NATURE | NEWS

Financial blow for Alaskan volcano monitoring

As government funding ebbs, scientists launch commercial company to continue analysis efforts.

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Volcanologists who monitor eruptions of Alaskan volcanoes are scrambling to cope with US federal budget cuts — even as the Pavlof volcano, 1,000 kilometres southwest of Alaska's biggest city, Anchorage, spouts a towering ash plume that is threatening plane flights.

The Pavlof volcano in Alaska erupted on 13 May.

Funding cutbacks at the Alaska Volcano Observatory (AVO), which has staff in Anchorage and Fairbanks, have halted real-time monitoring of at least four of the state's volcanoes. Seismic stations that would normally listen for imminent eruptions have stopped working, a casualty of deferred maintenance and repair.

"There comes a time when you can't do more with less," says Jeff Freymueller, a geophysicist at the University of Alaska Fairbanks (UAF). "We're well into the realm of doing less with less." He is one of several UAF researchers who work remotely for the Anchorage AVO office. But on 18 May, the observatory ran out of money to pay for most of those scientists.

"I've been with the AVO for 25 years, and our current budget situation is the most dire that I've ever seen," says John Power, lead scientist at the Anchorage observatory.

The AVO is a cooperative programme between the US Geological Survey (USGS), headquartered in Reston, Virginia; the UAF's Geophysical Institute; and the Alaska Division of Geological and Geophysical Surveys, based in Fairbanks. The AVO's budget this year is a little more than US$4 million, down from nearly $8 million in 2007. The shrinkage is partly because of smaller federal budgets overall, partly because of additional flat cuts known as sequestration, which came into effect in March, and partly because of the phasing out of congressional 'earmarks', which lawmakers once used to funnel money into their preferred programmes.

Pay to play

The UAF's share of AVO money has dropped to $513,000 this year, down from $1 million last year, says Freymueller. Among other problems, the university can no longer afford to pay remote-sensing analysts Jonathan Dehn and Peter Webley. Dehn and Webley now hope to fund their work by launching a commercial company called V-ADAPT (Volcanic-Ash Detection, Avoidance and Preparedness for Transportation).

Not everyone is thrilled with the company's launch; the USGS is reviewing whether there are any potential conflicts of interest involved. "But what's the alternative?" asks Steve McNutt, a volcanologist at the University of South Florida who worked for the AVO until last year. "Either you don't do the job, or you find some alternate way to fund it."

V-ADAPT, which is still being developed, aims to provide paying customers with realtime alerts of volcanic activity and predictions of where ash might spread. "When the volcano erupts you don't want to be catching up, you want to know where that ash is going to be," says Webley.

The ongoing eruption of the Pavlof volcano, which began on 13 May, has underscored just how tight money is at the AVO. The volcano has produced an ash plume up to 7 kilometres high, dusting some nearby towns with debris. Airlines are re-routing flights to avoid the ash, which can choke and stop aeroplane engines.

But four of the nine AVO seismic stations surrounding Pavlof — historically the most active volcano in Alaska — have stopped working in the past few years, and the AVO has not been able to afford to repair them. Without the stations, volcanologists cannot accurately locate earthquakes that could signal impending eruptions, or track in real time any mudflows that might run down from the volcano, says Power.

AVO field crews may visit and fix the broken Pavlof stations in the coming months, but that would mean neglecting other stations that also need work. The observatory can pay for just 36 days of field visits in the next few months, compared with close to 70 in the same period last year.

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