

R&D in Selected Agencies

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HIGHLIGHTS

- **Department of Commerce** R&D would fall 7.6 percent to \$1.1 billion. The Bush Administration would eliminate R&D in the Advanced Technology Program (ATP) at the National Institute of Standards and Technology (NIST). R&D in the NIST laboratories would increase 8.9 percent to \$292 million. National Oceanic and Atmospheric Administration (NOAA) R&D would increase 6.4 percent to \$772 million (see Table II-14).
- R&D in the **Department of the Interior** would fall 6.1 percent to \$593 million, but steeper cuts would fall on its lead science agency, the U.S. Geological Survey (USGS). USGS R&D would fall 10.7 percent to \$491 million, with cuts to all four USGS divisions (see Table II-16).
- The **Department of Transportation's** (DOT) R&D funding would climb 6.8 percent to \$798 million. Many DOT programs do not compete with other discretionary programs for funding because they rely on guaranteed spending from transportation trust funds. Because transportation tax revenues have been rising steadily, R&D funding would also rise (see Table II-15).
- The **Environmental Protection Agency's** (EPA) R&D budget would fall 6.5 percent to \$569 million, mostly because of the elimination of dozens of congressionally designated research projects (see Table II-17). EPA's core research programs would mostly be held to level funding.
- In other agencies, the Smithsonian Institution's overall R&D budget of \$118 million would remain unchanged in FY 2002, but

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there would be reorganizations of its science centers. One proposed laboratory closing has already been reversed after public outcry.

DEPARTMENT OF COMMERCE

The FY 2001 R&D request for the Department of Commerce totals \$1.1 billion, a \$91 million or 7.6 percent decline from FY 2001 (see Table II-14). Much of the cut is due to the near-elimination the Advanced Technology Program (ATP) in the **National Institute of Standards and Technology** (NIST). NIST R&D would be down \$108 million, or more than 25 percent, to \$313 million.

The Scientific and Technical Research and Services (STRS) program funds NIST's intramural R&D at its Colorado and Maryland laboratories. NIST's labs provide U.S. industry with industrial standards and measurement technologies, and aim to bridge the gap between industrial R&D in company laboratories and the more basic research conducted in university and government labs. STRS R&D would jump by \$24 million or 8.9 percent to \$292 million. This appropriation would include one extramural component, a new program begun in FY 2001 to fund critical infrastructure protection research through grants to the private sector to keep U.S. information infrastructure safe from attack or failure, funded at a level \$4 million in FY 2002. (For information on the STRS role in the interagency Nanotechnology initiative, please see Chapter 23; for more information on NIST physics programs, please see Chapter 13.)

The ATP, however, which funds extramural R&D, would see its R&D eliminated in FY 2002 for a cut of \$118 million. Only \$13 million in limited non-R&D funds for administration costs and close-out costs would be included in the FY 2002 budget. FY 2001 funds for the program would be limited to funding the remaining costs of existing awards; there would be no new awards in FY 2002. ATP provides cost-shared, precompetitive research grants to industrial firms for developing promising new technologies with commercial potential. The Clinton Administration regularly requested substantial increases for this program, but the Republican Party has generally opposed this program as an unnecessary corporate subsidy that displaces privately funded R&D. Although the budget describes the proposal as a suspension rather than an elimination

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of the program while its accomplishments can be evaluated, there is little doubt that if funding is successfully terminated in FY 2002 it will be nearly impossible to revive, especially since no time frame has been set for conducting the re-evaluation. NIST's other R&D account, Construction of Research Facilities, would decline 40 percent to \$21 million as large projects funded in FY 2000 and FY 2001 approach completion.

The **National Oceanic and Atmospheric Administration** (NOAA), Commerce's other major R&D agency, performs R&D related to its mission of environmental stewardship of coastal and marine environments and the atmosphere to ensure sustainable economic opportunities. Of NOAA's \$3.1 billion FY 2002 discretionary budget, \$772 million would go to R&D for a 6.4 percent increase. (For details of NOAA's R&D request, please see Chapter 16; see also Chapters 15 and 18.) Funding for NOAA's two main R&D divisions, the National Marine Fisheries Service (NMFS; up 6.0 percent to \$329 million) and Oceanic and Atmospheric Research (OAR; up 7.8 percent to \$290 million) would increase substantially. In NMFS, there would be a substantial boost to efforts to collect and analyze fisheries information (up from \$255 million to \$273 million). In OAR, there would be increases for long-term climate and air quality research (from \$46 million to \$48 million), climate observations and services (from \$12 million to \$24 million), and weather research (from \$42 million to \$46 million). There would also be a major initiative in Ocean Exploration involving a boost from \$2 million to \$13 million to fund six major and several minor interdisciplinary research voyages within the U.S. waters.

R&D in the National Telecommunications and Information Administration (NTIA) would fall from \$51 million to \$21 million in FY 2002 because of a reduction in Technology Opportunity Grants from \$46 million back down to the FY 2000 level of \$16 million. These grants fund the development of innovative information technology systems to provide the benefits of information technology to Americans in under-served communities.

DEPARTMENT OF THE INTERIOR

The Department of the Interior's R&D would fall 6.1 percent to \$593

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million in FY 2002 (see Table II-16). Interior's main science agency, the U.S. Geological Survey (USGS), would see its R&D budget fall by 10.7 percent to \$491 million, bringing its R&D funding down below the FY 2000 funding level after a large increase in FY 2001.

The total USGS budget of \$814 million would represent a \$70 million or 7.9 percent cut. R&D makes up two-thirds of the USGS budget, and would decline by an even steeper 10.7 percent. R&D in all four USGS divisions would decline, but hardest hit would be programs in Water Resources (down 25.5 percent to \$101 million) and Biological Research (down 7.0 percent to \$149 million). The FY 2002 budget explains that USGS conducts a significant amount of research that primarily benefits other federal agencies, states, and local governments; the budget would reduce funding for many of these programs, though without corresponding increases in other agencies' budgets.

The Water Resources Division would be especially hard hit by these reductions. The National Water-Quality Assessment (NAWQA) program and the Toxic Substances Hydrology (TSH) program are longstanding USGS programs that provide data to state and federal regulatory agencies such as the Environmental Protection Agency (EPA). Funding for NAWQA would fall by a third and the TSH program would be nearly eliminated in FY 2002; while the budget proposes to consult with these agencies in 2001 to 'work in partnership with USGS on this valuable research,' the EPA request does not pick up the eliminated funding. (Please see Chapters 17 and 18 for more information on Water Resources.)

In the Biological Research Division (BRD), the budget would discontinue funding for the National Biological Information Infrastructure (NBII) program. The NBII uses the World Wide Web and other technologies to establish a distributed web of biological data and information sources through which people can find specific information, retrieve it electronically, and apply it to resource management questions. These data are also used by other federal and state agencies in their activities; there are no offsetting increases in other agencies' budgets. (Please see Chapter 19 for more information on USGS BRD.)

Although the cuts would be less steep than the ones described above,

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funding for most other USGS programs would also decline in the FY 2002 budget. Among Interior's other bureaus, there would be increases for R&D in the Minerals Management Service (up \$15 million to \$47 million) and the Bureau of Land Management (up \$5 million to \$19 million).

DEPARTMENT OF TRANSPORTATION (DOT)

DOT asks for a total budget in FY 2002 of \$61.9 billion (up 1.5 percent or \$889 million), including appropriations, transportation trust funds, and mandatory programs. This would be a relative pause after the past several years of increases measured in billions of dollars, including a \$6.3 billion boost last year. Over half of the DOT budget would go toward the Federal Highway Administration (FHWA), mostly for spending out of the highway trust funds for road projects. R&D is a relatively small part of the DOT budget and would total only \$798 million in FY 2002, but this would represent an increase of \$51 million, or 6.8 percent (see Table II-15).

Transportation funding increased dramatically beginning in FY 1999 as a result of the six-year (FY 1998-2003) reauthorization of transportation programs known as the Transportation Equity Act for the 21st Century (TEA-21), which was signed into law in June 1998. The law specifies that transportation tax revenues will be devoted exclusively to transportation and specifies formulas for allocating these funds. In the past, a portion of these revenues was used to finance other federal programs. As a result, DOT's budget climbed from \$44 billion in FY 1998 all the way to \$61 billion in FY 2001 as a result of burgeoning revenues from transportation taxes. The Bush Administration would moderate this recent growth somewhat in its FY 2002 budget by not funding numerous congressionally designated transportation projects contained in TEA-21 and in recent Transportation appropriations bills, and by cutting from the parts of DOT's budget that are still funded through general revenues.

FHWA R&D would be the big winner in the budget with a 27.5 percent increase to \$374 million, mostly from the transportation trust funds. Included is a 46 percent boost in R&D within the Intelligent Transportation Systems (ITS) program to \$74 million out of a \$253 million total ITS budget mainly focused on deployment and demonstration programs. ITS R&D would finance research on intelligent vehicles and

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advanced information technologies to ameliorate road congestion. There would be a 54.9 percent boost to \$114 million for surface transportation research, mostly from as-yet unspecified new funds for research. (For more information on FHWA R&D, please see Chapter 25.)

The Federal Aviation Administration (FAA) would see its R&D investment fall by 8.3 percent to \$276 million in FY 2002 after a large increase in FY 2001. Although FAA's core Research, Engineering, and Development account would stay level with FY 2001 and would continue to finance research efforts in aircraft structures, aircraft materials, aviation security, and weather, there would be a nearly one-third cut in Advanced Technology Development and Prototyping after a substantial boost in FY 2001.

ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA's budget would total \$7.3 billion in FY 2002, a cut of \$494 million or 6.3 percent from FY 2001 because of cuts to state and tribal assistance grants, perennially a higher priority for Congress than for EPA, and cuts in funds for congressionally designated projects. EPA's R&D would decline from \$609 million to \$569 million (down 6.5 percent; see Table II-17), mostly because of the elimination of dozens of FY 2001 congressionally designated research projects while keeping core research funding flat.

In response to the Government Performance and Results Act (GPRA), EPA has organized its programs around 10 strategic goals. In order to fulfill its goal of achieving clean air, EPA would focus its clean air research agenda on particulate matter (PM) research, tropospheric ozone, and air toxics. In FY 2001, Congress appropriated \$69 million for PM research; the FY 2002 request would provide slightly less, \$66 million. Tropospheric ozone research would stay level at \$7 million, while air toxics research would decline to \$19 million from \$22 million. Through these programs, EPA hopes to better understand how to attain National Ambient Air Quality Standards for these substances.

Most of EPA's R&D is organized around the strategic goal of "Sound Science, Improved Understanding of Environmental Risk, and Greater Innovation to Address Environmental Problems." The \$307 million

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budgeted for this goal in FY 2002 would address long-term research needs in ecosystems assessment and restoration, human health risk assessment, emerging environmental risks, and new technologies for pollution prevention. These programs aim to strengthen the scientific basis for EPA's environmental protection activities and to better integrate risk assessment into the agency's priority-setting process. Programs in the Sound Science goal also nurture ties between EPA and the wider scientific community.

Another EPA goal with a strong research component is "Reduction of Global and Cross-Border Environmental Risks." Climate change research within this goal would decline slightly from \$23 million to \$22 million. Related non-R&D programs in climate change, renamed from the Clinton-era Climate Change Technology Initiative to the Climate Change Protection Program, would mostly see their funding remain at FY 2001 levels for a total Climate Protection Program investment of \$123 million.

For the goal of "Clean and Safe Water," the Safe Drinking Water Research program is the major R&D component. Program funding would decline from \$52 million to \$47 million, focusing on microbial contaminants in drinking water. EPA would also fund research on sediments in aquatic habitats and research on infectious diseases resulting from exposure to microbes in recreational waters.

Although most of EPA's R&D is funded in the Science and Technology account, the Superfund program also funds R&D, a total of \$37 million in FY 2002 that is transferred to the S&T account for research on assessing and remediating contaminated sites. Superfund used to transfer funds to the National Institute of Environmental Health Sciences (NIEHS) for its research program on environmental health, but beginning in FY 2001 and continuing with the FY 2002 request these funds are appropriated directly to NIEHS (see Table II-9). (For additional information on EPA research, please see Chapter 18.)

OTHER AGENCIES

In other agencies, the **Department of Veterans Affairs** would increase its R&D funding 2.7 percent to \$722 million (see Table II-1). About half of this amount is for medical and prosthetic research programs; the other

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half pays for clinical and other support costs and for VA researchers' salaries. Nearly all of VA's research is performed intramurally. The main focus areas of VA's research portfolio are basic and clinical medical research on areas particularly relevant to the veteran population (aging, chronic disease, environmental exposures, and mental illness), rehabilitation research, health services research for improving health care delivery, and cooperative studies of large-scale clinical trials.

While the **Smithsonian Institution's** overall R&D budget of \$118 million would remain unchanged in FY 2002 (see Table II-1), the FY 2002 budget request in April proposed reorganizations of its science centers, including a proposed closing of the Conservation Research Center (CRC) in Virginia that generated a great deal of controversy and protest. In response to the controversy, in May the Secretary of the Smithsonian announced that CRC would remain open; it is unclear at this time how the Smithsonian would offset the restoration of CRC funds. Another research center, the Center for Materials Research and Education, was still proposed for closing at press time.

Although education funding would be a high priority for the Bush Administration, R&D in the **Department of Education** would decline 2.3 percent to \$259 million (see Table II-1) because of a proposed cut in funding for the Office of Educational Research and Improvement. (For more information on the Department of Education, please see Chapter 5.)

(For information on R&D in the Department of Justice, please see Chapter 23.)