

Lava Flows and Related features

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Lava is a hot, molten rock that can flow easily, rather like hot porridge. The original surface of a hot fluid lava flow is smooth or wrinkled, and called *pahoehoe*. As the lava flow cools and loses gas it becomes stiffer and may break up into sharp fragments, called *aa* (pronounced Ah-Ah).

The advancing front of a *pahoehoe* flow forms lava lobes which crust over, inflate and burst to form new lobes. An advancing *aa* flow has a rubble front with fragments constantly rolling down and being buried at the toe. As the lava moves, large pressure ridges may be buckled up – either transverse to the flow, or running parallel to the edges.

A solid crust forms quickly, but beneath this liquid lava may continue to flow and is often concentrated into *lava tubes*. The crust insulates the hot lava in the tubes below, keeping it fluid and resulting in very long flows. Examples are the Mt. Rouse flow, which runs 60 km to Port Fairy; and the Tyrendarra flow from Mt. Eccles which extends offshore (sea level was lower at the time of that eruption).

In places, part of the lava continues to flow on the lava surface in narrow channels – rivers of lava. Overflow from these channels can build up levee banks. Examples of lava channels and levees can be seen from the Harman Valley lookout, and at Mt. Eccles.

Variations in the pressure of the liquid core can push the crust up into mounds, including the steep-sided *tumuli* seen at Wallacedale. Loss of pressure may result in the lava draining from beneath the crust, leaving open lava caves (as at Byaduk) or allowing the crust to subside and form hollows. The net result of all this movement is a chaotic surface known locally as the *stony rises*. These are well preserved on our younger flows, but on the older lavas erosion and soil development have destroyed most of the original surface features.

The lava flow often follows an old valley, splitting the original watercourse into two – one on each side of the central lava flow. A good example of such twin lateral streams is along the southern part of the Tyrendarra lava flow, where Darlot Creek follows the eastern side of the lava flow and the Fitzroy River the western side. Swamps and lakes form where the original streams have been dammed.

