

THE FLOOR IS LAVA

LAVA FLOWS FROM AUCKLAND'S VOLCANOES

DEVORA

FACT SHEET 07

Interesting volcanic facts from the DETERMINING Volcanic Risk in Auckland (DEVORA) Project

Lava flows are rivers of molten rock (magma) that pour out from volcanic vents during effusive (non-explosive) volcanic eruptions. Scientists study past eruptions to help predict if hazards like lava flows may occur in future eruptions. In the Auckland Volcanic Field, about half of the previous 53 known eruptions created lava flows. If lava flows occur in the next Auckland eruption, they could badly damage buildings and infrastructure, causing permanent changes to the landscape.

What is basaltic lava?

AUCKLAND VOLCANIC FIELD LAVA FLOWS ARE BASALT, A ROCK COMPOSITION CONTAINING LESS SILICA THAN OTHER LAVA TYPES ... this means the lava is **hotter** and will **flow farther** than most other lava flows. Volcanologists around the world use the Hawaiian terms 'a'ā (rough) and pāhoehoe (smooth) to describe the two main surface textures of basaltic lava flows. Both can be seen in the Auckland Volcanic field.



A'Ā (ROUGH) LAVA FLOW



PĀHOEHOE (SMOOTH) LAVA FLOW



"GO SLOW" SAID THE LAVA FLOW...

Lava flows alone are rarely life-threatening as the lava front usually advances slower than walking speed. Their speed depends on the type of flow, chemical composition, amount of gas in the lava, topography, and how much lava the volcano is producing. The world record for the fastest lava flow is 60km/h at Mt Nyiragongo, Democratic Republic of Congo.



Lava flows are nature's bulldozers, burning, crushing and burying anything in their way!



Lava tubes are formed when lava drains from a flow that has cooled on top and crusted over, leaving a long, empty, cave-like structure.



The average length of lava flows from Auckland's volcanoes is 2.5 km. Te Kōpuke / Mount Saint John produced an 11 km lava flow, the final portion of which formed the Meola Reef.

HAZARDOUS EXPLOSIONS CAN OCCUR WHEN LAVA MEETS WATER, SUCH AS A LAKE OR THE OCEAN, OR WHEN IT ENCOUNTERS POCKETS OF METHANE GAS IN AREAS SUCH AS WETLANDS.

EXPLOSIVE HAZARDS

DEATHS AND SERIOUS INJURIES HAVE OCCURRED WHEN LAVA FLOWS CAUSE FUEL TANKS TO EXPLODE.



Methane explosions



Fuel explosions

LONG TERM effects

Historically, land buried by lava flows has most often been permanently abandoned. Although lava flows cannot be stopped, some communities have tried engineering solutions to protect their buildings from lava flows and in some cases slow or divert lava flows. Barriers can work for small volume flows, while spraying lava with seawater can help to cool the advancing front.

Are you ready for the impacts of volcanic activity?

getready.govt.nz