

**Testimony in Support of FY 2012 Funding for the  
National Science Foundation**

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***Submitted by:***

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***Submitted to:***

Committee on Appropriations  
Subcommittee on Commerce, Justice, Science and Related Agencies  
United States Senate

The Natural Science Collections Alliance appreciates the opportunity to provide testimony in support of fiscal year (FY) 2012 appropriations for the National Science Foundation (NSF). We encourage Congress to provide NSF with at least \$7.767 billion in FY 2012.

The NSF drives innovation and supports job creation by awarding research grants to scientists and institutions, assisting with the acquisition of research infrastructure and instrumentation, and training students and teachers. Collectively, these activities provide the foundation for the nation's research enterprise, generating information that ultimately drives economic growth, improves human health, addresses energy needs, and enables sustainable management of our natural resources. These efforts, however, require a sustained and predictable federal investment. Unpredictable swings in federal funding can disrupt research programs, create uncertainty in the research community, and stall the development of the next great idea. The budget request for FY 2012 would invest in these critical efforts by allowing NSF to fund nearly 2,000 additional research grants, thereby supporting more than 6,000 additional researchers and students.

The Biological Sciences Directorate (BIO) within NSF is the primary federal supporter of basic biological research, and serves a vital role in ensuring our nation's continued leadership in the biological sciences. BIO provides roughly 68 percent of federal grant support for fundamental biological research conducted at our nation's universities and other nonprofit research centers, such as natural history museums. BIO's support of transformative research has advanced our understanding of complex living systems and is leading the way forward in addressing major challenges – conserving biodiversity, mitigating and adapting to climate change, and developing new bio-inspired technologies.

Equally important, NSF provides essential support for our nation's biological research infrastructure, such as natural science collections, university-based natural history museums, and field stations. These research centers enable scientists and students to study the basic data of life, conduct modern biological and environmental research, and provide undergraduate and graduate students with hands-on training opportunities.

We strongly encourage Congress to support the request for \$10 million to support the digitization of high priority U.S. specimen collections. Collections play a central role in many fields of biological research, including disease ecology, biodiversity, and climate change. They also provide critical information about existing gaps in our knowledge of life on Earth. This investment would help the scientific community ensure access to and appropriate curation of irreplaceable biological specimens and associated data, and would stimulate the development of new computer hardware and software, digitization technologies, and database management tools. For example, this effort is bringing together biologists, computer and information scientists, and engineers in multi-disciplinary teams to develop innovative imaging, robotics, and data storage and retrieval methods. These tools will expedite the digitization of collections and, more than likely, contribute to the development of new products or services of value to other industries.

The FY 2012 budget would also continue efforts to better understand biodiversity. Funding is included for the Dimensions of Biodiversity program to support cross-disciplinary research to define the impacts of biodiversity on ecosystem services and human well being.

The Directorate for Geosciences (GEO) also supports research and student training opportunities with natural history collections. GEO supports cross-disciplinary research on the interactions between Earth's living and non-living systems—research that has important implications for our understanding of climate change, water and natural resource management, and biodiversity.

Within the Directorate for Education and Human Resources, the Informal Science Education program is advancing our understanding of informal science, technology, engineering, and mathematics (STEM) learning. This program supports projects that create tools and resources for STEM educators working outside of traditional classrooms. The program also builds professional capacity for research, development, and practice in the field. We urge Congress to support the Administration's FY 2012 budget request for this program.

## **Conclusion**

Continued investments in natural history collections and the biological sciences are critical. The President's budget request for NSF will help spur economic growth and innovation and continue to build scientific capacity at a time when our nation is at risk of being outpaced by our global competitors. Please support an investment of \$7.767 billion in NSF for FY 2012.

Thank you for your thoughtful consideration of this request and for your prior support of the National Science Foundation.

## **About NSC Alliance**

The Natural Science Collections Alliance (NSC Alliance) is a nonprofit association that supports natural science collections, their human resources, the institutions that house them, and their research activities for the benefit of science and society. We are comprised of over 100 institutions who are part of an international community of museums, botanical gardens, herbariums, universities, and other institutions that house natural science collections and utilize them in research, exhibitions, academic and informal science education, and outreach activities.