

# TYPES OF VOLCANIC ERUPTIONS

What is “VEI”? What is a Strombolian-type eruption? What are the different kinds of eruptions?

Unfortunately there are no scales for describing the “bigness” of volcanic eruptions. There is the **VOLCANIC EXPLOSIVITY INDEX (VEI)** which is a numerical scale from 0-8 depending upon (i) volume of the ejected material (km<sup>3</sup>) (ii) height to which the material rises on ejection and (iii) duration of the eruption. Mount St. Helens had a VEI-4 eruption in 1980 and there have been 19 VEI-5 (very large) eruptions during recorded history.

There is a “Classification Scale” where types are named after well-known volcanoes which have exhibited similar eruptions.

(i) Strombolian-type eruptions are named after Stromboli, a stratovolcano island west of Italy. Called the “Lighthouse of the Mediterranean”, small explosions form fountains of incandescent lava from the crater every 15-30 minutes. Visible to ships passing by, it has been erupting for the past 2,000 years. VEI from 1 to 3.

(ii) Hawaiian-type eruptions are nonexplosive but great quantities of very fluid, basaltic lava pours out. Lots of spatter and scoria.

(iii) Peléean-type eruptions are named after Mont Pelée on the Caribbean island of Martinique. Explosive, gaseous clouds (nuées ardentes) and the development of volcanic domes.

(iv) Vulcanian-type eruptions are explosive and eject lots of ash and lava fragments, lava bombs. Named after Vulcano, a stratovolcano and small island west of Italy which has provided the family name for all volcanoes! VEI from 3 to 5.

(v) Plinian eruptions (named after a person, Pliny 79 AD - sorry about that!) are explosive. There is a steady yet turbulent stream of high velocity pyroclastics and lava gas. Vesuvius in 79 AD had such an eruption. VEI from 4 to 7.

There is also a “Description Scale” which classifies the eruptions based somewhat on their impact on humans. Simply (i) Gentle (ii) Explosive (iii) Cataclysmic. Mount St. Helens was described as “explosive-cataclysmic”.