

**SOCIAL, BEHAVIORAL AND ECONOMIC SCIENCES (SBE)                    \$272,350,000**  
**+\$18,100,000 / 7.1%**

**SBE Funding**  
(Dollars in Millions)

	FY 2012	FY 2012	FY 2014	Change Over	
	Actual	Enacted/ Annualized FY 2013 CR	Request	FY 2012 Enacted Amount	Percent
Social and Economic Sciences (SES)	\$97.26	\$97.18	\$102.51	\$5.33	5.5%
Behavioral and Cognitive Sciences (BCS)	92.47	92.69	97.43	4.74	5.1%
SBE Office of Multidisciplinary Activities (SMA)	28.22	28.23	30.65	2.42	8.6%
National Center for Science and Engineering Statistics (NCSES)	36.23	36.15	41.76	5.61	15.5%
<b>Total, SBE</b>	<b>\$254.19</b>	<b>\$254.25</b>	<b>\$272.35</b>	<b>\$18.10</b>	<b>7.1%</b>

Totals may not add due to rounding.

**About SBE**

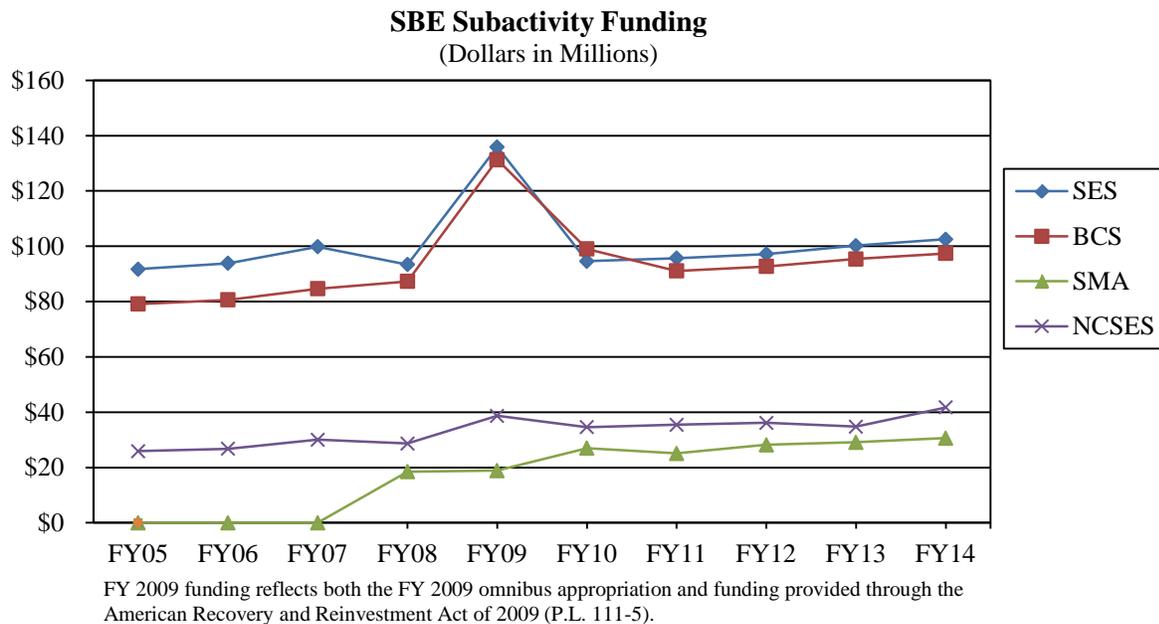
SBE’s mission is to promote the understanding of people and their lives by supporting research that reveals basic facets of human behavior; to encourage research that addresses important societal questions and problems; to work with other scientific disciplines to ensure that basic research and solutions 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 (NCSES). SBE supports long-term research across a diverse range of sciences that includes economics, psychology, sociology, geography, neuroscience, anthropology, archaeology, statistics, linguistics, and political science. SBE combines these sciences in a dynamic 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 the agency.

SBE’s FY 2014 Request is informed by three key priorities: (1) participate in cross-directorate programs that integrate the social and behavioral sciences into priority NSF investments such as Science, Engineering, and Education for Sustainability (SEES); Comprehensive National Cybersecurity Initiative (CNCI) (via the Secure and Trustworthy Cyberspace (SaTC) investment); Cyberinfrastructure for 21<sup>st</sup> Century Science, Engineering, and Education (CIF21)/Big Data; and Innovation Corps (I-Corps); (2) sustain the directorate’s ongoing strategic transformation through support for interdisciplinary research and training (via INSPIRE and SBE’s own SBE 2020) and the emerging investment in cognitive science and neuroscience; and (3) protecting and enhancing core research programs and the commitment to the National Center for Science and Engineering Statistics (NCSES). These investments reflect both newly requested funds and a redeployment of resources previously committed to other areas.

SBE continues to strategically transform its scientific direction. These changes build on NSF’s strategic plan, *Empowering the Nation Through Discovery and Innovation: NSF Strategic Plan for Fiscal Years 2011-2016*; and on the directorate’s SBE 2020 visioning activity, which led to a report entitled *Rebuilding the Mosaic*, which was published by NSF in November 2011.

The SBE portfolio also includes major surveys that provide broad-based infrastructure for the research community while providing policy makers with needed information. 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 56 percent of the federal funding for basic research at academic institutions in the SBE sciences.



### FY 2014 Summary by Division

- SES’s FY 2014 request reflects its strong contribution to the unifying themes in the FY 2014 NSF Budget Request. This includes SEES, through investments in the Hazards, SEES Fellows, Water Sustainability and Climate, and Sustainability Research Networks activities; Secure and Trustworthy Cyberspace (SaTC) through the Cyber Economic Incentives theme within CNCI; and CIF21 through community research networks and research on virtual organizations and with an initial investment in CIF21’s Big Data emphasis area. SES will continue efforts to build the scientific foundation and research evidence base needed for future programmatic efforts in broadening the participation in science and engineering (S&E) of women, underrepresented minorities, and people with disabilities (via SBE’s Science of Broadening Participation (SBP)). SES will also maintain its commitment to existing programs and continue support for surveys that provide unique insights into U.S. social, economic, and political life, while providing funding for new research that has the potential to transform the social and economic sciences and contribute to effective policy development. SES will also enhance funding for the CAREER program. To further transform SBE by increasing interdisciplinary research, training, and integration with other parts of NSF, SES will sustain its investment in SBE 2020, funding more SBE Fellows. To enhance interdisciplinary research and training, SES will participate in the Interdisciplinary Behavioral and Social Science Research (IBSS) program and continue its role in international activities with increased investments in the European Open Research Area (ORA) and Science Across Virtual Institutes (SAVI) programs. SES will maintain investment in the National Nanotechnology Infrastructure Network (NNIN).

- In FY 2014, BCS will be a major partner in NSF-wide interdisciplinary activities such as SEES, CIF21, cognitive and neuroscience research, and CNCI. BCS will expand support for behavioral and cognitive research that informs our understanding of critical issues facing the Nation such as terrorism, pandemics, and sustainability. Increased SEES funding will focus on 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 Hazards 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 contribute to broadening participation in S&E of women, underrepresented minorities, and people with disabilities in STEM (via SBP). Increased funding for the SBE 2020 activity will enable BCS to partner with other NSF directorates, increasing interdisciplinary research and training for behavioral and cognitive scientists. BCS will uphold its role in international activities by participating in SAVI, ORA, and other international partnerships. It will also support the Science of Learning Centers (SLC) program and continue investments in integrative interdisciplinary approaches to the understanding of human cultural and biological evolution over long time scales. BCS will also continue to fund basic research that advances understanding of the brain, cognition, and behavior through various research mechanisms.
- SMA provides a focal point for programmatic activities that cut across NSF and SBE boundaries. In addition, SMA assists with seeding interdisciplinary activities for the future. In FY 2014, SMA will continue to play an important role in the expansion of interdisciplinary training as part of SBE 2020, by expanding the SBE Postdoctoral Research Fellowship (SPRF) program to include interdisciplinary postdoctoral fellowships; SMA will provide overall management for the program. Support for enhancing the research experience for students will continue via investments in the Research Experiences for Undergraduates (REU) Sites and Supplements programs. SMA will fund interdisciplinary activities associated with CIF21; the Science of Science and Innovation Policy program (SciSIP); the interagency STAR METRICS pilot project; cognitive science and neuroscience; and SEES, including Hazards, Sustainability Research Networks, and SEES Fellows. SMA will participate in I-Corps, INSPIRE, and SaTC (through the Cyber Economic Incentives theme within CNCI, a multi-agency priority). SMA will continue to manage the agency-wide Science of Learning Centers program.
- For FY 2014, NCSES will close a growing gap in its national estimates for research and development funding and performance by developing and implementing a survey of nonprofit organizations. It will also expand the scope of administrative records sources being considered to augment the full suite of its existing surveys and proceed with a pilot project establishing collaboration between several federal agencies to assess the feasibility of using agencies' administrative records to measure research and development activity. NCSES will test new measures in the Survey of Doctorate Recipients (SDR) that address data gaps related to understanding the relationship between federal support for graduate education and outcomes, such as employment; increase the frequency of the Survey of State Government Research and Development; and develop and test effective data collection strategies for the nascent Microbusiness Innovation Science and Technology Survey (MIST).

**Major Investments**

**SBE Major Investments**

(Dollars in Millions)

Area of Investment	FY 2012	FY 2012	FY 2014	Change Over	
	Actual	Annualized FY Enacted/ 2013 CR	Request	FY 2012 Enacted Amount	Percent
CAREER	8.58	5.54	6.01	0.47	8.5%
Cognitive Science and Neuroscience	1.00	1.00	3.00	2.00	200.0%
CIF21	5.50	5.50	7.50	2.00	36.4%
CTE	1.00	1.00	1.00	-	-
CNCI	7.58	6.00	6.00	-	-
I-Corps	0.20	0.50	0.50	-	-
INSPIRE	3.32	0.50	1.00	0.50	100.0%
Research Experiences for Undergraduate (REU) Sites and Supps	3.99	3.32	3.89	0.57	17.2%
SaTC	4.00	4.00	4.00	-	-
SEES	7.75	7.75	9.25	1.50	19.4%
SciSIP	12.80	13.50	11.05	-2.45	-18.1%

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

- CAREER: SBE supports CAREER (an increase of \$470,000 over FY 2012 Enacted, to a total of \$6.01 million) with awards to young investigators in social and behavioral sciences who exemplify the role of teacher-scholar through the integration of education and research.
- Cognitive Science and Neuroscience: Support for this cross-foundation activity (\$3.0 million total, \$2.0 million above the FY 2012 Enacted level) will contribute to NSF’s participation in the Office of the Science and Technology Policy’s effort to coordinate federal research in this area. SBE and other NSF directorates work together informally through co-review of interdisciplinary proposals and formally through special solicitations, such as Collaborative Research in Computational Neuroscience. A Dear Colleague Letter (DCL) was issued in FY 2013 supporting research on neuroscience and cognitive science. In FY 2014, SBE, in conjunction with the Directorates for Computer and Information Science and Engineering (CISE); Engineering (ENG); Biological Sciences (BIO); and Mathematical and Physical Sciences (MPS), will continue to leverage existing investments in neuroscience, informed by the results of the DCL activity, and come together to call for a broad-based focus on understanding the brain and learning how to deploy that understanding.
- CIF21: Support for this NSF-wide investment (\$7.50 million total, \$2.0 million above FY 2012 Enacted) will support awards for data and cyberinfrastructure investments that create new opportunities for SBE researchers to understand human behavior and cognition and the effectiveness of virtual organizations in the context of the 21<sup>st</sup> century networked society. Also, SBE will make an initial investment in CIF21’s Big Data emphasis area for research that advances the core scientific and technological means of managing, analyzing, visualizing, and extracting information from large, diverse, data sets, especially related to neuroscience, economics, and the integration of the human, social, and natural worlds.

- CTE: SBE's participation in Cyberlearning Transforming Education (CTE) remains at \$1.0 million in FY 2014 for research on the development of technologies for cyberlearning, and for studying the impact of technologies on learning.
- Comprehensive National Cybersecurity Initiative (CNCI): In partnership with CISE, SBE will support multidisciplinary research in the science of cybersecurity, moving target defense, tailored trustworthy spaces, and cyber economic incentives. SBE's investment in this national priority is maintained at \$6.0 million in FY 2014. SBE will devote resources to Secure and Trustworthy Computing (SaTC) through support for the Cyber Economic Incentives theme within CNCI. In addition, SBE's broad scientific base in the behavioral, social, and decision making sciences provides a wealth of opportunities to contribute to this national priority.
- I-Corps: With a sustained investment of \$500,000, SBE will continue a multi-year effort to strengthen collaboration between social scientists and practitioners and improve social science students' understanding of innovation.
- INSPIRE: SBE support for this NSF priority is aligned with SBE Transformed Portfolio, SBE 2020. This support increases in FY 2014 (+\$500,000 over FY 2012 Enacted, to a total of \$1.0 million) to support interdisciplinary research and training.
- Funding for the Research Experiences for Undergraduates (REU) Sites and Supplements program is increased \$570,000 over the FY 2012 Enacted. This additional funding will support enhanced research experiences for students in their first two years of college, as recommended by the President's Council of Advisors on Science and Technology (PCAST) in their report, *Engage to Excel: Producing One Million Additional College Graduates with Degrees in Science, Technology, Engineering, and Mathematics*.
- SEES: In FY 2014 SBE will continue its commitment to sustainability research by making significant investments across a variety of SEES activities, such as Water Sustainability and Climate (WSC), Coupled-Natural and Human Systems (CNH), SEES Fellows, Sustainability Research Networks (SRN), and Hazards. These investments further integrate the SBE sciences into research on energy and sustainability, while strengthening SBE's existing investments, and making new investments in decision making, coastal communities, and vulnerability and resilience. Funding increases by \$1.50 million over FY 2012 Enacted (to a total of \$9.25 million).
- Science of Science and Innovation Policy (SciSIP): decreases in FY 2014 (-\$2.45 million below FY 2012 Enacted to a total of \$11.05 million). SciSIP will continue to support research and data collections related to innovation and R&D spending.

**SBE Funding for Centers Programs and Facilities**

**SBE Funding for Centers Programs**

(Dollars in Millions)

	FY 2012			Change Over	
	FY 2012 Actual	Enacted/ Annualized	FY 2014 Request	FY 2012 Enacted	
		FY 2013 CR		Amount	Percent
<b>Centers Programs Total</b>	<b>\$17.32</b>	<b>\$14.27</b>	<b>\$14.20</b>	<b>-\$0.07</b>	<b>-0.5%</b>
Nanoscale Science & Engineering Centers (SES & BCS)	1.16	0.60	0.60	-	-
Science of Learning Centers (SMA & BCS)	16.16	13.67	13.60	-0.07	-0.5%

For detailed information on individual centers, please see the NSF-Wide Investments chapter.

- Funding for the Nanoscale Science & Engineering Centers will continue at \$600,000 in FY 2014.
- The Science of Learning Centers (SLC) program funding decreases (-\$70,000) below the FY 2012 Enacted to a total of \$13.60 million. Support includes annual increments to all six centers: the Center of Excellence for Learning in Education, Science, and Technology (CELEST); the Center for Learning in Informal and Formal Environments (LIFE); the Pittsburgh Science of Learning Center for Robust Learning (PSLC); the Spatial Intelligence and Learning Center (SILC); the Temporal Dynamics of Learning Center (TDLC); and the Visual Language and Visual Learning Center (VL2). Support is also included for SLC evaluation activities in FY 2014. Funding for Cohort 1 centers will end in FY 2014, and funding for Cohort 2 centers, approved for an additional five-year renewal by the National Science Board in February 2011, will end in FY 2015.

**SBE Funding for Facilities**

(Dollars in Millions)

	FY 2012			Change Over	
	FY 2012 Actual	Enacted/ Annualized	FY 2014 Request	FY 2012 Enacted	
		FY 2013 CR		Amount	Percent
<b>Facilities Total</b>	<b>\$0.40</b>	<b>\$0.40</b>	<b>\$0.40</b>	-	-
National Nanotechnology Infrastructure Network (NNIN)	0.40	0.40	0.40	-	-

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

The current NNIN ten-year cooperative agreement will close at the end of FY 2013. SBE's support for this activity will continue beyond this end point. The Directorate for Engineering (ENG) is currently evaluating the scope for future nanotechnology user facility support and working to identify a replacement program. NNIN is funded through the SES division and the funding level (\$400,000) is sustained.

## Summary and Funding Profile

SBE supports investment in core research and education as well as research infrastructure. In FY 2014, the number of research grant proposals is expected to be held constant with the FY 2013 Estimate level. SBE expects to award approximately 590 research grants in FY 2014. Average annualized award size will increase over the FY 2012 Enacted and duration will be held constant at the FY 2012 Enacted estimate level.

In FY 2014, funding for the centers accounts for 5 percent of SBE's Request. Center funding decreases \$70,000 from the FY 2012 Enacted level, and includes the SLC program supporting six centers and support to the Centers for Nanotechnology in Society.

### SBE Funding Profile

	FY 2012 Actual Estimate	FY 2012 Enacted/ Annualized FY 2013 CR Estimate <sup>1</sup>	FY 2014 Estimate
<b>Statistics for Competitive Awards:</b>			
Number of Proposals	4,775	5,500	5,500
Number of New Awards	1,018	1,190	1,220
Funding Rate	21%	22%	22%
<b>Statistics for Research Grants:</b>			
Number of Research Grant Proposals	3,209	3,700	3,700
Number of Research Grants	576	570	590
Funding Rate	18%	15%	16%
Median Annualized Award Size	\$98,247	\$100,350	\$100,350
Average Annualized Award Size	\$120,052	\$115,450	\$116,429
Average Award Duration, in years	2.5	2.6	2.6

<sup>1</sup>Award Estimates for FY 2013, such as numbers of awards and size/duration, are based upon the FY 2012 Enacted level.

## Program Monitoring and Evaluation

Committees of Visitors (COV):

- No SBE COVs will convene in FY 2014.
- A COV to review the SES division will convene on June 3-5, 2013.
- In FY 2013, one COV convened on October 10-12, 2012 and reviewed programs under the Behavioral and Cognitive Sciences (BCS) division: Archaeology/Archaeometry; Biological Anthropology; Cultural Anthropology; Geography and Spatial Sciences; Linguistics; Documenting Endangered Languages; Perception, Action and Cognition; Cognitive Neuroscience; Developmental and Learning Sciences; and Social Psychology. The BCS COV recommended that: BCS experiment with new review cycles (inclusive of a mechanism for evaluating the effectiveness of the new cycle compared with the old); further development of transdisciplinary research across BCS disciplines; increase publicity of BCS-funded research (across NSF, and to the public and scientific community); further exploration of virtual conferencing; clearer definition of reviewer role in determining “broader impacts” and “intellectual merit” criteria for funding decisions; encourage BCS proposers to make better use of “broader impacts” to frame description of their research questions; and provide clearer

guidance on NSF’s use of data management plans. The Chair of the BCS COV will present the report and response to the SBE Advisory Committee on May 20-21, 2013.

- In FY 2012, one COV convened on December 15-16, 2011 and reviewed programs under the Office of Multidisciplinary Activities (SMA): Research Experiences for Undergraduates (REU) Sites, SBE Minority Postdoctoral Research Fellowships (MPRF), and the Science of Science and Innovation Policy (SciSIP). The SMA COV recommended SBE management review the current placement of the multidisciplinary programs in the directorate, as well as the question of how many submissions a year are appropriate. The COV also recommended taking actions to broaden participation and increase capacity for research related to the Science of Science and Innovation Policy (SciSIP) program. The SMA COV report and response to the report were presented and approved before the SBE Advisory Committee (AC) on May 17-18, 2012.
- All SBE divisions are responding to and implementing recommendations from recent COVs.

Workshops and Reports:

- A recent report by the SBE directorate, *Rebuilding the Mosaic; Fostering Research in Social, Behavioral, and Economic Sciences at the National Science Foundation in the Next Decade* (issued November, 2011), sets forth a next generation model of research that is collaborative, data-intensive, and multi- or interdisciplinary. Based on 252 white papers from more than 500 individuals, together with consultation with professional associations, societies, and campus visits, the report explores the programmatic implications of this model of research for the directorate’s programs and has been influential in setting priorities and framing discussions within the directorate, across the Foundation, and with other public and private agencies and organizations. Key areas of interest are interdisciplinary training and support for graduate students and young faculty; programs to foster interdisciplinary investigations; and efforts, within the directorate and in cooperation with CISE and other entities, to catalyze research communities around new data and computational infrastructures.
- Two recent workshops were convened by the SBE Advisory Committee’s Subcommittee on the Science of Learning that have implications for programmatic portfolio development. The first was held October 4-5, 2012 and focused on the scientific achievements in the science of learning over the past decade; the results were reported at the SBE AC meeting on November 15, 2012. The second workshop was held February 28 and March 1, 2013 and focused on strategies and objectives to advance the science of learning into the future. The results will be discussed at the May 2013 SBE AC meeting with emphasis on future strategic and budget planning in SBE’s investment in the Science of Learning.

The Performance 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.

<b>Number of People Involved in SBE Activities</b>			
	FY 2012		
	Actual	FY 2013	FY 2014
	Estimate	Estimate	Estimate
Senior Researchers	3,646	3,100	3,200
Other Professionals	519	700	700
Postdoctorates	330	300	400
Graduate Students	2,097	2,300	2,300
Undergraduate Students	789	800	800
<b>Total Number of People</b>	<b>7,381</b>	<b>7,200</b>	<b>7,400</b>

**DIVISION OF SOCIAL AND ECONOMIC SCIENCES (SES)**

**\$102,510,000**  
**+\$5,330,000 / 5.5%**

**SES Funding**

(Dollars in Millions)

	FY 2012 Actual	FY 2012 Enacted/ Annualized FY 2013 CR	FY 2014 Request	Change Over	
				FY 2012 Enacted Amount	Percent
<b>Total, SES</b>	<b>\$97.26</b>	<b>\$97.18</b>	<b>\$102.51</b>	<b>\$5.33</b>	<b>5.5%</b>
<b>Research</b>	<b>85.23</b>	<b>87.83</b>	<b>91.94</b>	<b>4.11</b>	<b>4.7%</b>
CAREER	2.38	2.82	3.11	0.29	10.3%
Centers Funding (total)	0.98	0.42	0.42	-	-
Nanoscale Science & Engineering Centers	0.98	0.42	0.42	-	-
<b>Education</b>	<b>3.73</b>	<b>3.79</b>	<b>3.17</b>	<b>-0.62</b>	<b>-16.4%</b>
<b>Infrastructure</b>	<b>8.30</b>	<b>5.56</b>	<b>7.40</b>	<b>1.84</b>	<b>33.1%</b>
Nat'l Nanotechnology Infrastructure	0.40	0.40	0.40	-	-
Network (NNIN)					
<b>Research Resources</b>	<b>7.90</b>	<b>5.16</b>	<b>7.00</b>	<b>1.84</b>	<b>35.7%</b>

Totals may not add due to rounding.

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 funds 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; science of organizations; 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 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 a participant in a number of Nanoscale Science and Engineering Centers. In addition, SES plays a major role in managing the Decision Making Under Uncertainty collaborative projects.

In general, 60 percent of the total SES portfolio is available for new research grants. The remaining 40 percent funds continuing grants made in previous years.

**FY 2014 Summary**

All funding decreases/increases represent change over the FY 2012 Enacted level.

### **Research**

Overall, support for SES disciplinary and interdisciplinary research increases (+\$4.11 million to a total of \$91.94 million).

- Continued support (\$7.10 million total) for interdisciplinary research, training, and integration opportunities through SBE's own SBE 2020 (via SBE's Interdisciplinary Behavioral and Social Science IBSS) program. Funding in this investment will require a reduction in core disciplinary research programs.
- CAREER funding in FY 2014 increases by \$290,000, to a total of \$3.11 million. This investment is consistent with SES's emphasis on supporting early career researchers.
- An increase of \$1.97 million will expand SBE's international leadership role through participation in SAVI, the European Open Research Area program, and other international partnerships.
- SES continues its investments of \$400,000 to the Ethics Education in Science and Engineering (EERE) cross-directorate program.
- CIF21: funding of \$4.40 million (an increase of \$1.75 million) will provide support for a Big Data (\$1.50 million) emphasis area with research that aims to advance the core scientific and technological means of managing, analyzing, and visualizing, and extracting information from large, diverse, data sets. An additional \$250,000 will further SES' investment in planning awards for the future data cyberinfrastructure investments that create new opportunities for SBE researchers in the context of the 21<sup>st</sup> century networked society.
- Increased funding (+\$350,000, to a total of \$4.0 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 Hazards, Sustainability Research Networks, SEES Fellows, and Water Sustainability and Climate.
- Continued support of \$2.0 million for SaTC is provided through support for the Cyber Economic Incentives and other themes within CNCI.
- Funding for SES' Science of Broadening Participation investment increases by \$250,000 to a total of \$750,000. SES' SBP investment supports efforts to build the scientific foundation and research evidence base needed for future broadening participation efforts. Investing in research that informs the science of broadening participation spans education and the SBE sciences, and engages all of NSF.
- Support for the Coupled Natural and Human Systems program decreases by \$250,000, to \$2.25 million total.
- Permanent termination of SES' investment in the Enhancing Access to the Radio Spectrum (EARS) program, a partnership with ENG, MPS, and CISE (-\$500,000). Funding is redeployed to establish or increase funding for NSF and SBE priorities.

### **Education**

- FY 2014 support for ADVANCE (\$790,000) and REU supplements (\$500,000) remain constant with the FY 2012 Enacted level.
- In an effort to establish a better balance between the responsibilities and demands of work lives and family lives for social and behavioral scientists, an investment of \$130,000 provides support to the Career-Life Balance (CLB) Initiative.
- SBE will invest \$1.75 million in graduate traineeships as IGERT evolves into a new program, NSF Research Traineeships (NRT), which will encourage strong, well-documented efforts at innovation and design of graduate programs to support growth within specific disciplines and solid preparation of the trainees.

**Infrastructure**

- The existing National Nanotechnology Infrastructure Network (NNIN) comes to a close at the end of FY 2013 at the completion of its ten-year cooperative agreement. ENG is currently evaluating the scope for future nanotechnology user facility support and working to identify a replacement program, and SBE expects to sustain its investment of \$400,000 in NNIN beyond the end point of the current cooperative agreement.
- Funding for other Research Resources activities increases (+\$1.84 million, to a total of \$5.16 million). Funding supports multi-million dollar survey awards such as the American National Election Studies (ANES), the Panel Study of Income Dynamics (PSID), and the General Social Survey (GSS). These surveys are national resources for research, teaching, and decision-making and have become models for similar undertakings in other fields. Funding supports SES' CIF21 investment inclusive of support for the Building Community and Capacity for Data-Intensive Research in the Social, Behavioral, and Economic Sciences and in Education and Human Resources (BCC-SBE/EHR) initiative (in partnership with EHR and CISE). This investment seeks to enable research communities to develop visions, teams, and capabilities dedicated to creating new large-scale, next-generation data resources and relevant analytic techniques to advance fundamental research for SBE and EHR sciences.

**DIVISION OF BEHAVIORAL AND COGNITIVE SCIENCE (BCS)** **\$97,430,000**  
**+\$4,740,000 / 5.1%**

**BCS Funding**  
(Dollars in Millions)

	FY 2012		FY 2014 Request	Change Over	
	FY 2012 Actual	Enacted/ Annualized FY 2013 CR		FY 2012 Enacted Amount	Percent
<b>Total, BCS</b>	<b>\$92.47</b>	<b>\$92.69</b>	<b>\$97.43</b>	<b>\$4.74</b>	<b>5.1%</b>
<b>Research</b>	<b>87.78</b>	<b>89.73</b>	<b>93.77</b>	<b>4.04</b>	<b>4.5%</b>
CAREER	5.54	2.82	3.11	0.29	10.3%
Centers Funding (total)	5.05	5.78	5.78	-	-
Nanoscale Science & Engineering Centers	0.18	0.18	0.18	-	-
Science of Learning Centers	4.87	5.60	5.60	-	-
<b>Education</b>	<b>3.56</b>	<b>2.92</b>	<b>2.52</b>	<b>-0.40</b>	<b>-13.7%</b>
<b>Infrastructure</b>	<b>1.14</b>	<b>0.04</b>	<b>1.14</b>	<b>1.10</b>	<b>2750.0%</b>
Research Resources	1.14	0.04	1.14	1.10	2750.0%

Totals may not add due to rounding.

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 energy research.

In general, 59 percent of the BCS portfolio is available for new research grants. The remaining 41 percent funds continuing grants made in previous years.

**FY 2014 Summary**

All funding decreases/increases represent change over the FY 2012 Enacted. In the FY 2014 Request there is a general reduction for core programs to provide resources for enhancement and implementation of other programs related to directorate priorities.

**Research**

Overall, support for BCS disciplinary and interdisciplinary research increases (+\$4.04 million to a total of \$93.77 million).

- Support increases (+\$2.28 million, to a total of \$5.40 million) for SBE 2020 (via SBE's IBSS initiative and Dear Colleague Letter (DCL)) to support interdisciplinary research, training, and integration opportunities for behavioral and cognitive scientists.
- CAREER funding will increase by \$180,000, to a total of \$2.90 million. This investment is consistent with BCS' emphasis on supporting early-career researchers.
- Cognitive Science and Neuroscience: BCS support for this cross-foundation activity totals approximately \$2.0 million in FY 2014 (+\$1.0 million). BCS funding will support NSF's commitment to making targeted investments in collaborative science and innovative technologies for understanding the brain.
- An increase of \$1.0 million will expand SBE's international leadership role through participation in SAVI, the European Open Research Area program, and other international partnerships.
- Increased funding (+\$80,000, to a total of \$3.33 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 Hazards, Sustainability Research Networks, SEES Fellows, and Water Sustainability and Climate (WSC).
- Increased support (+\$250,000, to a total of \$2.10 million) for CIF21 will create new opportunities for BCS researchers to understand human behavior and cognition.
- \$1.20 million will be used for SaTC to support the Cyber Economic Incentives theme within CNCI. An additional \$1.0 million is provided for multidisciplinary research in other CNCI activities.
- Support for the Enhancing Access to the Radio Spectrum (EARS) program is permanently terminated (-\$500,000) at the FY 2014 Request level as a result of SBE's redeployment of funding to establish or increase investments in NSF and SBE priorities.
- Centers Funding: As planned, support for the SLC program (\$5.60 million total) and the Nanotechnology Centers (\$180,000) remains constant with the FY 2012 Enacted level.
- Funding for BCS' Science of Broadening Participation (SBP) investment increases by \$250,000 to a total of \$750,000. BCS's SBP investment supports efforts to build the scientific foundation and research evidence base needed for future broadening participation efforts. Investing in research that informs the science of broadening participation spans education and the SBE sciences, and engages all of NSF.
- Continued investment in support of integrative and interdisciplinary approaches to the understanding of human cultural and biological evolution over long time scales.

### **Education**

- BCS support for ADVANCE will remain at the FY 2012 Enacted level (\$680,000).
- With an initial investment of \$120,000, BCS will support NSF's Career-Life Balance activity.
- BCS will invest \$1.28 million in graduate traineeships as IGERT evolves into a new program, NSF Research Traineeships (NRT), which will encourage strong, well-documented efforts at innovation and design of graduate programs to support growth within specific disciplines and solid preparation of the trainees.
- Support for Research Experiences for Undergraduates (REU) Supplements (\$440,000) is sustained.

### **Infrastructure**

- FY 2014 support for infrastructure activities increases by \$1.10 million (to a total of \$1.14 million). Funding supports BCS' CIF21 investment inclusive of support for the Building Community and Capacity for Data-Intensive Research in the Social, Behavioral, and Economic Sciences and in Education and Human Resources (BCC-SBE/EHR) initiative (in partnership with EHR and CISE) which seeks to enable research communities to develop visions, teams, and capabilities dedicated to creating new large-scale, next-generation data resources and relevant analytic techniques to advance fundamental research for SBE and EHR sciences.

**SBE OFFICE OF MULTIDISCIPLINARY  
ACTIVITIES (SMA)**

**\$30,650,000**  
**+\$2,420,000 / 8.6%**

**SMA Funding**  
(Dollars in Millions)

	FY 2012		FY 2014 Request	Change Over	
	FY 2012 Actual	Enacted/ Annualized FY 2013 CR		FY 2012 Enacted Amount	Enacted Percent
<b>Total, SMA</b>	<b>\$28.22</b>	<b>\$28.23</b>	<b>\$30.65</b>	<b>\$2.42</b>	<b>8.6%</b>
<b>Research</b>	<b>22.47</b>	<b>22.56</b>	<b>22.80</b>	<b>0.24</b>	<b>1.1%</b>
CAREER	0.66	-	-	-	N/A
Centers Funding (total)	11.29	8.07	8.00	-0.07	-0.9%
Science of Learning Centers	11.29	8.07	8.00	-0.07	-0.9%
<b>Education</b>	<b>3.47</b>	<b>3.38</b>	<b>5.95</b>	<b>2.57</b>	<b>76.0%</b>
<b>Infrastructure</b>	<b>2.28</b>	<b>2.29</b>	<b>1.90</b>	<b>-0.39</b>	<b>-17.0%</b>
Research Resources	2.28	2.29	1.90	-0.39	-17.0%

Totals may not add due to rounding.

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 the Science of Science and Innovation Policy (SciSIP) program, Research Experiences for Undergraduates (REU) Sites, and SBE Postdoctoral Research Fellowships (SPRF). SMA will play a critical role in several NSF areas of emphasis for FY 2014, such as clean energy and sustainability (via the SEES investment); cyberinfrastructure and computer science (via the CIF21 investment); national security (via the CNCI investment); international leadership and interaction (via support to the Open Research Area (ORA) activity); innovation (via the Innovation Corps (I-Corps) investment); interdisciplinary research and training (via the INSPIRE investment and full implementation of the SBE Transformed Portfolio, SBE 2020 through the Interdisciplinary Behavioral and Social Science Research (IBSS) solicitation); and the developing investment in cognitive science and neuroscience. These investments reflect both newly requested funds and a significant redeployment of resources previously committed to other social, behavioral and economics science disciplines within SBE. 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, 39 percent of the SMA portfolio is available for new research grants. The remaining 61 percent funds continuing awards made in previous years, including funding for the SLCs.

**FY 2014 Summary**

All funding decreases/increases represent change over the FY 2012 Enacted. In the FY 2014 Request there is a general reduction for core programs to provide resources for enhancement and implementation of other programs related to directorate priorities.

**Research**

Overall, support increases for basic research activities (+\$240,000 to a total of \$22.80 million).

- \$1.0 million (an increase of \$500,000) supports INSPIRE, an NSF priority aligned with SBE 2020.

- \$500,000 (to a total of \$500,000) supports the I-Corps investment, strengthening collaboration between social scientists and academe and improving social science students' understanding of innovation.
- In FY 2014, SMA will continue to support six active Science of Learning Centers and funding decreases by \$70,000 (to a total of \$8.0 million). A gradual phase down of the program continues as centers reach their endpoints in FY 2014 and FY 2015.
- Funding for the SciSIP disciplinary research activities decreases by \$2.45 million, to a total of \$5.10 million. Funding is redeployed to establish or increase funding for NSF and SBE priorities.
- \$1.0 million of resources from SMA SciSIP funding will be redirected to initiate an investment in cognitive science and neuroscience research. At this level SMA, in partnership with SBE's BCS division and other NSF directorates (ENG, BIO, MPS, and EHR), will further its efforts toward defining a broad-based focus on understanding the brain and learning how to deploy that understanding through community building activities such as; workshops, Dear Colleague Letters, and research coordination networks.
- SEES funding, \$1.92 million total (+\$1.07 million) supports research with SBE-specific emphases, such as investments in understanding human behavior and decision making about energy use, interactions among natural and human systems, and vulnerability and resilience. SMA will participate in Hazards, Sustainability Research Networks, and SEES Fellows.
- SMA provides continued support of \$1.0 million for Cyberinfrastructure Framework for 21<sup>st</sup> Century Science and Engineering (CIF21). Of particular interest to SMA are new opportunities for SBE researchers to understand the 21<sup>st</sup> century networked society.
- With a continued investment of \$800,000, SMA will partner with CISE in devoting resources to the Secure and Trustworthy Cyberspace (SaTC) initiative through support for the Cyber Economic Incentives theme within CNCI. This investment will 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**

Overall, support for Education activities in SMA increases by \$2.57 million, to a total of \$5.95 million.

- Support for Research Experiences for Undergraduates (REU) Sites increases by \$570,000, to a total of \$2.89 million. This additional funding will support enhanced research experiences for students in their first two years of college, as recommended by the President's Council of Advisors on Science and Technology (PCAST) in their report, *Engage to Excel: Producing One Million Additional College Graduates with Degrees in Science, Technology, Engineering, and Mathematics*.
- In FY 2012, NSF/SBE expanded an existing postdoctoral fellowship program to include interdisciplinary post-doctoral fellows. It is called the SBE Postdoctoral Research Fellowship (SPRF) program, and has two tracks – broadening participation (SPRF-BP), which replaces the former SBE Minority Postdoctoral Fellowships; and interdisciplinary research (SPRF-IBSS) which aligns with SBE 2020 activities. At the FY 2014 Request level, funding for SPRF-BP increases by \$500,000, to a total of \$1.50 million. An investment of \$1.50 million will support the SPRF-IBSS activity.

### **Infrastructure**

- Support for infrastructure activities decreases (-\$390,000 to a total of \$1.90 million). Funding is primarily for data and tool development. Data development includes such databases as: the National Bureau of Economic Research/Harvard patent database; the University of California, Davis database on initial public offerings; and two surveys, "Management and Organizational Practices Across the U.S.," and the "Division of Innovative Labor." Tool developments include such projects as Open Researcher and Contributor ID (ORCID) unique researcher identifiers and Publication Harvester: An Open-Source Software Tool for Science Policy Research.

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

**\$41,760,000**  
**+\$5,610,000 / +15.5%**

**NCSES Funding**  
(Dollars in Millions)

	FY 2012		FY 2014 Request	Change Over	
	FY 2012	Enacted/ Annualized		FY 2012 Enacted	Percent
	Actual	FY 2013 CR		Amount	
<b>Total, NCSES</b>	<b>\$36.23</b>	<b>\$36.15</b>	<b>\$41.76</b>	<b>\$5.61</b>	<b>15.5%</b>
<b>Research</b>	<b>0.46</b>	<b>0.55</b>	<b>0.50</b>	<b>-0.05</b>	<b>-9.1%</b>
<b>Infrastructure</b>	<b>35.77</b>	<b>35.60</b>	<b>41.26</b>	<b>5.66</b>	<b>15.9%</b>

Totals may not add due to rounding.

The National Center for Science and Engineering Statistics (NCSES) was established within the National Science Foundation by Section 505 of the America COMPETES Reauthorization Act of 2010 (P.L. 111-358). The Act provides NCSES with the legislative mission to “...serve as the central federal clearinghouse for the collection, interpretation, analysis, and dissemination of objective data on science, engineering, technology, and research and development.” NCSES is called on to support the collection of statistical data on research and development trends, the science and engineering workforce, U.S. competitiveness, and the condition and progress of the Nation’s STEM education; to support research using the data it collects and on methodologies in areas related to the work of the Center; and to support the education and training of researchers in the use of its own and other large-scale, nationally representative data sets.

As one of the thirteen principal federal statistical agencies, NCSES has broad responsibility for statistics about the science and engineering enterprise. NCSES designs, supports, and directs a coordinated collection of periodic national surveys and performs a variety of other data collections and research, providing policymakers, researchers, and other decision makers with high quality data and analysis on R&D, innovation, the education of scientists and engineers, and the science and engineering 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 an important resource for researchers in SBE’s Science of Science and Innovation Policy (SciSIP) program.

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

**FY 2014 Summary**

All funding decreases/increases represent change over the FY 2012 Enacted.

**Infrastructure**

FY 2014 support for core NCSES infrastructure activities increases by \$5.61 million to an overall total of \$41.76 million. The additional funds support targeted improvements in NCSES’ statistical programs and are as follows:

- \$2.0 million to plan and conduct a survey of research and development funding and performance by nonprofit organizations. NCSSES has not conducted such a survey in more than 15 years, though the level and importance of R&D activity in this sector is thought have grown significantly.
- \$500,000 to increase the frequency of the Survey of State Government Research and Development
- \$500,000 to develop and test effective data collection strategies for the Microbusiness Innovation Science and Technology Survey, to fill a void in our knowledge of the smallest employers, often the very businesses believed to fuel innovation in the U.S.
- \$500,000 for the Survey of Doctorate Recipients to develop and test new measures that address data gaps related to understanding the relationship between Federal support for graduate education and outcomes, such as employment.
- \$1.50 million to expand the scope of administrative records sources that NCSSES is exploring to augment the full suite of its existing surveys. NCSSES will proceed with a pilot project establishing collaboration between several federal agencies to test the feasibility of using agencies' administrative records to measure research and development activity. NCSSES will explore approaches to improving other agencies' data sets, closely coordinating such activities with relevant offices in OMB. This work will also include outcome data for STEM graduates whose education is funded in whole or in part via federal research grants and improved innovation measures for the Business R&D and Innovation Survey (BRDIS) and NCSSES' other R&D surveys.
- \$610,000 to plan and design program modifications to respond to recommendations received from the National Academy's Committee on National Statistics Panel on Developing Science, Technology and Innovation Indicators for the Future.
- Funding for NCSSES SciSIP activities will decrease to \$4.95 million total (\$1.0 million below the FY 2012 Enacted level). Current SciSIP funding is used to support the Business R&D and Innovation Survey, the federal statistical system's primary survey on business domestic and global R&D expenditures and workforce; and the National Survey of Recent College Graduates (NSRCG), the federal statistical system's primary survey of the nation's science and engineering workforce. This reduction will be offset primarily with savings from the termination of the NSRCG.

