Comparing risks at different volcanoes Unit 4: Pre-class reading answer sheet

Rachel Teasdale (California State University, Chico) & Kaatje van der Hoeven Kraft (Whatcom Community College)

*Unit 4 Pre-Class Answer Sheet & Instructions:* Use the reading to decide which erupted hazard(s) are likely to occur for each VEI eruption type in figure 2. Fill in the name of each hazard in the “possible hazards” column and the range of each hazard in terms of how long the hazard would pose a risk and the distance the hazard would impact the area (e.g. in drainages, carried x distance by the wind, etc.).

| **VEI** | **Description** | **Plume Height** | **Volume** | **Classification** | **Global Frequency** | **Example** | **Erupted Materials** | **Extent of Hazard (Distance or Time)** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **0** | Non-Explosive (effusive) | <100 m | 1000’s m3 | Hawai‘ian | Daily | Kilauea (Mauna Ulu), HI 1974 |  |  |
| **1** | Gentle | 100-1000m | 10,000’s m3 | Hawai‘ian/ Strombolian | Daily | Mount St. Helens, WA 2004; Mauna Loa, HI 1899 |  |  |
| **2** | Explosive | 1-5 km | 1,000,000’s m3 | Strombolian/ Vulcanian | Weekly | Galeras, Columbia 1992 |  |  |
| **3** | Severe | 3-15 km | 10,000,000s m3 | Vulcanian | Yearly | Nevado del Ruiz, Columbia 1985; Fuego, Guatemala, 2018  |  |  |
| **4** | Cataclysmic | 10-25 km | 100,000,000s m3 | Vulcanian/ Plinian | 10s of years | Eyjafyalla-jokull, Iceland 2010 |  |  |
| **5** | Paroxysmal | >25 km | 1 km3 | Plinian | 100’s of years | Mount St. Helens, WA USA, 1980 |  |  |
| **6** | Colossal | >25 km | 10’s km3 | Plinian/Ultra-Plinian | 100’s of years | Krakatau, Indonesia, 1883 & Mt. Pinatubo, Philippines 1991 |  |  |
| **7** | Super- Colossal | >25 km | 100’s km3 | Ultra-Plinian | 1000’s years | Tambora, Indonesia, 1815; Rinjani Indonesia, 1257 |  |  |
| **8** | Mega-Colossal | >25 km | ≥1000’s km3 | Ultra-Plinian/ Super-volcanic | 10,000’s of years | Yellowstone WY USA, 2 Ma |  |  |