

STROMBOLIAN ERUPTIONS

Named after Stromboli, which has been erupting continuously for centuries

VS

PLINIAN ERUPTIONS

Named after the historical eruption of Mt. Vesuvius in 79 AD that was described by Pliny the Younger.

LAVA

Usually relatively viscous basaltic lava. End product is usually scoria – a dark volcanic rock.

ERUPTION

Gas bubbles accumulate in magma. These join together to form larger bubbles known as gas slugs. When these reach the surface, the change in air pressure causes them to burst, throwing magma into the air. The high gas pressure within the magma causes these explosions to happen continuously – as often as every few minutes!

EFFECTS

One of the least dangerous eruptive types, even though eruptions can last thousands of years (because little damage is done to the conduit system). Often the material ejected from the volcano (pyroclast when airborne, tephra when on ground) during an eruption lands around the source vent and forms a cinder cone. There is usually little volcanic ash, although there is the possibility of lava flows. However, these are usually fairly viscous, so they don't travel too far.

EXAMPLES

Stromboli has been active for more than a millennium. And Mt. Etna has displayed Strombolian activity in recent eruptions.



LAVA

Most commonly associated with rhyolitic lava that is rich in silicates, although can occur with basaltic lava too.

ERUPTION

Columns of volcanic debris and hot gases are ejected high into the stratosphere. These plumes can reach up to 45km high and the volcanic ash is subsequently distributed over a large area. There is a large amount of pumice and powerful, continuous gas-driven eruptions. Eruptions can last hours or even days.

EFFECTS

Dangerous for local populations. Most dangerous eruptive feature is the pyroclastic flow, a fast-moving current of hot gas and volcanic matter (tephra) that flows away from the volcano at speeds of up to 700km/h. The gases can reach temperatures of 1,000°C. When the volcano is covered by snow and ice (as is the case with some Icelandic volcanoes), that mixes with the tephra to form lahars, which are fast-moving mudslides. Another effect is the large amount of volcanic ash which is produced. This can be deposited over a large area.

EXAMPLES

The 79 AD eruption of Mt. Vesuvius, the 1883 eruption of Krakatoa.

