



THE WEATHER  
COALITION

9 May 2006

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The Honorable Frank Wolf, Chairman  
The Honorable Alan Mollohan, Ranking Minority Member  
Subcommittee on Science, the Departments of State, Justice,  
and Commerce, and Related Agencies  
Committee on Appropriations  
U.S. House of Representatives  
Washington, D.C. 20515

Dear Mr. Chairman and Mr. Mollohan:

On behalf of the **Weather Coalition**, a diverse group of 32 institutions (full list follows) representing the private sector, academia, the research community, and professional associations, we submit the following comments on the FY 2007 budget request for the National Oceanic and Atmospheric Administration, the National Science Foundation, and the National Aeronautics and Space Administration.

***The Weather Coalition strongly supports the President's American Competitiveness Initiative (ACI), an investment that we believe will pay great dividends for this country if it is sustained as planned over the next ten years.*** In the president's budget request for FY07, NSF is one of the critical agencies in line for ACI increases intended to double the physical sciences research budget by 2016. This is a necessary first step in any initiative that seeks to strengthen this nation's economic competitiveness. However, the strength of the country's R&D investment is a result of multiple agencies playing multiple, complementary, and interlocking roles. Federally funded basic research has been and will remain the important driver that allows agencies, academia, and the private sector to develop technologies and other societal applications that have led to the leadership position in the world order that the U.S. has enjoyed since World War II, and that will continue to keep this country competitive on a global scale. To that end, the atmospheric, oceanic, and hydrologic physical sciences must be included as an expansion of the ACI in order for the nation to truly rise above the gathering "competitiveness storm." Global, regional and local observing systems that collect data essential for basic research, must be the best possible. Investments in the mathematical, statistical, and cyber sciences will result in next generation numerical models and computing systems that will allow full and effective use of the data collected and that are essential for the computations involved.

Thus, we believe that the broad science missions of NOAA and NASA, *in addition to* NSF, are critical to the health and wellbeing of this country's global competitive advantage. **We look forward to the ACI developing rapidly to shore up and strengthen the physical sciences, broadly defined, supported by *all three* of the major science mission agencies, NOAA, NSF, and NASA, within your jurisdiction.**

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**National Oceanic and Atmospheric Administration (NOAA)**

NOAA's importance to the nation was made glaringly evident as Hurricane Katrina bore down on the Gulf Coast last fall. Without the R&D and technology behind the accurate forecasts and warnings that moved tens of thousands of people out of the region, the number of deaths caused directly by the storm would have been catastrophic – likely in the thousands. This is just one illustration of the manner in which NOAA data, research, and services contribute to the nation's security, economy, environment, and quality of life, yet NOAA hurricane forecast R&D is also just one example of areas severely under funded in the request for FY07. NOAA benefits U.S. citizens all day, every day, and provides a critical link for this nation between research results, research applications, technology development, and operations. Yet *NOAA's overall budget request is 5.8% below the FY06 Enacted Budget.*

***For NOAA to address all areas of concern and priority that have been identified by Congress to be important to the nation, and to restore core funding that has decreased in recent years, we urge the Committee to fund NOAA at \$4.5 billion for FY07 and to do so while maintaining vital, enhanced support for other portion's of the Subcommittee's research and development portfolio.***

**National Weather Service (NWS).** The FY07 NWS request eases some of the extremely difficult pay raise pressures that are squeezing NWS operations to the breaking point. In recent years, NWS has assumed responsibility from the research community for several programs such as the Space Environment Center (SEC) which is responsible for space weather forecasts and research, the US Weather Research Program (USWRP), and the Wind Profilers. None has fared particularly well in the budget process. SEC, the nation's official source of space weather alerts and solar radiation warnings, was cut in FY06 from just over \$7 million to less than \$4 million, possibly compromising the nation's ability to anticipate and plan for outages in the national power grid and the GPS system of satellites. USWRP has not been able to adequately keep up with our international obligation to fund THORPEX, and has not yet implemented planned national activities for this international research program designed to accelerate improvements in the accuracy of one-to-14 day weather forecasts with deliverables such as improving disaster mitigation/response and increasing economic efficiency. The staff of the NOAA Profiler Network, 35 Doppler Radar sites that provide vital vertical wind profile data, has been cut back to the point that reliability and urgently required upgrades are severely compromised. The FY07 NWS request will allow these and other critical programs such as AWIPS and Local Warnings and Forecasts to *barely* meet minimum requirements. ***We urge the Committee to do everything possible to fund the President's entire request of \$881.86 million for the National Weather Service, a line office that provides the most critical of activities for policy makers, stakeholders, and citizens.***

**Office of Oceanic and Atmospheric Research (OAR).** OAR conducts research and technology development that are the underpinnings for NOAA operations. If the requested amount is appropriated, OAR would receive a small increase to its base funding for FY07, some of which will keep the nation on track with its contribution to the international commitment of

completing the ocean climate observing system by 2010. This is a high priority component within this country's obligation to the construction of the international Global Earth Observation System of Systems (GEOSS). In addition, the increase will support drought impact research through the National Integrated Drought Information System (NIDIS) and develop new data sets that will enhance operational climate prediction. Also within OAR, the Hurricane Research Division (HRD) works to improve the nation's hurricane forecasts for both path and intensity. This is an activity the importance of which should be obvious, post-Katrina, yet HRD funding, modest to begin with, is cut by over \$1.0 million in the FY07 request. ***We urge the Committee to support the foundational research, technology development, and international commitments represented by the FY07 request of \$348.6 million for the Office of Oceanic and Atmospheric Research and to shore up funding for obviously critical research areas such as hurricane forecasts.***

**National Environmental Satellite, Data and Information Service (NESDIS).** NESDIS is responsible for managing all aspects of the remotely gathered environmental data that form the basis for environmental research meeting the needs of policy makers and users. The FY07 request provides a badly needed increase to cover basic operations and to provide additional funding for data archiving, and access and assessment activities at the NOAA National Data Centers which serve over 50,000 users annually. In addition, the cut of \$6 million, from \$31.0 million to \$25.0 million, should be restored to fund archiving, assessment, and open access at the three principal NOAA data centers. ***We urge the Committee to support the President's FY07 request of \$1,033.8 million for NESDIS.***

NESDIS is supporting **GOES-R**, the next satellites in a long line of Geostationary Operational Environmental Satellites (GOES). The GOES-R Series will provide continuity of coverage and advanced capabilities for NOAA's geostationary satellites, which provides continuous monitoring of meteorological conditions in the Western Hemisphere. GOES-R is a major step forward in the fields of weather, atmosphere, climate, and ocean monitoring. Increased data collection will provide critical observations for severe weather events such as hurricanes, and will contribute to public safety and the economy. ***We urge the Committee to support, at the very least, the President's total FY07 request of \$335.8 million for the GOES-R Series.***

**National Ocean Service (NOS).** NOS and NESDIS oversee the marine buoy observing network that undergirds the forecasting of weather and climate emanating from the oceans and Great Lakes. The existing national network is sorely lacking in coverage to address present and future national needs. ***We urge the Committee to support the Integrated Ocean Observing System (IOOS) initiative at the level of \$138.0 million to expand the atmospheric, coastal ocean, and Great Lakes observing network.***

**National Science Foundation (NSF)**

NSF plays a unique role among all federal agencies. In achieving its goal to develop new knowledge to meet societal needs and improve quality of life, NSF strengthens the ability of the country to create new ideas; develop new technologies; create a diverse, knowledgeable

workforce; and set new standards that challenge any boundaries of invention and intellect. These are all key components of our capacity to compete globally in the 21<sup>st</sup> Century and are fundamental drivers of wealth-producing growth and job creation. ***We urge the Committee to support the President's overall request of \$6.02 billion for the National Science Foundation and, within NSF, the request of \$4.66 billion for Research and Related Activities (R&RA), the heart of NSF's scientific enterprise. In addition, we urge the Committee to support the Administration's goal of doubling the research budget of NSF over the course of a decade, finally realizing the promise of the National Science Foundation Authorization Act of 2002.***

**Geosciences Directorate (GEO).** Within R&RA, GEO is the principal source of federal funding for university-based basic research in the geosciences, providing about 68% of the total federal support in these areas. The FY07 increase for GEO includes aggressive investment in cyberinfrastructure, without which discoveries in the geosciences simply will not be able to advance at a competitive rate. ***We urge the Committee to support the President's request of \$744.85 million for the Geosciences Directorate and, within GEO, to grant the President's request of \$226.85 for the Atmospheric Sciences Division which provides resources for the atmospheric sciences community that are critical to the physical safety of our citizens, our economic health, and global issues of national security relevance such as severe weather, climate change, the security of our communications infrastructure, and the environmental health of the planet.***

**Office of Cyberinfrastructure.** Given the requirements of modern research, leading-edge progress that results in societal benefits cannot be realized without the acquisition, development and operation of state-of-the-art cyberinfrastructure services including ever-improving supercomputers, high-capacity mass-storage systems, and an ever-expanding suite of software tools. NSF promises to accomplish much in this area with the creation of the Office of Cyberinfrastructure. ***We urge the Committee to support the President's FY07 request of \$182.42 million for the Office of Cyberinfrastructure which includes \$50.0 million for the all-important achievement of petascale performance for application to important science and engineering problems.***

#### **National Aeronautics and Space Administration (NASA)**

NASA's Science Mission Directorate (SMD) plays a unique and central role in our nation's ability to attract students into science and engineering fields, and to understand Earth's environmental complexities and its relationship to the Sun. Despite this essential role, NASA's FY07 federal budget request would curtail long-term growth in the science portfolio, defer or eliminate many of the nation's most successful and promising missions, and fund only a relatively small number of scientific missions in the next five to ten years. While the manned program is incredibly important, it cannot come at the complete expense of this critical investment.

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NASA's investment in Earth Science Research and Analysis (R&A) and the missions, tools, and science applications associated with this research makes possible the study and advanced monitoring of Earth from space providing data that simply are not available from any other federal agencies. These observations, used in research and in the construction of computer models to predict weather, climate, and natural hazards, provide a critical basis from which our understanding of our planet evolves and on which informed policy decisions, both long-term and emergency response, can be made. **Given the tremendous importance of this underlying activity, the R&A analysis programs should continue to receive robust funding levels at least commensurate with FY 2006 levels.**

In addition to investments in Earth-Sun System, NASA must preserve the essential PI-led programs that serve as a primary conduit through which the nation's best scientists can engage NASA in cutting-edge problems. **NASA should support the Explorer, Discovery, and New Frontier programs and fully commit to missions unless there are technical or cost-related issues.** When NASA promotes premature termination of those missions for non-technical or cost reasons, it is in danger of sending the message to the community that it is an unreliable partner and that this is not a field that future scientists and engineers should pursue. Moreover, balanced, highly skilled teams of talent are lost, as are discoveries on the immediate horizon, and the associated national technology breakthroughs.

While the exploration initiative and International Space Station are of great human interest and of scientific value, we are far from unlocking all the mysteries of our own planet. NASA programs that are in progress and others that have been planned but are yet to be implemented will enable us to protect space vehicles, astronauts, and satellites from the devastating radiation of solar storms; mitigate some of the property damage and prevent some of the deaths caused by severe weather; and help us to mitigate, understand, and cope with the inevitable effects of natural and human-induced climate change. These programs are critical to the health of our economy, to the health of the Earth, and to our national security. ***As the Administration's new vision for U.S. space exploration unfolds, we urge the Committee to protect the vibrant NASA science accounts and missions, current and planned, which make possible the study of our own planet and the environment that sustains life on Earth.***

#### **Integrated Earth Observation System (IEOS)**

The US Group on Earth Observations (USGEO) has identified six near-term potential benefits that the US can reap as early benefits to participation in the Global Earth Observation System of Systems (GEOSS): Data Management; Improved Observations for Disaster Warnings; Global Land Observation System; Sea Level Observation System; National Integrated Drought Information System; and Air Quality Assessment and Forecast System. ***We urge the committee to help our nation achieve its IEOS vision to "enable a healthy public, economy, and planet through an integrated, comprehensive, and sustained Earth observation system," by fully funding and encouraging the participating agencies to allocate sufficient resources to succeed with these envisioned near-term benefits.***

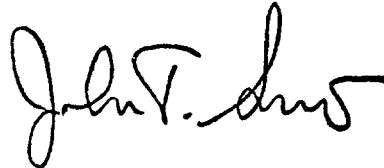
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On behalf of the Weather Coalition, we want to thank the Committee for your stewardship of the nation's scientific enterprise and your understanding that the future strength of the nation depends on the investments we make in science and technology today.

Sincerely,



Ray J. Ban  
Executive Vice President  
The Weather Channel



John T. Snow  
Director, Oklahoma Weather Center  
and Dean, College of Atmospheric and Geographic  
Sciences, University of Oklahoma

**Co-Chairs of the Weather Coalition**

Attachment