Summary and Analysis of the President’s FY 2005 Budget Proposals for Federal Support of Research and Education

Prepared by Lewis-Burke Associates LLC

Click on the agency below to go directly to the summary:

Introduction
National Science Foundation
Department of Energy
Department of Defense
National Aeronautics and Space Administration
Department of Homeland Security
Department of Education
National Institute of Standards and Technology
National Oceanic and Atmospheric Administration
U.S. Geological Survey
Introduction

Facing a record deficit of $521 billion in fiscal year 2004, on Monday the President released his budget plan for FY 2005. The FY 2005 budget proposes an overall increase for all discretionary programs of about 4 percent over the FY 2004 level. However, only 0.5 percent growth is targeted for non-defense, non-homeland security programs – this includes research and education programs, environmental activities, the National Weather Service, the nation’s air traffic control system, job training, housing for the poor, veterans’ medical care, and many other programs.

The budget contains about $818.4 billion in FY05 discretionary spending, with about $386.2 billion of that for programs other than defense and homeland security -- a microscopic 0.5 percent rate of growth. In fact, according to one estimate, when spending for international affairs is separated out of the non-defense, non-homeland discretionary spending totals, spending actually declines below the comparable FY 2004 level. Overall the budget request would eliminate 65 programs and reduce funding for 63 others, saving $4.9 billion in FY05, according to OMB.

While the administration is proposing to scale back the growth of domestic discretionary spending as a whole, it is seeking significant increases in a few areas, such as an 11 percent increase for the FBI and a 6 percent increase for NASA. Substantial increases are proposed for defense (7 percent) and homeland security, with the Department of Homeland Security pegged for a 10 percent increase over its FY 2004 spending level. The Department of Agriculture and the Environmental Protection Agency are targeted for the biggest reductions.

House and Senate appropriators are already bracing for what promises to be a very difficult and intensely constrained appropriations process right in the middle of an emotionally charged, highly partisan Presidential election year. Senator Ted Stevens (R-Alaska) has said that he believes that the only appropriations bills the Senate can pass before the election are the defense and homeland security bills. There is also a growing realization that Members of Congress might have to sacrifice home-state earmarks if the budget for discretionary programs is limited to less than 1 percent growth as proposed by the President.

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<thead>
<tr>
<th>Discretionary Funding</th>
<th>FY 05 Change</th>
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<tbody>
<tr>
<td>All Discretionary (includes defense) Programs</td>
<td>+4 percent</td>
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<tr>
<td>Non-Defense Discretionary Programs</td>
<td>+.5 percent</td>
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<th>R&amp;D Funding</th>
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<tr>
<td>All R&amp;D (includes defense)</td>
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<tr>
<td>Non-Defense R&amp;D</td>
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<tr>
<th>Basic Research Funding</th>
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<tbody>
<tr>
<td>All Basic Research</td>
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<td>Homeland Security Basic Research</td>
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Within this context, it is clear that non-defense federal R&D programs are not a major priority for the Bush Administration this year. Overall federal R&D rises by 5 percent in the President’s budget proposal. However, that growth heavily favors the defense side of the R&D budget with defense R&D growing by 7 percent and non-defense R&D growing by 2.5 percent.

Federal support for basic research is set to grow by a total of .6 percent. Of particular note is that basic research support at the Department of Homeland Security is proposed to increase by 226 percent or $106 million over its FY 2004 level. However within certain other agencies, the President is proposing significant reductions in support for basic research. For example, at DOD basic research drops by 5.3 percent, at NASA it is a 10 percent cut in basic research, and at the U.S. Department of Agriculture basic research is supposed to decline by 14 percent.

Major interagency research initiatives are similarly impacted by the austerity represented in the budget: information technology declines by 1 percent from the FY 2004 level; nanotechnology is slated for a 3 percent increase; and the President’s climate change science program is set to decline by 2 percent from last year’s level.

**FY 2005 Agency Budget Summaries**

**National Science Foundation**

Just over a year ago, President Bush signed into law legislation authorizing a dramatic and substantial increase for the National Science Foundation (NSF) to be phased in over five years. For FY 2005, P.L. 107-368 authorized a budget of $7.4 billion for NSF. The President’s actual budget request for NSF is $5.7 billion -- $1.7 billion short of the target established in that historic legislation.

The President’s FY 2005 budget proposal for NSF amounts to a 3 percent increase over the FY 2004 level. However, of the total increase, which is $167 million, over $75 million of that growth will be directed to the internal operations and staffing needs of the Foundation. The result is that the real increase available to support the activities of the research and education community is less than $100 million or 1.6 percent above the FY 2004 level.

Support for Research and Related Activities is set to increase by just over $200 million or 4.7 percent. However, under the President’s proposal, $80 million of the $200 million increase would be used to phase out of NSF’s Math Science Partnership program, leaving only a $120 million – or 3 percent -- increase for NSF’s individual investigator and research centers programs. In previous years, the Math Science Partnership program was funded out of the education and human resources account at $140 million annually.

NSF’s research directorates, except for the Engineering and the Social, Behavioral, and Economic Sciences (SBE) directorates, each increase by 2.2 percent. The Engineering directorate would grow by 1.9 percent and the SBE directorate would increase by 10.3 percent. While many of the directorates receive the same 2.2 percent increase, the way that increase is distributed within the directorates reveals some interesting decisions.
example, in the Computer and Information Science and Engineering directorate, the information technology research category is reduced by $40 million or 18.3 percent; while funding for computer and network systems; computing and communications; and information and intelligent systems would increase by over 15 percent each. Support for shared cyberinfrastructure is proposed to increase by 9.7 percent. In the Geosciences directorate, the increases for earth, ocean, and atmospheric sciences are more evenly balanced with each division getting between 2 and 3 percent growth.

Support for NSF’s suite of major research equipment projects increases by $58 million or 38 percent over the FY 2004 level. Funding is provided for ongoing projects such as the Atacama Large Millimeter Array ($49.67 million); IceCube Neutrino Observatory ($33.40 million); and EarthScope ($47.35 million). Three new projects will be initiated in FY 2005 – including the National Ecological Observatory Network at $12 million; the Scientific Ocean Drilling Vessel at $40.5 million; and Rare Symmetry Violating Processes at $30.0 million -- a project to mount two highly sensitive experiments to study fundamental symmetries of nature.

Finally, the President’s budget proposes to dramatically reduce NSF’s precollege math and science education programs, selected undergraduate and community college programs, and programs for historically black colleges and universities by $168 million or 18 percent below the FY 2004 level. In addition to the elimination of the $140 million Math Science Partnership program, other programmatic decreases in the Education and Human Resources directorate include:

- Informal science education declines by $12 million to $50 million;
- STEM Talent Expansion Program (often referred to as “tech talent”) is reduced by $10 million to $15 million;
- Advanced Technological Education program for community colleges is reduced by $7 million to $38 million; and
- Robert Noyce Scholarship program is cut in half from $8 million to $4 million.

### NSF Funding by Appropriation

<table>
<thead>
<tr>
<th></th>
<th>FY 2003 Actual</th>
<th>FY 2004 Estimate</th>
<th>FY 2005 Request</th>
<th>Change over FY 2004 Amount</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research and Related Activities</td>
<td>4,054.43</td>
<td>4,251.36</td>
<td>4,452.31</td>
<td>200.95</td>
<td>4.7%</td>
</tr>
<tr>
<td>Education and Human Resources</td>
<td>934.88</td>
<td>938.98</td>
<td>771.36</td>
<td>-167.62</td>
<td>-17.9%</td>
</tr>
<tr>
<td>Major Research Equipment and Facilities Construction</td>
<td>179.03</td>
<td>154.97</td>
<td>213.27</td>
<td>58.30</td>
<td>37.6%</td>
</tr>
<tr>
<td>Salaries and Expenses</td>
<td>189.42</td>
<td>218.70</td>
<td>294.00</td>
<td>75.30</td>
<td>34.4%</td>
</tr>
<tr>
<td>National Science Board</td>
<td>2.88</td>
<td>3.88</td>
<td>3.95</td>
<td>0.07</td>
<td>1.8%</td>
</tr>
<tr>
<td>Office of Inspector General</td>
<td>8.70</td>
<td>9.94</td>
<td>10.11</td>
<td>0.17</td>
<td>1.7%</td>
</tr>
<tr>
<td><strong>Total, NSF</strong></td>
<td><strong>$5,369.34</strong></td>
<td><strong>$5,577.83</strong></td>
<td><strong>$5,745.00</strong></td>
<td><strong>$167.17</strong></td>
<td><strong>3.0%</strong></td>
</tr>
</tbody>
</table>
NSF Priority Initiatives

Within the NSF budget request, as in previous years, are a number of cross-cutting, interdisciplinary priority areas. In the FY 2005 request NSF has identified the following “priority areas” for support:

**Biocomplexity in the Environment (BE):** BE, a priority area for the past few years, explores the complex interactions among organisms and their environment at all scales and through space and time. Research on the complex interactions between freshwater and the rest of the environment will be encouraged in FY 2005.

**Human and Social Dynamics (HSD):** HSD will fund research on a range of topics from individual decision-making and risk, to the dynamics of human behavior, to global agents of change such as democratization, globalization and war. Support will also be provided for methodological capabilities in spatial social science and for instrumentation and data resources infrastructure.

**Mathematical Sciences:** The Mathematical Sciences priority area, which is level funded with FY 2004, will focus on fundamental research in mathematical and statistical sciences, interdisciplinary research connecting the mathematical sciences with science and engineering and targeted investments in mathematical sciences training activities.

**Nanoscale Science and Engineering:** NSF’s investment in Nanoscale Science and Engineering increases by over 20 percent and targets the fundamental research that underlies nanotechnology, likely to be the next transformational technology. Investments in this priority area will emphasize research on nanoscale structures and phenomena and quantum control. NSF is the lead agency for the government-wide National Nanotechnology Initiative.

**Workforce for the 21st Century:** The FY 2005 request provides $20 million to initiate the Workforce for the 21st Century priority area, which aims to strengthen the nation’s capability to produce world-class scientists and engineers and a general workforce with the science, engineering, mathematics and technology skills to thrive in the 21st Century workplace.

**Information Technology Research (ITR):** was a priority area, initiated in FY 2000 and funded through FY 2004. Beginning in FY 2005, activities funded through ITR investments will be merged into new and ongoing research programs across NSF and apparently will no longer be considered a priority area.

**Infrastructure:** The FY 2005 request includes $1.47 billion for the tools necessary to conduct cutting edge research, an increase of $104.19 million over the FY 2004 estimate. Consistent with the recent recommendations of the National Science Board, the increase continues an accelerated program to revitalize and upgrade the nation’s aging infrastructure through broadly distributed investments in small, mid-sized and major research instruments and tools.
**Cyberinfrastructure:** In FY 2005, a total of nearly $400 million supports the expansion of state-of-the-art cyberinfrastructure. NSF will invest in research to develop new generations of cyberinfrastructure and new capabilities for cyber-science.

The following table summarizes the funding proposals for a number of these priority areas:

<table>
<thead>
<tr>
<th>NSF Funding by Priority Area</th>
<th>FY 2003 Actual</th>
<th>FY 2004 Estimate</th>
<th>FY 2005 Request</th>
<th>Change over FY 2004 Amount</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biocomplexity in the Environment</td>
<td>70.28</td>
<td>99.83</td>
<td>99.83</td>
<td>0.00</td>
<td>0.0%</td>
</tr>
<tr>
<td>Human and Social Dynamics</td>
<td>4.46</td>
<td>24.24</td>
<td>23.25</td>
<td>-0.99</td>
<td>-4.1%</td>
</tr>
<tr>
<td>Mathematical Sciences</td>
<td>60.42</td>
<td>89.09</td>
<td>89.11</td>
<td>0.02</td>
<td>0.0%</td>
</tr>
<tr>
<td>Nanoscale Science and Engineering</td>
<td>222.46</td>
<td>253.51</td>
<td>305.06</td>
<td>51.55</td>
<td>20.3%</td>
</tr>
<tr>
<td>Workforce for the 21st Century</td>
<td>N/A</td>
<td>N/A</td>
<td>20.00</td>
<td>20.00</td>
<td>N/A</td>
</tr>
<tr>
<td>Total, Priority Areas</td>
<td>$357.62</td>
<td>$466.67</td>
<td>$537.25</td>
<td>$70.58</td>
<td>15.1%</td>
</tr>
</tbody>
</table>

Totals may not add due to rounding.

**Other Initiatives:**

**Science and Technology Centers (STCs):** The FY 2005 request provides $30 million to initiate a new cohort of six Science and Technology Centers. The Science and Technology Centers Integrative Partnerships Program supports innovation in the integrated conduct of research, education and knowledge transfer in fields of basic science, mathematics and engineering. The total FY 2005 Request of $72.39 million also provides $42.39 million for continuing support of eleven ongoing STCs.

**Science of Learning Centers:** The FY 2005 budget provides $20 million to continue support for multidisciplinary, multi-institutional Science of Learning Centers. These centers will advance understanding of learning through research on the learning process, the context of learning and learning technologies.

**Other Centers Programs:** The FY 2005 request includes increases for a number of key Centers Programs. Nanoscale Science and Engineering Centers (NSECs) receive an additional $3.10 million, to a total of $33.79 million. These additional funds will support two new nanotechnology centers with multidisciplinary capabilities and will enhance award size of some existing centers. Following recommendations from the “Twenty-Year Review of the NSF LTER Program,” the Long Term Ecological Research (LTER) investment increases by $2.30 million, to a total of $22.82 million. Increased funding will provide incentives for interdisciplinary collaborations at LTER sites. Funding of $3.50 million will support two or three centers that advance fundamental knowledge about Environmental Social and Behavioral Science. Activity in these centers will build on groundwork laid by the Human Dimensions of Global Change centers. The Request also provides increases totaling $6.09 million for a number of mathematical and physical science centers, including: Chemistry Centers, Materials Centers, Mathematical Sciences Research Institutes and Physics Frontiers Centers. NSF investments in Engineering
Research Centers continue to focus on next-generation advances in complex engineered systems.

**Fundamental Research to Enhance Homeland Security:** The FY 2005 request includes investments in fundamental research that will address new homeland security challenges facing the nation. The request includes funding for the Ecology of Infectious Diseases program and national security-related information technology research.

**Climate Change Research Initiative (CCRI):** The request proposes that in FY 2005, NSF continue to support the interdisciplinary centers being established in FY 2004 to explore Decision-Making Under Uncertainty. These Centers will improve understanding of risk management, risk communication and decision making in relation to climate change. The FY 2005 request also supports improved climate modeling through investments in the Community Climate Science Model.

**Graduate fellowships and stipends.** The FY 2005 budget funds significant expansion from a projected 5,000 fellowships in FY 2004 to 5,500 fellowships in NSF’s flagship graduate student investment programs: Graduate Research Fellowships (GRF), Graduate Teaching Fellows in K-12 Education (GK-12) and Integrative Graduate Education and Research Traineeships (IGERT). FY 2005 stipend levels for fellows will remain at the $30,000 level established in FY 2004. Extending these increases to more graduate and postdoctoral students continues to be a high priority, long-range investment strategy for NSF. Total FY 2005 funding for these three programs is $240.74 million, $26.62 million over the FY 2004 estimate.

**Department of Energy**

Overall, the President’s request would provide DOE with a total $24.3 billion in FY 2005, an increase of 4.5 percent over FY 2004. Of that amount, DOE’s Office of Science would receive $3.43 billion, a decrease of $65.8 million or 2.0 percent from FY 2004. Within the Office of Science, programs would be funded at the following levels:

- High energy physics: $737.38 million, an increase of $3.75 million or 0.5 percent from FY 2004
- Nuclear physics: $401.0 million, an increase of $11.4 million or 2.9 percent.
- Biological and Environmental Research: $501.6 million, a decrease of $139.9 million or 21.8 percent (this cut is not as significant as it may seem for BER's core programs, as the vast majority of the $139.9 million was made up of Congressional earmarks in the FY 2004 appropriations bill).
- Basic energy sciences: $1.06 billion, an increase of $52.9 million or 5.2 percent.
- Advanced Scientific Computing Research: $204.3 million, an increase of $2.0 million or 1.0 percent.
- Fusion Energy Sciences: $264.1 million, an increase of $1.5 million or .6 percent.

**Department of Defense**

The Department of Defense (DOD) would see its overall Research, Development, Test, and Evaluation (RDTE) investment increase by 6.7 percent for a total of $68.9 billion in July 23, 2004

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FY 2005. However, this increase is almost exclusively provided for efforts in advanced systems development and weapons modernization. The request for the basic and applied research accounts (the so-called "6.1" and "6.2" accounts, from which most university researchers receive their funding) is a much different story. Overall, DOD's basic research programs would receive $1.33 billion, a decrease of 5.3 percent. DOD's applied research programs would decrease by 12.3 percent for a total of $3.88 billion in FY 2005. Most significantly affected would be the Army's basic research (-16.8 percent), the Army's applied research (-37.4 percent), and the Navy's applied research (-22.1 percent). Below are all of the basic and applied funding levels requested for DOD in FY 2005:

Army: The Army's basic (6.1) research programs would be funded at $317.5 million under the request, a decrease of 16.8 percent from the FY 2004 level. The Army's applied (6.2) research programs would decrease by 37.4 percent.

Navy: The Navy's basic (6.1) research programs would be funded at $477 million, a decrease of 1.5 percent, while its applied (6.2) research programs would be funded at $564.1 million, a decrease of 22.1 percent.

Air Force: The Air Force's basic (6.1) research programs would be funded at $345.5 million, an increase of 4.3 percent. The Air Force's applied (6.2) research programs would receive $786.2 million, a decrease of 12.3 percent.

Defense-wide programs: Defense-wide basic (6.1) research programs (including DARPA) would receive $190.1 million, a decrease of 8.2 percent, while Defense-wide applied (6.2) research programs (again including DARPA) would receive an increase of 6.4 percent for a total of $1.88 billion. DARPA specifically would receive a total of $3.09 billion in FY 2005, an increase of 9.14 percent.

National Aeronautics and Space Administration

The FY 2005 NASA budget request comes on the heels of President Bush’s January 14th speech outlining his vision for man’s return to the moon and potentially Mars and beyond. With the recent successful landings of the Mars rovers and in a federal budget in which many agencies received cuts or modest increases, NASA is a clear winner, with a proposed 5.6 percent increase ($866 million), bringing the total funding level to $16.244 billion.

For the third year in a row, the Administration proposes reorganizing the NASA budget, this time reconsolidating the three funding accounts – the Exploration, Science, and Aeronautics account (ESA), which includes almost all the science and academic programs; the new Exploration Capabilities (EC) account, which includes the Space Flight support, propulsion technology development as well as some cross-cutting technology programs; and the Inspector General account. The reorganization transfers some enabling propulsion technology programs from the science accounts to the new EC account, including Project Prometheus.
**Exploration, Science, and Aeronautics**

**Office of Space Science:** Within the ESA account, the Office of Space Science would receive $4.138 billion, an increase of $97 million (or 2.4 percent) over the FY 2004 request of $3.971 billion. This funding level includes $691 million (up 16 percent) to continue the Mars Exploration program, which is expected to double by 2009, $1.187 billion for the Solar System Exploration program, $1.067 billion for the Astronomical Search for Origins program, and $746 million to continue the Sun-Earth Connections program.

The Solar System Exploration program includes $116 million for the New Horizons mission to Pluto and the Kuiper Belt, as well as $94 million to fund the Dawn mission to two asteroids and the Deep Impact mission to probe below the surface of a comet.

The Astronomical Search for Origins program includes double the FY 2003 funding for the Space Interferometry Mission (SIM) at $155 million and a 26 percent increase, or $318 million, for the James Webb Space Telescope, which is the successor to the heavily utilized Hubble Space Telescope. Recently, Administrator O’Keefe announced that another servicing mission for Hubble to extend its lifespan would be too risky, though it now appears the decision is being revisited.

In addition, the Sun-Earth Connections program includes a doubling ($158 million) of the Solar Dynamics Observatory, a large part of the Living With a Star program which would receive $47 million for future flight missions.

**Office of Earth Science:** The Office of Earth Science is also funded within the ESA account. The budget request would provide the Office of Earth Science $1.485 billion, a decrease of $128 million (or 7.9 percent) from the FY 2004 budget request. NASA states that this reduction is a function of several Earth science satellite missions moving from development into operations as well as a lack of earmarks present in the FY 2004 budget.

Within the Office of Earth Science is a second year initiative known as the Climate Change Research Initiative. The request for FY 2005 calls for $54 million to contribute to the interagency Climate Change Science Program. The budget also includes $560 million (or a 7 percent increase) for research in Earth System Science.

**Office of Biological & Physical Research:** The budget request would provide $1.049 billion for the Office of Biological and Physical Research, an increase of $64 million (or 6.5 percent) over the FY 2004 request. The increase is entirely directed toward Biological Sciences Research, which would receive $492 million ($124 million increase) in the new budget, while Physical Sciences Research would receive a $57 million cut and Research Partnerships & Flight Support would be cut by $2 million. Within this last program, the Regional Partnership Centers would only receive $8.7 million (a reduction of $5.6 million), continuing the trend in NASA of reducing the number of centers available for this program.

**Aeronautics Enterprise:** The Aeronautics Enterprise would receive $919 million in the budget request. This level is $115 million (or 11.1 percent) below FY 2004 funding. Projects funded in FY 2005 include: $188 million for Aviation Safety and Security, $209
million for emission reductions, $72 million to reduce the noise by aircraft, and $133 million for flight and systems demonstration on enabling technologies, among others.

Education Enterprise: The Education Enterprise would receive $168.5 million in the budget request. This level is $57 million (or 25.2 percent) below the FY 2004 amount. Most of this difference is due to large amounts of Congressional projects funded in this account in the FY 2004 process. The new level would also provide $10 million for the recently created Science and Technology Scholarship program to facilitate new careers in NASA and $91 million for minority university (HBCU, HSI, etc.) research and education.

Exploration Capabilities

Exploration Systems: The new NASA Exploration Systems, formerly known as Crosscutting Technologies, corresponds to the Administration’s new vision of solar system (including the Moon and Mars) exploration. In the budget request, this theme would receive a $137 million increase (or 8.3 percent). This funding is split between two themes: Human & Robotic Technology and Transportation Systems.

Human & Robotic Technology would receive a large increase ($415 million), to fund the Innovative Technology Transfer Partnerships ($161 million) and Project Prometheus. Project Prometheus is an expansion of the nuclear propulsion and nuclear power program initiated in FY 2003. It includes $438 million for the continued development of nuclear power and nuclear propulsion systems, excluding in-space propulsion and JIMO specific portions which were left in the Office of Space Science.

Transportation Systems, on the other hand, would receive $689 million (a decrease of $278 million). This theme would fund the new Project Constellation at $428 million to develop a crew exploration vehicle by 2014 for return to the moon. NASA would discontinue development of the Orbital Space Plane and the Next Generational Launch System to defray some of the costs of the new vehicle (expected to be roughly $6.6 billion over five years).

Space Flight: Lastly, the budget request would fund Space Flight in FY 2005 at $6.674 billion, or $800 million (12 percent) more than FY 04. This level would provide necessary funding for space shuttle operations ($4.3 billion for a 9 percent increase), scheduled to begin again in the fall of 2004, the International Space Station ($1.9 billion for a 24 percent increase), and Space Communications ($196 million for a 57 percent increase). Some concerns are still present over how the Space Shuttle will be properly phased out and whether or not NASA has properly budgeted for the overlap of the Shuttle and the new Crew Exploration Vehicle.

Department of Homeland Security

In the FY 2005 budget the President requested $40.2 billion for the Department of Homeland Security (DHS). The President’s budget for DHS includes a 10 percent increase over FY 2004, making it one of two agencies to receive a significant increase this year (the other being the Department of Defense). Since 2001, funding for homeland security programs has nearly doubled.
Included in the President’s budget is $1.03 billion for the Directorate of Science and Technology, which makes up 3 percent of the overall DHS budget. This directorate includes the Homeland Security Advanced Research Projects Agency (HSARPA), which reportedly would receive 30 percent to 40 percent of the S&T funding.

The University & Fellowships program, which funds the DHS University-Based Centers of Excellence, is requested at $30 million. Congress appropriated $70 million in FY 2004 for this program -- $60 million more than was requested in FY 2004.

Key themes for DHS in FY 2005 will include enhancing Bio-Defense, improving aviation security, increasing human capital, and building information analysis and infrastructure protection.

Department of Education

In the FY 2005 federal budget request, the Department of Education (ED) would receive $57.3 billion in discretionary funding, an increase of $1.6 billion (2.9 percent) over the appropriated FY 2004 level. As has been the case in past Bush Administration budgets, the FY 2005 request focuses largely on improving K-12 education while funding most higher education programs at the previous year’s levels and even proposing some program eliminations.

In addition to suggested funding levels, the request also contains several Bush Administration proposals for the ongoing reauthorization of the Higher Education Act (HEA), the law which governs ED’s student and institutional aid programs.

The FY 2005 request would provide $14.699 billion in total postsecondary student aid funding, which is a $691 million (4.9 percent) increase over the FY 2004 level.

Pell Grants: The Pell Grant program receives the lion’s share of the proposed increases for student aid in the President’s request. $12.9 billion is requested for the program, an increase of $856 million (7.1 percent) over the FY 2004 level. However, the Pell Grant maximum would remain at the level set by Congress in FY 2004 ($4,050). Therefore, the bulk of this new funding would most likely be directed towards alleviating the programs $3.7 billion shortfall, which has arisen due to unexpected surges in Pell Grant applications over the past several years.

The budget request also proposes the creation of a new, $33 million “Enhanced Pell Grants for State Scholars” program. Under this program, Pell Grant-eligible students who take certain advanced classes in high school would be eligible to receive an extra $1,000 in addition to their standard Pell Grants.

Supplemental Education Opportunity Grants (SEOG): The Administration is requesting flat funding of $770.5 million for the SEOG program. This marks the fourth year in a row that the Administration has requested flat funding for this program.
Work-Study: The FY 2005 budget request would provide flat funding of $998.5 billion for the Work-Study program. The Administration requested flat funding for this program in FY’s 2003 and 2004. Similar to the last two years, the budget includes language encouraging institutions to use Work-Study funds to promote community service activities. Currently, institutions must use at least 7 percent of their Work-Study funds to support community service jobs.

Perkins Loans: Similar to the other Campus-Based programs, Perkins Loan cancellation payments would be flat-funded at a level of $66.7 million. Like the FY 2004 request, this budget would eliminate Perkins Loans capital contributions ($98.8 million in FY 2004). The Administration states that additional contributions are not necessary, because “repayments of existing Perkins Loans into Federal revolving funds will continue to support more than $1 billion in new Perkins Loans each year.”

Federal TRIO Programs: The FY 2005 budget request would provide flat funding of $832.6 million for the Federal TRIO Programs. The Administration also requested flat funding for these programs in its previous three budgets. The request does shift $2.8 million from other areas within the TRIO programs into Student Support Services, bringing that account to $266.5 million.

Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP): In the FY 2005 request, GEAR UP would be level-funded at $298.2 million. The Administration also requested flat funding for this program in its previous three budgets. Some funding shifts are contained in the request: State Grants would be cut by $4.6 million (5 percent) to $86.8 million; Partnership Grants would be increased by $3.8 million (1.8 percent); and a new peer review program is included at $800,000.

Leveraging Education Assistance Partnerships (LEAP): For the third consecutive year, the Administration is requesting the elimination of the LEAP program (funded at $66.2 million in FY 2004). The request states that “the program has accomplished its objective of stimulating all States to establish need-based postsecondary student grant programs, and Federal incentives for such aid are no longer required.”

Teacher Quality Enhancement: The FY 2005 request would also level fund the Teacher Quality Enhancement program, as it did in FY 2003 and 2004. The budget request would maintain support for 53 existing State, Partnership, and Recruitment projects and would fund 24 new Partnership Grants.

Graduate and International Education: In the FY 2005 request, Graduate Assistance in Areas of National Need (GAANN) ($30.6 million), the Javits fellowship program ($9.9 million), and International Education and Foreign Language Studies ($103.7 million) would all receive flat funding. The Administration also requested flat funding for these programs in FY 2004.

Historically Black Colleges and Universities (HBCU): The FY 2005 budget request would provide a $17.7 million (7.9 percent) increase for HBCUs, raising the total level of Federal funding to $240.5 million. This is considerably higher than last year’s request for a 4.8 percent increase.
Developing Hispanic-Serving Institutions (HSI): The Administration requests a $1.9 million (2 percent) increase for HSIs, which would bring the overall level of the program to $95.9 million. This is down from last year’s requested increase of 4.8 percent.

Administration HEA Reauthorization proposals: Unlike the FY 2004 request, the FY 2005 budget provides a list of Administration policy proposals for the ongoing reauthorization of HEA.

- Increased loan forgiveness—The Administration proposes to more than triple the amount of loan forgiveness for math, science, or special education teachers, increasing the amount from $5,000 to $17,500. Unlike the other items listed here, this proposal has also been included in the previous two budget requests.
- Variable interest rates—Stafford and Unsubsidized Stafford Loans are scheduled to switch to a fixed interest rate (6.8 percent) in July of 2006, but the budget proposes eliminating this scheduled change. The Administration argues that this would represent an increase in the interest rate for many borrowers.
- Increased loan limits—The Administration proposes raising the existing $2,625 borrowing limit for college freshmen to $3,000. The current limit has been in place since the 1980s.
- More flexible repayment options—The administration proposes more flexible repayment terms for borrowers under the Federal Family Education Loan and Direct Loan programs.
- Improved program efficiency—The Administration proposes closing existing loopholes which allow certain borrowers to receive higher benefits indefinitely.
- Enhanced program stability—The Administration proposes requiring guaranty agencies to collect the 1 percent insurance premium on loans guaranteed or disbursed after October 1, 2004 (the first day of FY 2005). Currently, many agencies waive this fee, which reduces the reserves the federal government depends on to protect itself against loan default.
- Streamlined program operations—The Administration proposes reinstating certain preexisting but expired exemptions. Under these exemptions, institutions with a cohort default rate of less than 10 percent over the previous three fiscal years would be exempted from current requirements that all loans to freshmen be delayed 30 days before disbursement and that all loans be issued in at least two separate disbursements. The Administration also proposes scaling back the current rules regarding student aid applicants convicted of a drug offense. Under the new proposal, only students who committed a drug-related offense while enrolled in higher education would be ineligible.

Institute of Education Sciences (IES): The request would cut IES by $29.1 million (6.1 percent), bringing the education research agency’s overall funding level down to $449.6 million. The request does propose an increase of $19.5 million (11.7 percent) for Research, Development and Dissemination, but excludes Multi-Year Grants and Contracts ($57.6 million in FY 2004), as it did in the previous request. Statistics ($91.7 million) and Assessment ($94.8 million) would both be flat funded.

The budget request would move the Research and Innovation in Special Education program from the Special Education account into IES and maintain it at its FY 2004 level.
of $78.1 million. However, the request would also eliminate the Regional Education Laboratories ($67.1 million in FY 2004) on the grounds that they do not provide high-quality research. The previous budget request also sought to cut this program.

**Math and Science Partnerships (MSP):** The budget request would provide an increase of $120 million (80.5 percent) to ED’s MSP activities, bringing the overall level to $269.1 million. However, this increase would coincide with the elimination of NSF’s MSP program ($140 million in FY 2004). NSF MSP funds are awarded competitively, whereas ED MSP funds have traditionally been disbursed to states via block grants. The budget request suggests, however, that at least part of this transferred funding will be awarded competitively in a new initiative which focuses on mathematics education for secondary school students.

**National Institutes for Standards and Technology**

The FY 2005 budget request would provide $5.8 billion for the Department of Commerce, of which the Technology Administration (TA) would receive $529.8 million, a decrease of $87.2 million or 8.5 percent over the FY 2004 level. Housed in the TA budget is funding for the National Institute of Standards and Technology (NIST) which would receive $521.5 million, $88.5 million below the FY 2004 request.

Funding for NIST is divided into three areas: Scientific and Technical Research and Services (STRS); Industrial Technology Services (ITS); and Construction of Research Facilities (CRF). The STRS division, which provides funding for the NIST Laboratories, increase 12 percent or $85.9 million above the FY 2004 level.

![Technology Administration ($ in millions)]

<table>
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<tr>
<th></th>
<th>FY 03</th>
<th>FY 04</th>
<th>FY 05</th>
<th>Percent Change over FY04</th>
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<tr>
<td>Technology Administration</td>
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<tr>
<td>Construction of Research Facilities</td>
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<td>$64</td>
<td>$59.4</td>
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**Scientific and Technical Research and Services (STRS):** The request of $422.9 million for STRS includes $417.5 million for the NIST Laboratories. This budget would fund:
$15.6 million to create a National Nanofabrication and Nanometry User Facility, and to provide support for advances in key manufacturing areas such as nanomanufacturing and nanometry.

$18.6 million for research on measurement technologies for homeland and cyber security.

$16.2 million for advanced measurement capabilities for support emerging technologies in areas such as biosystems.

Construction of Research Facilities (CRF): The request includes $59.4 million for CRF, of which $25.7 million would go to modernize the NIST Boulder Laboratory.

Industrial Technological Services (ITS): The request also includes $39.2 million to support NIST’s Manufacturing Extension Partnership – a national network established to help small manufacturers.

National Oceanic and Atmospheric Administration

The budget request for the National Oceanic and Atmospheric Administration (NOAA) for FY 2005 is $3.37 billion. This is $308 million below the FY 2004 estimate.

Within the requested funding, the NOAA Office of Oceanic and Atmospheric Research (OAR) would receive $350 million under the President’s proposal. This constitutes a reduction of $58 million or 14.2 percent below the FY 2004 level. Even with such a reduction, the President’s budget includes an additional $19 million of new funding to address “critical knowledge gaps identified in the recently released Climate Change Science Program Strategic Plan.” The areas identified include: effects of aerosols, atmospheric and oceanic interactions, and carbon sources and sinks.

The National Weather Service is proposed to increase by 3.3 percent to a level of $749 million. NOAA’s budget plan includes funding to expand air quality forecasts nationwide, THORPEX – a global atmospheric research program, and resources targeted at improving long-range weather forecasting. The NOAA budget also requests an additional $56 million for the continued development of next-generation geosynchronous and polar orbiting satellite programs.

NOAA’s full budget has not been released; we will provide more detail as soon as the numbers are available.

U.S. Geological Survey

The U.S. Geological Survey (USGS), a bureau of the Department of the Interior (DOI), would be cut by $18.2 million (1.9 percent) to $919.8 million under the President’s FY 2005 budget request.

The request includes $95.9 million for Facilities, which would represent an increase of $3 million (3.2 percent) over the FY 2004 level. All the other existing line items would be cut: Geologic Hazards, Resources and Processes (cut by $13.4 million [5.7 percent], to $220.8 million); Mapping, Remote Sensing, and Geographic Investigations (cut by $10.8 million).
million [8.3 percent], to $118.9 million); Water Resources Investigations (cut by $13 million [6 percent], to $202.7 million); Biological Research (cut by $6.9 million [4 percent], to $167.6 million); and Science Support (cut by $22.1 million [24.3 percent] to $68.7 million).

The request would create a new line item, funded at $45.1 million, within USGS entitled “Enterprise Information.” This item consolidates informational activities currently occurring across the bureau.

At the DOI budget briefing, Secretary of the Interior Gale Norton justified these cuts with a two-fold explanation: this budget request does not take into account the $17 million in Congressional earmarks contained in USGS’ FY 2004 appropriation, and DOI is attempting to narrow USGS’ focus to make it more of a scientific support entity for DOI’s other bureaus, such as the Bureau of Land Management.

One exception to these across-the-board reductions is the Advanced National Seismic System (ANSS). The President’s request sought unsuccessfully to cut ANSS in half last year, but this year’s request would maintain it at its current level of $4.4 million.