

With a sonic boom heard in Alaska, Hunga Tonga–Hunga Ha’apai erupted near Tonga on Saturday, causing a tsunami and spreading ash across the Pacific islands and cutting off communications.

Pacific disaster

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At 5.29 last Saturday afternoon, Siosaia Langilani began a live stream on Facebook.

It documented Langilani’s short walk from a house in Nuku’alofa, the capital of Tonga, to the nearby water’s edge, where a group had gathered to investigate a disturbance over the horizon.

The bay’s water appeared glassy, broken only by the flapping of a distant shark fin.

Two minutes later, at 5.31pm, Langilani’s camera turned upwards. A growing, grey cloud blemished an otherwise radiant Pacific sky.

“Check that out man... that’s... that’s the... volcano eruption,” Langilani said.

The camera pivoted to the horizon. A small crackle, like distant thunder, was heard, followed by an extraordinary sonic boom that distorted the phone’s microphone and physically shook Langilani.

He ran back to his house. The video went dark but audio continued recording. A panicked Langilani can be heard speaking to a woman.

“What do we need?” he asked, before the audio captured the pair entering a car and driving away from the beachfront home.

Minutes later, all communications to Tonga, a Pacific Island nation of 105,000 people, was lost. Siosaia Langilani’s live stream was among the last broadcasts out of Tonga, one of few windows into the horror that occurred before the country went dark.

The sound on his video had been the eruption of Hunga Tonga–Hunga Ha’apai, a predominately underwater volcano 65 kilometres north of the Tongan capital.

It would take more than 72 hours before the Tongan government could formally describe the “unprecedented disaster” that had befallen the kingdom.

“As a result of the eruption, a volcanic mushroom plume was released, reaching the stratosphere and extending radially covering all Tonga Islands, generating tsunami waves rising up to 15 metres,” read the government’s first statement.

The most intense of those waves hit Mango, a low-lying island of 100 people where all properties were confirmed to have been destroyed.

Significant damage was also reported on Nomuka and Fonoifua Islands and in the capital Nuku’alofa, which is located on the island of Tongatapu.

At the time of writing, three deaths have been confirmed.

Angela Glover, a 50-year-old British national who was running an animal shelter in Nuku’alofa, died in an attempt to rescue dogs under her protection. A 65-year-old woman and a 49-year-old man, both Tongan nationals, were also confirmed dead. Further deaths are expected.

Last Saturday’s eruption of Hunga Tonga–Hunga Ha’apai is among the largest

volcanic episodes in recent history. The volcano has been erupting intermittently since first emerging from the ocean floor in 2009 but its activity began increasing in the days and weeks before the January 15 event.

From an office in Adelaide, Jeff Aquilina had watched the data emerge. Aquilina is a team leader at the Australian government agency known as the Climate and Oceans Support Program in the Pacific, or COSPPac.

COSPPac manages ocean-monitoring equipment across the Pacific, and shares real-time data with Pacific authorities including the Tongan Meteorological Service.

The data on the Thursday and Friday before the eruption was “showing a lot more mini-tsunami events happening ... it was showing quite a bit of activity,” Aquilina tells *The Saturday Paper*.

Tongan authorities issued the first of several tsunami alerts at 11.41am local time on Friday, January 14, more than 24 hours before the major eruption. Tongans were asked to stay away from the water’s edge and marine traffic was instructed to seek deeper waters.

“I think [the Tongans] were semi-prepared,” says Aquilina. “But probably not expecting the explosion that came.”

The scale of the explosion was unprecedented. The sonic boom Siosaia Langilani first shared spread rapidly across the Pacific and woke residents in Alaska, more than 9400 kilometres away.

NASA scientist James Garvin told NPR the eruption was 500 times more powerful than the nuclear weapon detonated over Hiroshima in 1945, and Michael Poland, a geophysicist with the US Geological Survey, said it was likely the “loudest eruption on Earth since Krakatoa”, which exploded in 1882.

Satellite images revealed a section of volcano 1.2 kilometres long – the portion above the water’s surface – had been destroyed.

Professor Shane Cronin is a volcanologist at the University of Auckland and has led expeditions to Hunga Tonga–Hunga Ha’apai. He believes it was situated in a “Goldilocks” zone, maximising its power.

“You’ve kind of got the perfect water depth over the top of this volcano to magnify explosivity,” he told *The Saturday Paper*.

When the 1200 degrees Celsius magma interacted with seawater, Cronin explains, vast quantities of ocean were instantly vaporised, rapidly expanding the water’s volume and kickstarting a volatile chain reaction that amplified the event.

“If the water was much deeper, then it suppresses explosivity,” he says. “If [the volcano] was sticking out of the water, it would have been a decent eruption, sure, but because it has the double whammy of the seawater it magnified the eruption, probably four times, five times the power.”

The resulting tsunami severed Tonga’s telecommunications cable, disconnecting the country from global internet and phone networks. With communications lost, witnesses in nations near Tonga were the only ones able to describe the magnitude of the disaster.

Finny Palu, a 46-year-old from Kalabu, a hilly suburb of Fiji’s capital, Suva, heard the



A boy on the site once occupied by Tonga’s Ha’atafu Beach Resort on Wednesday. Ha’atafu Beach Resort

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explosion. “It was really frightening. At first we thought it was thunder. But ... then we realised it was the volcano. It was like hearing the big cannon balls in the old movies,” she told *The Saturday Paper* from her home 745 kilometres from the eruption.

Palu had reason to be concerned: her husband, Waisale Vuiyasawa, 48, is currently working in Nuku’alofa.

As night fell in Fiji, Palu’s phone unexpectedly rang. It was Vuiyasawa, who had access to a work satellite phone. “He said it was like one whole island just went out in a bomb,” she says.

The mother of four handed the phone to her five-year-old daughter. “She was asking when he is going to come home. Just imagine what they went through,” Palu says. “All we could do is pray.”

Further away, on Vanuatu’s island of Tanna, 1700 kilometres from Hunga Tonga–Hunga Ha’apai, residents heard the bang. Some assumed it was Mount Yasur, Tanna’s own active volcano, erupting.

In Port Vila, Vanuatu’s capital, a tsunami measuring between 1.5 and 2 metres was seen.

In Peru, almost 10,000 kilometres from Tonga, the tsunami was responsible for two deaths and was blamed for an oil spill north of Lima. Violent swells were reported along the west coast of the United States, as far north as Oregon.

The response from Tonga’s regional partners, including Australia and New Zealand, was hampered by the thick ash cloaking the runway of Fua’amotu International Airport, which serves Nuku’alofa.

“Surveillance flights conducted by the RAAF are supporting the government of Tonga to assess the full extent of the damage, particularly in remote and outlying areas,” Zed Seselja, Australia’s minister for International Development and the Pacific, tells *The Saturday Paper*.

These reconnaissance flights also revealed Tongans hastily sweeping ash off the runway to make it serviceable.

“Australia has committed an initial \$1 million towards Tonga’s recovery effort,” Seselja says.

Multiple RAAF flights landed in Nuku’alofa on Friday, carrying communications equipment, water purifiers and other essential supplies.

Despite calls for Australia to do more –

including by former prime minister Kevin Rudd, who insisted Foreign Minister Marise Payne “visit ASAP” – experts in disaster relief emphasise the need for a locally led and a Covid-cautious response in the weeks ahead.

Josie Flint, executive at the Humanitarian Advisory Group, believes that “sending in large numbers of international surge personnel ... where local technical experts and partners have better contextual knowledge ... is now increasingly a thing of the past.”

Tonga has remained Covid-free throughout the pandemic, and it “is clear that [the response] needs to be managed domestically to ensure there isn’t a second disaster of a Covid surge,” says Flint.

Sarah Burrows, head of partnerships and policy at the Australian Council for International Development, says “the government of Tonga will lead the response, and work will already be under way by Tongan people”.

On Thursday, the first images from the ground began to circulate.

Amid twisted tree branches, a small boy in bright blue gumboots was photographed standing in sodden ash. Ha’atufu Beach Resort, located on Tongatapu, was “unrecognisable”, according to its owners. Elsewhere, Tongans with shovels were pictured cleaning up debris.

Sarah Burrows says these efforts are just the beginning. “The impacts on the economy and livelihoods of Tongan people will last longer than the immense clean-up they face,” she says. ●