

NATURAL HAZARDS

THE VOLCANO

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LAVA (MOLTEN ROCK)



Can erupt as fire fountains or lava flows. Lava flows have high temperatures and are difficult to divert and may destroy buildings and infrastructure. As lava moves relatively slowly it is rarely a direct threat to people.

PYROCLASTIC FLOW



Avalanches of hot rock, lava particles, ash and gases. They move at up to 450 miles per hour down the slopes of a volcano and can reach temperatures of 800°C. They have the potential to destroy everything in their path.

PHREATIC EXPLOSIONS



Explosions caused by the interaction of ground or surface water with hot rock or lava/magma. The intense heat may cause water to boil and flash to steam, generating an explosion of water, steam, rock and ash.

LAHARS (MUD OR DEBRIS FLOW)

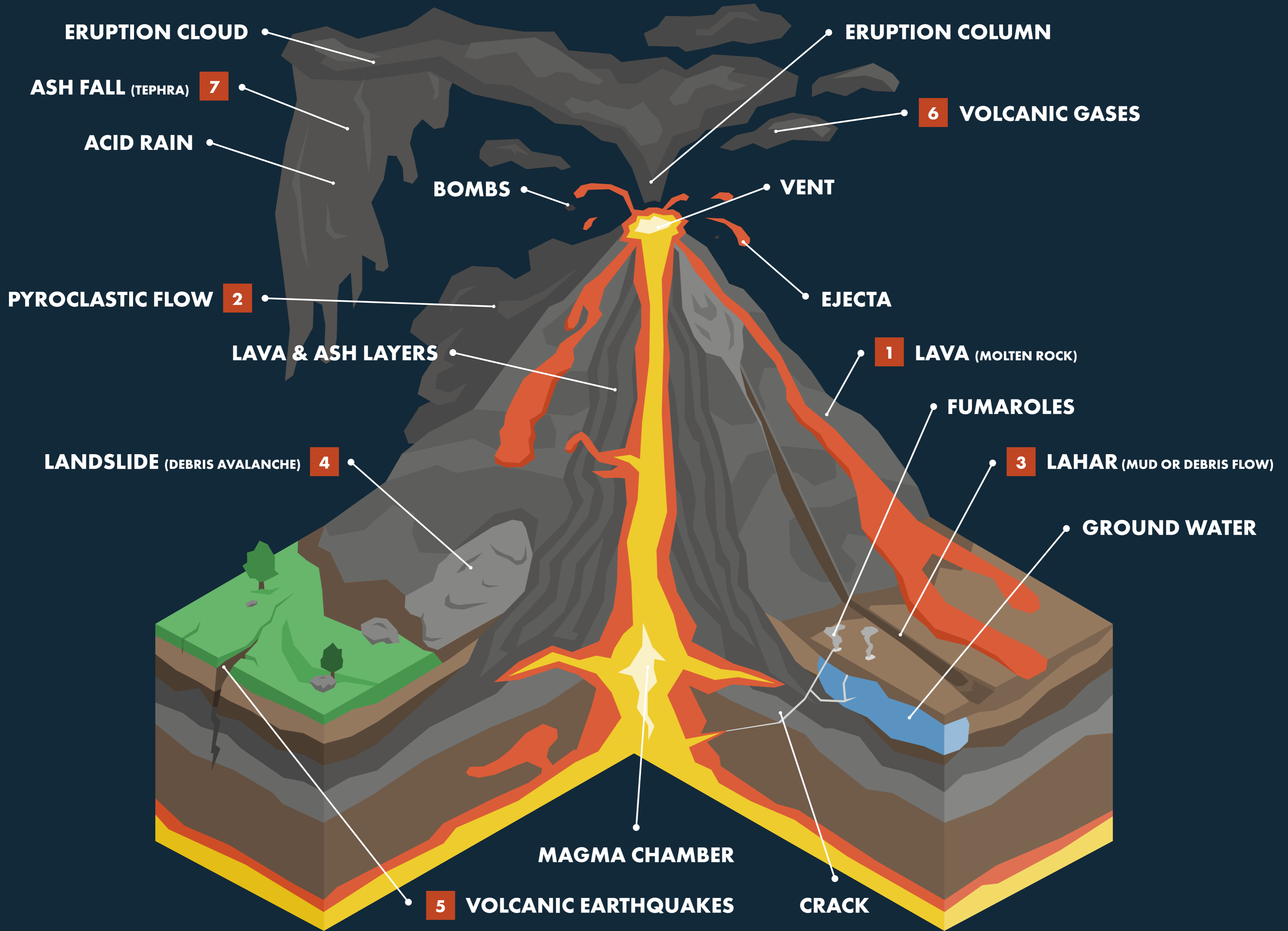


Mudflows created when volcanic materials interact with water, ice or snow. They flow like liquid but because they contain suspended material, they usually have a consistency similar to wet concrete.

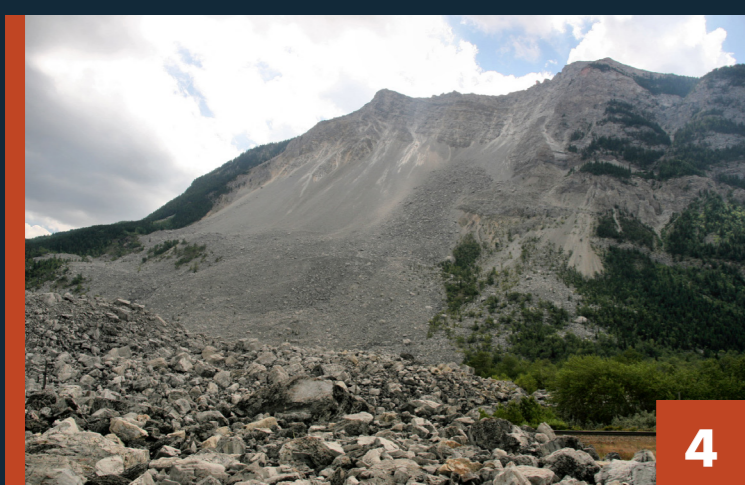
JÖKULHLAUPS



Large glacial outburst floods from glacial lakes or from beneath glaciers. They can occur very suddenly when an eruption happens beneath a glacier, melting the ice.



LANDSLIDES



Debris avalanches of large parts of a volcano may occur with or without accompanying eruptions and may transform into lahars if significant water is available. Landslides frequently pose a hazard even when a volcano is dormant (not erupting).

VOLCANIC EARTHQUAKES



Caused by the movement of magma or fluids underground, often too small to detect without instruments. Significant seismic activity precedes most eruptions so volcanic earthquakes are a valuable tool for monitoring volcanoes and forecasting eruptions.

TSUNAMIS



Form when water, whether in a lake or the sea, is displaced. Submarine eruptions, landslides collapsing into large bodies of water or the entrance of lahars or pyroclastic density currents into surrounding water can cause a tsunami to form.

VOLCANIC GASES



Bubble out of lava or escape through soil or vents in the ground. Volcanoes produce carbon dioxide, sulphur dioxide, hydrogen sulphide, fluorine gas, hydrogen fluoride and carbon monoxide. Some of these gases are irritating, poisonous or cause breathing problems.

TEPHRA



Rock fragments ejected into the air. Ash is smaller than 2mm whilst larger fragments are named lapilli, bombs and blocks. Blocks and bombs fall to earth within a few kilometres, but ash may be ejected high into the atmosphere and carried hundreds or thousands of kilometres downwind.