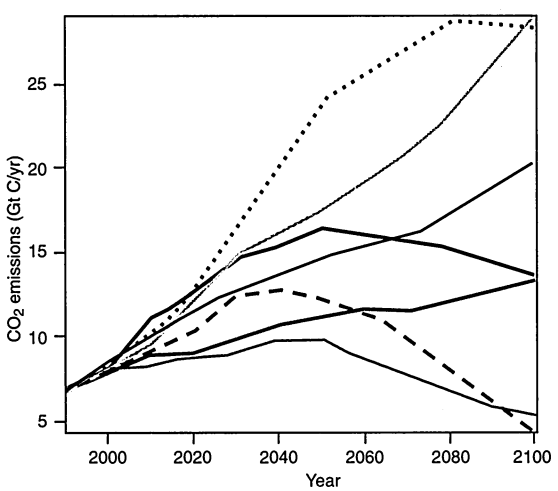
"This is a complicated subject, and the National Academy wants to hear from its chosen experts after having looked at it thoroughly," says Rowland.

Many scientists—and indeed, the 17 national academies—think the IPCC did just that. Over 2500 scientists pored over data for 3 years, producing a massive, multivolume report that is the consensus of "the global expert community in the field of climate change, not some subset of it," says May. In their statement the academies, including those of Australia, France, China, and India, write: "Doubts ... expressed recently about the need to mitigate the risk posed by global climate change" are not "justified." Ratification of the 1997 Kyoto Protocol "represents a small but essential first step" to halt the buildup of greenhouse gases.

White House officials, however, apparently question the IPCC's conclusions, and after "informal discussions," NAS officials say, they decided to review them. Over the next few weeks, an 11-member panel funded by the NAS will try to answer questions that IPCC's Working Group I already covered. The panel will decide, for example, whether climate change is occurring, whether human-produced greenhouse gases are contributing, and how much temperatures will rise. NAS executive officer William Colglazier says that "obviously we're not going to redo the analysis that IPCC did," but the academy is gathering the IPCC's technical documents and will issue its own "consensus statement." He says the NAS doesn't doubt the IPCC's conclusions but simply feels it needs to analyze the evidence itself. "It would have been difficult for us to do an objective study" if the academy signed the statement, says Colglazier.



Going up. The IPCC looked at seven scenarios for CO_2 emissions, from optimistic to pessimistic.

The panel includes seven academy members, including Rowland, a Nobel Prize winner for his research on ozone layer–destroying chemicals, as well as NASA's James Hansen, who has recently suggested adding soot to the pollutants that Kyoto targets, and Richard Lindzen, a meteorologist at the Massachusetts Institute of Technology and a global warming skeptic. The latter pair are part of a group of scientists who have been briefing Bush Cabinet officials weekly, offering a condensed Climate Science 101, says a White House spokesperson. Most panelists have also participated in the IPCC process. The panel will meet in a closed door, 2-day session in Irvine, California, next week and issue its report by early June. Until that time, the academy is remaining mum on climate change. Even then, says Rowland, it is unlikely to issue an opinion on the Kyoto Protocol.

The academy has already issued numerous reports on climate change science. And in a 1992 report called "Policy Implications of Greenhouse Warming," an NAS panel urged the United States to launch "a concerted program to start mitigating the further buildup of greenhouse gases." Some scientists speculate that the new study and the academy's reluctance to endorse the Kyoto treaty reflects changing times. "It is reasonable considering the political environment," says Jack Townsend, a member of the National Academy of Engineering and retired head of NASA's Goddard Space Flight Center. He points out that NAS "is not independent in the sense that they receive government money to conduct studies. They can't tee off too many customers."

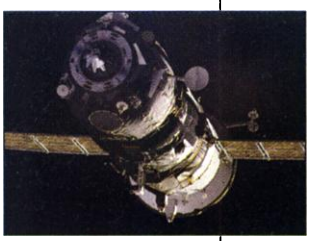
The academy's hesitance on the Kyoto treaty is not shared by some of its members. Rowland and several other NAS members signed a letter organized by the Union of Concerned Scientists just before the December 1997 Kyoto meeting urging mandatory limits on greenhouse gas emissions. But another member who often speaks out on policy, Stanford ecologist Paul Ehrlich, says he understands the NAS's position. "As an academy member, I'm quite happy to say the Bush position is idiotic," says Ehrlich. But the academy, he notes, was set up "to give scientific advice to the government" through its deliberate panel process and "has no mechanism for taking a position" on urgent policy issues.

–JOCELYN KAISER

CREDITS: (TOP TO BOTTOM) NASA; IPCC

ScienceScope

Go Slow NASA has suddenly applied the brakes to an effort to create an outside group to run space station research (*Science*, 17 December 1999, p. 2251). NASA Administrator Dan Goldin surprised his own staffers recently when he told a congressional panel he prefers to "ease into the whole thing."



The "thing" is an independent nonprofit organization that would oversee station science and commercial efforts. The idea won approval last year from the National Research Council and has been backed by other studies. But instead of choosing a single winner in a competition, as expected, NASA intends to pick two semifinalists—perhaps in 2002—and let them compete for an additional year.

The shift has little to do with research, say NASA officials and congressional aides. Instead, it reflects concerns over the new entity's location and how it will handle commercial projects. The delay isn't expected to worry researchers, as the station will have little room for science until after 2005.

Accounting Problem The debate over the National Ignition Facility (NIF) has ignited again. At a Washington, D.C., press conference last week, former federal budget examiner Robert Civiak said the Department of Energy (DOE) has vastly understated the cost of NIF, a laser megaproject under construction at the Lawrence Livermore National Laboratory in California.

Last year, some members of Congress tried to kill NIF after DOE admitted that construction costs had spiraled from $1.2 billion to $3.4 billion (*Science*, 5 May 2000, p. 782). But consultant Civiak, a researcher who once tracked NIF for the White House budget office, says the real total is closer to $5 billion. In a report released by the Natural Resources Defense Council and Tri-Valley CAREs, two groups that oppose the project, Civiak concludes that the DOE estimate ignores some costly items, including more than half a billion dollars for fabricating and positioning the laser's targets. Overall, he estimates that operating NIF for 30 years will cost $34.5 billion, compared to DOE's estimate of $6.7 billion.

Livermore's Susan Houghton says Civiak's analysis is "silly." NIF's budget shouldn't be saddled with the full cost of targets, for instance, she argues, because other projects will use them, too. Congress is expected to take another look at NIF's costs later this year.

amateur collector in 1997 on the Isle of Wight, off the southern coast of England. Although isolated bones of primitive tyrannosaurs had been reported before, this 5-meter-long skeleton beats them hands down. It's about 40% complete and includes the front half of the skull. In the April issue of *Cretaceous Research*, a group from the University of Portsmouth, United Kingdom, and the Museum of Isle of Wight Geology describes several features that link *Eotyrannus* with tyrannosaurs, such as fused nasal bones and teeth with a "D"-shaped cross section. Other traits are much more primitive, and it has long arms and hands like *Velociraptor*—just as the tyrannoraptor theory predicts. "This is one of the first specimens to confirm that," says team member Darren Naish of the University of Portsmouth.

The new specimen will help clarify how tyrannosaur traits evolved, says paleontologist Tom Holtz of the University of Maryland, College Park, who gave the tyrannoraptor hypothesis its name. For example, *Eotyrannus* implies that the advanced biting style of the tyrannosaurs evolved in a predator that could still grab with its arms. As for the tyrannoraptor idea, Holtz says *Eotyrannus* "is great confirmation." –ERIK STOKSTAD

ANIMAL RESEARCH

Charles River Labs to Care for NIH Chimps

After a yearlong search, the National Institutes of Health (NIH) has found a new caretaker for nearly 300 chimpanzees once used in medical research. The decision is a mixed blessing for animal activists. They had long accused the animals' current caretaker, the Coulston Foundation of Alamogordo, New Mexico, of unsafe and negligent veterinary practices, but they had hoped the chimps would be released to a retirement sanctuary. And they were especially upset by a separate NIH decision to purchase 14 young chimpanzees from Coulston for possible research.

As *Science* went to press, NIH was set to sign a 10-year, $42.8 million contract with Charles River Laboratories, a company based in Wilmington, Massachusetts. The corporation would assume care for 286 NIH-owned chimpanzees at the Holloman Air Force Base in New Mexico, most of them infected with HIV or hepatitis in NIH protocols. "This isn't an official sanctuary, but the idea is that at this facility, [chimpanzees] will be cared for, given social enrichment, and allowed to live out their natural lives," says Charles River senior vice president Dennis Shaughnessy about the colony. No experiments will be conducted at Holloman, says Judith Vaitukaitis, director of NIH's National Center for Research Resources, although

High priced? NIH is reportedly planning to buy 14 young chimpanzees for $30,000 each.

NIH-funded scientists interested in conducting research on the chimps may arrange for animals to be transported to other sites.

Animal-welfare groups have complained loudly about the privately owned Coulston Foundation, charging that it provides inadequate veterinary care and keeps its animals in unsafe conditions. The foundation has denied those charges. In 1999, Coulston settled one investigation by the U.S. Department of Agriculture (USDA) into animal welfare violations (*Science*, 10 September 1999, p. 1649) by agreeing to give up 300 of the approximately 600 chimpanzees the foundation owned.

NIH acquired 288 Coulston chimps last May and since then has conducted several unsuccessful searches for a caretaker. Coulston put in a bid, but NIH rejected its application (*Science*, 13 October 2000, p. 247). The USDA still has an open investigation on Coulston, and two of the NIH-owned animals have died in the last year. Animal-welfare groups have claimed that the deaths were due to negligence, whereas Coulston spokesperson Donald McKinney says that the animals died of routine health complications.

Linda Brent, president of Chimp Haven, an organization in San Antonio, Texas, that hopes to build retirement sanctuaries for former research chimpanzees, says finding an alternative provider was a positive interim step. "I am hopeful that in the future [the chimpanzees] will be able to be moved out and fully retired," she says.

Indeed, NIH is reluctantly moving forward to set up a system of retirement sanctuaries. Last month, it requested that interested organizations describe their ability to care for at least 75 chimpanzees as part of the so-called CHIMP Act, which President Clinton signed into law last December (*Science*, 22 December 2000, p. 2233). The law requires NIH to set up a system of retirement facilities for animals no longer needed in research. At least two organizations, Chimp Haven and Primarily Primates, also in San Antonio, filed the required statement by the 15 May deadline.

ScienceScope

Measuring Up What good is a painfully detailed review of a research agency's activities if it's ignored by the politicians who draw up the agency's budget? That's what a National Academy of Sciences (NAS) panel asks in a new report on a 1993 law aimed at making the federal government more efficient.

The Government Performance and Results Act (GPRA) requires each agency to set annual goals, define how it plans to achieve them, and then measure the outcome. For years, researchers have worried that the act would trivialize federally funded research by forcing agencies to show a short-term payoff from basic research. Now they have a new fear—that agency officials are wasting time preparing reports that lawmakers don't read.

The annual GPRA reports "have not been used for a political purpose, which is the ultimate goal," says Enriqueta Bond. Bond co-chairs the NAS panel that looked at how five leading research agencies deal with the act, which kicked in a few years ago. A White House budget official agrees, adding that "the measures used by most agencies aren't particularly helpful" in setting funding levels.

The annual exercise does help the agency evaluate research quality and relevance, according to the academy panel, but falls short in deciding if the work is world-class. Still, the burden of preparing the reports may soon outweigh the benefit, Bond warns, unless policy-makers start paying more attention.

Quake-Proof LIGO has been shaken and rattled, but it is nearly ready to roll again. On 28 February, a magnitude-6.8 earthquake struck Washington state and took a toll on the Laser Interferometer Gravitational-Wave Observatory in Hanford (right), a sensitive detector designed to detect the warping of space-time by gravitational waves (*Science*, 21 April 2000, p. 420). The shaking knocked equipment out of alignment and damaged some mirror attachments, says site chief Fred Raab, derailing a scheduled joint observation session with a twin facility in Louisiana. But repairs should be completed by the end of the month, and the project is still on track to begin its gravitational-wave search next year.

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