

SOCIAL, BEHAVIORAL AND ECONOMIC SCIENCES (SBE) \$301,130,000
+\$45,880,000 / 18.0%

SBE Funding
(Dollars in Millions)

	FY 2010	FY 2010	FY 2010	FY 2012	Change Over	
	Omnibus	ARRA	Enacted/ Annualized		FY 2010	Enacted
	Actuals	Actuals	FY 2011 CR	Request	Amount	Percent
Behavioral and Cognitive Sciences (BCS)	\$94.56	\$0.21	\$94.58	\$105.90	\$11.32	12.0%
Social and Economic Sciences (SES)	99.05	0.03	99.05	113.81	14.76	14.9%
National Center for Science and Engineering Statistics (NCSES) ¹	34.76	-	34.62	38.01	3.39	9.8%
SBE Office of Multidisciplinary Activities (SMA)	26.94	-	27.00	43.41	16.41	60.8%
Total, SBE	\$255.31	\$0.24	\$255.25	\$301.13	\$45.88	18.0%

Totals may not add due to rounding.

¹ In FY 2012, the Division of Science Resources Statistics (SRS) is renamed the National Center for Science and Engineering Statistics (NCSES).

About SBE

SBE’s mission is to promote the understanding of people and their lives by supporting research that reveals basic facets of human behavior; to encourage research that helps provide answers to important societal questions and problems; to work with other scientific disciplines to ensure that basic research and the solutions to problems build upon the best multidisciplinary science; and to provide mission-critical statistical information about science and engineering (S&E) in the U.S. and the world through the National Center for Science and Engineering Statistics.

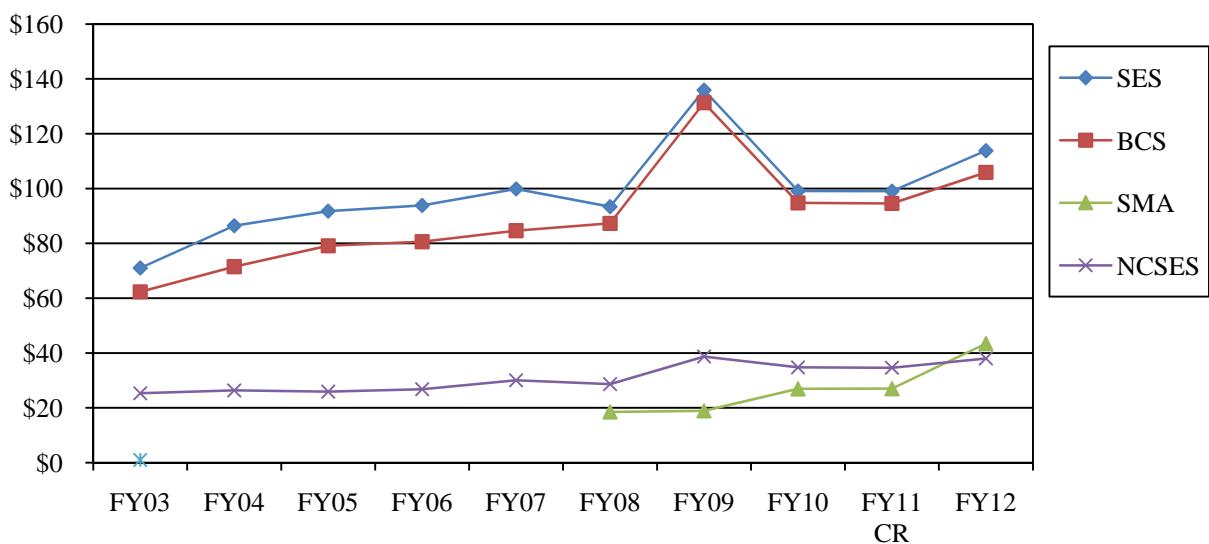
SBE supports long-term research across a diverse range of sciences that include economics, psychology, sociology, geography, neuroscience, anthropology, archaeology, statistics, linguistics, and political science. SBE combines these sciences in a dynamic and constantly-evolving suite of interdisciplinary activities that link these fields to each other and to other science and engineering fields. Thus, SBE is a significant partner in cross-directorate programs that connect the social and behavioral sciences to priority investments across NSF, such as clean energy and sustainability (via the Science, Engineering, and Education for Sustainability (SEES) portfolio), cyberinfrastructure and computer science (via Cyberinfrastructure Framework for 21st Century Science and Engineering (CIF21)), and national security (via the Comprehensive National Cybersecurity Initiative (CNCI)). The SBE FY 2012 Request directly reflects this commitment to advancing interdisciplinary work in areas of national priority.

In recent decades, SBE research has resulted in new understandings of human development and social dynamics; of perception, memory, linguistic, learning, and reasoning processes; of how people behave both as individuals and as members of groups and organizations; and of key social institutions and indicators of these institutions’ health. SBE contributions to knowledge of economic processes, for example through improved auctions and markets for the wireless spectrum, have produced large contributions of revenue for the U.S. government. SBE participates in inter-directorate, interagency, and international research and education activities, and supports many forms of transformative research. SBE supported research is beginning to provide a better understanding of the innovation process.

The SBE portfolio also includes major surveys that provide broad-based infrastructure for the research community, while providing policy makers with needed information. The National Center for Science and Engineering Statistics (NCSES) is the designated federal statistical entity with responsibility for statistics about the S&E enterprise, and its data collections and analyses are important for evaluating overall U.S. competitiveness in science and engineering.

SBE provides about 58 percent of the federal funding for basic research at academic institutions in the SBE sciences.

SBE Subactivity Funding
(Dollars in Millions)



FY 2012 Summary by Division

In FY 2012 BCS will be a major partner in NSF-wide interdisciplinary activities such as SEES, CIF21, and CNCI. As part of these initiatives, BCS will expand support for behavioral and cognitive research that informs our understanding of critical issues facing the nation such as terrorism, pandemics, climate change, and sustainability. Increased SEES funding in the Request will support research with SBE-specific emphases, such as investments in understanding human behavior and decision making about energy use, interactions among natural and human systems, vulnerability and resilience, and participation in Sustainable Energy Pathways and Sustainability Research Networks. In its ongoing programs, BCS will operate in an interdisciplinary context; providing additional support for research on the complex ways people interact with climate and other natural systems; and research and methodological development on learning and adaptive systems. BCS support for CNCI will enable research on cognitive and behavioral aspects of threats to cybersecurity. BCS will continue to support the Science of Learning Centers (SLC) program, and the science of broadening participation. It will also continue investments in support of integrative interdisciplinary approaches to the understanding of human cultural and biological evolution over long time scales.

SES' FY 2012 request reflects its strong contribution to the unifying themes in the FY 2012 NSF Budget Request. This includes support for SEES, through investments in understanding energy use and decision making and the Sustainable Energy Pathways and Sustainability Research Networks activities; support for CNCI through the Cyber Economic Incentives theme; and support for CIF21 through community re-

search networks and research on virtual organizations. SES will also maintain its commitment to major existing programs and continue its support for surveys that provide unique insights into U.S. social, economic, and political life, while providing support for new research that has the potential to transform the social and economic sciences and contribute to effective policy development. SES will also enhance the CAREER program, an Administration priority. SES will partner with the Directorate for Computer and Information Science and Engineering (CISE) in exploring the emerging interface between computer science and economics. As part of a broadly interdisciplinary activity that spans SBE, SES will contribute to a new activity designed to understand the implications of a changing population shaped by aging and migration, and to develop new approaches to ensuring social well-being in this emerging population. The Division of Science Resources Statistics (SRS) was renamed the National Center for Science and Engineering Statistics (NCSES) in the America COMPETES Reauthorization Act of 2010 (P.L. 111-358). NCSES' FY 2012 request is focused on expanding activities to develop improved data on innovation activities in the U.S. NCSES requests support for development of a new Microbusiness R&D and Innovation Survey for firms with less than five employees and for an innovation module for the Business R&D and Innovation Survey (BRDIS) 2012. NCSES will pilot a project that will establish a collaboration between several federal agencies and NCSES to test the feasibility of tagging and extracting data from agencies' administrative records related to measures of research and development (R&D) activity; and partner with SMA on cyberinfrastructure for innovation as part of CIF21. Support is requested for the start of full scale implementation of a data collection system on those in postdoctorate appointments in the academic sector. NCSES will initiate a transition from its current online data systems to an alternative with improved and more flexible interfaces and will explore new methods to enhance data collection, analysis, and sharing capabilities.

SMA provides a focal point for programmatic activities that cut across NSF and SBE boundaries, and is SBE's broadest mechanism for contributing to Administration and NSF priorities. In addition, SMA assists with seeding multidisciplinary activities for the future. In FY 2012 SMA will play a critical role in the development of infrastructure to support interdisciplinary activities, most notably cyberinfrastructure for innovation, associated with CIF21; the Science of Science and Innovation Policy activity (SciSIP); the interagency STAR METRICS project; and SEES, including Sustainable Energy Pathways and Sustainability Research Networks. SMA will participate in the Enhancing Access to the Radio Spectrum (EARS) activity and CNCI, a multi-agency priority. SMA will partner with the BCS and SES divisions in supporting research on understanding population change in the 21st century, a new SBE investment with emphasis on migration and aging and their impact on job creation and human development. SMA also will continue to manage and support the agency-wide Science of Learning Centers (SLCs).

Major Investments

SBE Major Investments

(Dollars in Millions)

Area of Investment	FY 2010	FY 2010	FY 2012 Request	Change Over	
	Omnibus Actual	Enacted/ Annualized FY 2011 CR		FY 2010 Enacted Amount	Percent
SEES Portfolio	\$22.67	\$20.78	\$56.98	\$36.20	174.2%
Science of Learning Centers (SLC)	19.85	19.10	13.67	-5.43	-28.4%
SciSIP	14.30	13.75	14.75	1.00	7.3%
CIF21	-	-	12.00	12.00	N/A
CNCI	-	-	12.00	12.00	N/A
CAREER	6.68	5.16	5.87	0.71	13.8%
CTE	-	-	1.20	1.20	N/A
EARS	-	-	1.00	1.00	N/A

Major investments may have funding overlap, and thus should not be summed.

- SBE will make a significant investment in clean energy research through the SEES portfolio (+\$36.20 million, to a total of \$56.98 million) by funding existing and new research across the whole range of SBE sciences, as well as cross-directorate activities. Additional funding supports the SEES Sustainability Research Networks, Sustainability Energy Pathways, and Postdoctoral Fellowships. Funding also strengthens existing climate research and energy investments, and supports both existing and new investments in understanding energy use and in decision making, coastal communities, and vulnerability and resilience. The SMA, BCS, and SES divisions support new and existing SEES activities.
- In FY 2012, the Science of Learning Centers (SLC) program will begin a gradual phasing down of the program as the centers reach their endpoints, reflecting long-term planning for the Centers and advice from site visits, the SBE Advisory Committee, and the National Science Board. In FY 2012, SBE's investment will decrease by \$5.43 million to a total of \$13.67 million.
- SBE support for the Science of Science and Innovation Policy (SciSIP) increases in FY 2012 (+\$1.0 million, to a total of \$14.75 million), to support research and data collections related to innovation and R&D spending.
- Support for the new NSF-wide CIF21 investment (+\$12.0 million) will focus on three major components: Data-enabled Science, Community Research Networks, and Access and Connections to Cyberinfrastructure Facilities. SBE will simultaneously contribute to the development of new types of cyberinfrastructure and create new opportunities for SBE researchers in four important activities: Observation Data Network Pilots, Research Data on Innovation, Research on understanding and designing the 21st century networked society, and improved access to the large surveys supported by SBE. CIF21 is supported by four SBE divisions.
- SBE's support for CNCI (+\$12.0 million) is initiated in FY 2012 for research on cybersecurity, economics, and society as part of NSF's commitment to research in the area of cybersecurity. Part of this effort will be in partnership with CISE. SBE's major role will be to support the Cyber Economic Incentives theme within CNCI, but SBE's broad scientific base in the behavioral, social, and decision sciences opens up a wealth of opportunities to contribute to this important national priority.

SBE supports the CAREER program, an Administration priority (\$5.87 million). SBE's CAREER awards support young investigators in social and behavioral sciences who exemplify the role of teacher-scholar through outstanding research, excellent education, and the integration of education and research within the context of the mission of their organizations.

- SBE's participation in Cyberlearning Transforming Education (CTE) is funded at \$1.20 million in FY 2012 for research on the development of technologies for cyberlearning, and for studying the impact of those technologies on learning.
- EARS support is initiated in FY 2012 (+1.0 million). The recent NSF workshop report, *Enhancing Access to the Radio Spectrum*, outlines the need for research on new and innovative ways to use the spectrum more efficiently. SBE will work in partnership with the Directorates for Engineering (ENG), Mathematical and Physical Sciences (MPS), and Computer and Information Science and Engineering (CISE).

Summary and Funding Profile

SBE supports investment in core research and education as well as research infrastructure such as centers and facilities.

In FY 2012, the number of research grant proposals is expected to increase by approximately 797 compared to the FY 2010 Enacted level. SBE expects to award approximately 819 research grants in FY 2012. Average annualized award size will increase by \$12,702 and duration will be held constant at the FY 2010 Enacted level.

In FY 2012, funding for Centers accounts for 4.7 percent of SBE's request. Centers funding is decreasing as funding for SLC centers is phased down as planned. The SLC program will support six centers in FY 2012. Funding for facilities will continue at the FY 2010 Enacted level.

SBE Funding Profile

	FY 2010 Actual Estimate	FY 2010 Enacted/ Annualized FY 2011 CR	FY 2012 Estimate
Statistics for Competitive Awards:			
Number of Proposals	5,621	5,000	6,242
Number of New Awards	1,259	1,187	1,397
Regular Appropriation	1,251	1,187	1,397
ARRA	8	-	-
Funding Rate	22%	24%	22%
Statistics for Research Grants:			
Number of Research Grant Proposals	3,961	3,600	4,397
Number of Research Grants	739	720	819
Regular Appropriation	738	720	819
ARRA	1	-	-
Funding Rate	19%	20%	19%
Median Annualized Award Size	\$99,921	\$104,086	\$116,575
Average Annualized Award Size	\$115,447	\$121,873	\$134,575
Average Award Duration, in years	2.4	3.0	3.0

SBE Funding for Centers Programs and Facilities

SBE Funding for Centers Programs

(Dollars in Millions)

	FY 2010	FY 2010	FY 2012	Change Over	
	Omnibus	Enacted/ Annualized		FY 2010	Enacted
	Actual	FY 2011 CR	Request	Amount	Percent
Centers Programs	\$21.03	\$19.70	\$14.27	-\$5.43	-27.6%
<i>Science of Learning Centers (SMA)</i>	13.63	12.90	8.07	-4.83	-37.4%
<i>Science of Learning Centers (BCS)</i>	6.23	6.20	5.60	-0.60	-9.7%
<i>Nano Centers (BCS)</i>	0.18	0.18	0.18	-	-
<i>Nano Centers (SES)</i>	1.00	0.42	0.42	-	-

No FY 2010 obligations for centers were made with funds provided by the ARRA.

Centers Programs

- The Science of Learning Centers (SLC) program funding decreases by \$5.43 million to a total of \$13.67 million as funding for centers is phased down as planned. The program will support six centers in FY 2012.
- Funding for the Centers for Nanotechnology in Society (NSEC, CNS, CEIN) will continue at \$600,000.

SBE Funding for Facilities

(Dollars in Millions)

	FY 2010	FY 2010	FY 2012	Change Over	
	Omnibus	Enacted/ Annualized		FY 2010	Enacted
	Actual	FY 2011 CR	Request	Amount	Percent
Facilities	\$0.40	\$0.40	\$0.40	-	-
<i>National Nanotechnology Infrastructure Network (SES)</i>	0.40	0.40	0.40	-	-

No FY 2010 obligations for facilities were made with funds provided by the ARRA.

For detailed information on individual facilities, please see the Facilities chapter.

Facilities

- Funding for the National Nanotechnology Infrastructure Network (NNIN) will continue at \$400,000.

Program Evaluation and Performance Improvement

The Performance Information chapter provides details regarding the periodic reviews of programs and portfolios of programs by external Committees of Visitors and directorate Advisory Committees. Please see this chapter for additional information.

In FY 2010, SBE held one COV in September for the Division of Social and Economic Sciences (SES). The SBE Advisory Committee (SBE AC) met three times in FY 2010: November 2009 and May and September 2010.

In FY 2011, no SBE COVs will convene. SBE is scheduled to hold two Advisory Committee (AC) meetings.

In FY 2012, COVs will be held for the BCS, SMA and NCSES divisions. All SBE divisions are responding to and implementing recommendations from recent COVs.

Number of People Involved in SBE Activities

	FY 2010 Actual Estimate	FY 2010 ARRA Estimate	FY 2010 Enacted/ Annualized FY 2011 CR Estimate	FY 2012 Estimate
Senior Researchers	3,992	117	3,478	4,391
Other Professionals	527	9	441	580
Postdoctorates	341	9	259	375
Graduate Students	2,403	1	2,462	2,643
Undergraduate Students	936	7	1,330	1,030
Total Number of People	8,199	143	7,970	9,019

DIVISION OF BEHAVIORAL AND COGNITIVE SCIENCES (BCS) \$105,900,000
+ \$11,320,000 / 12.0%

BCS Funding

(Dollars in Millions)

	FY 2010		FY 2010	FY 2010		Change Over	
	FY 2010	FY 2010	Enacted/	FY 2012	FY 2010	FY 2010	Enacted
	Omnibus	ARRA	Annualized	Request	Amount	Percent	
	Actual	Actual	FY 2011 CR				
BCS Funding	\$94.56	\$0.21	\$94.58	\$105.90	\$11.32	12.0%	
Research	90.88	0.21	90.67	100.42	9.75	10.8%	
<i>CAREER</i>	4.10	-	2.57	2.92	0.35	13.6%	
<i>Centers Funding (total)</i>	6.91	-	6.58	5.98	-0.60	-9.1%	
<i>Science of Learning Centers</i>	6.23	-	6.20	5.60	-0.60	-9.7%	
<i>Nano Centers</i>	0.18	-	0.18	0.18	-	-	
<i>LTER</i>	0.50	-	0.20	0.20	-	-	
Education	3.68	-	3.91	3.48	-0.43	-11.0%	
Infrastructure	-	-	-	2.00	2.00	N/A	
<i>Research Resources</i>	-	-	-	2.00	2.00	N/A	

BCS supports research and related activities that advance fundamental understanding in the behavioral, cognitive, anthropological, and geographic sciences. Strong core programs are complemented by active involvement in competitions that support collaborative and cross-disciplinary projects. The division seeks to advance scientific knowledge and methods focusing on human cognition and behavior, including perception, thought processes, language, learning, and social behavior across neural, individual, family, and group levels. BCS also supports activities focusing on human variation at the scales of society, culture, and biology, and how these variations and related patterns develop and change across time and space. The division aims to increase basic understanding of geographic distributions and relationships as well as the capabilities to explore them, with an emphasis on interactions among human and natural systems on the Earth's surface. BCS research is helping us prepare for and mitigate the effects of natural and human-initiated disasters, predict and address how people respond to stressors, improve methods for effective learning, enhance the quality of social interaction, and respond to issues such as globalization, terrorism, and climate change. BCS investments in SEES advance our understanding of sustainability, and contribute to clean energy research.

In general, 54 percent of the BCS portfolio is available for new research grants. The remaining 46 percent of funds continuing grants made in previous years.

FY 2012 Summary

Research

- Overall, support for BCS basic research increases (+\$9.75 million to a total of \$100.42 million).
- CAREER funding will increase by \$350,000, to a total of \$2.92 million. This investment is consistent with BCS' emphasis on supporting early-career researchers and with the Administration's priority of support for CAREER awards.
- Increased funding (+\$11.80 million) for SEES to support research with SBE-specific emphases, such as investments in understanding human behavior and decision making about energy use, interactions among natural and human systems, vulnerability and resilience, and to participate in Sustainable Energy Pathways and Sustainability Research Networks.

- Increased support (+\$600,000) for interdisciplinary activities in learning and brain sciences.
- As planned, support for the SLC program decreases by \$600,000 to a total of \$5.60 million, with resources redirected to research on learning and understanding the brain. The reduction in FY 2012 will initiate a gradual phasing down of the SLC program as the centers reach their endpoints.
- Support of \$1.0 million for CIF21 will create new opportunities for BCS researchers to understand human behavior and cognition in the context of the 21st century networked society.
- \$1.50 million is aimed at understanding population change in the 21st century, a new SBE interdisciplinary investment, with emphasis on migration and human development as they pertain to learning, cognition, language, group dynamics, culture change, and the use of natural resources.
- Continued investment in the science of broadening participation in order to better understand the mechanisms and processes that result in the underrepresentation of women and minorities in STEM.
- Continued investment in support of integrative and interdisciplinary approaches to the understanding of human cultural and biological evolution over long time scales.
- Support of \$2.0 million for CNCI in FY 2012 for research in cybersecurity and behavior as part of NSF's commitment to research in this area.

Education

- FY 2012 support for REU supplements (\$1.0 million) and IGERT (\$1.80 million) will remain at the FY 2010 Enacted level.
- Funding for ADVANCE increases by \$20,000, to a total of \$680,000.
- Funding for the Next Generation Workforce (NGW) is eliminated (-\$450,000) in FY 2012 due to realignment of BCS' award portfolio. SBE and the Directorate for Education and Human Resources (EHR) are considering options for the future.

Infrastructure

- The BCS Request includes a new \$2.0 million investment in SEES and CIF21:
 - \$1.0 million for SEES will support Integrated Science and Engineering Research on Environmental, Economic and Energy Systems, designed to integrate SBE data and computational capabilities with those of other relevant fields.
 - Support of \$1.0 million for CIF21's Access and Connections to Cyberinfrastructure Facilities through SBE's new pilot program, Observation Network Data Pilots.
- Continued investments in needed research resources, particularly shared cyberinfrastructure.

DIVISION OF SOCIAL AND ECONOMIC SCIENCES (SES)

\$113,810,000
+\$14,760,000 / 14.9%

SES Funding

(Dollars in Millions)

	FY 2010 Omnibus Actual	FY 2010 ARRA Actual	FY 2010 Enacted/ Annualized FY 2011 CR	FY 2012 Request	Change Over FY 2010 Enacted Amount	Percent
SES Funding	\$99.05	\$0.03	\$99.05	\$113.81	\$14.76	14.9%
Research	85.79	0.03	84.99	97.18	12.19	14.3%
<i>CAREER</i>	2.38	-	2.59	2.95	0.36	13.9%
<i>Online Ethics Center for Engineering & Science Centers Funding (total)</i>	0.40	-	0.40	0.40	-	-
<i>Nano Centers(NSEC, CNS, CEIN)</i>	1.00	-	0.42	0.42	-	-
Education	4.77	-	4.72	4.29	-0.43	-9.1%
Infrastructure	8.49	-	9.34	12.34	3.00	32.1%
<i>Facilities-NNIN</i>	0.40	-	0.40	0.40	-	-
<i>Research Resources</i>	8.10	-	8.94	11.94	3.00	33.6%

SES supports research and related activities, conducted within the U.S. and globally, that improve our understanding of economic, political, and social institutions and how individuals and organizations behave within them. SES also supports activities investigating risk assessment and decision-making by individuals and groups; the nature and development of science and technology and their impact on society; methods and statistics applicable across the social, economic, and behavioral sciences; scholarly career development; and broadening participation in the social, behavioral, and economic sciences. Its discipline-based programs include sociology, economics, and political science, while interdisciplinary programs support fields such as decision-making and risk; methods, measurement and statistics; innovation and organizational change; law and social science; and science and technology studies. In many of its programs, SES is the major, if not only, source of federal funding for fundamental research, making important investments in the data resources and methodological advances that produce transformative research.

SES supports research and education through grants that range in size from small supplements for undergraduate collaboration with faculty to doctoral student support of dissertation research expenses to multi-million dollar survey awards such as the American National Elections Studies (ANES), the Panel Study of Income Dynamics (PSID), and the General Social Survey (GSS). These surveys, and others supported in SES, are national resources for research, teaching, and decision-making and have become models for similar undertakings in other fields.

SES also coordinates the Ethics Education in Science and Engineering Program, supporting (with other NSF directorates) the Online Ethics Center for Engineering and Science, and manages the Centers for Nanotechnology in Society. SES is also a participant in a number of Nanoscale Science and Engineering Centers and the National Nanoscale Infrastructure Networks (NNIN). In addition, SES plays a major role in managing the Decision Making Under Uncertainty collaborative projects.

In general, 63 percent of the total SES portfolio is available for new research grants. The remaining 37 percent funds continuing grants made in previous years.

FY 2012 Summary

Research

- Overall, support for basic SES research increases (+\$12.19 million to a total of \$97.18 million).
- CAREER funding in FY 2012 increases by \$360,000, to a total of \$2.95 million. This investment is consistent with SES's emphasis on supporting early career researchers and contributes to the Administration priority of increasing support for CAREER.
- SES will continue its centers investments (\$820,000), with support for the Online Ethics Center for Engineering and Science, and management of the Centers for Nanotechnology in Society.
- Support for CIF21 is initiated in FY 2012. SES will contribute by supporting research on community-based networks. Of particular interest to SES is how researchers can enhance the effectiveness of virtual organizations. Support of \$1.0 million will create new opportunities for SES researchers to understand the 21st century networked society.
- Increased funding (\$13.50 million) for SEES will support research in expanded SEES activities through SBE-specific emphases, such as investments in understanding energy use and in decision making, coastal communities, and vulnerability and resilience, through the enhancement of existing programs and new solicitations; funding will also support Sustainable Energy Pathways and Sustainability Research Networks.
- \$1.50 million supports research on understanding population change in the 21st century, a new SBE interdisciplinary investment with emphasis on migration and aging and their impact on job creation.
- SES support of \$6.0 million for CNCI is initiated in FY 2012 for research on cybersecurity, economics and society, as part of NSF's commitment to research in the area of cybersecurity.

Education

- FY 2012 support for REU supplements (\$1.0 million) and IGERT (\$2.5 million) will remain at the FY 2010 Enacted level.
- Funding for the ADVANCE program increases by \$20,000 to a total of \$790,000.
- Funding for the Next Generation Workforce (NGW) is eliminated (-\$450,000) in FY 2012 due to realignment of SES' award portfolio. SBE and the Directorate for Education and Human Resources (EHR) are considering options for the future.

Infrastructure

- FY 2012 support for NNIN (\$400,000) will remain at the FY 2010 Enacted level.
- Increased funding (+\$2.0 million) in CIF21, Access and Connections to Cyberinfrastructure Facilities:
 - \$1.0 million will support SBE's new pilot program, Observation Network Data Pilots.
 - \$1.0 million will improve mechanisms to provide access to data generated from SBE's large social and economic surveys.
- Increased funding of \$1.0 million for SEES will support Integrated Science and Engineering Research on Environmental, Economic and Energy Systems, designed to integrate SBE data and computational capabilities with those of other relevant fields.

**NATIONAL CENTER FOR SCIENCE AND ENGINEERING
STATISTICS (NCSES)**

\$38,010,000
+3,390,000 / 9.8%

NCSES Funding
(Dollars in Millions)

	FY 2010	FY 2010	FY 2010	FY 2012 Request	Change Over	
	Omnibus Actuals	ARRA Actual	Enacted/ Annualized FY 2011 CR		FY 2010 Enacted Amount	FY 2010 Enacted Percent
NCSES Funding¹	\$34.76	-	\$34.62	\$38.01	\$3.39	9.8%
Research	\$0.68		\$0.30	\$0.31		
Education	0.10	-	0.10	-	-0.10	-100.0%
Infrastructure	33.98	-	34.22	37.70	3.48	10.2%

¹ In FY 2012, the Division of Science Resources Statistics (SRS) is renamed the National Center for Science and Engineering Statistics (NCSES).

In the America COMPETES Reauthorization Act of 2010 (P.L. 111-358), the Division of Science Resources Statistics (SRS) was designated the National Center for Science and Engineering Statistics (NCSES) with the legislative mission to "...serve as a central Federal clearinghouse for the collection, interpretation, analysis, and dissemination of objective data on science, engineering, technology, and research and development." The legislative mandate for NCSES, as stated in the National Science Foundation Act of 1950, includes "to provide a source of information for policy formulation by other agencies of the Federal Government...."

To meet this mandate, NCSES, in its role as the federal statistical agency with responsibility for statistics about the S&E enterprise, provides policymakers, researchers, and other decision makers with high quality data and analysis on R&D, innovation, the education of scientists and engineers, and the S&E workforce. The work of NCSES involves survey development, methodological and quality improvement efforts, data collection, analysis, information compilation, dissemination, web access, and customer service to meet the statistical and analytical needs of a diverse user community. It also prepares two congressionally mandated biennial reports — *Science and Engineering Indicators (SEI)* and *Women, Minorities, and Persons with Disabilities in Science and Engineering*. The data collected by NCSES also serve as important tools for researchers in SBE's Science of Science and Innovation Policy (SciSIP) program and as the major component of the content of *SEI*.

The funding portfolio for NCSES includes ongoing, cyclical surveys; reports and other products; and projects accomplished primarily through contracts and also a few standard grants.

FY 2012 Summary

Education

- Funding for the Next Generation Workforce (NGW) is eliminated (-\$100,000) in FY 2012 due to realignment of NCSES' award portfolio. SBE and the Directorate for Education and Human Resources (EHR) are considering options for the future.

Infrastructure

- NCSES will increase support for the National Survey of College Graduates (NSCG) by \$1.19 million to implement the final stage of a new sample design based upon the Field of Degree question on the American Community Survey. The new sample design will enable the NSCG to provide more accurate

estimates of the size and characteristics of the total science and engineering (S&E) workforce, including immigrant scientists and engineers.

- Increased support in the amount of \$400,000 will be devoted to exploring new methods to enhance data collection, analysis, and sharing capabilities so that NCSES can better serve its role of providing information on the science and engineering enterprise.
- NCSES will provide \$300,000 for a pilot project establishing a collaboration between several federal agencies and NCSES to test the feasibility of tagging and extracting agencies' administrative records to measure R&D activity and improve the quality and timeliness of data collected and disseminated by NCSES in its federal R&D surveys.
- NCSES will invest in cyberinfrastructure for innovation as part of CIF21 (+\$1.50 million); NCSES will begin development of new transformational data sets that link R&D data traditionally collected by NCSES with outcomes data in order to better measure innovation.

SBE OFFICE OF MULTIDISCIPLINARY ACTIVITIES (SMA) \$43,410,000
+\$16,410,000 / 60.8%

SMA Funding
(Dollars in Millions)

	FY 2010		FY 2010		Change Over	
	Omnibus Actuals	ARRA Actual	Enacted/ Annualized FY 2011 CR	FY 2012 Request	FY 2010 Enacted Amount	Percent
SMA Funding	\$26.94	-	\$27.00	\$43.41	\$16.41	60.8%
Research	23.16	-	23.53	34.04	10.51	44.7%
<i>CAREER</i>	0.20	-	-	-	-	N/A
Centers Funding (total)	13.63	-	12.90	8.07	-4.83	-37.4%
<i>Science of Learning Centers</i>	13.63	-	12.90	8.07	-4.83	-37.4%
Education	3.78	-	3.47	3.37	-0.10	-2.9%
Infrastructure	-	-	-	6.00	6.00	N/A
<i>Research Resources</i>	-	-	-	6.00	6.00	N/A

SMA provides a focal point for programmatic activities that cut across SBE disciplinary boundaries, including the agency-wide Science of Learning Centers (SLCs). SMA also funds Science of Science and Innovation Policy (SciSIP), Research Experiences for Undergraduates (REU) Sites programs, and Minority Postdoctoral Research Fellowships (MPRF). In FY 2012, 36 percent of the SBE increase will be assigned to SMA, giving the directorate enhanced flexibility with which to support interdisciplinary science aimed at Administration and NSF strategic priorities. SMA will play a critical role in the development of infrastructure to support interdisciplinary activities, most notably cyberinfrastructure for innovation, associated with CIF21; SciSIP; the interagency STAR METRICS project; and SEES. In addition, SMA will fund Enhancing Access to the Radio Spectrum (EARS) and the Comprehensive National Cybersecurity Initiative (CNCI), a multi-agency initiative. Co-funding with other divisions in SBE and with other directorates is typical for SMA, as is participation in interagency activities. While all SBE divisions pursue interdisciplinary work, SMA assists with seeding multidisciplinary activities for the future. All areas of SBE sciences are represented in the SMA portfolio.

In general, 70 percent of the SMA portfolio is available for new research grants. The remaining 30 percent funds continuing awards made in previous years, including all funding for the SLCs.

FY 2012 Summary

Research

- Overall, support increases for basic research activities (+\$10.51 million above the FY 2010 Enacted level to a total of \$34.04 million).
- Funding for the SLC program (six active centers) in SMA decreases by \$4.83 million, to a total of \$8.07 million. The overall SLC program decreases by \$5.43 million in SBE (to a total of \$13.67 million) to initiate a gradual phasing down of the program as the centers reach their endpoints.
- \$1.0 million supports research on understanding population change in the 21st century, a new interdisciplinary SBE investment with emphasis on migration and aging and their impact on job creation and human development as they pertain to learning, cognition, language, group dynamics, culture change, and the use of natural resources.

- SEES increases (+\$7.40 million above the FY 2010 Enacted level) for Sustainability Research Networks, Sustainable Energy Pathways, and support for cross-directorate and cross-divisional research.
- Support of \$1.0 million for Cyberinfrastructure Framework for 21st Century Science and Engineering (CIF21) is initiated in FY 2012. SMA will contribute by supporting research on Community Research Networks. Of particular interest to SMA are new opportunities for SBE researchers to understand the 21st century networked society.
- Support of \$1.0 million is initiated in FY 2012 for the EARS program.
- Support of \$4.0 million for CNCI in FY 2012, will enable a partnership with CISE's Cyber Economic Incentives theme to support research at the interstices of the economic and computer sciences to achieve secure practices through the development of market forces that incentivize good behavior.

Education

- FY 2012 support for REU Sites (\$2.37 million) and the Minority Postdoctoral Research Fellowships (MPRF) (\$1.0 million) programs will remain at the FY 2010 Enacted level.
- Support for the GK-12 program will end in FY 2011 (-\$100,000), as part of the NSF-wide termination of the program.

Infrastructure

The SMA Request includes new investments (+\$6.0 million to a total of \$6.0 million) in SEES and CIF21:

- SMA will take the lead SBE role, working with BCS and SES, to integrate SBE data and computational capabilities with those of other relevant fields as part of SEES, Integrated Science and Engineering Research on Environmental, Economic and Energy Systems (\$1.50 million).
- With a \$2.0 million investment, SMA will lead a new pilot program, in collaboration with BCS and SES, titled Observation Network Data Pilots. This program will create a network of social and behavioral observation stations that will enhance research infrastructure and promote data access as part of CIF21's Access and Connections to Cyberinfrastructure Facilities.
- As part of CIF21, \$2.50 million will support activities in Data-Enabled Science.