Brief US shutdown ends

But science agencies face daunting possibility of another funding lapse next month, when temporary spending deal expires.

BY LAUREN MORELLO, SARA REARDON AND HEIDI LEDFORD

Scientists across the United States heaved a sigh of relief on 23 January, as the US government resumed operations after a three-day shutdown.

The impasse began on 20 January, after Congress let a temporary funding bill expire. The National Institutes of Health and the National Science Foundation prepared to stop processing grants, and many federal science agencies instructed 'non-essential' researchers to ready their labs and offices for indefinite closure. The previous government shutdown, in October 2013, lasted for 16 days — cutting short the US Antarctic Program's field season, delaying some grant-funding cycles by several months and disrupting an untold number of carefully planned experiments.

This time, researchers were luckier: on 22 January, the Senate and House of Representatives approved a stopgap spending bill to cover government operations until 8 February, as lawmakers try to resolve major differences over immigration policy. But that quick fix will fund the government for less than three weeks, raising the possibility of another spending showdown in early February.

Jennifer Zeitzer, director of legislative relations at the Federation of American Societies for Experimental Biology in Bethesda, Maryland, says that she is "cautiously optimistic" about the progress that lawmakers have made in the past week towards a long-term budget agreement. "I'm going to withhold my panic for now," she says.

Ideally, Zeitzer says, Congress would pass legislation by 8 February to raise limits on federal spending — clearing the way for a spending bill to cover the remainder of the 2018 fiscal year, which ends on 30 September. "I'm just hoping the experience of going through a shutdown was painful enough for everyone," Zeitzer says.

In the meantime, researchers are waiting to see how the brief shutdown and continuing budget uncertainty might affect their work.

Peter Neff, a glaciologist at the University of Washington in Seattle, is part of a team that has conditional approval for an NSF grant to study trace gases in Antarctic ice. The researchers had hoped for the grant to start on 1 January, but it has been delayed by several weeks. Neff isn't sure why — but he says that at a scientific meeting



Lawmakers in the US Congress agreed to a temporary budget for the government.

in December, an official with the NSF's polarprogrammes division said that it was operating under the assumption that it could face a 10% budget cut in the near future. Like other federal agencies, the NSF has been supported by a string of short-term spending measures since the 2018 budget year began in October.

For Neff's team, any additional delay could make it difficult to plan field-season logistics with their international partners. "We've

"Intense planning goes into every one of these possible shutdowns."

al partners. "We've already put two years into this project, and we're not going to have samples or data for another two years," he says. "We don't want that

timeline to get any wider for any reason."

The grant is also supposed to pay for 50% of Neff's salary during his postdoctoral fellowship; until it comes through, the University of Washington is covering the full amount. "There are people who are in far more difficult situations than I am," he says. "I can carry on and assume that everything will work itself out. But it's just not an efficient way to operate."

The shutdown's end came just in time for Chad Hayes, a plant scientist at the US Department of Agriculture, to make a planned trip this week to Mexico. There, his team intends to breed experimental sorghum at a winter nursery — the culmination of a year of planning.

Hayes expects to finish the field work by 8 February, but has to return to Mexico in March or April to harvest seeds from his sorghum plants and bring them back to the United States. If there is another shutdown then, the plants will go to waste. "When the plants say something's ready, we have to be there," Hayes says. "Plants know nothing about about weekends, holidays, or even government shutdowns!"

Others note that even planning for a shutdown creates major work for federal agencies, as they prepare to send employees home and shut down systems. Senior managers must think about which functions are crucial and how to justify continuing those if funding runs out, says Heather Howell, a former deputy director at the US Food and Drug Administration.

"Intense planning goes into every one of these possible shutdowns," says Howell, now a consultant for NSF International in Washington DC. "It's extremely costly to do all of that planning. Every time I sat in one of these meetings, I would wish that somebody would do an analysis of how much money is sitting around this table right now."