

RESEARCH AND RELATED ACTIVITIES**\$5,131,690,000**

The FY 2008 Budget Request for the Research and Related Activities (R&RA) Appropriation is \$5,131.69 million, an increase of \$365.74 million, or 7.7 percent, above the FY 2007 Request of \$4,765.95 million. The presentation here reflects the transfer of the Experimental Program to Stimulate Competitive Research (EPSCoR) from Education and Human Resources to R&RA. Support from the R&RA Appropriation enables U.S. leadership and progress across the frontiers of scientific and engineering research and education.

As global competition in science and engineering becomes more intense, sustained focus on high-risk, high-reward research is more critical than ever. NSF's investments lay the foundation for revolutionary technologies, tackle difficult challenges of enormous social and economic significance, and expand the transformational power of science, engineering, and education. To meet the challenges set forth in the American Competitiveness Initiative (ACI), the R&RA portfolio for FY 2008 prioritizes innovations at the frontiers of knowledge with special emphasis in this Request on the physical and computer sciences and engineering.

Research and Related Activities

(Dollars in Millions)

	FY 2006 Actual	FY 2007 Request	FY 2008 Request	Change over	
				FY 2007 Request Amount	Percent
Biological Sciences	\$580.90	\$607.85	\$633.00	\$25.15	4.1%
Computer and Information Science and Engineering	496.35	526.69	574.00	47.31	9.0%
Engineering	585.46	628.55	683.30	54.75	8.7%
Geosciences	703.95	744.85	792.00	47.15	6.3%
Mathematical and Physical Sciences	1,086.61	1,150.30	1,253.00	102.70	8.9%
Social, Behavioral and Economic Sciences	201.23	213.76	222.00	8.24	3.9%
Office of Cyberinfrastructure	127.14	182.42	200.00	17.58	9.6%
Office of International Science and Engineering ¹	42.61	40.61	45.00	4.39	10.8%
Office of Polar Programs	390.54	438.10	464.90	26.80	6.1%
Integrative Activities ²	233.30	231.37	263.00	31.63	13.7%
U.S. Arctic Research Commission	1.17	1.45	1.49	0.04	2.8%
Total, Research and Related Activities	\$4,449.25	\$4,765.95	\$5,131.69	\$365.74	7.7%

Totals may not add due to rounding.

¹OISE FY 2006 Actual includes \$7.73 million provided to NSF by the U.S. Department of State for an award to the U.S. Civilian Research and Development Foundation.

²Includes funding for EPSCoR for all years shown for comparability. The FY 2008 Request for R&RA includes \$107.0 million for EPSCoR. Prior to FY 2008, the program was funded through the Education and Human Resources appropriation.

Appropriation Language

For necessary expenses in carrying out the National Science Foundation Act of 1950, as amended (42 U.S.C. 1861-1875), and the Act to establish a National Medal of Science (42 U.S.C. 1880-1881); services as authorized by 5 U.S.C. 3109; maintenance and operation of aircraft and purchase of flight services for research support; acquisition of aircraft; and authorized travel; \$5,131,690,000, to remain available until September 30, 2009, of which not to exceed \$510,000,000 shall remain available until expended for Polar research and operations support, and for reimbursement to other Federal agencies for operational and science support and logistical and other related activities for the United States Antarctic program: *Provided*, That receipts for scientific support services and materials furnished by the National Research Centers and other National Science Foundation supported research facilities may be credited to this appropriation.

**Research and Related Activities
FY 2008 Summary Statement
(Dollars in Millions)**

<u>Research and Related Activities</u>	Enacted/ Request	Rescission	Carryover/ Recoveries	Transfers ¹	Total Resources	EPSCoR	Total Adjusted Resources	Obligations Incurred/ Est. ²
FY 2006 Appropriation	\$4,387.52	-\$56.04	\$15.73	\$7.73	\$4,354.94	\$98.22	\$4,453.16	\$4,449.25
FY 2007 Request	4,665.95	-	3.90	-	4,669.85	100.00	4,769.85	4,769.85
FY 2008 Request	5,131.69	-	-	-	-	-	5,131.69	5,131.69
\$ Change from FY 2007								\$361.84
% Change from FY 2007								7.6%

Subtotals may not add due to rounding.

¹Transferred from the U.S. International Development Cooperation Agency for an award to the U.S. Civilian Research and Development Foundation.

²The FY 2008 Request for R&RA includes \$107.0 million for EPSCoR. Prior to FY 2008, EPSCoR was funded through the Education and Human Resources appropriation.

Adjustments to Base

In FY 2006 and FY 2007, \$98.22 million and \$100.0 million, respectively, are presented for EPSCoR in the Integrative Activities activity within the R&RA appropriation. EPSCoR funding is included in the FY 2008 Request for R&RA.

Explanation of Carryover

Within the Research and Related Activities appropriation, a total of \$3.90 million was carried forward into FY 2007. This includes \$2.06 million in Integrative Activities for the Science of Learning Centers and \$311,512 for the Science and Technology Centers. The Directorate for Engineering carried forward \$882,287 within the Small Business Innovation Research program and \$24,776 within the Small Business Technology Transfer program. The Office of Polar Programs carried forward \$141,652 for Antarctic Infrastructure and Logistics Support. The remaining amounts are from several awards in various programs that were not ready for obligation in FY 2006.

**RESEARCH AND RELATED ACTIVITIES
FY 2008 Performance Highlights**

The table below shows the strategic planning and evaluation framework for activities funded through the R&RA appropriation. This framework was established in the NSF Strategic Plan for FY 2006-2011. NSF's strategic outcome goals are assessed annually by the Advisory Committee for GPRA Performance Assessment. Investments are assessed further using the Program Assessment Rating Tool (PART). Additional details are available in the Performance Information section of this document.

**Research and Related Activities
By Strategic Outcome Goal**
(Dollars in Millions)

	FY 2006 Actuals	FY 2007 Request	FY 2008 Request	Change over FY 2007 Request	
				Amount	Percent
Discovery ¹	\$2,873.88	\$3,020.80	\$3,241.75	\$220.95	7.3%
Learning	268.60	273.59	284.26	10.67	3.9%
Research Infrastructure	1,259.54	1,429.27	1,553.26	123.99	8.7%
Stewardship	47.24	42.29	52.42	10.13	24.0%
Total, NSF	\$4,449.25	\$4,765.95	\$5,131.69	\$365.74	7.7%

Totals may not add due to rounding.

¹Includes funding for EPSCoR for all years shown for comparability. The FY 2008 Request for R&RA includes \$107.0 million for EPSCoR. Prior to FY 2008, the program was funded through the Education and Human Resources appropriation.

As part of the 2008 budget process, NSF completed PART reviews of three of its investment areas noted below. All three were rated "effective".

- **Capability Enhancement (CE).** The CE program enhances the capability of individuals, institutions, and small businesses to conduct high quality, competitive science and engineering research, education, and technological innovation. CE component programs are: The Centers of Research Excellence in Science and Technology and its Historically Black Colleges and Universities Research Infrastructure in Science and Engineering activity; the Experimental Program to Stimulate Competitive Research; the Small Business Innovation Research and Small Business Technology Transfer programs; the Industry/University Cooperative Research Centers program; the Research in Undergraduate Institutions program; and Research Opportunity Awards.
- **Centers.** The Centers program enables academic institutions along with their non-academic partner institutions to integrate discovery, research resources, and learning on scales that are extensive enough to significantly impact important science and engineering fields and cross-disciplinary areas through large-scale organized efforts. The Centers program consists of programs that exploit opportunities in science, engineering, and technology in which the complexity of the research problems or the resources needed to solve them require the advantages of scope, scale, change, duration, equipment, facilities, and students that can only be provided by an academic research center. The Centers Program includes the Centers for Analysis and Synthesis, Chemical Bonding Centers, Engineering Research Centers, Materials Research Science and Engineering Centers, Nanoscale Science and Engineering Centers, Science and Technology Centers, and Science of Learning Centers.

- **Infrastructure and Instrumentation (I&I).** The I&I program reflects parts of NSF's mission directed at programs to "strengthen scientific and engineering research potential" and "to support the development and use of computers and other scientific methods and technologies, primarily for research and education in the sciences and engineering." Five program elements comprise I&I: Digital Library, Major Research Instrumentation, Research Resources, Science Resources Statistics, and Shared Cyberinfrastructure.