# Explosive Eruptions on the Island of Hawai'i

Map shows all volcanic cones (in black) and volcanic ash deposits (in color) from explosive eruptions.

156˚W 155˚W

20˚N

19˚N

Kohala

Mauna Kea

Hilo

Kailua-Kona

Hualālai

Mauna Loa

Northeast Rift Zone

Moku'āweoweo Caldera

Southwest Rift Zone

Kīlauea

Kīlauea Caldera

East Rift Zone

Kalapana

Dominant wind direction

dashed lines are rift zones

0 10 mi

0 16 km

## EXPLANATION

Age (years before present)

Historic (CE) (1790-present)

200-400

400-750

750-1,500

1,500-3,000

3,000-5,000

5,000-10,000

>10,000

ka -thousands of years before present

Kīlauea

Mauna Loa

Hualālai

Mauna Kea

Kohala

volcanic cones (produce localized deposits)

Explosive deposits (<1000 years old)

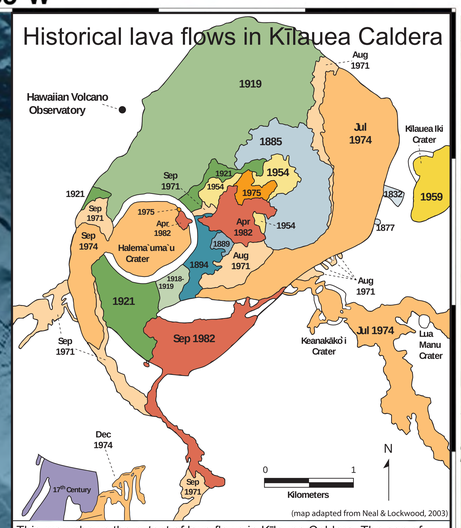
Ash (from Kīlauea)

Pahala Ash (from Kīlauea and possibly Mauna Loa) (25-10 ka)

Pahala Ash (from Kīlauea and possibly Mauna Loa) (25-10 ka)

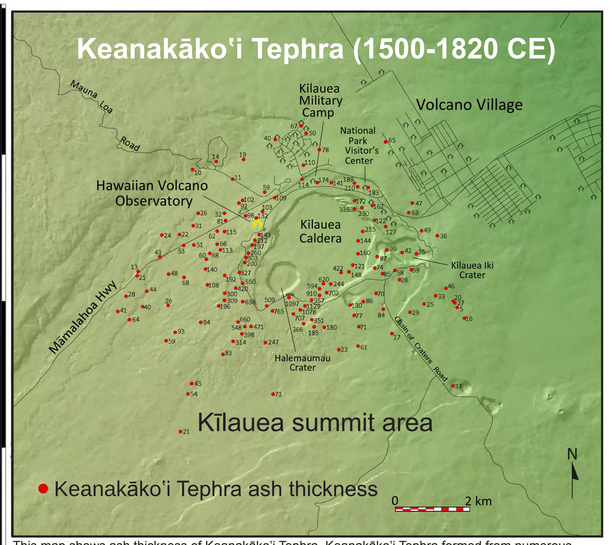
color blocks indicate ash deposits

## Historical lava flows in Kīlauea Caldera



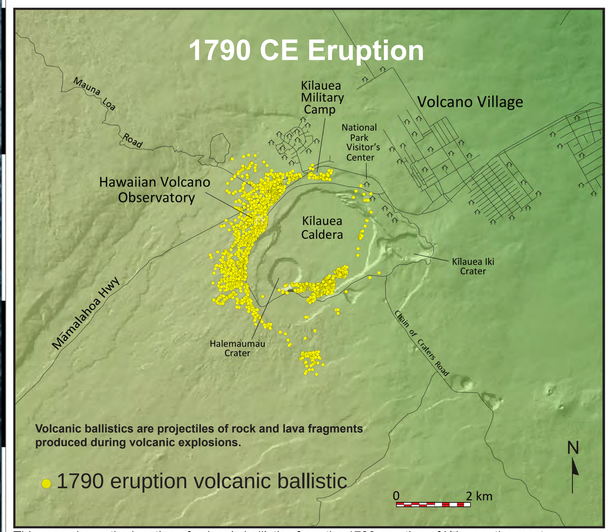

This map shows the extent of lava flows in Kīlauea Caldera. The age of lava flows indicates when previous deposits were covered over.

## Keanakāko'i Tephra (1500-1820 CE)



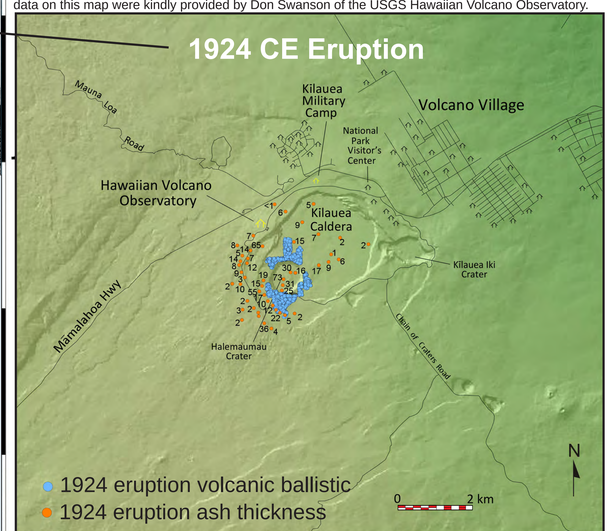

This map shows ash thickness of Keanakāko'i Tephra. Keanakāko'i Tephra formed from numerous eruptions throughout a 300-year period between about 1500 and 1800 CE. The data on this map were kindly provided by Don Swanson of the USGS Hawaiian Volcano Observatory.

## 1790 CE Eruption




This map shows the location of volcanic ballistics from the 1790 eruption of Kīlauea, the most devastating historical explosive eruption of Kīlauea. Volcanic ballistics are rock fragments ejected from an exploding volcano.The 1790 ash columns are estimated to have been about 30,000 feet high. The data on this map were kindly provided by Don Swanson of the USGS Hawaiian Volcano Observatory.

## 1924 CE Eruption




This map shows the location of volcanic ballistics and the thickness (in cm) of volcanic ash layers from the 1924 eruption of Kīlauea. The 1924 eruption was a two-week series of steam-driven (phreatic) explosions that were small by geologic standards and by the standards of some past Kīlauea explosions. The data on this map were kindly provided by Don Swanson of the USGS Hawaiian Volcano Observatory.