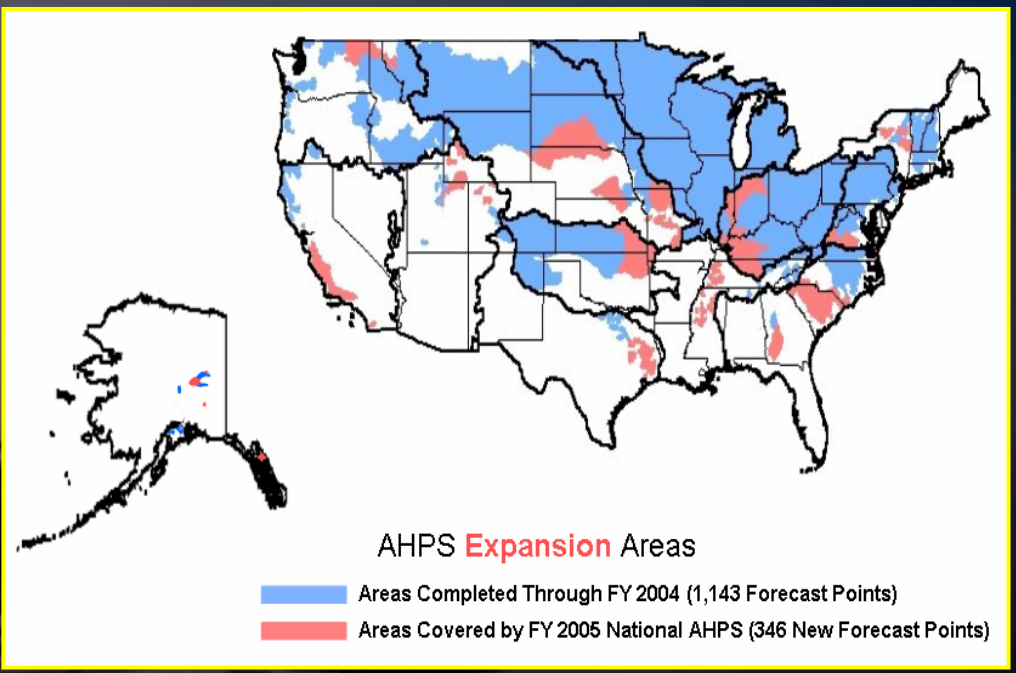
- Western Governors Association
- Potential impacts of drought and associated risks
- “COOP Modernization” is key component
- Builds on USGS stream gauge network



Hydrologic Services Program

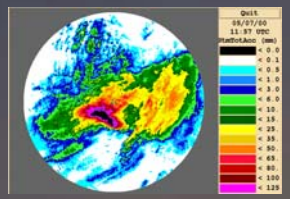
Advanced Hydrologic Prediction Service

- Providing consistent access to standardized graphics via consistent web interface
- $60 million/10 year program
- $766 million estimated annual recurring benefit (NHWC study)



Hydrologic Services Program

AHPS Leverages Government Infrastructure and Expertise

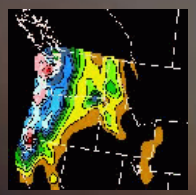

Precipitation Estimates

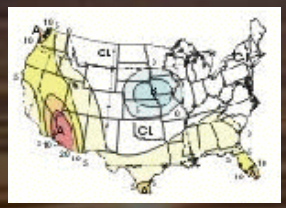

Radar Data


Satellite Data

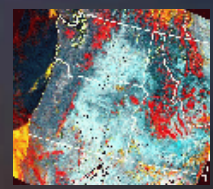

River Gauge Data


Weather Observations


Precipitation Forecasts


Climate Predictions

Hydrologic Forecast Services


Snow Cover/ Melt Data


Reservoir Releases

Valuable Information to Satisfy Diverse Customer Needs

Water Quality Forecasting
Planned Capabilities

- **Initial:** 2-day forecast guidance for total oxygen content and mercury contamination
  - Develop and validate via interagency pilot project for Gulf of Mexico
  - Deploy Nationwide within 5 years

- **Intermediate (5-7 years):**
  - Develop and test capability to forecast salinity and phosphates

- **Longer range (within 10 years):**
  - Extend water quality forecast range to 48-72 hours
  - Include broader range of significant pollutants

NOAA's Water Resources Initiative

Objective: Nationally consistent, water and soil forecasts delivered via a national digital database for critical decisions related to:

- **Sustainable irrigation**
- **More efficient power generation**
- **Sensible, year-long water conservation plans**
- **Rational allocation and distribution of water**
- **More cost-effective river commerce**
- **Protection of threatened and endangered species**
- **Balanced terrestrial/aquatic watershed management**
- **Enhanced aquatic habitats**

Builds on the Advanced Hydrologic Prediction Service

Conclusion

NOAA's National Weather Service Hydrologic Services Program will be a key player addressing America's water information needs.

Water Sensor?

Finding New Solutions with Existing Systems