

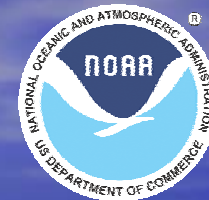
NOAA and the Weather Research Community

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Chair, NOAA Research Council

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Prediction Enterprise
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NOAA's Mission



To understand and *predict* changes in Earth's environment and conserve and manage coastal and marine resources to meet our nation's economic, social, and environmental needs.

- Internal and NOAA-funded extramural research aligns with this mission
- Weather prediction research needs to focus on near-term operational needs and longer-term advances
- NOAA uses results of NSF, NASA, and other funded research
- NOAA works within the community to strengthen the weather enterprise.



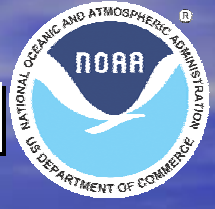
NOAA Research Vision and Plan



- 20-year Research Vision: Understanding Global Ecosystems to Support Informed Decision-Making
- 5-year Research Plan: Toward Understanding and Predicting Earth's Environment
- Provide broad research guidance as well as specific research milestones
- "Living documents" developed with input from external community; input will continue to be sought as plans evolve
- Key direction over next five years: Earth system modeling and GEOSS (Global Earth Observation System of Systems)



NOAA's Weather and Water Goal

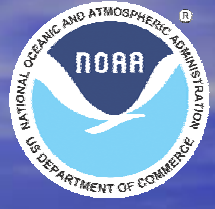


Serve Society's Needs for Weather and Water Information

- 5-year Research Activities and Themes
 - Improve weather forecasts and warning accuracy and lead time
 - Improve water resources forecasting capabilities
 - Establish and improve a national air quality forecast capability
 - Improve understanding and forecast capability in coasts, estuaries, and oceans



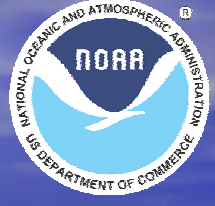
Current NOAA Partnership Programs in Weather Research - Competitive Grants



- The US Weather Research Program (USWRP):
 - US interagency cooperation
 - Embedded external grants activity
- THORPEX: THE Observing system Research and Predictability EXperiment
 - National and international coordination
 - More than half of NOAA's THORPEX resources applied to external grants



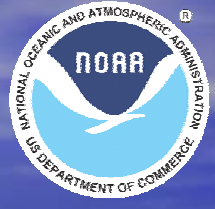
Earth System Modeling, GEOSS, and the Role of THORPEX



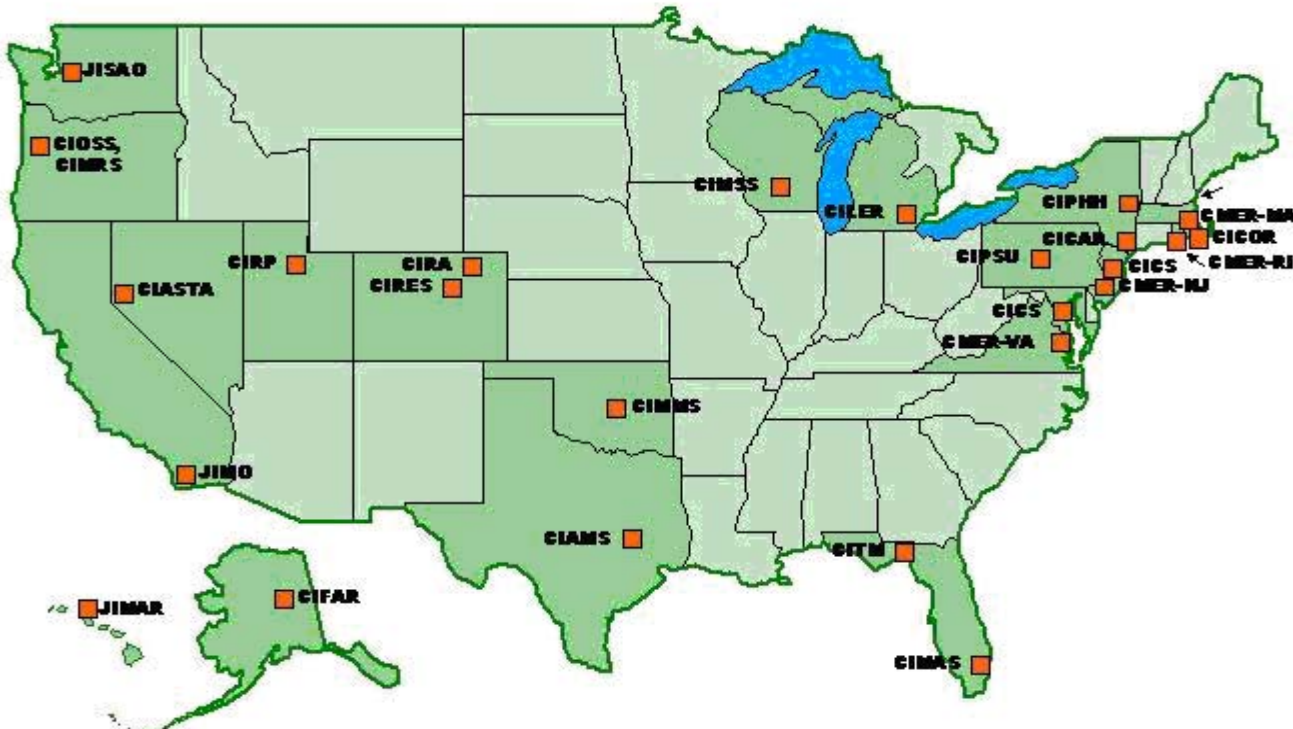
- THORPEX: A WMO World Weather Research Programme activity with the objective of accelerating improvements in 1-14 day forecasts of high impact weather
- An end-to-end program consisting of observations, assimilation, modeling and socio-economic applications
- Provides observing system and predictability research support to develop 21st Century systems and models
- THORPEX will link weather research with GEOSS and Earth system modeling

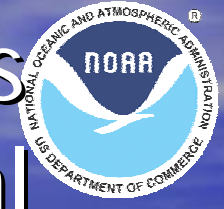


NOAA Partnership Programs in Weather Research - Cooperative Institutes



- Critical to partnering NOAA Research with the academic community
- New policy established to create CIs through full and open competition



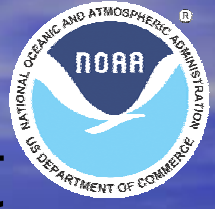


Testbeds and Transition Activities – Mechanisms to Engage External Partners

- Joint Hurricane Testbed
- Joint Center for Satellite Data Assimilation
- Developmental Test Center – A WRF development and testing facility
- Hydrometeorology Testbed
- Climate Testbed
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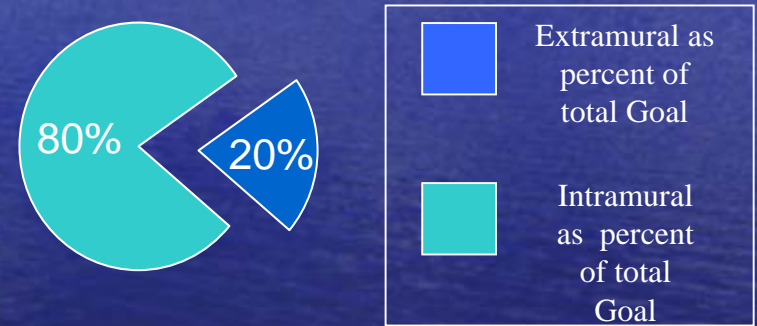
Fiscal Year 2005 NOAA Weather Research Budget



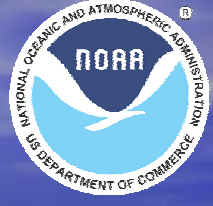
Weather & Water Goal



Weather & Water Goal R&D



- Portion devoted to weather research is about 12%
- Challenge is to increase opportunities for external funding



Future Directions in Partnering

- Growing need for interdisciplinary research and multi-time and space-scale research (e.g., weather-climate connection)
 - NOAA does not have all of the needed expertise
 - Increased need for external partners
- Community involvement in GEOSS and Earth system modeling with THORPEX as the weather component
- USWRP in NOAA moving toward a 90% external grants activity
- Need for weather prediction community to work together to raise national awareness of the societal benefits from weather research and the need for increased investment