

U.S. BUDGET

NSF Research Bounces Back; Congress Funds New Facilities

Congress last week pulled the 2002 budget for the National Science Foundation (NSF) back from the brink of fiscal calamity. By providing a 7.7% increase for NSF's \$3.6 billion research account, legislators more than wiped out a 0.5% cut proposed by President George W. Bush in April (*Science*, 13 April, p. 182) and gave a green light to several NSF initiatives. At the same time, lawmakers accepted with minor tinkering the president's plans for NSF's education programs, boosting them 11% to \$875 million.

"I'm really, really pleased with our numbers for 2002," said the visibly relieved NSF director Rita Colwell, whose campaign to double the agency's budget, to \$8 billion, took a sharp hit from the incoming Bush Administration. "Given where we started, we didn't do so badly," added a senior NSF official. NSF also largely avoided the earmarks—pet projects of individual legislators—that are spread liberally across

the rest of a \$113 billion bill covering housing, veterans affairs, NASA (see sidebar), and dozens of other agencies.

Within the research programs, the foundation's cross-disciplinary initiatives fared



Winning numbers. Director Rita Colwell likes the boost in NSF's 2002 budget.

well, with information technology and nanotechnology each getting \$25 million more than the request, to \$297 million and \$198 million, respectively. The increases for individual directorates varied from nearly 9% for the geosciences and engineering to only 3% for the social and behavioral sciences. Although Congress declined to specify a number, it told NSF to give "a high priority" to a much-touted mathematics initiative for which the agency had requested \$20 million.

The spending bill also overrode the Administration's desire to block any major new research facilities (*Science*, 27 July, p. 586). In addition to approving requests for terascale computing and an earthquake engineering simulation network, legislators added \$15 million to start a 1-square-kilometer neutrino array under the South Pole, \$12.5 million to begin the Atacama Large Millimeter Array in Chile, and \$35 million to continue building a high-altitude plane to carry out atmospheric studies.

Showing their traditional support for education, legislators told NSF to



Pluto and Pork Win Out at NASA

At first glance, NASA's \$14.8 billion budget for 2002 appears to mark a modest victory for an agency struggling with cost overruns and a leadership vacuum. Some of the 3.8%

boost approved last week by Congress, for example, will kick off a long-awaited mission to Pluto, and additional money goes to boosting support for a nascent effort to study the sun.

But hidden in the fine print is \$532 million for 136 projects put forward by individual legislators—nearly double last year's total and the largest amount of earmarks in the agency's history. That smorgasbord of pork leaves NASA with an increase of a scant \$8 million and little flexibility to cope with a \$75 million cut in the space station budget. Although this year's science pro-

grams won't be affected directly, agency managers say that overseeing the 2002 budget could be a fiscal nightmare for the successor to NASA Administrator Dan Goldin, who steps down this week.

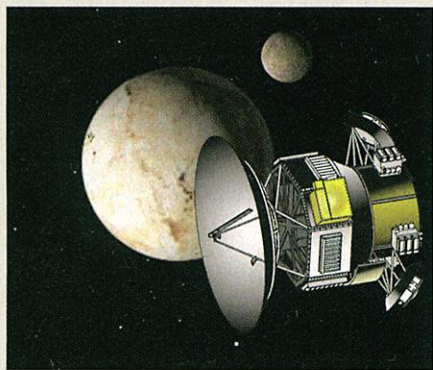
The \$30 million payment for a 2006 Pluto mission comes after more than a year of lobbying by enthusiasts and scientists. "The people let Congress know that they want NASA to explore Pluto, ... and Congress responded," says Louis Friedman, executive director of the Pasadena, California-based Planetary Society.

But there are two catches: First, Congress approved funding for only a single year, with no commitment beyond 2002. "It doesn't take a rocket scientist to see the problem there," says space science chief Ed Weiler, who

by 1 December is expected to choose a contractor to build the craft. Second, the mission requires a radioisotope electrical generator, but the only two on tap are penciled in for a 2008 mission to Jupiter's moon Europa. Building a third generator would be expensive, Weiler adds.

Congress also capped the Europa mission at \$1 billion, a figure that leaves little room for the cost of shielding the craft against harsh radiation. But it agreed to let the Jet Propulsion Laboratory in Pasadena, California, run the mission, after some had wanted an open competition. Lawmakers also provided an extra \$10 million for the Living With a Star program to study the sun, and funds for advanced propulsion research to benefit future planetary missions.

—ANDREW LAWLER



Long journey. Pluto mission needs outyear funding before it can fly.

CREDITS: (TOP TO BOTTOM) SAM KITTNER; JPL/NASA