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## The 2015 Budget: Science, Technology, and Innovation for Opportunity and Growth

### *Science, Technology, Innovation, and STEM Education in the 2015 Budget*

“We know that the nation that goes all-in on innovation today will own the global economy tomorrow. This is an edge America cannot surrender. Federally funded research helped lead to the ideas and inventions behind Google and smartphones... There are entire industries to be built based on vaccines that stay ahead of drug-resistant bacteria, or paper-thin material that’s stronger than steel.”

- President Barack Obama  
January 2014

The President’s 2015 Budget embodies the Administration’s ongoing commitment to responsibly increase investments in job creation, economic growth, and opportunity for all Americans. To achieve this goal, the Budget calls for wise, targeted investments in science, technology, and innovation—sectors of the American economy that have a proven record of turning ideas into realities, and of generating new technologies, products, businesses, and jobs that in many cases were barely imagined a few years earlier.

Scientific discovery and technological breakthroughs are the primary engines not only for expanding the frontiers of human knowledge but also for responding in innovative, practical ways to the challenges and opportunities of the 21<sup>st</sup> century. The Budget invests in research and development (R&D) to spur the kinds of discovery and breakthroughs that can fuel sustainable economic growth and job creation; improve the health of all Americans; move America toward a clean-energy future; address global climate change; manage competing demands on natural resources; and ensure the Nation’s security.

To accomplish these goals, the President’s 2015 Budget proposes \$135.4 billion for Federal R&D (see Table 1), an increase of \$1.7 billion or 1.2 percent from 2014. (All comparisons are to 2014 enacted funding levels and are in current, not-adjusted-for-inflation dollars.) The 2015 Budget:

- **Sustains a World-Leading Science and Research Enterprise.** To meet America’s challenges, including those related to the economy, manufacturing, health, energy, climate, environment, and national security, the 2015 Budget calls for a Federal basic and applied research investment totaling \$64.7 billion, up \$251 million or 0.4 percent compared to the 2014 enacted level. The Budget includes \$7.3 billion for the National Science Foundation (NSF) and \$5.1 billion for the Department of Energy’s (DOE) Office of Science.
- **Spurs Innovation.** The 2015 Budget provides \$65.9 billion for non-defense R&D, an increase of \$477 million or 0.7 percent over 2014 enacted levels. The Budget invests \$69.5 billion for defense R&D, an increase of 1.7 percent compared to 2014. To further support R&D likely to contribute to the creation of transformational technologies, the Budget proposes an additional \$5.3 billion in the Growth, Opportunity, and Security Initiative for various science, technology, and innovation investments in both defense and non-defense R&D.
- **Makes America a Leader in Advanced Manufacturing.** The 2015 Budget provides \$2.2 billion for advanced manufacturing R&D, a 12 percent increase from 2014. The Budget will support the

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development and scaling of new advanced manufacturing technologies, such as by increasing research in the National Institute of Standards and Technology's (NIST) labs. Through the Opportunity, Growth, and Security Initiative, the Budget would support a National Network for Manufacturing Innovation with up to 45 manufacturing innovation institutes across the Nation, building on the four institutes already launched and the five institutes that the Administration has committed to funding, led by the Departments of Energy, Defense, and Agriculture.

- **Advances Cleaner, American Energy.** The Budget continues to advance the President's "all-of-the-above" strategy of investing in clean-energy R&D, promoting energy efficiency, and encouraging responsible domestic energy production. The 2015 Budget proposes \$325 million for transformational energy R&D in DOE's Advanced Research Projects Agency-Energy (ARPA-E) as part of a \$5.2 billion DOE investment in clean energy technology programs. The Budget also calls on Congress to establish an Energy Security Trust that would invest \$2 billion over ten years on cost-effective transportation alternatives that use cleaner fuels that reduce our dependence on oil.
- **Improves Our Understanding of and Response to Global Climate Change.** The 2015 Budget proposes approximately \$2.5 billion for the U.S. Global Change Research Program (USGCRP) to support research to improve our ability to understand, assess, predict, and respond to global climate change (see Table 2). USGCRP investments support the President's Climate Action Plan. Additional climate investments, including \$1 billion for a new Climate Resilience Fund, are proposed in the Opportunity, Growth, and Security Initiative.
- **Supports Research to Improve the Health of All Americans.** The 2015 Budget proposes \$30.2 billion for the National Institutes of Health (NIH), to help us better understand the fundamental causes and mechanisms of disease and to help us in the fight against Alzheimer's disease, cancer, and other diseases that affect millions of Americans.
- **Prepares Americans with STEM Skills.** To ensure that our educational system is preparing students to become highly skilled workers and innovators prepared for challenging 21<sup>st</sup>-century careers, the 2015 Budget proposes \$2.9 billion for Federal investments in science, technology, engineering, and mathematics (STEM) education, an increase of 3.7 percent over 2014 funding levels. Federal agencies will coordinate to implement the Federal STEM Education 5-year Strategic Plan. The Budget proposes a fresh reorganization of STEM education programs to improve the effectiveness of Federal investments.
- **Calls For an Opportunity, Growth, and Security Initiative.** The Budget proposes a \$56 billion Opportunity, Growth, and Security Initiative that is fully paid for with a balanced package of reforms. These additional investments in education; research and innovation; infrastructure and jobs; opportunity and mobility; public health, safety, and security; and more efficient and effective government can spur economic progress and strengthen our national security. \$5.3 billion of the Initiative will support R&D investments.
- **Expands Business R&D Investments.** The Research and Experimentation (R&E) Tax Credit is an important Federal incentive for private-sector R&D. The 2015 Budget reforms and makes permanent the R&E Tax Credit.
- **Improves America's Long-Term Fiscal Health.** The Budget's science, technology, and innovation investments fit within an overall budget that continues to reduce projected deficits while making investments in the future. The Budget falls within the caps of the Budget Control Act of 2011 and the Bipartisan Budget Act of 2013. The Budget proposes a separate, fully-paid-

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for Opportunity, Growth, and Security Initiative for additional investments in research, education, infrastructure, and other national priorities.

### **Priorities for Federal Research and Development in the 2015 Budget**

**The President's 2015 Budget provides \$135.4 billion for the Federal investment in R&D** (see Table 1), an increase of \$1.7 billion or 1.2 percent over 2014 levels, sustaining the Administration's longstanding commitment to science, technology, and innovation. (All comparisons between 2014 appropriations and the 2015 Budget are in current, not-adjusted-for-inflation dollars. All totals exclude the additional 2015 investments proposed in the Opportunity, Growth, and Security Initiative.) The 2015 Budget proposes an increase in **defense R&D** (Department of Defense (DOD) and DOE defense programs) to \$69.5 billion, \$1.2 billion or 1.7 percent more than the 2014 enacted level, and **\$65.9 billion for non-defense R&D**, an increase of 0.7 percent or \$477 million over the 2014 enacted level.

The 2015 Budget recognizes the essential role of the Federal Government in fostering groundbreaking scientific and technological breakthroughs through its support of basic and applied research, which is essential to improving our fundamental understanding of nature, revolutionizing key fields of science, and boosting long-term economic growth and quality of life through new technologies. The Federal investment in **basic and applied research (the "R" in "R&D")** totals \$64.7 billion in the 2015 Budget (see Table 3), up \$251 million or 0.4 percent compared to the 2014 enacted level. The Federal investment in **development (the "D" in "R&D")** totals \$68.0 billion in the 2015 Budget, an increase of 2.3 percent compared to the 2014 enacted level. Funding for R&D infrastructure, including facilities and capital equipment, totals \$2.6 billion, down \$121 million from the 2014 enacted funding level.

### **Highlights of Key R&D Funding Agencies in the 2015 Budget**

The **National Institutes of Health (NIH)** supports high-quality, innovative biomedical research at institutions across the United States aimed at improving the health of the American people. The 2015 Budget provides **\$30.2 billion** for NIH, an increase of \$200 million over the 2014 funding level. The 2015 Budget continues to support basic and applied biomedical research across a broad range of scientific and health opportunities, including delivering on the Administration's commitment to Alzheimer's disease and other neuroscience priorities. The 2015 Budget provides \$100 million for NIH's contribution to The Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative. It also includes \$30 million for a new advanced research program modeled after DOD's Defense Advanced Research Projects Agency (DARPA). The Opportunity, Growth, and Security Initiative proposes an additional \$970 million for NIH, which would support additional new grants, increase funding for The BRAIN Initiative, double the size of the DARPA-like initiative, and invest in other critical research opportunities. Within other agencies of the Department of Health and Human Services (HHS), the Budget provides \$415 million for the BioShield Special Reserve Fund for the acquisition of new medical countermeasures.

The **National Science Foundation (NSF)** is the primary source of support for academic research for most non-biomedical disciplines, integrating fundamental research and education across the broad spectrum of science and engineering domains. The 2015 Budget provides **\$7.3 billion** in 2015 for NSF, 1 percent above the 2014 enacted level, to expand the frontiers of knowledge, lay the foundation for economic growth and job creation, and educate a globally-competitive workforce. NSF will support job creation in advanced manufacturing and emerging technologies with \$213 million for multidisciplinary research targeted at new materials, smart systems, advanced manufacturing technologies, and robotics technologies. To encourage interdisciplinary research for America's emerging bio-economy, the Budget proposes \$29 million for innovative proposals at the interface of biology, mathematics, the physical sciences, and engineering (BioMaPS). NSF intends to invest approximately \$20 million for its contribution to The BRAIN Initiative. NSF also proposes \$125 million for a cyberinfrastructure initiative

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that will accelerate the pace of discovery in virtually every research discipline by advancing high performance computing, creating new research networks and data repositories, and developing new systems to better visualize data (CIF21). The Budget proposes \$25 million for the public-private “Innovation Corps” program aimed at bringing together the technological, entrepreneurial, and business know-how necessary to bring discoveries ripe for application out of the university lab and into the commercial sphere. The Budget also provides \$333 million for the Graduate Research Fellowship program. The Budget proposes an additional \$552 million for NSF in the Opportunity, Growth, and Security Initiative. (Additional NSF highlights can be found in OSTP’s STEM Education fact sheet.)

The 2015 Budget sustains investments in science and technology programs at the **Department of Defense (DOD)**, which drive innovation in military capabilities and speed the development of technological platforms featuring significant commercial potential. The Budget proposes **\$64.4 billion** for DOD R&D, a \$574 million or 0.9 percent increase over the 2014 funding level. The Budget proposes \$11.5 billion for DOD’s Science and Technology (S&T) program, which consists of basic research, applied research, and advanced technology development. The Budget includes \$2.9 billion for DARPA, reflecting the Administration’s ongoing support for this agency. DARPA plans to invest approximately \$80 million in The BRAIN Initiative. The Opportunity, Growth, and Security Initiative proposes an additional \$2.1 billion for DOD R&D.

The 2015 Budget provides **\$17.5 billion** for the **National Aeronautics and Space Administration (NASA)**, with an R&D portfolio totaling \$11.6 billion (see Table 1). The Budget provides \$848 million in NASA funding to be coupled with private-sector investments to develop new U.S. capabilities for transporting human crews to the International Space Station. It also provides \$2.8 billion for the next-generation, deep-space crew capsule and heavy-lift rocket that will send human-exploration missions to new destinations and it invests \$706 million for the development of innovative new technologies that can expand the potential and lower the cost of our space science and exploration efforts as well as benefit other U.S. government and commercial space activities. The Budget provides \$5.0 billion for NASA Science to expand the frontiers of knowledge about the solar system, the universe, the Sun, and our planet. Within that total, the Budget provides \$1.8 billion for Earth Science to maintain progress toward important satellite missions, support climate research, and sustain vital space-based Earth observations. The Budget also provides \$645 million for continued development of the James Webb Space Telescope, a 100-times-more-capable successor to the Hubble Telescope. The Opportunity, Growth, and Security Initiative proposes \$886 million in additional NASA funding to invest in the development of game-changing technologies, enhance the ability of American companies to carry people to space, and bolster support for science missions and research that will enhance our understanding of the Earth and our solar system.

The **Department of Energy (DOE)** 2015 Budget positions the United States to be a world leader in clean energy and advanced manufacturing, enhances our energy security, cuts carbon pollution and responds to the threat of climate change, and modernizes our nuclear weapons stockpile and infrastructure with an R&D portfolio that totals **\$12.3 billion**, an increase of \$950 million or 8.4 percent over the 2014 enacted level (see Table 1). DOE’s Office of Science (DOE SC), with a budget of \$5.1 billion in FY 2015, invests in basic research and research infrastructure to keep America competitive. The 2015 Budget invests \$2.3 billion in DOE’s Office of Energy Efficiency and Renewable Energy (EERE) to accelerate R&D in, and further increase the cost-competitiveness and deployment of, renewable power, electric vehicles, next-generation biofuels, advanced energy-efficient manufacturing, and energy efficiency. The 2015 Budget provides \$325 million for the Advanced Research Projects Agency-Energy (ARPA-E) to support transformational discoveries and to accelerate solutions in the development of clean-energy technologies. The Budget includes \$25 million to support the demonstration of carbon capture and storage integrated with a natural gas power system. In DOE’s defense-related portfolio, the Budget includes \$5.0 billion, an increase of \$619 million over the 2014 enacted level, for R&D in support of the nuclear stockpile, nuclear

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nonproliferation, and U.S. Navy nuclear propulsion. The Budget also calls on Congress to establish an Energy Security Trust that would invest \$2 billion over ten years on cost-effective transportation alternatives that use cleaner fuels that reduce our dependence on oil. The Opportunity, Growth, and Security Initiative would further accelerate development and deployment of clean-energy technologies by providing additional funds for DOE's clean-energy programs.

R&D in the **U.S. Department of Agriculture (USDA)** increases \$29 million or 1.2 percent to **\$2.4 billion** in the 2015 Budget to support research in areas important to American agriculture such as climate resilience and advanced genetics. The Budget increases funding to \$325 million for the Agriculture and Food Research Initiative (AFRI), the National Institute of Food and Agriculture's (NIFA) key competitive research program. The Budget includes \$75 million to support three multidisciplinary institutes, with one dedicated to advanced bio-based manufacturing and another to anti-microbial research. These institutes, recommended by the President's Council of Advisors on Science and Technology (PCAST), will leverage the best research within the public and private sectors to create opportunities for new business ventures funded by the private sector. The Budget also addresses honey bee colony collapse disorder and other causes of pollinator declines with a multifaceted pollinator initiative, including research on pollinators and increased funding for surveys to determine the impacts of pollinator losses. The Opportunity, Growth, and Security Initiative proposes additional funds for USDA to support high-priority research and construction of a new biosafety research laboratory.

The Department of Commerce's **National Institute of Standards and Technology (NIST)** promotes U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology. The 2015 Budget proposes **\$680 million** for NIST's intramural laboratories, a 4 percent increase over the 2014 enacted level, to accelerate advances in a variety of important areas, ranging from cybersecurity and forensic science to advanced communications and disaster resilience. It also includes \$141 million, a \$13 million increase over the 2014 enacted level, for the Hollings Manufacturing Extension Partnership (MEP), which incorporates \$15 million to establish Manufacturing Technology Acceleration Centers (M-TACs) that will help smaller manufacturers adopt new technologies to improve their competitiveness. The Budget also supports \$15 million for the Advanced Manufacturing Technology Consortia program, a public-private partnership that supports innovative approaches to addressing common manufacturing challenges faced by American businesses. The **National Oceanic and Atmospheric Administration (NOAA)** plays a vital role in monitoring and stewardship of the Earth's oceans, atmosphere, and marine habitats. The NOAA budget, including **\$688 million** for R&D, strengthens support for critical satellite programs, Earth observations, and NOAA's other core science and stewardship responsibilities. The Budget provides \$2.0 billion to continue the development of NOAA's polar-orbiting and geostationary weather satellite systems, as well as satellite-borne measurements of sea level and potentially devastating solar storms. These satellites are critical to NOAA's ability to provide accurate forecasts and warnings that help protect lives and property. The Budget includes significant investments in NOAA's ocean and coastal research and observing programs, while increasing support for habitat and species conservation activities that are essential to restoring and maintaining healthy, sustainable oceans. The Opportunity, Growth, and Security Initiative would provide NOAA with \$180 million and NIST with \$115 million in additional investment resources.

The **Department of Homeland Security (DHS)** Science and Technology (S&T) programs target opportunities in cybersecurity, explosives detection, nuclear detection, and chemical/biological detection and support ongoing enhancements of homeland security technology and development of state-of-the-art solutions for first responders. DHS R&D totals **\$876 million** in the 2015 Budget, down 15.1 percent from the 2014 enacted level because of reduced construction funding. The Budget proposes \$300 million to leverage previously appropriated resources to construct the National Bio- and Agro-Defense Facility (NBAF), a state-of-the-art laboratory to study and develop countermeasures for animal, emerging, and zoonotic diseases that threaten human health and the Nation's agricultural industry.

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The **Department of Education** R&D portfolio totals **\$336 million** in the 2015 Budget. The Budget provides ongoing support to achieve the President's goal of educating 100,000 effective STEM teachers over the next decade. The Budget invests \$110 million to support STEM Innovation Networks, consortia of school districts working in partnership with universities, science agencies, businesses, and other educational entities. (Additional Education highlights can be found in OSTP's STEM Education fact sheet.)

The **Department of Veterans Affairs (VA)** 2015 Budget provides a total of \$1.2 billion for R&D. VA research focuses on biomedical topics of special relevance to wounded warriors and supports a robust program of clinical and translational research. VA's research program benefits from clinical care and research occurring together, allowing discoveries to be directly applied to the care of veterans.

The 2015 Budget for the **Department of the Interior** provides **\$925 million** for R&D, an increase of 10 percent or \$85 million over the 2014 enacted level, in support of the Department's science missions and natural resource monitoring, research, and analysis. Specific science activities supported include energy permitting, ecosystem restoration and management, Earth observations (such as water and wildlife monitoring), and tribal natural resource management.

**Environmental Protection Agency (EPA) R&D** helps provide EPA with the best scientific information to underpin its regulatory actions, and helps the agency find the most sustainable solutions for the wide range of environmental challenges facing the Nation today. The 2015 Budget supports high-priority research of national importance in such areas as potential endocrine disrupting chemicals, human health risk assessment, air quality, sustainable approaches to environmental protection, and safe drinking water. The 2015 Budget proposes \$560 million for EPA R&D, including \$14 million for EPA's research collaboration with USGS and DOE to reduce the potential health and environmental impacts of natural gas development using hydraulic fracturing.

The 2015 Budget provides **\$865 million for Department of Transportation (DOT) R&D**, an increase of 1.4 percent compared to the 2014 funding level. The Budget includes funding for several R&D activities in support of the Federal Aviation Administration's Next Generation Air Transportation System, known as NextGen. The Budget also supports the comprehensive, nationally coordinated highway research and technology program managed by DOT's Federal Highway Administration (FHWA), which performs a range of research activities associated with safety, infrastructure preservation and improvements, operations, and environmental mitigation and streamlining. Other DOT agencies conduct critical targeted research in support of transportation safety goals.

The 2015 Budget **provides \$252 million for R&D programs in the Smithsonian Institution**, an increase of \$20 million over the 2014 enacted level. The Smithsonian is an important partner in the Federal effort to improve the reach of informal education activities in STEM fields by ensuring they are aligned with State standards and are relevant to the classroom.

### **Multi-agency initiatives**

A number of R&D investments are being made through multi-agency activities coordinated through the National Science and Technology Council (NSTC) and other interagency forums. Table 2 shows details of three such efforts: global change research, networking and information technology R&D, and nanotechnology R&D.

**U.S. Global Change Research Program: The 2015 Budget provides approximately \$2.5 billion for the U.S. Global Change Research Program (USGCRP).** USGCRP coordinates and integrates Federal

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research and applications to assist the Nation and the world in understanding, assessing, predicting, and responding to the human-induced and natural processes of global change and their related impacts and effects. The 2015 Budget supports the goals set forth in USGCRP's 2012-2021 strategic plan, which include: advancing scientific knowledge of the integrated natural and human components of the Earth system; providing the scientific basis to inform and enable timely decisions on adaptation and mitigation; building sustained assessment capacity that improves the United States' ability to document changes on the regional, landscape, and local level in order to understand, anticipate, and respond to global change impacts and vulnerabilities; and advancing communications and education to broaden public understanding of global change. The 2015 Budget also supports an integrated suite of climate change observations; process-based research; and modeling, assessment, and adaptation science activities that serve as a foundation for providing timely and responsive information—including technical reports, impact and vulnerability assessments, and adaptation response strategies to a broad array of stakeholders. All of these activities are essential elements of the USGCRP 2012-2021 strategic plan and support the President's Climate Action Plan. (Additional USGCRP highlights can be found in OSTP's USGCRP fact sheet.)

**Networking and Information Technology R&D:** The 2015 Budget proposes \$3.8 billion for the **Networking and Information Technology Research and Development (NITRD) Program**. The NITRD Program provides strategic planning for and coordination of agency research efforts in cybersecurity, high-end computing systems, advanced networking, software development, high-confidence systems, health IT, wireless spectrum sharing, cloud computing, and other information technologies. The 2015 Budget includes a focus on research to improve our ability to accelerate scientific discoveries and derive value from the fast-growing quantities and varieties of digital data (“Big Data”) while appropriately protecting the privacy of personal data. The Budget continues to prioritize cybersecurity research framed by the *Trustworthy Cyberspace: Strategic Plan for the Federal Cybersecurity R&D Program* to develop novel approaches and technologies that can protect U.S. systems from cyber-attacks, promote R&D in high-end computing to address advanced applications, and emphasize research that advances the efficient use of wireless spectrum and spectrum sharing technologies. Budget details for NITRD are available at [www.nitrd.gov](http://www.nitrd.gov).

**National Nanotechnology Initiative:** The 2015 Budget proposes \$1.5 billion for the **multi-agency National Nanotechnology Initiative (NNI)**. The National Nanotechnology Initiative (NNI) member agencies support R&D focused on materials, devices, and systems that exploit the unique physical, chemical, and biological properties that emerge in materials at the nanoscale (approximately 1 to 100 nanometers). Participating agencies continue to support fundamental research for nanotechnology-based innovation, technology transfer, and nanomanufacturing through individual investigator awards; multidisciplinary centers of excellence; education and training; and infrastructure and standards development, including openly-accessible user facilities and networks. Furthermore, agencies have identified and are pursuing Nanotechnology Signature Initiatives in the national priority areas of sustainable nanomanufacturing, solar energy, sustainable design of nanoengineered materials, nanoinformatics and modeling, nanoscale technology for sensors, and nanoelectronics through close alignment of existing and planned research programs, public-private partnerships, and research roadmaps. Budget details for the NNI are available at [www.nano.gov](http://www.nano.gov).

Table 1. R&amp;D in the 2015 Budget

**Table 1. R&D in the FY 2015 Budget by Agency**

(budget authority in millions of dollars)

	FY 2013	FY 2014	FY 2015	Change FY 14-15	
	Actual	Estimate	Budget	Amount	Percent
<b>Total R&amp;D</b>					
Dept. of Defense	63,838	63,856	<b>64,430</b>	574	0.9%
Health and Human Services	29,969	30,912	<b>31,069</b>	157	0.5%
<i>Nat'l Institutes of Health</i>	28,508	29,341	<b>29,540</b>	199	0.7%
<i>All Other HHS R&amp;D</i>	1,461	1,571	<b>1,529</b>	-42	-2.7%
Energy	10,740	11,359	<b>12,309</b>	950	8.4%
<i>Atomic Energy Defense R&amp;D</i>	4,227	4,416	<b>5,035</b>	619	14.0%
<i>Nondefense R&amp;D</i>	6,513	6,943	<b>7,274</b>	331	4.8%
NASA	11,282	11,667	<b>11,555</b>	-112	-1.0%
National Science Foundation	5,319	5,729	<b>5,727</b>	-2	0.0%
Agriculture	2,116	2,418	<b>2,447</b>	29	1.2%
Commerce	1,360	1,632	<b>1,597</b>	-35	-2.1%
<i>NOAA</i>	606	661	<b>688</b>	27	4.1%
<i>NIST</i>	596	667	<b>690</b>	23	3.4%
Veterans Affairs	1,164	1,174	<b>1,178</b>	4	0.3%
Interior	785	840	<b>925</b>	85	10.1%
<i>U.S. Geological Survey</i>	636	650	<b>686</b>	36	5.5%
Homeland Security	684	1,032	<b>876</b>	-156	-15.1%
Transportation	829	853	<b>865</b>	12	1.4%
Environmental Protection Agency	532	560	<b>560</b>	0	0.0%
Patient Centered Outcomes Res.	488	464	<b>528</b>	64	13.8%
Education	319	323	<b>336</b>	13	4.0%
Smithsonian	238	232	<b>252</b>	20	8.6%
Int'l Assistance Programs	273	203	<b>203</b>	0	0.0%
All Other	396	428	<b>495</b>	67	15.7%
<b>Total R&amp;D</b>	130,332	133,682	<b>135,352</b>	1,670	1.2%
Defense R&D	68,065	68,272	<b>69,465</b>	1,193	1.7%
Nondefense R&D	62,267	65,410	<b>65,887</b>	477	0.7%
Basic Research	30,648	32,410	<b>32,079</b>	-331	-1.0%
Applied Research	31,199	32,059	<b>32,641</b>	582	1.8%
Total Research	61,847	64,469	<b>64,720</b>	251	0.4%
Development	66,614	66,477	<b>68,017</b>	1,540	2.3%
R&D Facilities and Equipment	1,871	2,736	<b>2,615</b>	-121	-4.4%

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Table 2. Interagency Science and Technology Initiatives

**Table 2. Interagency Science and Technology Initiatives**

(budget authority in millions)

	FY 2013 Actual	FY 2014 Estimate	FY 2015 Budget	Change FY 14-15	
				Amount	Percent
<b>National Nanotechnology Initiative (NNI)</b>					
National Science Foundation	421	411	<b>412</b>	2	0.4%
Defense	170	176	<b>144</b>	-32	-18.1%
Energy	314	303	<b>343</b>	40	13.1%
NASA	16	18	<b>14</b>	-4	-23.5%
Commerce (NIST)	91	98	<b>83</b>	-15	-15.6%
Health and Human Services	485	469	<b>470</b>	0	0.0%
Agriculture	19	19	<b>19</b>	0	-1.4%
Environmental Protection Agency	15	16	<b>17</b>	1	8.4%
Homeland Security	14	24	<b>32</b>	8	35.2%
Transportation	2	2	<b>2</b>	-1	-25.0%
All Other	1	2	<b>2</b>	0	0.0%
<b>Total Nanotechnology</b>	<b>1,550</b>	<b>1,538</b>	<b>1,537</b>	<b>-1</b>	<b>0.0%</b>
<b>Networking and Information Technology R&amp;D (NITRD)</b>					
Commerce	124	146	<b>151</b>	6	3.8%
Defense	1,131	1,231	<b>1,084</b>	-146	-11.9%
Energy	489	583	<b>637</b>	54	9.3%
Homeland Security	83	92	<b>79</b>	-13	-13.6%
Health and Human Services 1/	548	566	<b>560</b>	-6	-1.1%
NASA	108	116	<b>109</b>	-7	-5.6%
National Science Foundation	1,133	1,160	<b>1,158</b>	-2	-0.2%
All Other	6	8	<b>8</b>	0	0.0%
<b>Total NITRD</b>	<b>3,622</b>	<b>3,900</b>	<b>3,786</b>	<b>-114</b>	<b>-2.9%</b>
<b>U.S. Global Change Research Program (USGCRP)</b>					
National Science Foundation	316	313	<b>318</b>	5	1.5%
Energy	209	217	<b>246</b>	29	13.4%
Commerce (NOAA, NIST)	301	329	<b>348</b>	19	5.9%
Agriculture	107	111	<b>88</b>	-23	-20.7%
Interior (USGS)	55	54	<b>72</b>	18	34.3%
Environmental Protection Agency	17	18	<b>20</b>	2	11.0%
National Institutes of Health	10	8	<b>8</b>	0	0.0%
NASA	1,355	1,431	<b>1,392</b>	-39	-2.7%
Smithsonian	8	8	<b>8</b>	0	0.0%
Transportation	1	1	<b>1</b>	0	0.0%
<b>Total USGCRP</b>	<b>2,379</b>	<b>2,489</b>	<b>2,501</b>	<b>12</b>	<b>0.5%</b>

1/ Includes funds from offsetting collections for Agency for Healthcare Research and Quality (AHRQ).

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Table 3. Research in the 2015 Budget

**Table 3. Research in the FY 2015 Budget**

(budget authority in millions of dollars)

	FY 2013	FY 2014	FY 2015	Change FY 14-15	
	Actual	Estimate	Budget	Amount	Percent
<b>RESEARCH (basic + applied)</b>					
Health and Human Services	29,718	30,712	<b>30,868</b>	156	0.5%
<i>Nat'l Institutes of Health</i>	28,322	29,205	<b>29,403</b>	198	0.7%
Energy	7,703	7,932	<b>8,412</b>	480	6.1%
Defense (military)	5,993	6,307	<b>6,582</b>	275	4.4%
NASA	6,049	6,351	<b>5,475</b>	-876	-13.8%
National Science Foundation	4,947	5,191	<b>5,188</b>	-3	-0.1%
Agriculture	1,876	2,154	<b>2,195</b>	41	1.9%
Commerce	1,065	1,293	<b>1,238</b>	-55	-4.3%
NOAA	421	439	<b>455</b>	16	3.6%
NIST	511	579	<b>598</b>	19	3.3%
Veterans Affairs	1,090	1,100	<b>1,102</b>	2	0.2%
Interior	675	717	<b>773</b>	56	7.8%
<i>U.S. Geological Survey</i>	546	546	<b>578</b>	32	5.9%
Transportation	628	646	<b>672</b>	26	4.0%
Patient Centered Outcomes Res.	488	464	<b>528</b>	64	13.8%
Environmental Protection Agency	450	473	<b>473</b>	0	0.0%
Homeland Security	251	251	<b>250</b>	-1	-0.4%
Smithsonian	202	205	<b>216</b>	11	5.4%
Education	196	197	<b>207</b>	10	5.1%
Int'l Assistance Programs	227	157	<b>157</b>	0	0.0%
All Other	289	319	<b>384</b>	65	20.4%
<b>Total Research</b>	<b>61,847</b>	<b>64,469</b>	<b>64,720</b>	<b>251</b>	<b>0.4%</b>

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