

Scientists monitoring Ruapehu as crater lake heats up



Mt Ruapehu's Crater Lake has heated up to temperatures not seen in years – and scientists have also recorded tremor around the mountain over recent weeks.

GeoNet duty volcanologist Agnes Mazot said readings of the lake temperature that had been taken continuously since 2009 tended to cycle between 15C and 45C over year-long periods.

But in September last year, scientists noticed a departure from this trend – and for the following six months the lake temperature had stayed elevated, at around 30C.

"Over the last two weeks, the lake temperature has risen further, at a rate of around 0.5C per day, to 42C on April 9," Maznot said.



"To put this in context, only 1 per cent of post-2009 temperatures have exceeded 42C and a similar temperature last occurred in May 2016."

The level of volcanic tremor typically also increased when the lake temperature rises – as had been the case over the past two weeks.

"The current tremor intensity is moderate. In previous heating cycles, this increased tremor lasted for a few days to several weeks," Maznot said.



Aerial view of the summit of Mt Ruapehu showing the effects of the most recent eruption in September 2007. Photo / Alan Gibson

In the past, eruptions at Ruapehu had occurred more often when the lake exceeded 45C.

However, a temperature of 46C was recorded in 2016, with no eruption.

While Ruapehu remained at Volcanic Alert Level 1 – corresponding to "minor unrest" – the high temperatures were a useful reminder that eruptions could occur with little or no warning, Maznot said.

The last time Ruapehu erupted was on September 25, 2007, causing a seven-minute-long earthquake, two lahars and flying rocks - one which crushed the leg of primary school teacher William Pike when it landed on Dome Shelter near the crater.