



House speaker-in-waiting Republican John Boehner says limited government is top of the agenda.

US MIDTERM ELECTIONS

# US science faces a squeeze

*Power shift in Congress paves way for Republicans to constrict government spending.*

BY RICHARD MONASTERSKY,  
JEFF TOLLEFSON, MEREDITH WADMAN  
AND EUGENIE SAMUEL REICH

**R**estricted budgets; investigations of climate research; hearings on ocean science; debates about NASA's future. The US elections last week, which gave Republicans a commanding control of the House of Representatives, could throw a series of challenges at science over the next two years.

Reacting to the moribund economy and concerns about governmental excess, voters handed Republicans their largest House majority since 1946. Republicans gained at least 60 seats in the House and wrested control from the Democrats, who had taken over the lower legislative body just four years before. But Democrats retained a slight majority in the Senate, the upper legislative branch, thereby limiting the ability of Republicans to make many of the sweeping changes they had pledged during the lead up to the elections.

After the election, Charles Vest, president of the National Academy of Engineering based in Washington DC, said that it was important

for US scientists to respect the system and work with the new Congress on issues such as research funding and science education. "I hope we'll find some champions there," he says.

In the past, both parties have generally supported increases in funding for basic research, with budget levels rising or falling depending more on the state of the economy than on the party controlling the purse strings. But many of the Republicans elected last week — especially those belonging to the 'Tea Party' — ran on platforms to reduce government spending. John Boehner (Republican, Ohio), who is expected to become the House speaker, or leader, said: "It's pretty clear the American people want us to do something about cutting spending here in Washington."

Boehner and fellow Republicans in the current Congress issued a 'Pledge to America' in September that promised to return government spending to the levels of fiscal year 2008. If applied across the board, that would mean a 7% cut from 2010 spending levels for research and development not related to defence, according to an analysis by the American Association for the Advancement of Science (AAAS).

President Barack Obama, too, plans cuts, but it is unclear how they will affect science. The budget for the current fiscal year is still being finalized (see 'Unfinished business'). His budget office in June indicated that 2012 funding for non-security agencies would drop 5% below levels previously projected for that year, but science might avoid the worst. Obama said last week: "I don't think we should be cutting back on research and development."

Supporters of science will appeal to both parties to spare research from the most painful cuts. "It's incumbent upon scientists to be able to articulate the research that they're doing and why this research is important," says Joanne Carney, director of the Center for Science, Technology and Congress at the AAAS.

The election means new leadership — and new scepticism about environmental issues — in several key committees that oversee research spending and strategy. The Republicans will select chairpersons in early December, and senior legislators are now jockeying for key posts.

Leadership of the House Committee on Science and Technology is expected to go to 87-year-old Ralph Hall of Texas, who is the Republicans' top, or 'ranking', member on the committee. Hall issued a statement after the election saying he sees a role for science policy in driving innovation and the US economy, which researchers could take as a positive sign. But Hall also outlined his intention to scrutinize the Obama administration's policies in areas including climate change and energy research.

Climate scientists could face harsher treatment in the House Committee on Oversight and Government Reform, expected to be led by Darrell Issa of California. Issa has said he will look into the recent debates about climate science sparked by the release of e-mails from the Climatic Research Unit at the University of East Anglia, UK, a year ago.

On the Committee on Energy and Commerce, ranking Republican Joe Barton of Texas is battling to retake the gavel of the committee he chaired before the Democratic takeover in 2007. Barton achieved notoriety in climate circles five years ago when he investigated the famous 'hockey stick' graph depicting global average temperatures over the past millennium.

Barton vows to investigate efforts by the Environmental Protection Agency (EPA) to

craft greenhouse-gas regulations under the Clean Air Act. The Democratic health-care overhaul is also on his radar. But party rules may hinder his plans. Barton has reached the official limit of six years as the top Republican on the committee, and needs a waiver to serve as chair.

If Barton's extension request is unsuccessful,



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Fred Upton of Michigan is the front-runner to be the next chair. Upton has previously endorsed the science of global warming and is viewed as a moderate on environmental issues. Nonetheless, he has recently attacked the EPA for pushing a “regulatory train wreck” targeting everything from greenhouse gases and energy efficiency to conventional air pollutants.

Upton and others are unlikely to mount a direct attack on the EPA’s authority — granted by the Supreme Court — to regulate greenhouse gases. Any legal restriction would fall prey to Obama’s presidential veto. But Republicans could effectively block the agency by inserting ‘riders’ into appropriations bills that would prevent the EPA from spending money on specific regulatory programmes.

“The EPA has a job to do, and we need to fight and make sure we protect that ability,” says Gene Karpinski, president of the League of Conservation Voters, a non-profit environmental organization based in Washington DC.

Both conservationists and scientists will be watching to see who heads the Committee on Natural Resources. The top contender is Doc Hastings of Washington, who has pledged to challenge the president on such matters as off-shore drilling and plans to oversee use of marine resources. Hastings has said that Obama’s ocean policy will “lock up vast portions of our oceans through an irrational zoning process”.

## THE ‘LAME-DUCK’ SESSION

### *Unfinished business*

When the existing Congress reconvenes on 15 November for its final weeks, members will try to plough through a long list of tasks, including passing the appropriations bills that set government spending levels for the current fiscal year.

President Barack Obama requested a US\$1-billion increase to the National Institutes of Health (NIH) budget in February, which received support in congressional committee votes this summer. But that increase could be trimmed as lawmakers attempt to control discretionary spending.

Congressional subcommittees also voted

to give increases to the National Science Foundation and the National Oceanic and Atmospheric Administration, but these budgets await final approval by Congress.

Science boosters will also be pushing the Senate to reauthorize the America COMPETES Act, which was enacted in 2007 and expired in October. The legislation put science agencies on a path to double their budgets by 2017. Although Congress would be hard-pressed to provide all of the promised increases, reauthorizing the act would signal a commitment to protecting science during lean budget years.

Republicans will also target Obama’s plans to cancel NASA’s Constellation programme, which is developing the hardware to send astronauts to the Moon and Mars. In February, Obama proposed shifting the job of developing the capsule and rocket for manned spaceflight to the commercial space industry. Hall has opposed that plan, as has Frank Wolf (Republican, Virginia), who is likely to take over the appropriations subcommittee that oversees NASA’s budget.

To make good on their pledges, however, Republican leaders must unite the disparate parts of their caucus, which could be difficult. Many of the incoming legislators from the Tea Party won by challenging the Republican establishment. David Goldston, the chief of staff for the House science committee from 2001 to 2006, when the Republicans last controlled the House, says: “The big story is the extent of division within the Republican ranks.” ■