

# Volcanic Explosivity Index (VEI)

VEI measures the height and volume of tephra ejected from volcanoes. Does not measure the amount of lava, gases, or steam ejected.

| VEI | Description    | Eruption Cloud Volume | Eruption Cloud Height   | Eruption Class | Average Frequency       | Famous Examples   |  |
|-----|----------------|-----------------------|-------------------------|----------------|-------------------------|---|--|
| 0   | Effusive       |                       | 100 m                   | Hawaiian       | Constant                | Kilauea, Piton de la Fournaise, Erebus                        |  |
| 1   | Gentle         |                       | 0.00001 km <sup>3</sup> | 1 km           | Hawaiian / Strombolian  | Daily   | Nyiragongo (2002), Raoul Island (2006)                             |
| 2   | Explosive      |                       | 0.001 km <sup>3</sup>   | 5 km           | Strombolian / Vulcanian | Weekly  | Unzen (1792), Cumbre Vieja (1949), Galeras (1993), Sinabung (2010) |
| 3   | Severe         |                       | 0.01 km <sup>3</sup>    | 15 km          | Vulcanian               | 3 months  | Nevado del Ruiz (1985), Soufriere Hills (1995), Nabro (2011)       |
| 4   | Cataclysmic    |                       | 0.1 km <sup>3</sup>     | 25 km          | Vulcanian / Plinian     | Yearly  | Mayon (1814), Pelee (1902), Eyjafjallajokull (2010)                |
| 5   | Paroxysmal     |                       | 1 km <sup>3</sup>       | 25 km          | Plinian                 | 10 years  | Vesuvius (79), Fuji (1707), St. Helen's (1980), Puyehue (2011)     |
| 6   | Colossal       |                       | 10 km <sup>3</sup>      | 25 km          | Plinian / Ultra-Plinian | 100 years   | Krakatoa (1883), Pinatubo (1991), Laki (1783)                      |
| 7   | Super-colossal |                       | 100 km <sup>3</sup>     | 25 km          | Ultra-Plinian           | 1,000 years   | Mazama (5600 BC), Thera (1620 BC), Tambora (1815)                  |
| 8   | Mega-colossal  | 25 km                 |                         | Ultra-Plinian  | 10,000 years            | Yellowstone (640,000 BC), Toba (74,000 BC), Taupo (24,500 BC) |  |