

# Federal Budget 1997

## The Good, the Bad, and the Ugly



Funding for many research and development programs would continue to decline under President Bill Clinton's \$1.64 trillion fiscal year (FY) 1997 budget, submitted to Congress this week. The \$72.7 billion request for R&D is 1.0 percent less than last year's budget allotment, after factoring in an estimated 2.7 percent rate of inflation.

"Last year's budget" remains difficult to define, however, because Congress and the President have yet to agree on FY 1996 funding for many agencies, although that fiscal year began Oct. 1, 1995 (SN: 2/10/96, p. 86). In budget documents, the FY 1996 figure represents the amount each agency is receiving under a continuing resolution plus money the administration is requesting in ongoing negotiations with Congress. Often, the FY 1996 figures are below the amount an agency received in FY 1995.

The Clinton team has recently begun speaking out in support of environmental issues, and parts of the 1997 budget proposal for R&D reflect these concerns. Unlike most other departments, the Environmental Protection Agency would receive a significant increase, 12.5 percent. Likewise, funding for the 11-agency U.S. Global Change Research Program would grow to \$1.9 billion, a 5.3 percent boost.

Science and engineering activities at the Department of Energy are slated for a 9 percent drop, an uglier scenario than the research budgets other agencies face. In fact, the administration proposes cutting DOE by 18 percent overall—a concession, perhaps, to DOE critics, who argue for abolishing the agency. In contrast, the agency's efforts to develop renewable energy sources and improve energy efficiency would receive \$1.1 billion, a whopping 30 percent increase.

The President would continue to promote industry-government technology partnerships, as shown by the big boost slated for such activities at the Department of Commerce. Percentages in this article are adjusted for inflation.

### Biomedicine

The National Institutes of Health would get an increase of \$274 million for renovation and expansion of its major clinical center, a 41-year-old facility that serves some 20,000 patients a year.

In addition, NIH would receive \$193 million more in FY 1997 for research activities. This sum would include \$99 million for expanding studies on the origins and progression of disease, medical genetics, prevention strategies, and the biology of brain disorders. Some of the money would be spent on advanced instrumentation and computers.

The President's plan would give NIH a total of \$6.6 billion to support 25,400 grants, 733 more than last year. Funding for AIDS research would fall slightly, however. Clinton has requested \$1.4 billion, down 1 percent from FY 1996.

### NASA

Although the space agency would feel the sting of the budget bullet, it wouldn't face an all-out fusillade. The 2.8 percent reduction in NASA's FY 1997 budget is only a foretaste of coming cuts. The President has announced plans to trim NASA's budget by \$2.2 billion over the following 3 years, a drop of 16 percent without factoring in inflation.

In FY 1997, the agency would forego any new space probes and focus instead on smaller, previously planned missions. Among the highlights, NASA would spend \$90 million on the Mars Global Surveyor and the Mars Pathfinder, two spacecraft scheduled for launch at the end of 1996 and destined for the Red Planet. The agency would also allot \$193.4 million for development of instruments to go on the Hubble Space Telescope.

Clinton's budget affirms support for the Mission to Planet Earth, a project criticized recently by some members of Congress. Designed to study Earth's environment from space, this mission would receive a 6 percent boost, bringing its budget to \$1.4 billion. Funding for the space station remains capped at \$2.1 billion.

### Energy

Among the big losers at DOE would be the program on fossil fuels (such as clean coal technologies). Its funding would drop 20 percent—to \$348 million. The agency's \$406.4 million biological and environmental program would lose

Research and Development Funding  
Budget Authority (in millions of dollars)\*

Agency or Department	FY 1995 Actual	FY 1996 Estimated	FY 1997 Proposed	Percent Change 1996-1997†
Defense‡	35,350	35,428	35,523	-2.4
Health and Human Services (National Institutes of Health)‡	11,519 (11,284)	12,118 (11,939)	12,621 (12,406)	+1.5 (+1.2)
NASA	9,390	9,334	9,359	-2.4
Energy‡	6,481	6,689	6,269	-9.0
National Science Foundation	2,431	2,430	2,516	+0.8
Agriculture‡	1,542	1,479	1,499	-1.3
Commerce	1,164	1,086	1,260	+13.3
Environmental Protection Agency	554	508	585	+12.5
Interior	668	622	582	-9.1
All Others§	1,982	1,756	2,465	+37.7
Total	71,081	71,450	72,679	-1.0

\* Adapted from Office of Management and Budget data; figures are rounded.  
† Adjusted for 2.7 percent inflation.  
‡ Final 1996 appropriation for most or all of agency or department.  
§ This figure includes all other agencies' research budgets, which generally remain level. However, it also includes funding for the completion of multiyear equipment and facilities construction projects at NASA and DOE. NASA would receive \$342 million and DOE would take home \$216 million. The inclusion of these funds accounts for the unusual increase in this budget category.

9.4 percent. Support for basic energy sciences would almost match last year's sum of \$654.6 million. At \$318.5 million, DOE's nuclear physics budget would climb just 1.9 percent. The \$12 million increase requested for high-energy physics would bring its budget to \$679.1 but wouldn't cover inflation.

The \$3.5 billion that DOE contributes to military R&D would grow by 4.6 percent. Some of that money goes toward developing and implementing methods for dismantling nuclear weapons and managing the remaining weapons stockpile.

## National Science Foundation

If it receives the proposed 6 percent increase for research, NSF would distribute the funds almost equally among the scientific disciplines. Engineering would fare somewhat better, with a 9.3 percent hike. The agency would support 19,597 grants, 494 more than in FY 1996. Average grant amounts would climb slightly.

Although NSF would end a \$50 million renovation program for university laboratories, it would fix up its South Pole research station, part of its polar program. Funding of this program would remain almost level at \$168 million.

Support for major scientific equipment, such as the ongoing construction of the Laser Interferometer Gravitational

Wave Observatory (SN: 10/15/94, p. 246), would increase from \$70 million to \$95 million, a 33 percent increase.

## Technology

The bulk of the Commerce Department's technology administration budget goes to the National Institute of Standards and Technology. Under the proposed FY 1997 spending plan, NIST would receive \$826 million. This sum represents a significant increase over the FY 1996 allotment of \$579 million, but it falls short of the President's FY 1996 request of \$1.02 billion.

Of NIST's FY 1997 budget, \$345 million would go to the Advanced Technology Program, \$268 million for developing measurement technologies, and \$105 million for improving laboratory facilities.

Some members of Congress want to cut the Advanced Technology Program, which supports the development of innovative, but risky, technologies. In January, the General Accounting Office released survey results indicating that nearly half of the projects funded by the program would have continued without this aid.

## Environment

At EPA, which did not provide a breakdown of its FY 1996 figures, air pollution studies would suffer a 16.5 percent drop

from FY 1995, to \$88.2 million. Research emphases in the coming year include assessing the risk of airborne particulates (SN: 7/1/95, p. 5) and smog ozone.

Funding for pesticide research would climb by at least 50 percent above FY 1995 levels, to \$20.6 million. Drinking water R&D would grow a more modest 28 percent over the 2-year period, to \$20.6 million.

Other agency highlights include \$14.6 million earmarked for investigations into special hazards, such as hormone-mimicking pollutants (SN: 7/15/95, p. 44) and lead in soil.

## Earth Sciences

"Nowhere are the President's priorities for environmental research clearer than in the FY '97 budget for the National Oceanic and Atmospheric Administration," says Presidential Science Advisor John H. Gibbons. Overall funding for NOAA would climb 6 percent, to \$2.1 billion. The agency's request includes \$1.26 billion for short-term weather forecasting and warning, an increase of 9 percent over the previous year.

The U.S. Geological Survey, however, faces a proposed cut of nearly 0.5 percent, even though it has absorbed some of the activities of the now defunct U.S. Bureau of Mines (SN: 1/6/96, p. 7).

— T. Adler, R. Monastersky, and staff

# Books

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**Body Signals: When to Relax, When to Be Concerned, and When to Go to the Doctor Immediately**—Bruce K. Lowell. Writing for people who are experiencing a few more aches and pains than they used to, a geriatrician guides middle-aged and elderly people toward understanding what is a normal sign of aging and what should cause concern. Is a sore throat just sore, or is it an indication of a hiatal hernia? Is a nagging pain in the shoulder a sign of bursitis or an indication of angina pectoris? Lowell outlines symptoms, possible illnesses, treatments, and indications of the severity of the problem for every part of the body, including eyes, teeth, skin, and internal organs. HarpC, 1995, 454 p., hardcover, \$25.00.

**Descartes' Error: Emotion, Reason, and the Human Brain**—Antonio R. Damasio. Decrying Descartes' postulation "I think, therefore I am," Damasio contends that reason may not be as pure as we think. Far from intruding on the reasoning process, emotions and feelings may actually be enmeshed in it, acting as guides. To bolster his argument that feelings act in concert with reasoning skills, Damasio points to case studies of people who experienced prefrontal cortical damage, thus losing their ability to produce the emotions required for effective decision making. Originally published in hardcover in 1994. Avon, 1995, 312 p., paperback, \$12.50.

**The Lives to Come: The Genetic Revolution and Human Possibilities**—Philip Kitcher. In what is sure to strike many readers as a disturbing treatise, Kitcher addresses the social and ethical issues surrounding the impending genetic revolution. He discusses a number of possible scenarios in terms of what is currently known about identifying genes and those viable for the future. Certainly within the next few years, doctors will be able to test people for predisposition to genetic diseases, but when will we be able to treat those diseases? Will this information be disclosed to insurance companies and employers? Will a genetic class system evolve? An advocate of "utopian genetics," Kitcher feels that people should be able to abort fetuses that carry serious genetic abnormalities. But how far should this theory be carried in producing "ideal" offspring? The last half of the book addresses these issues. S&S, 1996, 381 p., hardcover, \$25.00.

**Living with Rheumatoid Arthritis**—Tammi L. Shlotzauer and James L. McGuire. Painful and prevalent, rheumatoid arthritis afflicts more than 3 million people in the United States alone. This guide makes coping with and understanding the disease easier by outlining its causes, symptoms, diagnosis, and treatments. The book also suggests exercises and gives advice on dealing with the pain and change in lifestyle arthritis causes. Originally published in hardcover in 1993. Johns Hopkins, 1995, 216 p., b&w illus., \$15.95.

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**The Natural House Catalog: Everything You Need to Create an Environmentally Friendly Home**—David Pearson. This guidebook offers a plethora of ideas and suppliers to facilitate creating an environmentally sound and healthful house. The first half of the book presents alternative ways to light, heat, build, furnish, paint, ventilate, and wire a house, interspersed with product pages outlining specific products useful in these endeavors. The directory in the back combines suppliers, products, and resources in more than 2,000 listings and advertisements organized by topic. Fireside, 1996, 287 p., color photos and b&w illus., paperback, \$23.00.

**The Optimist's Guide to History**—Doris Flexner. The author of *The Pessimist's Guide to History* looks at the happier events of recorded time rather than bloody wars and natural disasters. This small, readable encyclopedia charts the high points of history, such as the birth of Confucius, the debunking of spontaneous generation by Lazzaro Spallanzani and the building of the Brooklyn Bridge. Avon, 1995, 281 p., paperback, \$10.00.

**To Rise From Earth: An Easy-to-Understand Guide to Spaceflight**—Wayne Lee. In this introduction to rocket science, Lee uses jargon-free text and many illustrations to show how spacecraft, satellites, orbits, and space shuttles all work. Covering everything from the Cold War race to the moon to possible future endeavors such as NASA's Mars Surveyor program, readers learn specifically how space maneuvers are performed, how shuttles are processed for flight, what missions shuttles fly, and how NASA plans to reach other planets in our solar system. Facts on File, 1995, 309 p., b&w photos and illus., hardcover, \$35.00.