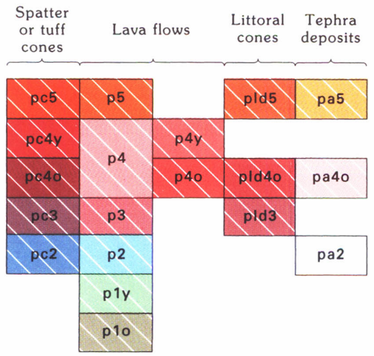
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Data Series 144

LIST OF MAP UNITS

[See Description of Map Units (in pamphlet) for detailed unit descriptions]

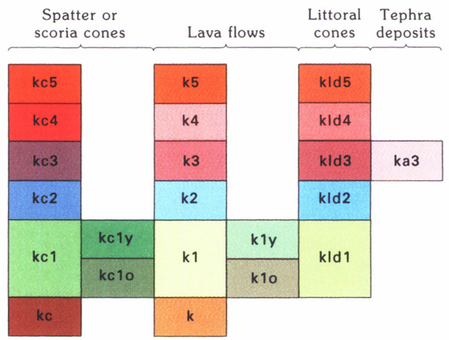
KILAUEA VOLCANO



Puna Basalt (Holocene)—Predominantly tholeiitic basalt

Hilina Basalt (Pleistocene)—Tholeiitic basalt lava flows with thin tephra interbeds, all underlying Pahala Ash. Age greater than 23 ka

MAUNA LOA VOLCANO



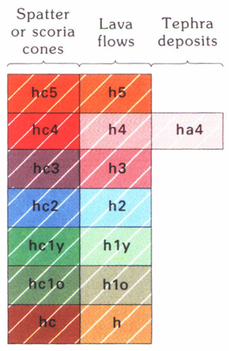
Kau Basalt (Holocene and Pleistocene)—Predominantly tholeiitic basalt

Kahuku Basalt (Pleistocene)—Tholeiitic basalt flows underlying Pahala Ash. Age is greater than 30 ka

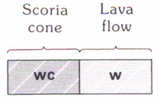
Ninole Basalt (Pleistocene)—Tholeiitic basalt flows and some thin interbeds of basaltic tuff. Age probably 200 to 100 ka, possibly as old as 300 ka

HUALALAI VOLCANO

Hualalai Volcanics (Holocene and Pleistocene)—Basalt and trachyte. Consists of:



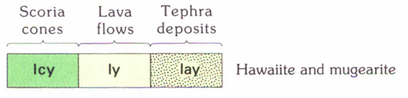
Basalt (Holocene and Pleistocene)—Predominantly alkalic and transitional basalt



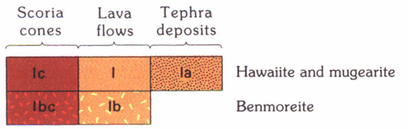
Waawaa Trachyte Member (Pleistocene)—Trachyte scoria cone and lava flow. Age approximately 105 to 100 ka

MAUNA KEA VOLCANO

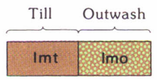
Laupahoehoe Volcanics (Holocene and Pleistocene)—Hawaiitic volcanic rocks and associated glacial deposits. Age, approximately 65 to 4 ka. Consists of:



Younger volcanic rocks member (Holocene and Pleistocene?)—Postglacial hawaiitic volcanic rocks. Possible age range, 14 to 4 ka

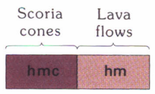


Older volcanic rocks member (Holocene and Pleistocene)—Hawaiitic volcanic rocks. Age, approximately 65 to 14 ka, which is Pleistocene, for the rocks of this member (except unit la, which locally includes younger deposits)



Makanaka Glacial Member (Pleistocene)—Glacial drift. Age approximately 40 to 14 ka

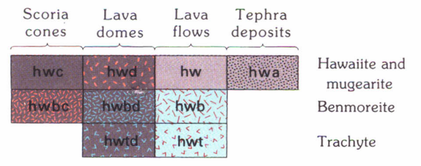
Hamakua Volcanics (Pleistocene)—Basaltic volcanic rocks and associated glacial deposits. Age approximately 250 to 200 ka to 70 to 65 ka. Consists of:



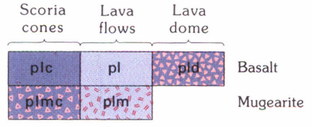
Basalt—Predominantly alkalic and transitional basalt. Includes unmapped till of the Pohakuloa Glacial Member. Age approximately 250 to 200 ka to 70 to 65 ka

Waihu Glacial Member—Glacial drift. Age approximately 70 ka

KOHALA VOLCANO



Hawi Volcanics (Pleistocene)—Hawaiitic volcanic rocks. Age approximately 230 to 120 ka



Pololu Volcanics (Pleistocene)—Tholeiitic basalt in lower part, predominantly transitional and alkalic basalt in upper part. Upper part includes separately mapped local flows and scoria cone, all of mugearite. Age approximately 700 to 250 ka; transition from tholeiitic to transitional and alkalic basalt had probably occurred by 400 ka

REGIONAL ASH DEPOSITS

Pahala Ash (Pleistocene)—Deeply weathered ash deposits exposed in kipukas on Mauna Loa and Kilauea and mapped as a continuous mantle on southeasternmost Mauna Kea. Unit overlies Hilina Basalt on Kilauea, Kahuku Basalt on Mauna Loa, and Hamakua Volcanics where mapped on Mauna Kea; interlayered with and overlain by oldest lavas (unit k) of Kau Basalt

SURFICIAL DEPOSITS

Fill (Holocene)—Artificial fill forming the harbor breakwater at Kawaihae

Landslide deposits (Holocene)—Mixtures of basalt blocks, ash, and soil transported abruptly downslope from steep southeast flank of Mauna Loa and from steep valley walls and seacliffs of northeast flank of Kohala Volcano

Alluvium and colluvium (Holocene and Pleistocene)—Sand and gravel distributed locally by running water and downslope movement; also includes local eolian deposits and coralline beach sand

Eolian deposits (Pleistocene)—Dune sand on lower southwest flank of Mauna Kea

Slope deposits (Pleistocene)—Interlayered fluvial, eolian, debris-flow, and tephra-fall deposits on south flank of Mauna Kea

Contact—Dotted where concealed by a mapped younger unit (map unit symbol in parentheses indicates concealed unit). Arrow, showing general direction lava flowed, indicates correlation of coeruptive cinder cones and lava flows. Internal contacts distinguish individual lava flows and cinder cones

Fault—Dashed where approximately located; dotted where concealed; bar and ball on downthrown side. Where unfaulted lava flow is bounded by pre existing fault scarp, concealed fault is shown just within boundary of unfaulted flow; other buried faults on Kilauea and Mauna Loa are interpreted from abrupt changes in topographic slope

Open cracks

Ground-crack zone—Recent, left-stepping, en echelon ground cracks (Jackson and others, 1992)

Fissure vent—Marked by elongate deposits of spatter; short dashed where buried; same map unit as enclosing lava flow

* **Point vent**—Lacking mappable pyroclastic deposits; same map unit as enclosing lava flow except where explicitly labled otherwise

Steep wall of caldera or crater

1859 **Year of historic eruption**

420 • **^{14}C age**—In years B.P. Number in parentheses indicates age of concealed unit