

NEWS

Power shift stymies US science budget

WASHINGTON DC

The new Democrat-led US Congress convened on 4 January, but the changeover in power from a Republican-dominated Congress has thwarted almost anyone looking for government money. A budget impasse has erased the gains expected by several research agencies, and science advocates have launched an all-out lobbying campaign to win back the increases.

At stake are large boosts proposed for the National Science Foundation (NSF), the Department of Energy's Office of Science and the National Institute of Standards and Technology (NIST). President George W. Bush proposed the increases last February, and Congress was supposed to hammer out the final numbers by 1 October 2006, the start of the 2007 fiscal year. But in December it became clear that the Republican Congress would be unable to complete the budget, leaving Democrats with the unsavoury task of finishing the Republican bills.

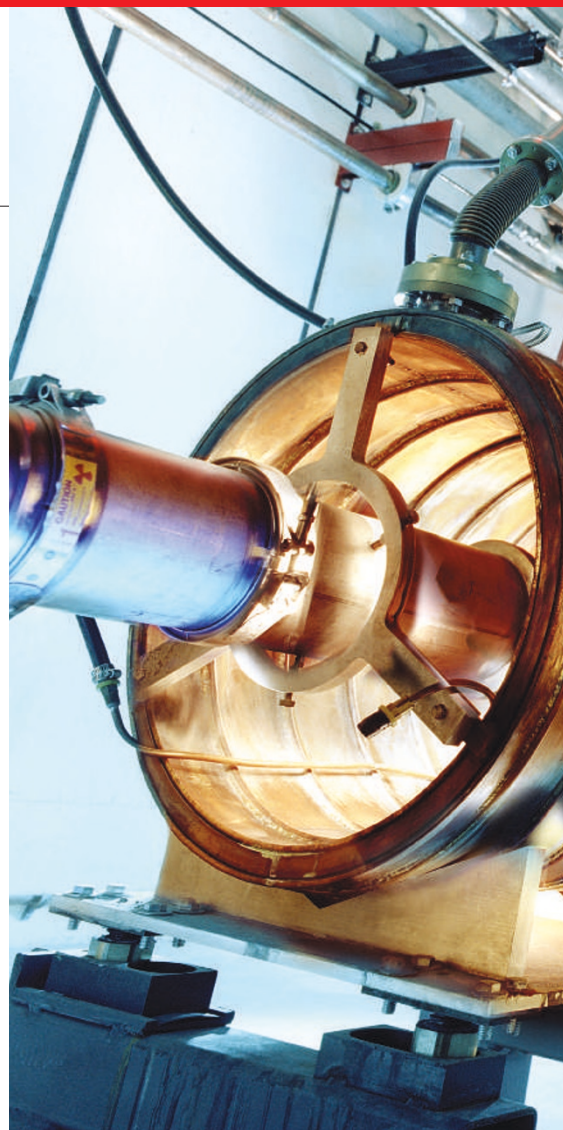
The new chairs of the committees that dole out the money said last month that they would abandon the budget in favour of a year-long "continuing resolution", which would keep funding for agencies at the previous year's levels. Now budget officials at science agencies are

scrambling for options, which include cutting grants, delaying projects and even temporarily laying off staff. "Science is in a very precarious position," says Joel Widder, a science lobbyist with the firm Lewis-Burke Associates in Washington DC. "I think a lot of hopes and expectations will have to be put off."

Particularly affected would be agencies favoured by President Bush's American Competitiveness Initiative, which aims to bolster US innovation (see *Nature* **439**, 644–645; 2006). That includes the energy department's science office, which had been expecting a 15–18% boost in its \$3.6-billion budget. Meanwhile, Brookhaven National Laboratory in New York may

temporarily shut down its Relativistic Heavy Ion Collider, which was kept open last year only with the aid of a \$13-million private donation. At the Fermi National Accelerator Laboratory in Illinois, there are plans to shut down the Tevatron, the world's most powerful accelerator, and to lay off all staff without pay for a month, according to director Pier Oddone. And at the Stanford Linear Accelerator Center in California, construction of the Linac Coherent Light Source will be deferred for a year, says Keith Hodgson, the lab's acting director.

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"You sound like you're whining, but the fact is that this comes after year after year of flat budgets," Hodgson notes. The science office hasn't seen a funding increase in roughly a decade.

The NSF would also lose up to an expected

P. GINTER

Biomedical agency feels the pinch — again

For the US National Institutes of Health (NIH), the budget problems in the US Congress could not have come at a worse time. The agency is already struggling to cope with a budget that shrank nearly 7% in real terms between 2004 and 2006, even as the number of scientists applying for NIH funds soared (see *Nature* **443**, 894–895; 2006).

"This is not a one-time hit we're taking," says John Niederhuber, director of the National Cancer Institute, the agency's largest organization. "The budget is under as much stress as I have experienced in my 30-plus-year career as an extramural investigator."

The House of Representatives

was looking to cut the NIH budget by 0.3% from last year, whereas the Senate would have raised it by 0.7%. The impasse in Congress means that the budget is actually likely to be frozen at its 2006 level of \$28.6 billion until the end of September. That figure does not factor in biomedical inflation, which the Department of Commerce gauged at 3.5% in 2006. "In effect, we are cutting NIH purchasing power by another 3.5%," says Jon Retzlaff, director of legislative relations at the Federation of American Societies for Experimental Biology (FASEB).

The cuts are being felt on the ground. In October, extramural investigators were notified that

routine grant renewals would be paid at 80% of promised levels. "The people who suffer the most pain are the junior staff," says John Moore, an AIDS researcher at Weill Cornell Medical College in New York City, who notes that as a senior investigator he has other grants and reserves to call on.

Sally Rockey, deputy director of the office of extramural research at the NIH, points out that the current funding at 80% is a conservative strategy adopted until 2007 funding is finalized. "Should we get a budget, we would consider upward adjustments of those levels," she says. "And we have every reason to expect that we will have an appropriation this year."

Once a budget is finalized, she says, investigators should expect funding for routine grant renewals to be closer to the roughly 97% level in place before October.

NIH lobbyists are hoping that the agency will get some of the billions that may be freed up by a congressional plan to eliminate funding for lawmakers' pet projects in 2007. "We are cautiously optimistic," says Leo Furcht, the president of FASEB. Retzlaff says that between \$500 million and \$1 billion is the most that the NIH could hope to see from this.

Niederhuber is more circumspect. "There are a lot of tin cups out there," he says.

Meredith Wadman



Power cut? The Tevatron particle accelerator in Illinois, the world's largest, may be suspended.

7.8% boost in its \$5.6-billion budget. The agency was hoping to use the funds to increase the number of grants and launch its participation in the International Polar Year, says Jeff Nesbit, the NSF's director of legislative and public affairs. Under flat funding, he estimates that the agency would eliminate around 600 new grants, 10% of the number it was hoping to grant next year. Polar-year activities would also be jeopardized (see 'Shrunken heavyweight undermines polar year'), as would the start of a new petascale computing centre. Plans for the new EarthScope programme of geological monitoring might have to be slowed, and travel has been severely curtailed.

At NIST, a planned internal reorganization is now in question. The \$80-million Advanced Technology Program, which funds outside research, had been expected to be cut, with that amount of money and more being reallocated into a diverse portfolio of internal laboratories. The staff, though, are apparently not too disappointed. "Proposed budgets rarely come through as proposed, so there were no emotions here," says spokesman Michael Baum.

Shrunken heavyweight undermines polar year

The International Polar Year (IPY), which starts on 1 March, is set to be the most comprehensive polar research programme for 50 years. But budget problems mean that the United States won't be the expected heavyweight for the two years of studies.

After three years of planning, the lead US agency — the National Science Foundation (NSF) — was to have provided some US\$62 million per year of new funds for the IPY. But only about \$15 million shifted from other NSF programmes may be available, officials say.

"It is tragic that the United States is not able to take a leading role," says atmospheric scientist Chris Rapley, director of the British Antarctic Survey and a lead planner for the IPY. "We always knew everyone might not be able to participate fully. But it's more damaging when the United States is not a major player."

There hasn't been such a coordinated polar research plan since the International Geophysical Year in 1957–58. The IPY involves more than 60 scientists from 35 nations, drawing data from research ships, satellites, ice stations



and marine outposts, to study climate change, for example. But a lack of full US funding will mean missed opportunities, says the University of Alberta's David Hik, a leading Canadian planner.

So far, about 12 nations have agreed to contribute \$200 million towards IPY studies. Canada is now the biggest contributor,

at US\$128 million. Other nations range from Norway (\$40 million), Russia, France and Britain (\$10 million each), to Brazil (\$4 million), Chile (\$2 million) and Malaysia (\$1 million), where there are concerns over the sea-level rise from melting ice.

Among the projects delayed is one led by David Bromwich, an atmospheric scientist at Ohio State University in Columbus. He had planned to fly the HIAPER research plane from the tip of South America to Antarctica to study processes related to global warming. That trip is now delayed beyond the two-year IPY window.

And Robin Bell, a geophysicist at Columbia University who chairs the National Academy of Sciences' polar research board, has seen her own project to explore Antarctic mountains delayed until the end of the IPY. "There is discouragement," she says. **Rex Dalton**

At NASA, small cuts in its \$16.8-billion budget could force further delays in the development and launch of several spacecraft, says Paul Hertz, who heads the agency's Science Mission Directorate.

And the winners are...

The continuing resolution isn't bad news for everyone. The Department of Agriculture and the Environmental Protection Agency will both avoid proposed cuts. The US Geological Survey will avoid having to slash its minerals resource programme, which finds and describes materials such as copper, sand and gravel. And the National Oceanic and Atmospheric Administration had been set to be a bone of contention between the House of Representatives and the Senate. The House had wanted to cut the agency's budget by around \$500 million, whereas the Senate wanted to boost it by \$536 million. Now the agency will probably make do with its originally proposed level of \$3.7 billion.

Congress has managed to pass final 2007 budgets for only two departments — defence and homeland security. The Pentagon will see its budget for basic and applied research rise by 1.7% to \$6.8 billion, while the Department of

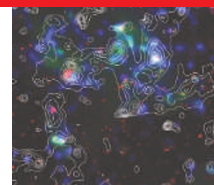
Homeland Security's budget for fundamental science would fall by 56% to \$42 million.

For other agencies, the proposed cutback to 2006 funding levels is not finalized (see 'Biomedical agency feels the pinch — again'). The new appropriations committees have yet to draft the resolution that would have to be signed into law, and they are considering exceptions, says Tom Gavin, a spokesman for Robert Byrd (Democrat, West Virginia), who heads the Senate appropriations committee. In the coming weeks, congressional subcommittees will consider providing agencies with additional funds. "There will be no set formula," Gavin says. "It will be on a case-by-case basis."

Science advocates are mounting an eleventh-hour campaign to have their case heard by the appropriators. "We're encouraging our universities to make contact with their individual members," says Tobin Smith, a federal-relations officer at the Association of American Universities. But the ultimate outcome remains far from clear, he notes: "I haven't talked to anyone who knows what's going to happen."

Geoff Brumfiel, with additional reporting by Emma Marris

See Editorial, page 123.



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