THIS WEEK

EDITORIALS

WORLD VIEW High-school teachers need scientists' support **p.501**

PUBLISHING More preprint servers offer advance access **p.505**

CONSERVATION Chile's mining block gives penguins reprieve **p.505**

An alarming precedent

The Trump administration has stepped up its assault on environmental protections by halting a US$1-million study on the health risks of coal mining — casting a pall on academic freedom.

When the US National Academies of Science, Engineering, and Medicine (NASEM) speaks, the government usually listens. Last year, US government agencies spent US$216 million to commission NASEM expertise on issues from the scientific workforce to military implications of synthetic biology. Most NASEM reports are filled with caveats and make for dry reading. But occasionally, they pull no punches. A memorable 2009 report on the state of forensic science, for instance, concluded that almost every forensic method used in law enforcement is seriously flawed and that their use risks putting innocent people in jail. Given the academies' stature, it's hard for the government to brush off its hired commission when faced with such language.

Such concerns seem to weigh on the US Department of the Interior (DOI), which in 2016 commissioned a $1-million study of the potential health risks of surface coal mining on communities in West Virginia. Some evidence suggests that people who live near surface-mining operations — also known as mountaintop removal — have an unusually high rate of lung cancer and birth defects, which could be attributed to air and water pollution.

Launching the study — now halfway through its two-year term — was itself an achievement, given the political nature of the topic. Although much is known about the risks of coal mining to miners, little research has been done on its health impacts on local communities, not least because of attempts by the coal industry to hinder such work. Mining companies and trade organizations have sued for access to the e-mails of academics researching mountaintop removal, and have fought to keep peer-reviewed studies from being used in court. The National Mining Association questioned the value of the NASEM study when it was announced.

On 18 August, three days before the NASEM committee working on the study was due to meet in a Kentucky mining town, the DOI ordered a stop to the study, with immediate effect. The agency says it is reviewing spending on all projects that cost more than $100,000. "The Trump administration is dedicated to responsibly using taxpayer dollars in a way that advances the department's mission and fulfils the roles mandated by Congress," DOI spokeswoman Heather Swift said in a statement to *Nature*. She did not respond to questions about which other projects are under review.

This is the first time that the administration of President Donald Trump has cancelled a NASEM study that has already started — a move that has rarely happened in the past, according to the academies.

In its statement about the cancellation, the NASEM said that its investigators "stand ready" to resume as soon as the DOI completes its review. But they're likely to be waiting a long time. The Trump administration has made no secret of its fondness for the US coal industry, which employs around 76,000 people. (By comparison, around 1.2 million people live in counties where mountaintop removal takes place.) The DOI's assertion that the decision is a budgetary one is suspect, especially given that the study has already spent a good amount of its budget.

It seems, instead, that the government would rather quash the review than risk it producing results that cast aspersions on the coal industry. This is par for the course for the DOI, whose head, Ryan Zinke, plans to downsize national parks in favour of resource extraction, and which has also suspended meetings with its independent advisory councils on issues concerning public lands.

With the near-daily news about the Trump administration weakening climate and environmental protections, it is easy to become fatigued. Yet the move to pre-empt the prestigious and independent NASEM is particularly concerning. It raises questions about what other studies could be cancelled if the government fears their results. It is another blow for science and for academic freedom. ■

Imperfect storm

Hurricane Harvey highlights the struggle to apply climate science.

Hurricane Harvey is already being described as one of the ten costliest storms in US history, with the estimated financial damage put at between US$10 billion and $20 billion. Oil- and gas-industry infrastructure lies among the wreckage, and investors are eyeing the impact on the energy and insurance markets.

Decisions on where to install, build and develop have always been weather dependent. But they are becoming increasingly so. Extreme weather events such as Harvey can be described as 'unprecedented' only so many times before companies and governments are forced to accept that such events are the new normal, and to plan accordingly.

Such plans are more difficult and complicated than the simple broad-brush narrative often cited about the need to adapt to global warming. As we explore in a News story this week (see page 508), scientists cannot yet supply the kind of detailed, quantified information that companies and others require to best plan for changes coming in the next few years to decades.

This is partly a question of resources: the world is a big place, the future infinite and there isn't enough computing power to go around. It is partly political, with the few late-adopters still offering a false flag around which to rally those who prefer inaction and obstruction. And it's partly because the field of climate services — as the field of such detailed projections is known — is on the front line of a cultural switch that sees science listen to society's questions, instead of simply offering answers. It is an imperfect storm, and scientists can't meet the cost alone. ■