

Tables of new volcano-related radiocarbon ages for East Maui (Haleakala volcano) as of 2002,
http://hvo.wr.usgs.gov/volcanoes/halakala/c14ages_2002.pdf

Column labeled "Sector of volcano" designates geographic areas, as follows:

SWR, southwest rift zone;

HC, Haleakala Crater;

Hana, area of east rift zone below 3000-ft elevation;

ER, east rift zone above 3000-ft elevation;

Kaupo, lava fan seaward of Kaupo Gap;

Ke`anae, mouth of Ke`anae Valley;

Nahiku, north-coast area between Ke`anae and Hana.

Column labeled "Reference" refers to numbered references in the age-date bibliography:

http://hvo.wr.usgs.gov/volcanoes/haleakala/c14_ref.html

Map of age locations shown in Table 1:

http://hvo.wr.usgs.gov/volcanoes/haleakala/c14map_2002.jpg

Table 1. Radiocarbon ages for volcanic events at Haleakala volcano.

Listed are 73 of the 80 carbon-14 isotopic ages for 64 stratigraphic units from East Maui geologic investigations. Ages shown have been culled to exclude data that don't represent the age of an associated lava flow or tephra; see Tables 2 and Table 3 below for those ages and explanations for disregarding them.

Map No.	Age \pm one-sigma error, in 14C-yr ago	Sector of volcano (see above)	Geographic locality or geologic unit	Sample No.	Reference
1	390 \pm 50	SWR	Younger La Perouse lava at Pu`u Kanaloa	S99-HC678	this publication
2	460 \pm 50	SWR	Younger La Perouse beneath spatter at Kalua o Lapa	FAT-99-04d	this publication
3	490 \pm 70	Hana	Kawaipapa or "landfill" lava	W4560	4
4	510 \pm 60	SWR	Young fissure riven through Pu`u Makua	FAT-96-29	2
5	590 \pm 120	SWR	Young fissure riven through Pu`u Makua	--	8
6	650 \pm 140	SWR	Fissure at Keonehunehune	--	8
7	870 \pm 40	HC	Hanakauhi lava from a north-wall fissure	S97-HC232c	9
8	600 \pm 300	SWR	Probably Mahoe keiki lava; location unspecified	--	5
9	890 \pm 170	SWR	Mahoe keiki lava	--	8
10	920 \pm 70	SWR	Mahoe keiki lava	W4297	4

11	910±40	SWR	Mauka flow "1790"	S99-HC688d	this publication
12	950±40	SWR	Mauka flow "1790"	S99-HC688b	this publication
13	940±50	HC	Halali`i	S97-HC137	9
14	960±50	Hana	Pu`u Hina`i lava	S00-HC1438	this publication
15	960±40	Hana	Ka`eleku (Hana airport lava flow)	S01-HC1731	this publication
16	970±50	HC	Holua lava from Pu`u o ka `O`o	S97-HC63c	9
17	1040±40	HC	Kalua Awa lava	S97-HC152	9
18	1160±50	HC	Pu`u Nole lava	S97-HC209	9
19	1870±40	HC	Explosion crater	S97-HC242	9
20	2340±40	HC	Lava draping North crater wall vent on Kalapawili Ridge	S01-HC1810B	this publication
21	2530±50	HC	Tephra collected on west flank; from within-crater vent	W4554	4
22	3000±60	SWR	Lava flow adjacent to east flank of Kahua cone	FAT-96-11	2
23	3015±65	SWR	Kamole Gulch lava downslope from Kahua cone	BEM-176	2
24	3070±60	SWR	Kamole Gulch lava adjacent to Kahua cone	FAT-96-18	2
25	3090±30	SWR	Auwahi lava (Giant tumulus lava)	S01-HC1620B	this publication
26	3540±40	SWR	post-Makua lava collected near Pu`u `Ouli	BEM-235b	2
27	3750±50	HC	Tephra at foot of south crater wall	S97-HC129	9
28	3850±50	ER	Wai`ele`ele lava from cone east of Wai Anapanapa	FAT-94-01	this publication
29	3890±40	SWR	SWR ridgeline vent charcoal in roadcut	S99-HC936	this publication
30	3900±60	SWR	Kamaole eruption from vent at hairpin above Polipoli	W4314	4
31	4070±90	SWR	Kamaole lava downslope	W4561	4
32	4070±50	HC	Pu`u Maile	S97-HC64c	9
33	4160±40	ER	Silversword Gulch (informally named by NPS)	S01-HC1784B	this publication
34	4210±40	ER	East Camp cinder cone	S01-HC1792	this publication
35	4530±40	Kaupo	Hawelewele Gulch 100-ft elevation	S98-HC531	this publication
36	5020±40	ER	Silversword Gulch (informally named by NPS)	S01-HC1786	this publication
37	6710±40	Hana	Muolea area highway roadcut	S99-HC1067	this publication
38	7810±40	Kaupo	Lava beneath Lo`alo`a 370 m NE of Kepio Pt	S98-HC597c	this publication
39	7980±40	Kaupo	Lo`alo`a ankaramite 3080-ft	S98-HC589	this publication
40	8160±40	SWR	Kanahau ankaramite	S00-HC1574	this publication
41	8180±40	SWR	Kanahau lava ?	S01-1627B	this publication
42	=8170±40	SWR	SWR ridgeline vent beneath spatter in gully exposure	S99-HC925	this publication
43	8190±60	SWR	Upper flank aphyric lava	FAT-96-23	2
44	8650±90	SWR	Waiohuli lava	W4557	4
45	8710±40	SWR	Lava from vent west of Kanahau	S01-HC1604	this publication
46	8830±50	SWR	North of Ulupalakua unit hpae of Bergmanis	BEM-215	2
47	9400±300	ER	Cinder cone near head of Kipahulu Valley	W3945	4
48	=9500±40	Hana	From upper Kawaipapa Gulch	S99-HC1123	this publication

49	9520±70	Nahiku	Kuhiwa basanite	S00-HC1414B	this publication
50	10120±40	SWR	Aphyric lava that inundated Manukani	S01-HC1594	this publication
51	10290±50	SWR	NW flank flow unit hkea of Bergmanis	BEM-214	2
52	10440±60	SWR	Upper south flank east of Kahua cone	FAT-96-14	2
53	10470±50	SWR	Small fissure eruption upslope of Kahua cone	S99-HC803	this publication
54	12760±120	Hana	Haneo`o ankaramite	W4754	4
55	12760±50	Hana	Lower Kawaipapa Gulch S bank of plunge pool	S99-HC1078	this publication
56	13450±50	Hana	Mo`omo`onui Gulch upsection from HC1106	S99-HC1105B	this publication
57	16720±110	Nahiku	Pa`akea lava roadcut at Three Bridges	S00-HC1339	this publication
58	17010±50	SWR	Nawini ankaramite	S00-HC1532AB	this publication
59	17230±50	SWR	Nawini ankaramite	S00-HC1579	this publication
60	17860±60	Keanae	Pi`ina`au lava Keanae	S01-HC1668B	this publication
61	22550±400	SWR	West-flank tephra Waipoli Road	W4004	4
62	22770±220	Hana	Paki lava	S00-HC1436B	this publication
63	23530±200	Nahiku	Nahiku (Mossman) ankaramite	S00-HC1401	this publication
64	23820±90	Kipahulu	Palikea ankaramite in low seacliff SW of Kuloa Pt	S99-HC962A	this publication
65	24170±80	Kipahulu	Kekue Bay	S99-HC1119	this publication
66	25790±100	SWR	Nini`ali`i lava west of Luala`ilua Hills	S01-HC1760	this publication
67	26800±400	SWR	West-flank tephra Waipoli Road	W4315	4
68	34100±290	Hana	Mo`omo`onui Gulch 500 ft downsection from HC1105	S99-HC1106B	this publication
69	37150±410	Hana	Pu`u Kolo(?) lava at Ka Iwi o Pele	S99-HC1127	this publication
70	39920±400	Ke`anae	`Ohi`a lava	S01-HC1729C	this publication
71	43800±1400	Keanae	Pi`ina`au lava (caps conglomerate) Keanae	S98-HC310	9
72	45000±1800	SWR	Upper south flank east of Kahua cone	FAT-96-13	2
73	52900±1800	SWR	Kahua lava; source vent uncertain	S00-HC1524A	this publication

Table 2. Radiocarbon ages NOT applicable volcanic events at Haleakala volcano.

These eight ages are from charcoal moderately to substantially younger than the emplacement age of the adjacent lava flow. See above for descriptions for "Sector of volcano."

Age ±one-sigma error, in 14C-yr ago	Sector of volcano (see above)	Geographic locality or geologic unit	Sample No.	Reference
<100	SWR	Pimoe modern charcoal	--	8
140±50	SWR	North of Ulupalakua Ranch headquarters modern charcoal	BEM-203	this publication

200±15	SWR	Kalua o Lapa lava collected in kiawe grove	--	8
330±50	HC	Hanakauhi fissure flow charcoal probably from younger fire	S97-HC265	2
830±60	SWR	Giant tumulus flow charcoal probably from younger fire	FAT-96-24	2
860±60	SWR	East of Kahua cone; probably 30000-40000 years old	FAT-96-12	this publication
1430±40	SWR	East of Kahua cone; probably 30000-40000 years old	FAT-99-11c	this publication
4840±60	SWR ?	Ankaramite near Manawainui Gulch 0.128 m.y. old	FAT-96-16	2

Table 3. Radiocarbon ages of uncertain interpretation for volcanic events at Haleakala volcano.

See above for descriptions for "Sector of volcano."

Age ±one-sigma error, in 14C-yr ago	Sector of volcano (see above)	Geographic locality or geologic unit	Sample No.	Reference
270±45	SWR	Kanahena lava which predates the Kalua o Lapa flows	S00-HC1271	this publication
2180±60	SWR	Waiohuli lava on north slope of SWR	FAT-96-26	this publication
8600±60	SWR	Charcoal in talus on a cinder cone	FAT-96-21	2
14180±50	Kaupo	Charcoal in pebbly sandstone 28 cm beneath lava flow	S98-HC631a	this publication
>38000	SWR	Waipoli Road tephra sequence; too old to date	W4785	4
>54700	SWR	Lava near base of tephra sequence; too old to date	S99-HC914b	this publication
>54000	SWR	Lava near base of tephra sequence; too old to date	S99-HC1033	this publication