SCIENCE FUNDING

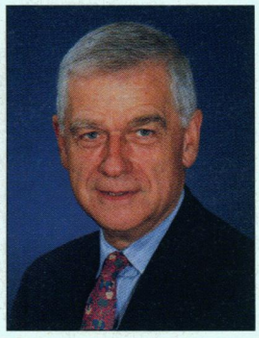
R&D Budget Takes Shape in Congress, Piece by Piece

After debating the outlines of a plan to cut the deficit while reducing taxes, Congress is now getting down to the nitty-gritty of fashioning spending bills for the 1996 fiscal year, which begins on 1 October. Last week, the House Appropriations Committee worked on budgets for biomedical research, space science, and ocean and atmospheric science.

NIH: The View From the Senate

Next year's plans for biomedical research continued their roller-coaster ride through Congress last week, as the House Appropriations Committee endorsed a 5.7% increase for the National Institutes of Health (NIH). But the ride is far from over, and the NIH budget may face some sharp dips in the Senate, Senator Mark Hatfield (R–OR), chair of the Senate Appropriations Committee, warned in an interview with *Science* last week.

Indeed, the news for researchers was far from rosy even in the House committee, which voted to prohibit federal support for research on human embryos even as it was boosting funds for NIH. The embryo research ban, pushed by anti-abortion activists, was added to a bill crafted by Representative John Porter (R–IL) which cuts or eliminates many health, education, and jobs programs to make room for the NIH increase (*Science*, 21 July, p. 292).



Seeking help. Hatfield eyes tobacco tax to fund NIH.

The Porter bill is scheduled to be debated next week on the House floor, where it is likely to come under attack from Democrats who will try to undo some of the cuts in social programs. But even if the increase for NIH survives that hurdle, as expected, Hatfield thinks the 5.7% boost "cannot be sustained" in the current fiscal climate. He does, however, have a long-shot funding idea of his own that might make it sustainable—a tax on cigarettes, which he says holds out the best hope of increasing NIH's budget for the remainder of the decade.

Hatfield noted that the Senate has allocated about $1.6 billion more than the House did to be spent by the Departments of Education, Labor, and Health and Human Services. But powerful senators—Hatfield included—are planning to spend much of that money on projects other than research. "We're hoping that we can match" the $11.9 billion for NIH proposed in the House, Hatfield said, but it would come at "a high price," penalizing "worthy" education and labor programs. The affected labor and education constituencies, Hatfield predicted, will rally to prevent this from happening.

"But we do have a little breathing room" between now and the final vote on the 1996 appropriations bill this fall, the senator said. During the interim, Hatfield intends to round up votes for his plan to create a trust fund for biomedical research, financed with a federal tax of 25 cents on every pack of cigarettes. The tax would bring in about $4 billion a year, Hatfield estimates, and he would use it to supplement the NIH appropriation.

Hatfield concedes that "there's a lot of troubled waters out there to navigate" before such a plan could win approval, including the "chant of 'no new taxes, no new taxes.' " But he thinks popular support for biomedical research is strong, a view he supports by citing polls taken by Louis Harris & Associates for the advocacy organization Research! America. Two Harris polls taken 18 months apart (in November 1993 and June 1995) gave a consistent result: More than 70% of respondents said they were willing to pay slightly higher taxes if the money were earmarked for biomedical research.

Members of Congress from tobacco-growing states have opposed such schemes in the past, and even Hatfield acknowledges that for them, anything that hurts tobacco "is a no-no." Nevertheless, Hatfield said, "there's public support" for the tobacco tax idea. "We just have to figure out how to mobilize it."

If the prospects for NIH funding are uncertain, the outlook for embryo research is even more precarious. NIH has not funded research on live human embryos for more than a decade, but it is currently weighing guidelines for conducting limited studies of embryos created by in vitro fertilization (IVF), drafted last year by a blue-ribbon panel (*Science*, 19 August 1994, p. 1024). President Clinton has already said the Administration won't support the creation of embryos solely for research, leaving open the possibility that NIH might support research on "spare" embryos created by IVF therapy. At present, according to NIH, 78 research proposals have been put on hold while NIH tries to define guidelines for grant applications. However, the measure adopted last week by the House Appropriations Committee would effectively bar federal support for any research on human embryos.

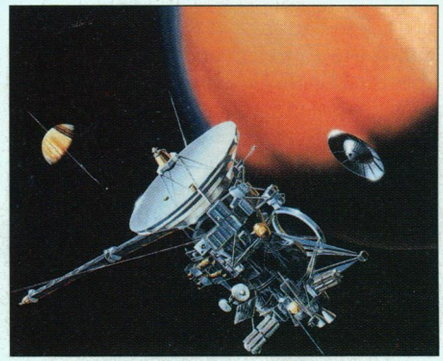
–Eliot Marshall

NASA: Gingrich to the Rescue

Late in the evening of 17 July, House Speaker Newt Gingrich (R–GA) and Science Committee Chair Robert Walker (R–PA) convened a crucial meeting on the future of the U.S. space science program. Their goal: to persuade Representative Jerry Lewis (R–CA) to abandon controversial elements of a spending plan for the National Aeronautics and Space Agency (NASA) that Lewis, just a week earlier, had steered through the appropriations subcommittee he chairs. Lewis's plan, which included closing three NASA centers and canceling several major space science programs (*Science*, 14 July, p. 156), was scheduled for a vote by the full House Appropriations Committee the following day.

When the committee gathered early the next morning, Lewis withdrew his plan and substituted a radically different version favored by Walker. The new bill slashes NASA's environmental monitoring programs instead of space science and keeps the centers open. It also boosts the overall funding level for NASA from $13.5 billion to $13.7 billion—a figure that is still far below the president's $14.2 billion request, however. The Appropriations Committee approved this version later in the day and sent it along to the House, which is expected to vote on it this week or next.

Lewis says he wasn't strong-armed by Gingrich or Walker into making the changes. He told *Science* that his original bill was intended as a wake-up call. "The Speaker knew what I was doing," he added. The Ad-



NASA

Reprieved. Funds for the international Cassini mission to Saturn were reinstated.

ministration, Lewis says, had refused to cooperate in pinpointing cuts in NASA, so he took the "opportunity to send a message to the agency that we were serious." He says, "Never in my wildest dreams did I think we would get to the point of closing centers." Other congressional sources have a different take on the events. "He wanted to maintain the same bill that came out of his subcommittee," says one staff member close to the discussions. It was only after Gingrich and Walker applied pressure that Lewis backed down, this staffer says. "It was a battle," another congressional aide adds. Walker could not be reached for comment.

The fracas highlights the kinds of dramatic funding decisions being made by the new Congress—and largely by members of the new majority, working behind closed doors. Lewis's original plan would have recast the direction of the agency. It would have closed the Goddard Space Flight Center in Greenbelt, Maryland; the Marshall Space Flight Center in Huntsville, Alabama; and the Langley Research Center in Hampton, Virginia. And it would have eliminated Cassini, a joint U.S.–European mission to Saturn; Gravity Probe-B, a spacecraft that will test Einstein's relativity theory; the airborne Stratospheric Observatory for Infrared Astronomy; and the Space Infrared Telescope Facility, which NASA wants to orbit in the next decade. These programs form a large part of the agency's space science core well beyond 2000.

If Lewis's intent was to create a fuss, he certainly succeeded. The threat to the space centers drew loud protests from politicians from the affected states, and the proposal to kill Cassini prompted Jean-Marie Luton, director general of the European Space Agency, to warn that it "would call into question the reliability of the U.S. as a partner in any future major scientific and technological cooperation."

The new plan funds all three centers and all the threatened space science programs except the infrared telescope. Instead, it would chop $333 million from the $1.3 billion that NASA requested for the Mission to Planet Earth. The heart of the mission is a constellation of sophisticated satellites called the Earth Observing System (EOS) that would gather massive quantities of environmental data. Walker has complained that EOS is too expensive and has requested a National Academy of Sciences study on the program, to be completed by the end of the summer. Lewis, on the other hand, says, "I don't have the kind of in-depth problems with this program that Chairman Walker has."

But for now, Lewis is focusing on keeping intact the $2.1 billion in space station funding for 1996 when his bill reaches the floor. Both Representatives David Obey (D–WI) and Tim Roemer (D–IN) have said they intend to propose amendments to kill the space station when the bill comes up for debate. Such attempts have failed in the past, and Lewis says "we have had very solid expressions of support from" new members of Congress, although he acknowledges that "the votes of the new members have not been counted before." And the station continues to have strong backing from Vice President Al Gore and from Gingrich.

Once the House has had its say, the Senate will act. There, the overall funding picture for NASA is no brighter. Last week, the Senate Appropriations Committee allocated funding for its 13 panels; the one that includes NASA received slightly more than Lewis's panel. But the space agency can still expect a budget no higher than $13.7 billion, Senate staffers say. The Senate looks more fondly than the House does on EOS, however. The program is run by Goddard, which is in the home state of Senator Barbara Mikulski (D), the ranking minority member of the panel that appropriates NASA money. And Commerce Committee Chair Larry Pressler (R–SD) is a strong advocate of the system, which will make use of a data center in his state. If the Senate decides to save EOS, the pressure will once again be on other NASA science programs.

All this is tough for NASA Administrator Daniel Goldin to swallow. "I've had it," he told the President's Committee of Advisers on Science and Technology on 11 July. "I can no longer support any budget cuts. I'm not prepared to cut the program another nickel." Like it or not, however, the Republican Congress is pinching pennies.

–Andrew Lawler

NOAA Research Takes Big Hit

The Republican budget ax swung last week at the National Oceanic and Atmospheric Administration (NOAA), slicing 10% off the agency's annual funding and cutting particularly deeply into research programs. It was wielded by the House Appropriations Committee, which approved a 1996 budget bill for the Department of Commerce, NOAA's parent department, that would eliminate all coastal ocean science and most global change research supported by NOAA.

"It doesn't make sense," says NOAA Administrator James Baker. "We have some of the best scientists in the world, and this is basic science." But, forced to choose between cutting science or the expensive satellite systems that provide data to the National Weather Service, House lawmakers targeted research efforts in order to meet the strict budget targets in the committee. And it wasn't the only blow aimed at the Commerce Department: As expected, the committee also zeroed out the department's Advanced Technology Program, a $341 million effort to help industry develop critical technologies (see p. 467).

Rough seas ahead. NOAA chief James Baker.

It could have been even worse. Earlier this year, freshman Republicans led by Representative Dick Chrysler (MI), with the backing of the congressional leadership (*Science*, 2 June, p. 1272), came up with a proposal to dismember the Commerce Department and NOAA entirely, killing most research programs and scattering others around the federal bureaucracy. Hearings on the proposal began this week, but the panels that authorize and appropriate NOAA funding have so far largely ignored the idea.

That is little solace to Baker, who would get $1.8 billion for next year under the House Appropriations bill, rather than the $2.2 billion he asked for. The National Ocean Service, which conducts a variety of oceanographic research, faces a 20% reduction from its 1995 budget of $180 million. Estuarine and coastal assessment would be cut almost 30%, while the $12 million coastal ocean science program would be wiped out. That effort includes research on oil spills, algae blooms, and other coastal ocean issues. The budget for ocean management—which includes funding for marine sanctuary sites—faces a 28% reduction.

Funding for oceanic and atmospheric research would be chopped by 23%, to $200 million, with climate and global change programs and research on atmospheric ozone bearing the brunt of the cuts. Also, the $2.5 million in atmospheric and hydrological research conducted separately by the National Weather Service would be cut by 20%. (The panel specifically protects research on El Niño, however.) House staffers explain the cuts by saying that other agencies such as the Environmental Protection Agency (EPA) already conduct atmospheric research. But Baker says NOAA is "the key driver" in climate research, noting that EPA and other federal organizations already pay his agency to gather a host of atmospheric data.

The bill was scheduled to be debated by the House as this issue of *Science* went to press. Agency and congressional officials aren't expecting major changes to its provisions for NOAA, noting that there are few vocal champions for oceanic and atmospheric research in Congress. And they hold out few hopes that the Senate will be any more generous to NOAA. Concedes Baker: "The outlook is not good."

–A.L.