



Hawaiian Volcano Observatory Summary 95; Part I, Seismic Data, January to December 1995

by Jennifer S. Nakata

Chronological Summary
by C. Heliker, C. Thornber, & Jennifer Reynolds

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U.S. GEOLOGICAL SURVEY**

Hawaiian Volcano Observatory
Hawai'i Volcanoes National Park, Hawai'i 96718

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1995 HAWAIIAN VOLCANO OBSERVATORY STAFF

DAVID A. CLAGUE (SCIENTIST-IN-CHARGE)

ARNOLD T. OKAMURA (DEPUTY SCIENTIST-IN-CHARGE)

GEOLOGY

C. CHRISTINA HELIKER
MARGARET T. MANGAN
TARI N. MATTOX*
CARL THORNER
FRANK A. TRUSDELL+

GEOPHYSICS

JAMES P. KAUAHIKAUA
GARY S. PUNIWAI*

SEISMOLOGY

JENNIFER S. NAKATA
PAUL G. OKUBO
ALVIN H. TOMORI

DEFORMATION

ROGER P. DENLINGER
MICHAEL LISOWSKI
ASTA MIKLIUS
MAURICE K. SAKO

GEOCHEMISTRY

TAMAR ELIAS
A. JEFFERSON SUTTON

ELECTRONICS

RENEE L. ELLORDA*
KENNETH T. HONMA
ALLAN J. LARGO*

COMPUTER

WILFRED R. TANIGAWA

LIBRARY/PHOTO ARCHIVE

T. JANE TAKAHASHI

ADMINISTRATION

PAULINE N. FUKUNAGA
MARIAN M. KAGIMOTO
IRENE S. TENGAN

SCIENTIST EMERITUS

DALLAS B. JACKSON
ROBERT Y. KOYANAGI
JACK P. LOCKWOOD

POST-DOCTORAL

ALICE GRIPP* - Seismology
LAURA KONG* - Seismology

CONTRACTS

Seismic Record Changing
L. GLADYS FORBES
DAVID AULD

+ Arrived during 1995
* Left during 1995

INTRODUCTION

The Hawaiian Volcano Observatory (HVO) summary presents seismic data gathered during the year and a chronological narrative describing the volcanic events. The seismic summary is offered without interpretation as a source of preliminary data. It is complete in the sense that all data for events of $M \geq 1.5$ routinely gathered by the Observatory are included. The emphasis in collection of tilt and deformation data has shifted from quarterly measurements at a few water-tube tilt stations ("wet" tilt) to a larger number of continuously recording borehole tiltmeters, repeated measurements at numerous spirit-level tilt stations ("dry" tilt), and surveying of level and trilateration networks. Because of the large quantity of deformation data now gathered and differing schedules of data reduction, the seismic and deformation summaries are published separately.

The HVO summaries have been published in various forms since 1956. Summaries prior to 1974 were issued quarterly, but cost, convenience of preparation and distribution, and the large quantities of data dictated an annual publication beginning with Summary 74 for the year 1974. Summary 86 (the introduction of CUSP at HVO) includes a description of the seismic instrumentation, calibration, and processing used in recent years. The present summary includes enough background information on the seismic network and processing to allow use of the data and to provide an understanding of how they were gathered.

A report tabulating instrumentation, calibration, and recording history of each seismic station in the network by Klein and Koyanagi is available as a USGS Open-File Report ¹. It is designed as a reference for users of seismograms and phase data and includes and augments the information in the station table in this summary.

Table 6 is a list of events of magnitude 3.0 or greater, selected from Table 5.

CHRONOLOGICAL SUMMARY 1995

by

Christina Heliker, Carl Thornber, and Jennifer Reynolds

Flows and pauses

Episode 53 continued through 1995 as flows from the episode 51 vent expanded the Kamoamoa flow field to both the east and west. Lava entered the ocean along the entire width of the Kamoamoa flow field during the year, adding another 16 hectares of new land to the island. Most of the flow field below the 2,250-ft elevation was resurfaced or covered for the first time in the past year (fig. C-1). There have been no breakouts above the 2,250-ft level since the beginning of episode 53 in February 1993.

Intermittent pauses in the eruption continued, with five in 1995 compared with six in 1994. The 1994 pauses occurred in two clusters; similarly, in 1995, four of the pauses occurred in pairs (March-April and November-December), with one lone pause in August. As in the previous year, the pauses lasted from less than 24 hrs to 60 hrs.

Pu'u 'O'o

For the first four months of the year, the pond at the bottom of Pu'u 'O'o Crater maintained the status quo of the last several years: it was located in the eastern half of the crater floor, with a diameter of approximately 80 m and a consistent current running from southwest to northeast. The depth of the active lava below the low point on the crater rim was 75-90 m from January through April.

At the beginning of May, a large slice of the eastern rim of the crater slid to the floor, displacing the pond with a terrace of debris. This diminished the diameter of the pond and seemingly ushered in the era of instability that followed. Since that time, the size of the pond has waxed and waned, at times resuming its former dimensions for a brief interval, then shrinking to a pit 30 m or less in diameter near the center of the crater.

After attaining ominous dimensions at the end of 1994, the collapse pits on the uprift flank of the Pu'u 'O'o cone did not enlarge significantly in 1995. In April, a rockfall within Great Pit resulted in a red rock-dust deposit on the cone. On the 28th of December, David Okita noticed two glowing holes at the bottom of the collapse pit over the 51 vent that were still there at the end of the year. This was the first glow observed from the Great Pit since early April.

Table C-1 shows summary data for the ongoing eruption.

Summary Plots

Figure C-2a summarizes the year's seismicity, petrologic, and gas flux measurements as a function of time for Kilauea.

Figure C-2b summarizes the year's seismicity for Mauna Loa, which was not in eruption.

Table C-1. Eruption statistics

Areas

Total area covered by lava, 3/83-12/95: 94.6 sq km (36.5 sq mi)

Pu'u 'O'o flows (episodes 1-47 and the "A vent" flow of episode 48): 25 sq km* (9.7 sq mi)

*Pu'u 'O'o flows originally covered about 42 sq km, but much of this area was reburied by flows of subsequent episodes.

Kupaianaha flows (episode 48): 41 sq km (16 sq mi)

Episode 49 flows: 4 sq km (1.5 sq mi)

Episodes 50-53 flows: 24.6 sq km (9.5 sq mi)

Total new land created, 12/86-12/95: 219 hectares (540 acres)*

Kamoamoa delta (11/92-12/95): 89 hectares (220 acres)

*These are net figures, which do not include new land that was claimed by wave erosion or collapse of the active lava bench.

Volumes

Total, 1/83-12/95 Approximately: $1300 \times 10^6 \text{ m}^3$ (dense rock equivalent)

Episodes 1-47 (1/83 - 6/86) $385 \times 10^6 \text{ m}^3$

Episode 48 (7/86 - 2/92) $500 \times 10^6 \text{ m}^3$

Episode 49 (11/91) $11 \times 10^6 \text{ m}^3$

Episode 50 (2/92 - 3/92) $3 \times 10^6 \text{ m}^3$

Episode 51 (3/92 - 2/93) $32 \times 10^6 \text{ m}^3$

Episode 52 (10/92) $2 \times 10^6 \text{ m}^3$

Episode 53 (2/93 - 12/95) $375 \times 10^6 \text{ m}^3$

Other fascinating facts

Height of Pu'u 'O'o cone, 8/95: 233 m. The cone has lost 24 m due to collapse since 1986.

Dimensions of Pu'u 'O'o Crater, 12/95: ~240 m x 350 m

Depth of Pu'u 'O'o Crater floor, 2/96: 55-60 m

Pu'u 'O'o pond status: active

Height of episode 51 lava shield: ~60 m

Episode 51 lava pond active 3/92-7/92

Height of Kupaianaha lava shield: 56 m

Kupaianaha vent inactive since 2/92

Thickness of lava at the coast:

~25 m over Highway 130 at Queens Bath

~15-25 m over Kalapana Gardens

Highway covered by lava flows from this eruption: 13 km

Structures destroyed

Residences destroyed through 10/91 (none since then): 181

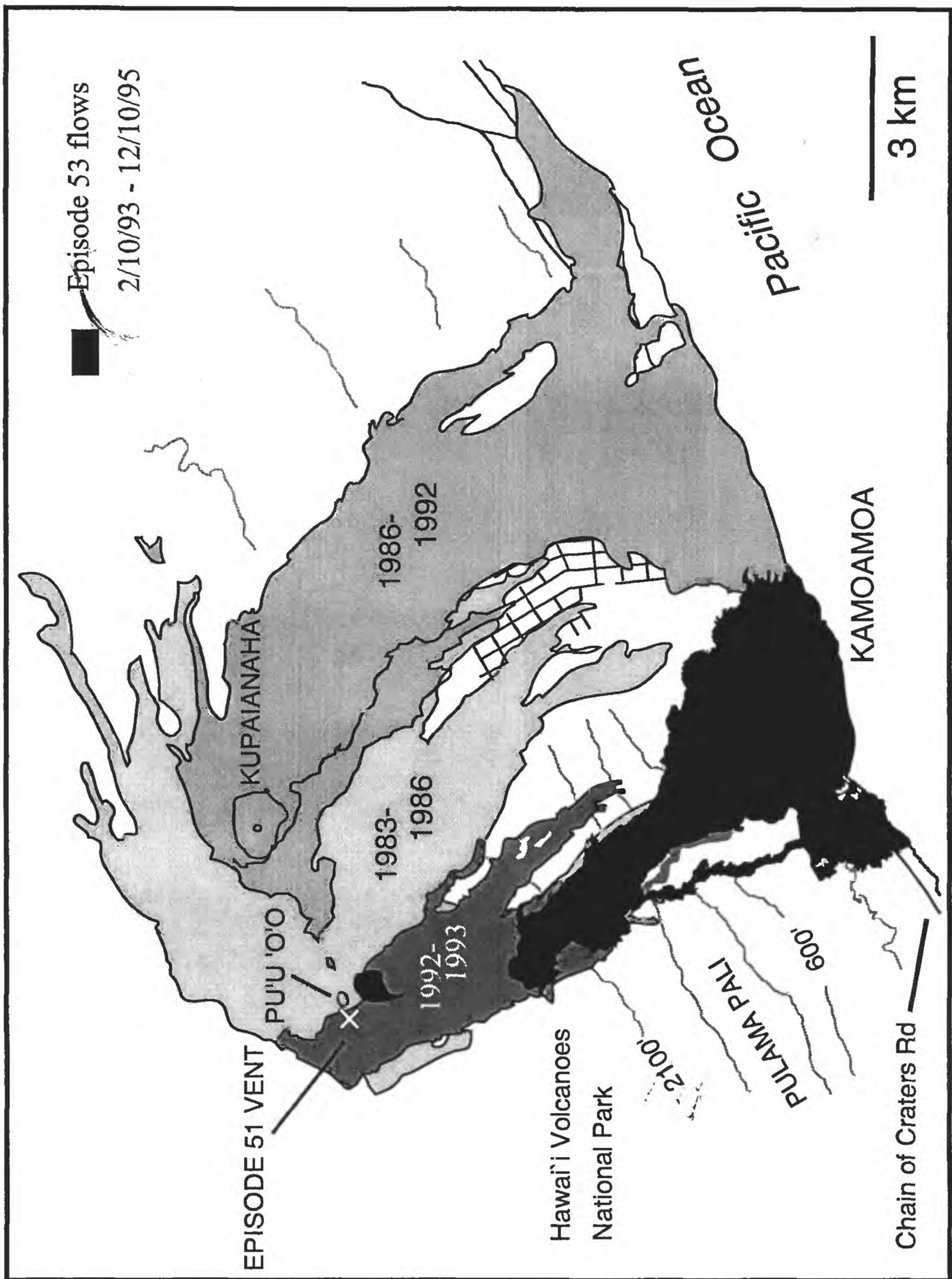


Figure C-1. Lava flows produced from 1983 through 1995.

KILAUEA

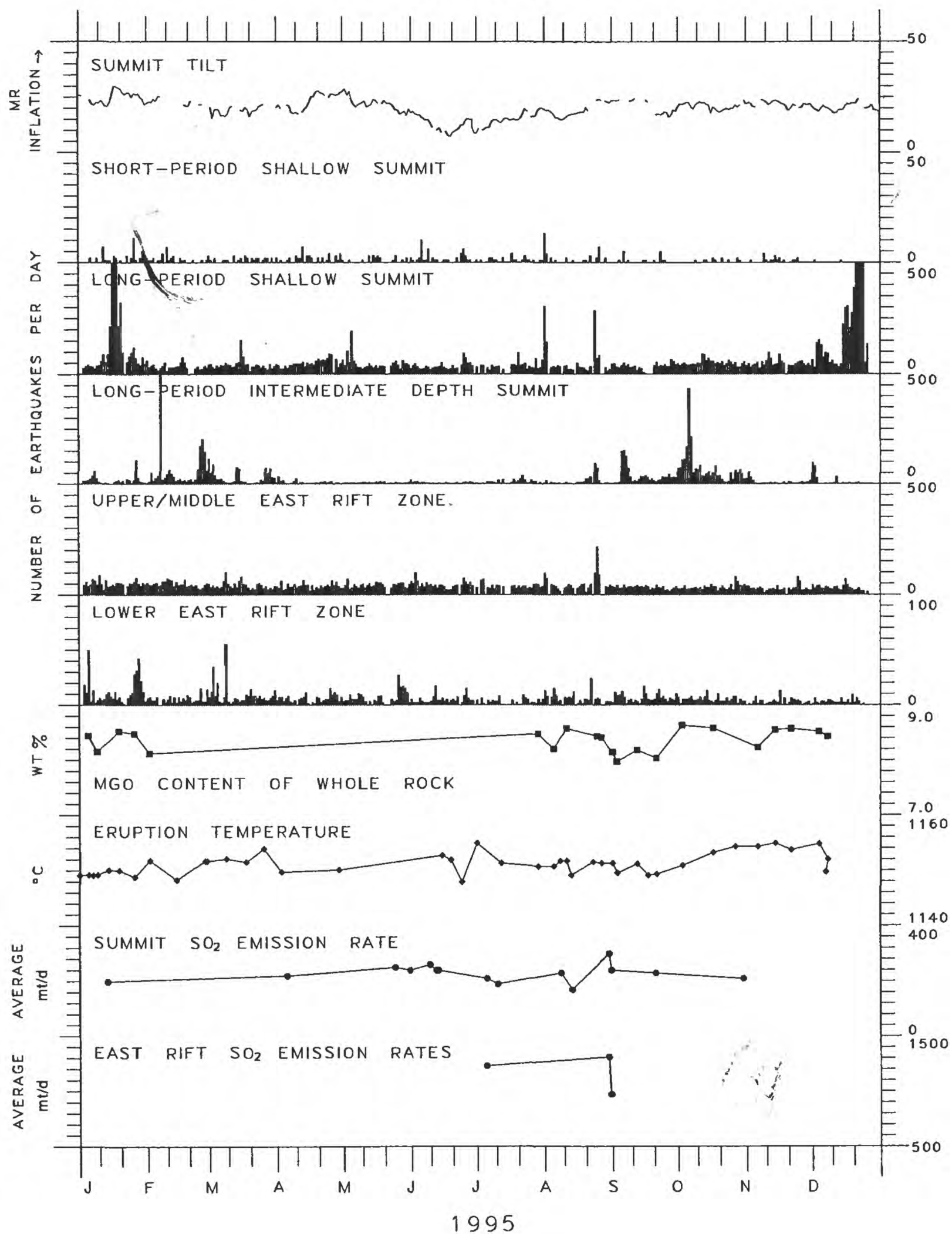


Figure C-2a. Selected seismic, geodetic, petrologic and geochemical data for Kilauea, 1995.

MAUNA LOA

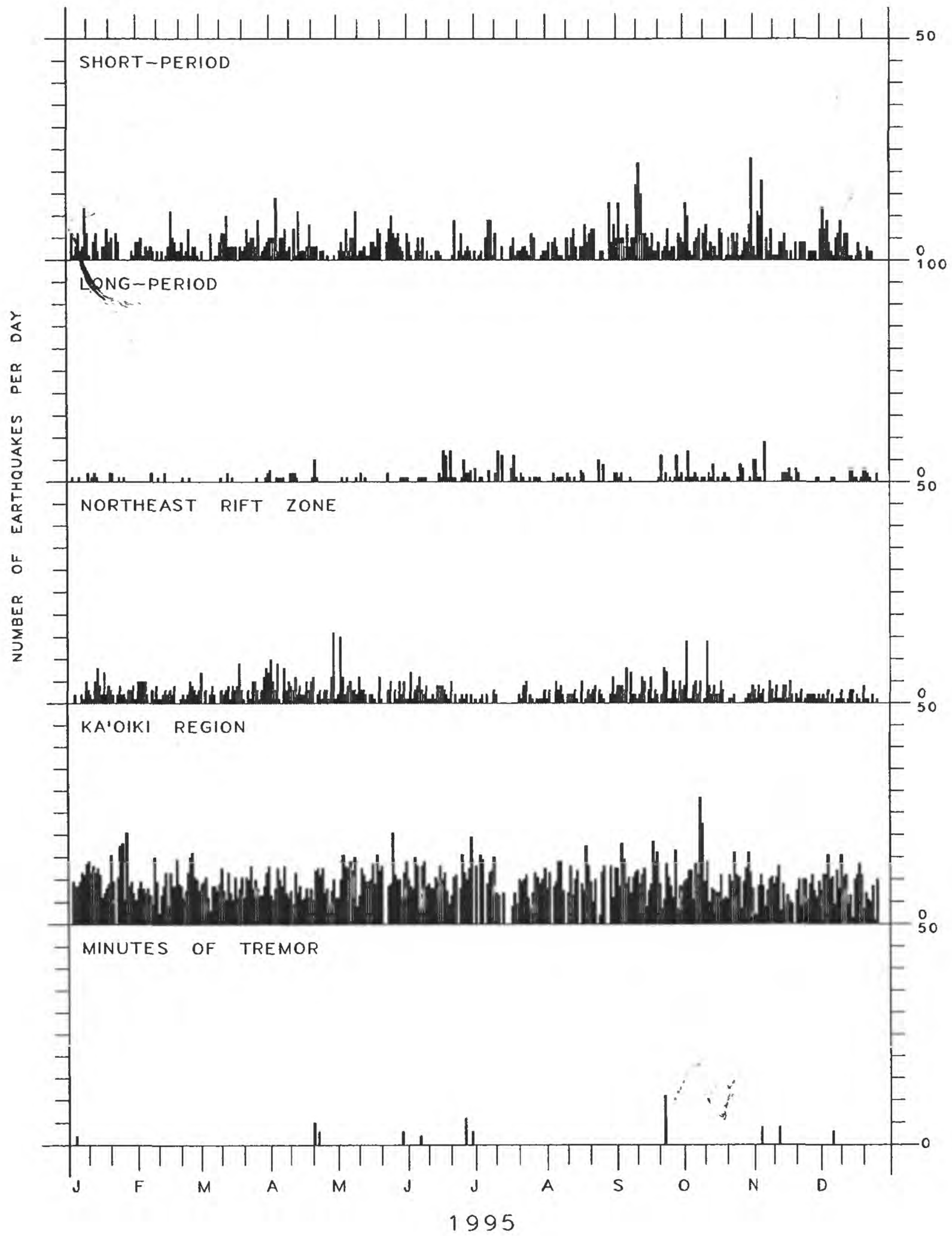


Figure C-2b. Selected seismic data for Mauna Loa, 1995.

SEISMIC INSTRUMENTATION

The network. The Hawaiian Volcano Observatory maintains an extensive telemetered seismic network on the Island of Hawai'i. The 1995 network consisted of 52 station sites: 12 three-component, 1 seven-component (which included a low-gain vertical with a unity gain setting, and a three-component Kinematic Force-Balance accelerometer), 1 four-component and 2 two-component (each site included a moderate-gain vertical with a 48db setting), and 36 vertical-component-only sites. The coverage is most dense on and around Kilauea Volcano. All seismic signals from the short-period network are telemetered to the Observatory for recording.

Figure 1 is a map of selected geographic and geologic features. Figure 2 shows the seismic stations operated on the Island of Hawai'i during 1995. Figure 3 indicates the telemetry scheme for the seismic stations, and Figures 4a and 4b are expanded telemetry schemes at Kilauea summit: 4a, HVO seismic stations and 4b, broadband network installed by Menlo Park and maintained by HVO.

Table 1 lists seismic stations by names, four-letter station codes, coordinates in degrees and minutes, elevation in meters, and other data, as described below, pertaining to each station. The list includes all the stations operated by the U.S. Geological Survey in Hawai'i during 1995. A few seismic stations operated by the Pacific Tsunami Warning Center (NOAA) on the Islands of Hawai'i, O'ahu and Maui are also listed. Phase times from these stations are used to supplement local earthquakes and earthquakes that occur within the Hawaiian Archipelago but distant from the Hawai'i Island network.

Instrumentation and recording. Each telemetered station has a voltage-controlled oscillator (VCO) for FM multiplex transmission to HVO via radio. These telemetering stations are all of Type 1, Earthquake Hazards Team (EHT) standard system used in USGS seismic networks (see Table 2 for details). After discrimination at the receiver, the analog signals are converted to digital form as part of the routine computer-location processing and archiving. Continuous signals from the telemetered network are saved on 4-mm digital-audio tape (DAT) recording units. Three DAT recorders run in automatic rotation, as each 30-hr tape is filled. Analog signals from 18 selected stations are recorded on one Develocorder ('A') using 16-mm microfilm. Optic recordings are coded in Table 1 as follows: D - Develocorder film, H - Helicorder paper, and I - ink paper. The paper records, as well as the 16-mm Develocorder microfilms, are archived at HVO.

Seismograph response and calibration. Displacement response curve for the short-period seismograph type in use is given in Figure 5. The Type 1 curve gives the displacement magnification of the standard EHT system from ground motion at the seismometer to the seismic trace, as seen on a 20x Develocorder film viewer. The curve plots the unit response, which is multiplied by a constant but known factor, CAL, to get the response for an individual station. Individual CAL factors for Type 1 seismographs are Develocorder-equivalent, peak-to-peak amplitudes, measured in millimeters, of a 100-microvolt 5 to 8-Hz signal introduced to the preamp/VCO in place of the geophone at the field station. The calibration process is normally performed each time a station is visited for other required maintenance.

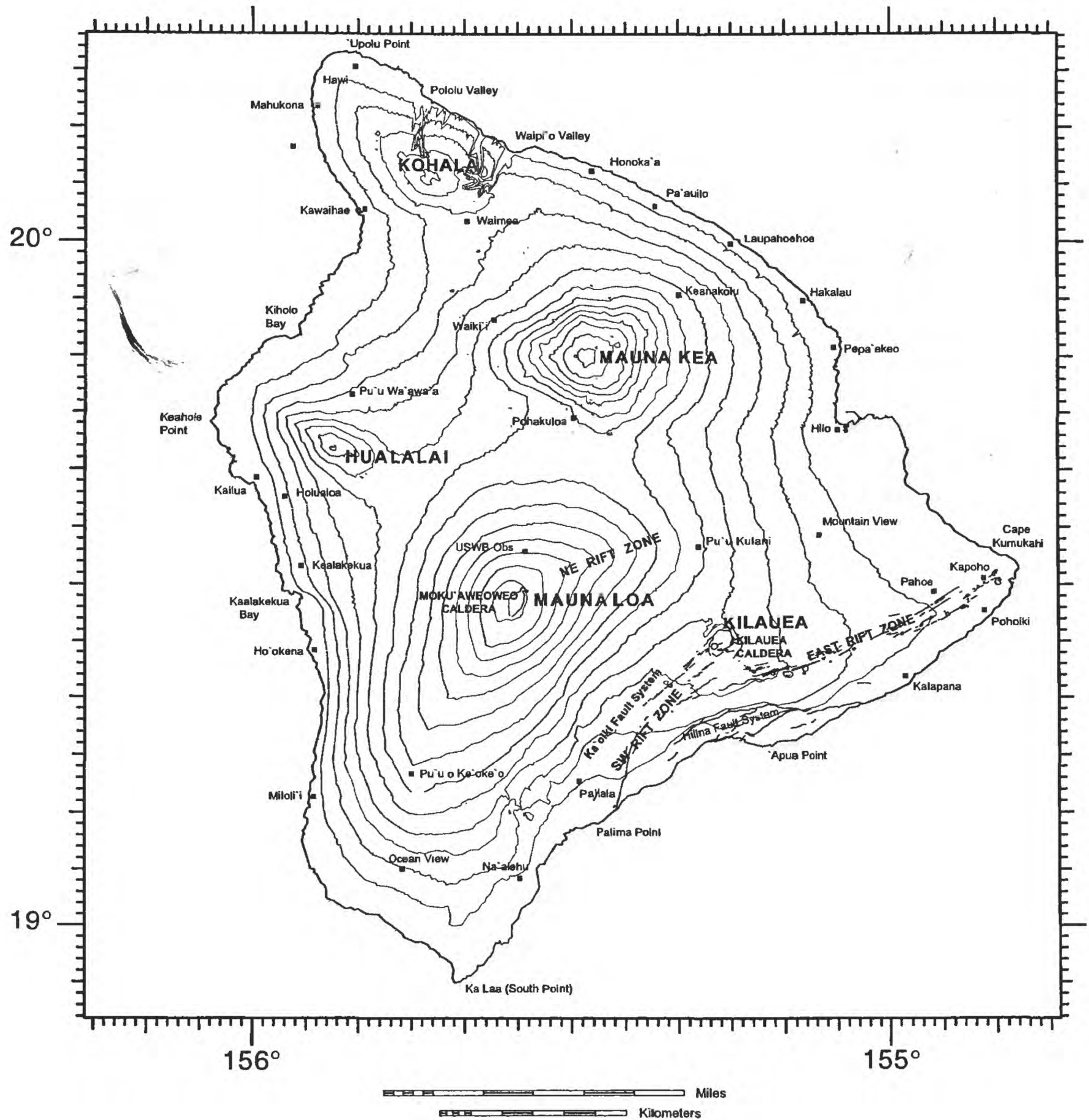


Figure 1. Map of the Island of Hawai'i, showing principal settlements and selected geographic and geologic features.

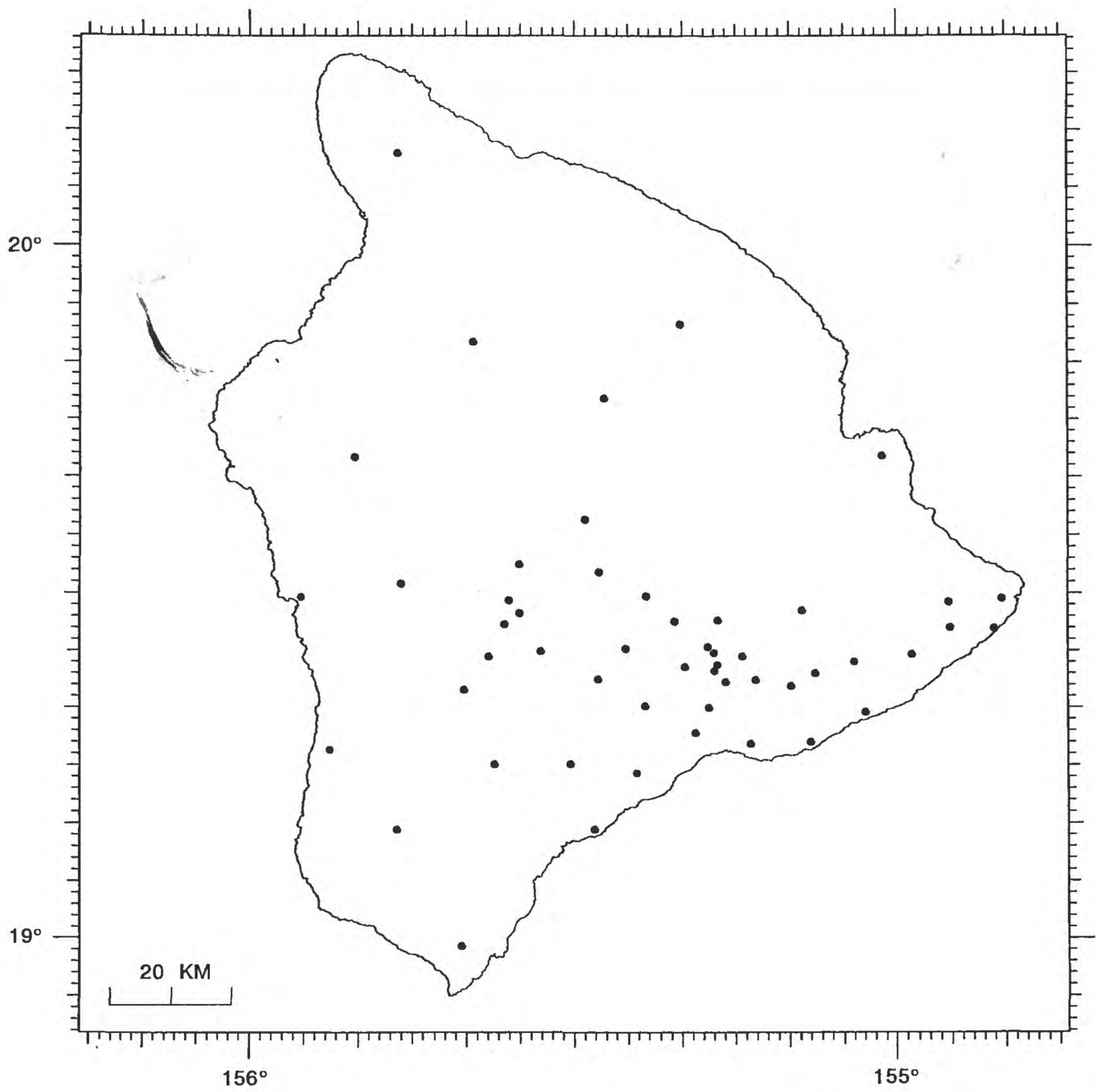


Figure 2. Seismic stations operational during 1995 on the Island of Hawai'i.

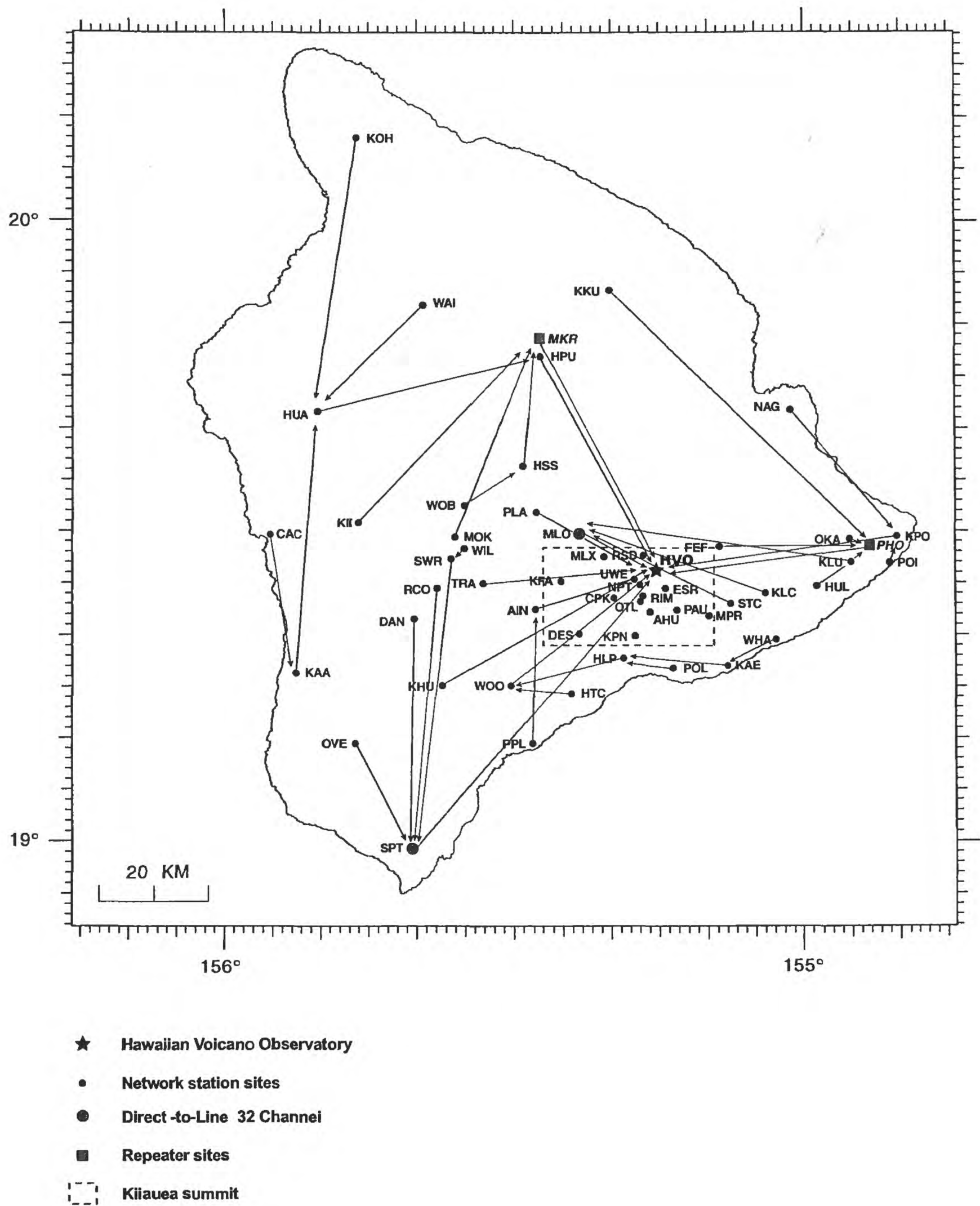
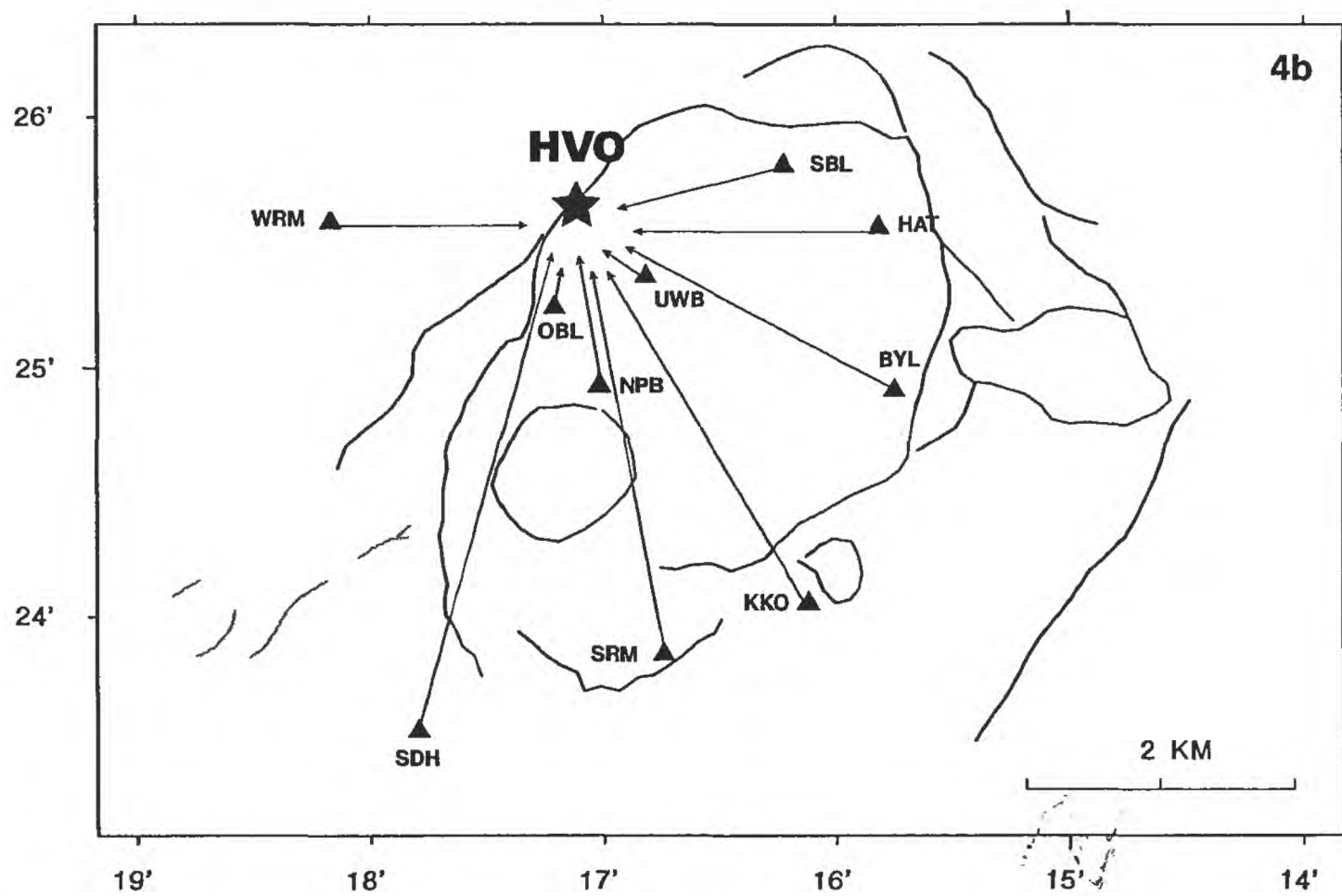
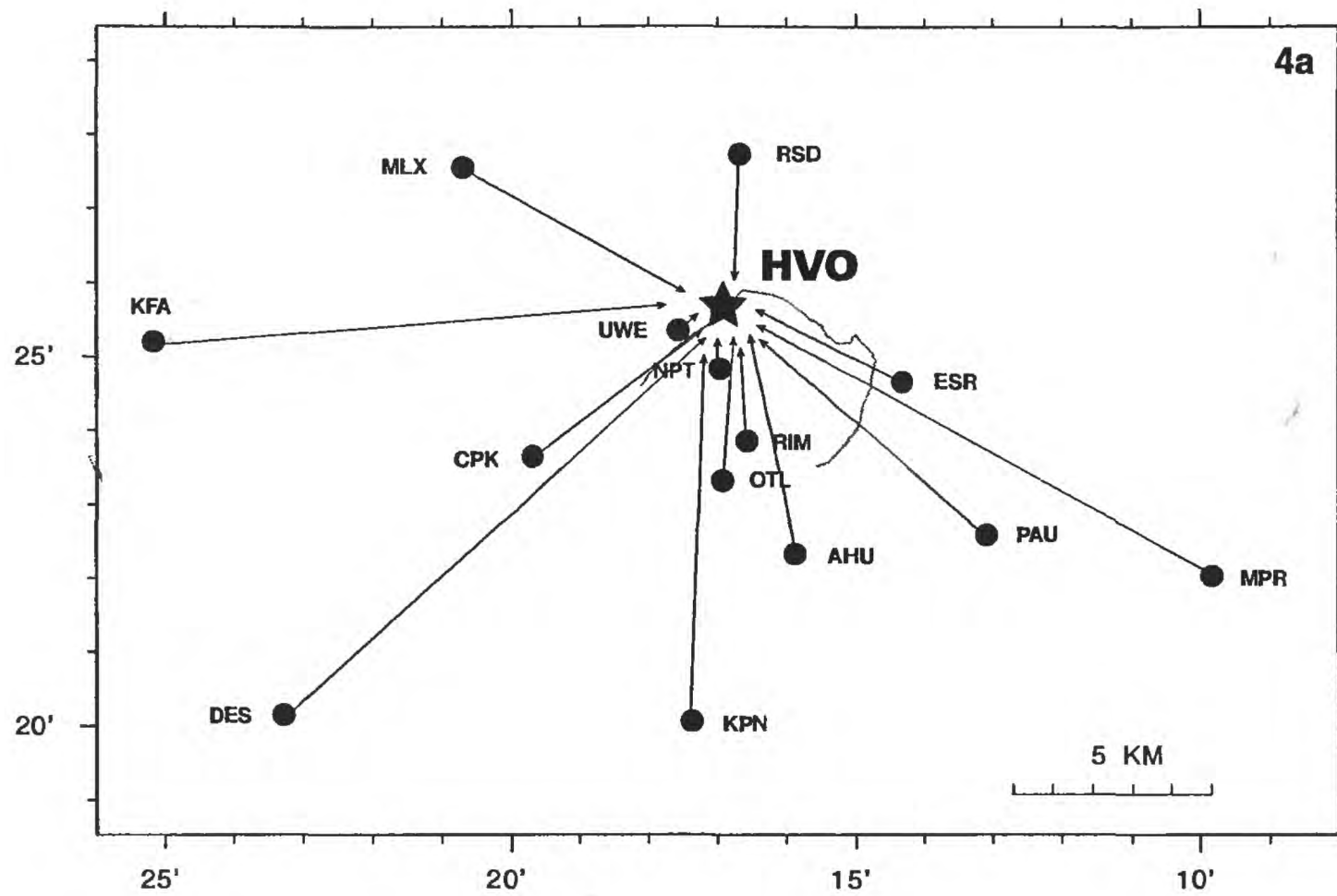


Figure 3. Telemetry scheme for the 1995 Hawaiian Volcano Observatory seismic network.



- ★ Hawaiian Volcano Observatory
- Network sites
- ▲ Broadband sites

Figure 4a. Expanded telemetry scheme for the 1995 Hawaiian Volcano Observatory seismic network at Kilauea summit.
 Figure 4b. Expanded telemetry scheme for the 1995 Menlo Park broadband network at Kilauea summit.

Table 1. Seismic stations in Hawai'i operated by the USGS in 1995.

STATION NAME	CODE	-LAT-		-LON-		ELEV	DELAY	DELAY	CAL	SEIS	OPTIC	RECORD
		D	M	D	M							
AHUA	AHUV	19	22.40	155	15.90	1070	-0.10	-0.13	2.6	E5		DI
AHUA	AHUE	19	22.40	155	15.90	1070	-0.10	-0.13	3.0	E5	MW	
AHUA	AHUN	19	22.40	155	15.90	1070	-0.10	-0.13	3.0	E5	MW	
AINAPO	AINV	19	22.50	155	27.62	1524	0.13	0.17	6.8	L5		
AINAPO	AINE	19	22.50	155	27.62	1524	0.13	0.17	3.0	L5	MW	
AINAPO	AINN	19	22.50	155	27.62	1524	0.13	0.17	3.0	L5	MW	
AINAPO	AINZ	19	22.50	155	27.62	1524	0.13	0.17	0.0	L5		
CAPTAIN COOK	CACV	19	29.29	155	55.09	323	0.00	-0.16	1.1	L5		D
CONE PEAK	CPKV	19	23.70	155	19.70	1038	-0.26	-0.07	6.0	L5		
DANDELION	DANV	19	21.42	155	40.04	3003	-0.27	0.03	4.3	E5		
DESERT	DESV	19	20.20	155	23.30	815	-0.29	-0.13	4.5	L5		DI
DIAMOND HEAD, OA	DHHZ	21	16.12	157	48.25	137	0.00	0.00	0.0	S13		
ESCAPE ROAD	ESRV	19	24.68	155	14.33	1177	-0.17	-0.19	2.2	L5		D
FERN FOREST	FEFV	19	28.70	155	8.91	691	0.01	0.05	0.0	L5		
HALEAKALA, MAUI	HKLZ	20	42.63	156	15.55	3051	0.00	0.00	0.0	S13		
HILINA PALI	HLPV	19	17.96	155	18.63	707	0.02	0.07	2.1	L5		D
HONOLULU, OAHU	HONZ	21	19.30	158	0.50	2	0.00	0.00	0.0	S13		
HONOLULU, OAHU	HONE	21	19.30	158	0.50	2	0.00	0.00	0.0	S13		
HONOLULU, OAHU	HONN	21	19.30	158	0.50	2	0.00	0.00	0.0	S13		
HONUPO	HPOZ	19	5.34	155	33.23	15	0.00	0.00	0.0	S13		
HALE POHAKU	HPUV	19	46.85	155	27.50	3396	0.31	0.17	3.3	L5		
HUMUULA SHEEP	HSSV	19	36.31	155	29.13	2445	0.20	0.35	4.0	L5		
HUMUULA SHEEP	HSSE	19	36.31	155	29.13	2445	0.20	0.35	3.0	L5	MW	
HUMUULA SHEEP	HSSN	19	36.31	155	29.13	2445	0.20	0.35	3.0	L5	MW	
HOT CAVES	HTCV	19	14.33	155	24.02	381	-0.16	-0.07	2.3	E4		
HUALALAI	HUAV	19	41.25	155	50.32	2189	0.67	0.38	2.8	L5		I
HEIHEIAHULU	HULV	19	25.13	154	58.72	369	-0.17	-0.16	1.7	L5		DI
HEIHEIAHULU	HULE	19	25.13	154	58.72	369	-0.17	-0.16	3.0	E5	MW	
HEIHEIAHULU	HULN	19	25.13	154	58.72	369	-0.17	-0.16	3.0	L5	MW	
KAAPUNA	KAHV	19	15.98	155	52.28	524	-0.12	-0.01	3.3	E5		
KAENA POINT	KAHV	19	17.35	155	7.95	37	-0.01	0.06	1.4	L5		
KAOIKI FAULTS	KFAV	19	25.25	155	25.18	1579	0.13	0.17	0.0	L5		
KAHUKU	KHUV	19	14.90	155	37.10	1939	0.03	-0.03	5.0	E5		
KANEKII	KIIV	19	30.56	155	45.90	1841	0.15	0.37	3.0	L5		
KANEKII	KIIE	19	30.56	155	45.90	1841	0.15	0.37	3.0	L5	MW	
KANEKII	KIIN	19	30.56	155	45.90	1841	0.15	0.37	3.0	L5	MW	
KIPAPA, OAHU	KIPZ	21	25.40	158	0.90	2	0.00	0.00	0.0	S13		
KAILUA, KONA	KKHZ	19	39.40	156	1.12	1	0.00	0.00	0.0	S13		
KEANAKOLU	KKUV	19	53.39	155	20.58	1863	0.68	0.24	3.3	L5		
KALALUA CONE	KLCV	19	24.35	155	4.08	659	-0.25	-0.30	3.4	L5		
PUU KALIU	KLUV	19	27.48	154	55.26	271	-0.17	-0.30	3.4	L5		
KOHALA	KOHV	20	7.69	155	46.77	1166	-0.03	-0.17	6.3	L5		
KOHALA	KOHE	20	7.69	155	46.77	1166	-0.03	-0.17	3.0	L5	MW	
KOHALA	KOHN	20	7.69	155	46.77	1166	-0.03	-0.17	3.0	L5	MW	
KAPOHO CONE	KPCZ	19	30.02	154	50.51	134	0.00	0.00	0.0	S13		
KIPUKA NENE	KPNV	19	20.10	155	17.40	924	-0.11	-0.08	3.5	L5		D
KAPOHO	KPOV	19	30.02	154	50.51	134	-0.09	-0.24	1.9	L5		D
LAUPAHOEHOE	LPHZ	19	59.82	155	14.58	1	0.00	0.00	0.0	S13		
MAHUKONA	MHAZ	20	11.27	155	54.18	1	0.00	0.00	0.0	S13		
MAUNA LOA	MLOV	19	29.80	155	23.30	2010	0.03	0.08	5.6	L5		DI
MAUNA LOA	MLOE	19	29.80	155	23.30	2010	0.03	0.08	3.0	L5	MW	
MAUNA LOA	MLON	19	29.80	155	23.30	2010	0.03	0.08	3.0	L5	MW	

MAUNA LOA X	MLXV	19	27.60	155	20.70	1475	0.06	0.15	3.0	L5	
MOKUAWEOWEO	MOKV	19	29.28	155	35.98	4104	0.15	0.16	4.2	L5	DI
MAKAOPUHI	MPRV	19	22.07	155	9.85	881	-0.17	-0.20	2.6	L5	DI
MAKAOPUHI	MPRZ	19	22.07	155	9.85	881	-0.17	-0.20	0.1	L5	
NATIONAL GUARD	NAGV	19	42.12	155	1.72	18	0.54	0.30	4.0	R5	
NATIONAL GUARD	NAGE	19	42.12	155	1.72	18	0.54	0.30	3.0	R5	MW
NATIONAL GUARD	NAGN	19	42.12	155	1.72	18	0.54	0.30	3.0	R5	MW
NORTH PIT	NPTV	19	24.90	155	17.00	1115	-0.30	-0.18	3.0	L5	DI
NORTH PIT	NPTE	19	24.90	155	17.00	1115	-0.30	-0.18	3.0	L5	MW
NORTH PIT	NPTN	19	24.90	155	17.00	1115	-0.30	-0.18	3.0	L5	MW
OOKA	OKAV	19	29.66	154	55.44	180	0.00	0.00	0.0	L5	
OPANA, OAHU	OPAZ	21	41.45	158	0.70	100	0.00	0.00	0.0	S13	
OUTLET	OTLV	19	23.38	155	16.94	1038	-0.19	-0.18	2.6	L5	
OUTLET	OTLZ	19	23.38	155	16.94	1038	-0.19	-0.18	0.0	L5	
OCEANVIEW EST	OVEV	19	9.21	155	45.92	1378	0.00	0.00	0.0	L5	
PAUHI	PAUV	19	22.62	155	13.10	994	-0.21	-0.24	2.9	L4	D
PAUHI	PAUE	19	22.62	155	13.10	994	-0.21	-0.24	3.0	L5	MW
PAUHI	PAUN	19	22.62	155	13.10	994	-0.21	-0.24	3.0	L5	MW
PAHOA FIREHOUSE	PFHZ	19	29.82	154	56.92	201	0.00	0.00	0.0	S13	
PUU ULAULA	PLAV	19	32.00	155	27.67	2992	-0.03	0.13	6.3	L5	DI
POHOIKI	POIV	19	27.42	154	51.22	16	-0.09	-0.24	0.0	L5	
POLIOKEAWE PALI	POLV	19	17.02	155	13.47	169	-0.02	0.03	3.4	E5	
PUU PILI	PPLV	19	9.50	155	27.87	35	-0.15	-0.15	1.4	E5	D
RED CONE	RCOV	19	24.36	155	37.79	3601	0.00	0.00	0.0	L5	
RIM	RIMV	19	23.90	155	16.60	1128	-0.21	-0.13	0.0	L5	
RAINSHED	RSDV	19	27.78	155	16.68	1270	0.06	0.15	0.0	L5	
SOUTH POINT	SPTV	18	58.91	155	39.92	244	-0.17	-0.22	2.8	L5	
SOUTH POINT	SPTE	18	58.91	155	39.92	244	-0.17	-0.22	3.0	L5	MW
SOUTH POINT	SPTN	18	58.91	155	39.92	244	-0.17	-0.22	3.0	L5	MW
STEAM CRACKS	STCV	19	23.30	155	7.67	765	-0.25	-0.30	2.7	L5	DH
STEAM CRACKS	STCE	19	23.30	155	7.67	765	-0.25	-0.30	3.0	L5	MW
STEAM CRACKS	STCN	19	23.30	155	7.67	765	-0.25	-0.30	3.0	L5	MW
SOUTHWEST RIFT	SWRV	19	27.26	155	36.30	4048	0.01	0.04	5.6	E5	D
TRAIL	TRAV	19	24.91	155	32.96	3207	0.00	0.00	0.0	L5	
UWEKAHUNA	URAV	19	25.40	155	17.60	1240	-0.21	0.00	0.0	R5	
UWEKAHUNA	URAE	19	25.40	155	17.60	1240	-0.21	0.00	3.0	R5	MW
UWEKAHUNA	URAN	19	25.40	155	17.60	1240	-0.21	0.00	3.0	R5	MW
UWEKAHUNA	UUGZ	19	25.40	155	17.60	1240	0.00	0.00	0.0	L0	
UWEKAHUNA	UWAZ	19	25.40	155	17.60	1240	0.00	0.00	0.0	F0	
UWEKAHUNA	UWAE	19	25.40	155	17.60	1240	0.00	0.00	0.0	F0	
UWEKAHUNA	UWAN	19	25.40	155	17.60	1240	0.00	0.00	0.0	F0	
WAIKII	WAIV	19	51.58	155	39.60	1433	0.20	0.35	0.0	L5	
WAHAULA	WHAV	19	19.90	155	2.92	29	-0.10	-0.04	2.4	E5	
WILKES CAMP	WILV	19	28.15	155	35.02	4037	0.22	0.17	2.6	E5	D
WILKES CAMP	WILE	19	28.15	155	35.02	4037	0.22	0.17	3.0	L5	MW
WILKES CAMP	WILN	19	28.15	155	35.02	4037	0.22	0.17	3.0	L5	MW
WAIMANALO RG, OA	WMRZ	21	19.22	157	40.94	200	0.00	0.00	0.0	S13	
WEATHER OBSERV	WOBV	19	32.31	155	35.01	3396	0.00	0.00	0.0	E5	
WOOD VALLEY	WOOV	19	15.08	155	30.12	909	-0.15	-0.06	2.6	E5	

Table 2. Seismic instrument types

The codes in parentheses refer to the seismometer types listed in Table 1.

Type 1 (Codes E, L, R, and 4, 5) consists of:

- a) Geophone - Electrotech EV-17 (E), Mark Products L4C (L) or Kinemetric Ranger SS1 (R). (L) and (R) are 1.0-sec. period moving-magnet vertical- or horizontal- (E-W and N-S) component seismometers adjusted for an output of 0.5 volts/cm/sec and 0.8, critically damped.
- b) Preamp/VCO - USGS/OEVE Model J402 (4), J502 (5) voltage-controlled oscillator. Three db points for bandpass filter at 0.1 Hz and 30 Hz. Signals are transmitted on audio FM carrier over cable or FM radio link to HVO.

Code (W) - Wood-Anderson torsion seismograph.

Code (MW) - Horizontal-component seismograph based on a Type 1 system and modified to 3x a Wood-Anderson response.

Code (F) - Kinemetric Force-Balance Accelerometer (FBA23).

Code (S13) - Geotech, 1Hz seismometer with A1 VCO operated by the Pacific Tsunami Warning Center.

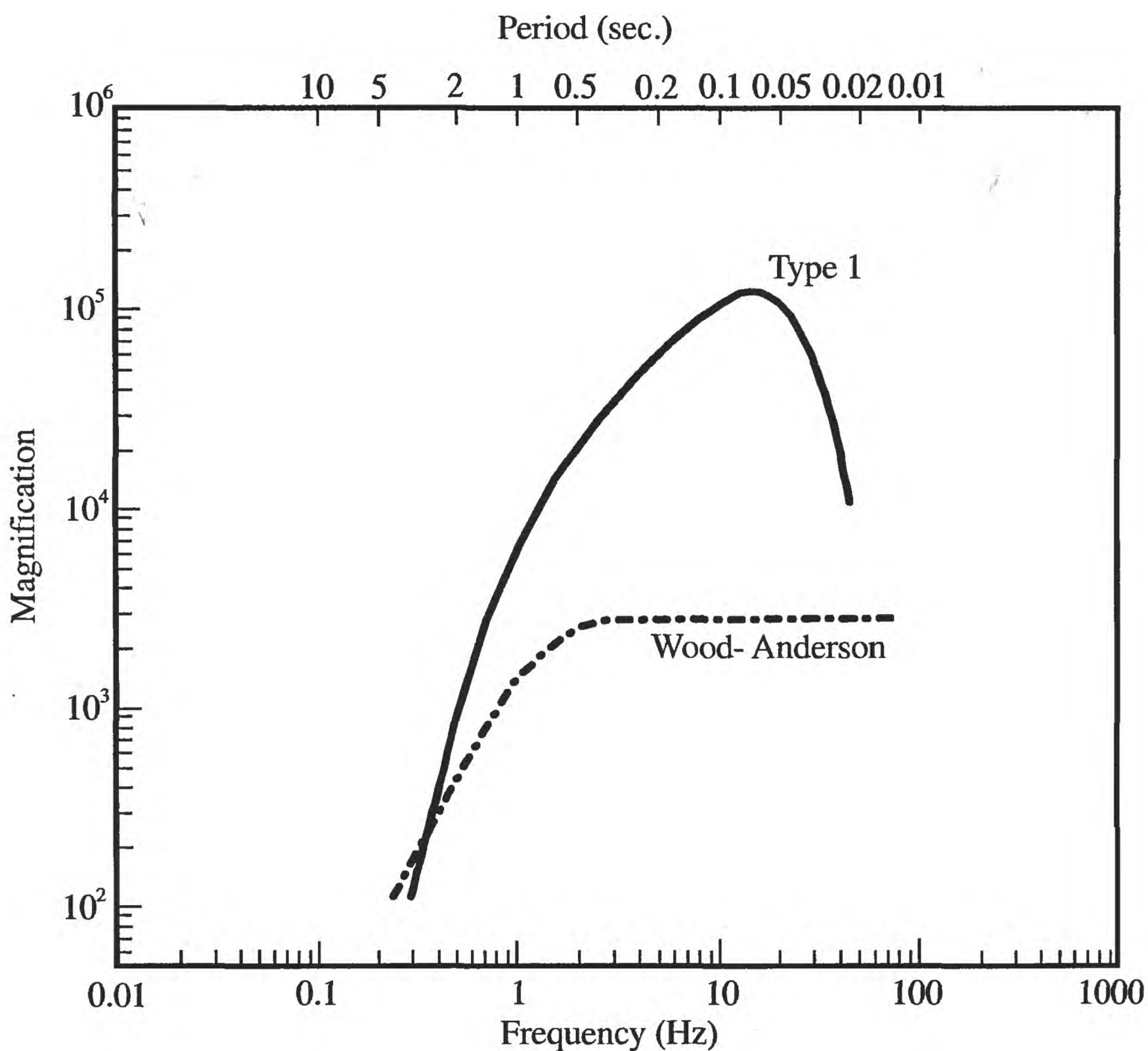


Figure 5. System-response curves for the Wood-Anderson torsion seismograph and for seismometers used by the Hawaiian Volcano Observatory. Type 1 is the standard OEVE seismometer system recorded on Develocorder film and DAT tape. The curve for Type 1 includes response of the geophone, all electronics including telemetry, Develocorder galvanometer, and projection of film by a 20x viewer. The curve plots the unit response, which should be multiplied by a constant but known factor (CAL) to get the response for an individual station.

SEISMIC DATA PROCESSING

The Develocorder 'A' film is scanned on a daily basis for frequency of earthquakes, and coda durations in seconds are measured for coda magnitude M_d . In 1986, HVO acquired a VAX 11-750 computer and adopted the CUSP (California Institute of Technology USGS Seismic Processing) routine. Discriminated analog signals are converted to digital form, and detected events are saved in real time. Detected events are demultiplexed, and P-picks are made by the computer, producing a rough location. Events are examined by an analyst, on a VAX workstation, to refine computer P-picks and to time additional P- and S-phases for a preliminary location. Binary CUSP files are tape-archived and translated into ASCII phase files. Locations and amplitude magnitudes are then determined, using the program HYPOINVERSE (Klein, 1989)². Events are reworked and rerun, as needed, to produce a final solution. Magneto-optical copies of arrival times and output summary data are kept at HVO.

In July 1992, HVO acquired VAX workstations for timing earthquakes using a "generic" version of CUSP. In addition to timing P and S arrival signals, the VAX workstations are capable of measuring peak-to-peak amplitudes along with the associated period. This capability allowed the renewal of amplitude magnitude determinations from the network seismic stations. Amplitude data gathered from July 1992 to July 1997 became part of a test set to determine magnitude corrections for network stations. Results of newly determined magnitude corrections are detailed by Nakata and Okubo (1997)³.

The crustal model used is specified by velocities at four depth points. Velocity at any depth is given by linear interpolation between points and uses a homogeneous half-space, as listed below:

VELOCITY (km/sec)	DEPTH (km)
1.9	0.0
6.5	4.6
6.9	15.0
8.3	16.5

Two empirical sets of station delays or corrections were used in the HYPOINVERSE locations and are given in Table 1. The delay models are separated by a circle of radius 34 km, centered at 19°22' N and 155°10' W. Delay model 1 is used for epicenters occurring within a circle of radius 31 km from the center. This region includes Kilauea and its south flank. A combination of the two delay models is used for epicenters that fall in a transition zone that is 6 km wide. Delay model 2 is applied to the rest of the island and offshore earthquakes. (For a detailed description, refer to Klein, (1989)².

Magnitudes for events are computed using recorded amplitudes on selected network vertical, Modified Wood-Anderson (MW) horizontal, and/or moderate and low gain stations. Amplitude readings are corrected to an equivalent Wood-Anderson amplitude using the curves of Figure 5 and CAL factors listed in Table 1.

Duration magnitude is determined by the length of signal, in seconds, from Type 1 seismographs read from the develocorder viewer. This length of time, also called "F-P time," is measured from the P arrival to the point where the earthquake signal has decayed to nearly the background noise level. A bilinear relation used to compute duration magnitude is described in Klein, (1989)².

¹ Klein, F.W., and Koyanagi, R.Y., 1980, Hawaiian Volcano Observatory seismic network history, 1950-1979: U.S. Geological Survey Open-File Report 80-302, 84 p.

² Klein, F.W., 1989, User's guide to HYPOINVERSE: U.S. Geological Survey Open-File Report 89-314, 58 p.

SEISMIC CATALOG

The emphasis in both station coverage and detailed data analysis is on the highly active south half of the Island of Hawai'i. Hundreds of earthquakes too small to locate are classified as type ⁴ and counted daily. The set of well-recorded earthquakes located in the Hawai'i Island region is nearly complete above magnitude 2.0. Many smaller events are located in the densely instrumented Kilauea area. Substantial effort is made to locate earthquakes elsewhere within the Hawaiian Archipelago. Such coverage cannot be as complete as in south Hawai'i, but nearly all events above magnitude 4.0 are located with limited precision.

Data presented in the seismic catalog are in four parts: (1) Table 3 gives duration of harmonic tremor and numbers of earthquakes (most too small to locate) from several source regions around Kilauea and Mauna Loa. The source region is determined visually from signal character and pattern of arrival times at key stations. (2) Maps showing computer-located hypocenters are given in Figures 10-23. The location maps are of different scales and provide hypocenters with magnitude thresholds set at 1.0, 2.0, 3.0, and 3.5, varying according to region. (3) The list of computer locations constitutes the bulk of this summary and is given in Table 5. Each earthquake in the list is assigned a three-letter code based on its general location and depth. Figures 6-9 are maps of the regions used to assign the location codes. The latitude and longitude limits of rectangular regions are listed in Table 4. When the listed coordinates overlap, precedence is given according to Figures 6-9. (4) Table 6 re-lists the events in Table 5 for which the preferred magnitude is 3.0 or larger. This list includes many of the earthquakes felt in Hawai'i.

Table 3. Number of earthquakes and minutes of tremor recorded on seismographs around Kilauea and Mauna Loa.

Earthquake categories are as follows:

- 1) Kilauea summit, short-period caldera: shallow earthquakes beneath the caldera.
- 2) Kilauea summit, long-period caldera A: earthquakes characterized by low frequency signatures of 3 to 5 Hz, often originating 0-5 km beneath the summit.
- 3) Kilauea summit, long-period caldera B: earthquakes characterized by low frequency signatures of 1 to 3 Hz, often originating 0-5 km beneath the summit.
- 4) Kilauea summit, long-period caldera C: earthquakes characterized by low frequency signatures of 1 to 5 Hz, often originating 5-15 km beneath the summit.
- 5) Kilauea summit 30 km: earthquakes about 30 km deep beneath the summit region.
- 6) Ka'oiki and southwest rift: earthquakes beneath the southwest rift zone of Kilauea, western parts of the Koa'e fault system, and adjacent Ka'oiki fault system of Mauna Loa.
- 7) Upper east rift: earthquakes in the upper and middle east rift zones, the adjacent parts of the south flank, and eastern parts of the Koa'e fault system.
- 8) Lower east rift: earthquakes in the lower east rift zone and adjacent parts of the south flank.
- 9) Mauna Loa short-period: shallow earthquakes in the Mauna Loa summit region.
- 10) Mauna Loa long-period: earthquakes characterized by low-frequency signatures near the summit region.
- 11) Mauna Loa northeast rift: earthquakes beneath the northeast rift zone of Mauna Loa.
- 12-15) Tremor is separated into four categories: Kilauea—shallow, intermediate, and deep, and Mauna Loa. Depth is inferred on the basis of relative amplitudes on seismographs.

The criteria for Kilauea shallow tremor have been changed to accommodate the ongoing eruption for which tremor in the middle east rift zone is continuous. Distinction is made between high-amplitude tremor related to strong eruptive periods and low-amplitude tremor during periods with no surface lava production. Only minutes of tremor at saturated levels recorded locally at STC and/or KLC are included in Table 3.

³ Nakata, J., and Okubo, P., 1997, Determination of station amplitude magnitude corrections for the Hawaiian Volcano Observatory telemetered seismograph network: Data from 1992-1997: U.S. Geological Survey Open-File Report 97-863, 73 p.

⁴ Koyanagi, R.Y., 1982, Procedure for routine analyses and classification of seismic events at the Hawaiian Volcano Observatory, Part I: U.S. Geological Survey Open-File Report 82-625, 32 p.; figs., 59 p.

Table 3.		KILAUEA SUMMIT			KILAUEA FLANK			MAUNA LOA			TREMOR (MINUTES)		
DATE	SHORT PER.	LONG PER.	PERIOD	30	KAO.	UP.	LOW.	SHORT	LONG	NE	KILAUEA		
1995	CALD.	A	B C	KM	& SW RIFT	EAST RIFT	EAST RIFT	PER.	PER.	RIFT	SHAL.	INT.	DEEP
JAN 1*											1440		
2*											1440		
3		26		13		19	43	18	6	1	1440		4
4		35		13	1	17	58	11	1		1440		9
5		40	2	16		17	39	50	3		1440		2
6	2	34	1	22	1	19	47	3	6	1	1440		
7		32	2	35	1	23	70	13	2		1440	5	31
8		24	1	58		22	64	2	3		1440		14
9	2	36	1	24		27	47	4	12		1440		
10		39		7		28	88	6	6	2	1440		
11		56	1	2		23	49	4	1		1440		
12	7	88				26	23	5		1	1440		
13	1	54		4		23	67	10	4	2	1440		
14	1	90		2		25	38	12	6	1	1440		
15	1	216		1		22	41	8	2		1440		
16		570		1	1	12	46	6			1440		41
17	3	692	2	9		14	42	12	3		1440		
18	2	595		12		16	55	5	3		1440		
19		217		16		18	53	7	7		1440		
20	1	321	1	7	1	31	52	3	4	2	1440		
21		97		13		19	47	1	5	2	1440		
22		66		4		21	32	7	2		1440		
23	3	52	2	21		21	39	6	6		1440		4
24		78	1	16		35	51	9	4	1	1440		
25	2	97		3		36	49	11			1440		
26	11	118	2	16		11	58	28		1	1440		
27	1	71		106		41	76	31			1440	17	
28		48		27		17	50	42			1440		
29	2	41		11		19	42	22			1440		
30	5	75	1	7	1	14	54	12	2		1440		
31	2	45	1	5		11	46	3	1		1440		
FEB 1	2	61	1	3		16	54	6	4		1440		
2	1	32		9	1	19	44	7	4		1440		
3	1	37		51		16	43	4	5		1440		
4	2	40	3	14		14	48	4	1		1440		
5		25	1	25	1	16	53	7	3		1440		
6	1	15		36		13	40		2		1440		
7	1	27		18		9	44		3	2	1440		75
8	4	36		18		30	60	5	2		1440		
9		50	1	27		19	60	2			1440		
10	7	13		43	3	5	75	5	2	1	1440		9
11	1	30		63	2	13	69	8			1440		
12	2	30		47	1	17	65	2	2		1440		
13	3	30		32	1	23	39	7		2	1440		
14		31	2	11		9	57	2	1		1440		
15		34	1	16		23	43	7	3		1440		
16	2	51		21	1	17	48	3	11		1440		
17	1	76		12		17	48	6			1440		
18	1	52		15		29	68	4	4		1440		
19		27	1	9		18	36	9	2		1440		
20				16		17	42	7	2		1440		
21		1		20		12	45	2	4	1	1440		
22	1			9	3	15	38	3	1		1440		
23		24		18	1	23	43	4	2		1440		4
24		35		65	4	30	29	4	7	1	1440		

KILAUEA SUMMIT					KILAUEA FLANK			MAUNA LOA			TREMOR (MINUTES)		
DATE 1995	SHORT PER. CALD.	LONG CALDERA A	PERIOD B	30 KM C	KAO. & SW RIFT	UP. EAST RIFT	LOW. EAST RIFT	SHORT PER.	LONG PER.	NE RIFT	KILAUEA SHAL. INT. DEEP		MAUNA LOA
FEB25		21		170	32	24	15	1		4	1440		47
26	1	24		203	21	30	3	3		3	1440		
27		36	1	145	20	44	3	3		2	1440		
28	1	30		60	15	51	14	1		3	1440		
MAR 1	3	43		112	18	49	7			7	1440	5	
2	1	45		50	19	35	12	2			1440		
3		33		88	21	43	35			3	1440	9	
4	2	26		39	12	34	8				1440		
5		38		21	6	38	20			2	1440		
6		33		20	17	30	3	6		4	1440		
7		39		23	17	36	2			2	1440	4	
8	1	38		13	15	62	7	1			1440		
9	1	50		6	18	101	56	1			1440		
10	1	43		4	25	48	3	4	1	3	1440		
11		40		4	15	37	1	6		2	1440		
12		32		6	11	31	3	6		3	1440		
13	3	33		10	23	49	6	10	2	4	1440		51
14		47		74	14	34	5	3		1	1440		
15	1	53		68	11	62	3	3	1	4	1440		
16	2	153		12	21	81	4	3		3	600		
17		78		9	12	48	4	3		4	1440		
18	3	42		7	16	47	9			9	1440		
19	2	44		1	21	33	8	3		3	1440	3	
20		12			12	22	14	2		1	1440		
21	2	33		1	21	29	8	3			1440		
22	1	33		2	20	24	8	7		3	1440		
23	2	41		5	26	47	6	4		1	1440		29
24	2	38		2	16	52	8	5		5	1440		
25		28		16	20	44	5	5		5	1440		
26	1	35	3	12	16	28	6	3	1	3	1440	5	
27	2	27		72	13	37	4	9		1	1440		
28	2	20		47	13	23	4	1		3	1440		
29		44		68	17	31	6	2		6	1440		
30	2	25		29	23	23	8	3	1	8	1440		76
31		36		27	26	39	13	4	2	7	1440		
APR 1	2	42	1	5	13	37	4	5	3	10	1440		37
2		38		33	11	30	7	5		5	1440		
3	1	24		12	16	62	7	5		3	1440		
4		24		14	25	20	3	14	1	9	1440		
5		37		2	20	26	6	2	1	1	1440		
6	1	27		1	17	48	8	5	1		1440		21
7	2	40		1	26	35	3	5	1	8	1440		
8		38		2	14	34	2	7		3	1440		
9		46		11	12	46	4	2		5	1440		41
10	3	47		23	15	33		3	2	4	720		
11	2	46			9	39	5		2	3	840		33
12	2	47		6	23	41	6	7	2	6	1440		
13	7	54		6	14	66	7	1	1	2	1440		
14		34		1	17	43	11	11		4	1440		
15	3	50		3	11	44	1	2		2	1440		
16	3	43		2	12	18		2		2	1440		
17	2	48		3	16	43	2	2		5	1440		
18		41		3	12	21	1	3		3	1440		
19		59		5	16	33	7	8		5	1440		
20	2	68		3	11	27	6	3	1	6	1440		5

KILAUEA SUMMIT					KILAUEA FLANK			MAUNA LOA			TREMOR (MINUTES)		
DATE 1995	SHORT PER. CALD.	LONG CALDERA A	PERIOD B C	30 KM	KAO. & SW RIFT	UP. EAST RIFT	LOW. EAST RIFT	SHORT PER.	LONG PER.	NE RIFT	KILAUEA SHAL. INT. DEEP		MAUNA LOA
APR 21		60	1	7	24	41	2	3	5		1440		
22	2	63		6	25	32	4	3	1	2	1440		3
23		62		10	22	39	5			3	1440		
24	1	70		4	25	44	5	2		1	1440		
25	4	91		8	14	37	15	2		3	1440		
26		87		10	16	63	9			3	1440		12
27		5			9	42	11	1		1	1440		
28	3	67		5	15	57	9			6	1440		
29	1	30		4	20	38	3			16	1440		
30	4	49			12	30	7	1		1	1440		
MAY 1	1	63		1	12	30	3			2	1440		
2		38		5	20	42	4	2		15	1440		
3		104		4	31	72	4	4	1	6	1440		
4	1	52		3	26	24	9	2		2	1440		
5		194		3	25	30	5	7	1	4	1440		39
6		59		4	28	45	5	2		5	1440		
7		46		2	24	38	5	5		3	1440		
8		31		3	30	31	10	5		3	1440		9
9		29		2	8	43	9	11	1	2	1440		21
10	1	22		6	13	47	7	1		6	1440		19
11		29		5	25	32	3	2	2	3	1440		
12		34		4	22	41		2		3	1440		
13	3	47		5	19	50	3	3	1	2	1440		
14		37		4	19	36		1			1440		
15	3	28		3	20	40	4	1		2	1440		
16	2	37		7	27	57	3	4		2	1440		25
17	3	25		5	18	53	8	4		1	1440		
18	2	36		9	31	52	8	3			1440		
19		36		5	24	45	2	7		6	1440		5
20		34		9	26	32		6		1	1440		
21*											1440		
22*											1440		
23		36		2	17	29	5	4	2	3	1440		
24	1	50			18	46	3	7		5	1440		
25	3	57		5	41	43	4	10			1440		18
26		41		3	22	49	27	6		3	1440		
27		24		3	20	52	16	5		1	1440		8
28	1	61		1	20	51	17	6		5	1440		7
29		48		3	12	33	15	3	1	2	1440		31
30	2	46		3	23	29	11	2	1	5	1440	10	3
31		41		6	28	45	2		1	1	1440		
JUN 1	2	25		17	20	59	5	6	1	1	1440	28	
2	1	38		5	17	50	2	4		7	1440		
3		47		8	16	99	2	1		1	1440		7
4	1	33		9	30	60	2			3	1440	4	
5	2	25		4	26	36	6	2		4	1440		4
6	10	22		4	8	49	3	5	1	6	1440		3
7	1	25		5	26	35	2	2	1	3	1440		10
8	1	34		2	28	53	2	5	1	2	1440		
9	6	30		2	17	44	2		1	4	1440		13
10		20		1	18	45	3	2		1	1440		
11	2	27		2	16	36	7			1	1440		
12	1	30			16	43	17	1		2	1440		
13	1	31		1	21	31	4			1	1440		
14		34		2	19	42	4	2		4	1440		

KILAUEA SUMMIT					KILAUEA FLANK			MAUNA LOA			TREMOR (MINUTES)		
DATE 1995	SHORT PER. CALD.	LONG A	PERIOD CALDERA B C	30 KM	KAO. & SW RIFT	UP. EAST RIFT	LOW. EAST RIFT	SHORT PER.	LONG PER.	NE RIFT	KILAUEA SHAL. INT. DEEP		MAUNA LOA
JUN15		51			26	42	6	2	2	4	1440		
16	1	30			20	36	3	1	1	4	1440		50
17	1	24		4	23	23	5		7	3	1440		11
18	1	19		2	15	21	2		6	2	1440		
19		23		1	9	23	4		1	1			
20		36	1		13	37	5		7	5	1440		
21		24		1	21	40	3	1	1		1440		3
22	2	27		4	22	43	7	9	1	2	1440		
23*											1440		
24	4	41		1	16	44	2	2		1	1440		
25	6	94		5	31	75	8	6	1	2	1440		
26	3	73		6	23	57	15	1	5	1	1440		68
27	1	49		5	20	45	6	2	2	2	1440		6
28	1	50		7	25	55	4	3	2		1440		3
29		37		6	39	40	4	2	3	2	1440		46
30*											1440		
JUL 1	1	32		3	26	32	4	2	3	1	1440		12
2*											1440		
3	1	39		1	31	64	6	1	1	1	1440		35
4		38		2	29	69	1	2	1	2	1440		
5*											1440		
6		27	1	8	18	30	4	5		2	1440		62
7	2	18		7	23	28	2	9	3		1440		
8	2	38		8	24	42	4	9			1440		
9	1	31		4	30	26	3	1		3	1440	2	
10	1	33		1	14	41	3	6	2	2	1440		
11		34		16	13	41	8		7		1440		5
12*											1440		
13	2	21		18	14	35		3	6		1440		84
14*											1440		
15*											1440		
16*											1440		
17	4	41		4	8	37	4	3	3		1440		
18	1	42		19	14	39		5	6		1440		
19	1	36		4	9	27	2	1	1		1440		
20		95		11	20	38		2		2	1440		4
21		39		21	19	30		2	2	1	1440		
22	1	42		37	20	38	9	3	1	4	1440		44
23	3	47		15	22	38	6	3		5	1440		54
24	1	22		3	12	26	5	2			1440		42
25	1	33		3	8	30	1	1	1	2	1440		18
26		28		17	14	29	2	6		1	1440		
27	1	27		11	23	46	2	5	1		1440		
28		70		12	21	48	1		1	1	1440		
29		26			18	46	5		1	1	1440		
30	1	29		6	20	34	2	1		1	1440		
31	1	63			25	39	5	2		3	1440		11
AUG 1	13	305		4	16	96	13	2		1	1440		
2	4	144		14	23	73	8	4		3	1440		
3*											1440		
4	2	29		6	17	46	7	4	2		1440		
5		35		3	19	42	15	5		5	1440		
6	1	30		2	28	37	9	3	1	3	1440		
7		37		2	28	26	3	1	1	4	1440		
8		33		3	15	16	4	1	1	2	1440		

KILAUEA SUMMIT					KILAUEA FLANK			MAUNA LOA			TREMOR (MINUTES)		
DATE 1995	SHORT PER. CALD.	LONG A	PERIOD CALDERA B C	30 KM	KAO. & SW RIFT	UP. EAST RIFT	LOW. EAST RIFT	SHORT PER.	LONG PER.	NE RIFT	KILAUEA SHAL. INT. DEEP		MAUNA LOA
AUG 9*											1440		
10		35	2	1	14	29	7	5	2	2	1440		22
11	2	38	7	1	26	35	6	1	1	2	1440		93
12		20	1		13	45	7	5		2	1440		
13		21	1		20	41	6	7	1	3	1440	8	4
14	1	19			24	28	12	3		1	1440		
15*											1440		
16		49	5		18	28	1	3	3	5	1440		
17		31	6		15	37	4	3	2		1440	6	
18		29	6		35	46	1	8		1	1440		
19	1	28	8		26	47	5	4		3	1440		
20	1	19	21		19	11	5	6		2	1440	4	
21		13	23		10	31	4	7		3	1440		7
22	3	34	31		20	46	24	7		4	840		
23*													
24*		282	3	93	4	96	5		5	3	1440		
25	2	70		71	23	216	6	2		2	1440		
26	7	83		13	26	87	5	2	4	1	1440		
27*											1440		
28*											1440		
29	2	29	4		26	37	3	13		2	1440		
30		14	5		12	33	3	4		6	1440		
31		22	2	1	25	44	3	8	2	2	1440		
SEP 1		45	2		25	36	2	5	2	4	1440		
2		46	3	1	17	32	11	13	1	4	1440		
3		33	3		36	41	8	5	2	4	1440		
4	1	28	6		29	29	9	5		3	1440		
5		37	147		18	29	12	3		8	1440		
6	5	50	151		21	44	7	8			1440		
7		37	125		14	30	1	3	1	7	1440		33
8	1	43	70		21	35	4	5		2	1440		9
9		29	31		23	37	5	5		2	1440		
10		32	9		24	32	2	17		1	1440		
11		36	13		18	36	4	22		2	1440		
12		16	11		22	41	3	15		6	1440		
13		30	20		25	35	1	6		5	1440		
14		25	32		8	37	5	6			1440		
15	1	7	31		15	33	17	5		3	1440		
16	1	2	36		18	41	10	3		6	1440		
17			29		37	36	5	6		1	1440		10
18			17		26	22	4	2		3	1440		
19			23		32	29	4	2		2	1440		
20	1	37	14		18	26	5	4	1		1440		
21		53	8	1	7	42	10		6	2	1440		
22		35	16		11	33	14	2		8	1440		11
23	5	38	19		27	29	6	3	2	7	1440		
24	1	36	31		21	36	8	7		1	1440		40
25	1	43	30		17	18	5	2	1	1	1440		
26		35	30		12	22	3	3		5	1440		
27		34	43		33	14	6	3	1	3	1440		57
28		66	28		7	21	5		6	1	1440		
29		56	30		17	29	4	6	1	5	1440		
30		43	28		17	36	10	5	2	3	1440		
OCT 1		46	70		19	26	7	4		4	1440		
2		39	72		20	26	1	13	1	14	1440		

KILAUEA SUMMIT					KILAUEA FLANK			MAUNA LOA			TREMOR (MINUTES)		
DATE 1995	SHORT PER. CALD.	LONG PER. CALDERA A	PERIOD B C	30 KM	KAO. & SW RIFT	UP. EAST RIFT	LOW. EAST RIFT	SHORT PER.	LONG PER.	NE RIFT	KILAUEA SHAL. INT. DEEP		MAUNA LOA
OCT 3		44		107		24	27	5	10	7	1	1440	
4		49	1	111	1	24	39	5	2	1	1	1440	
5		42		167		11	25	5	1	1	4	1440	
6		41		434	1	27	25	6	4	2	5	1440	
7		43		214		22	27	8	5	1	2	1440	
8		45		51	1	57	28	4	7		5	1440	
9	1	42		67		45	32	4		1		1440	
10		49		64		19	25	5	6	1	1	1440	52
11		48		83		28	31	7	8		14	1440	
12		90		37		10	22	4	2	2	4	1440	
13	1	87		33		16	38	7	4	1	2	1440	
14	1	61		44	1	15	31	13	3	4	4	1440	
15		71		54		14	32	4	3		2	1440	
16		58		36		14	45	3	1	1	2	1440	
17	2	58		50		22	36	2	7		5	1440	
18	1	47		81		11	35	4	6	1	3	1440	
19		51		35		12	17	10		2		1440	28
20		48		37		11	28	3	1	1		1440	
21	2	56		19	1	22	39	3	5	1	1	1440	60
22		38		8		19	28	3	1		1	1440	11
23		46		5		32	22	6	6		2	1440	
24	1	62		11		22	30	3	4			1440	
25		54		50		21	45	5	6	1		1440	
26		43		20		7	22	8	1	4		1440	
27		51		61		19	80	8	2	3		1440	
28	2	30		50		25	58	1	5		1	1440	
29	1	31		64		32	42	5	4		2	1440	
30		45		47		23	39	3	8	1	2	1440	
31		54		21		16	45	3	23		4	1440	11
NOV 1		38		24		5	38		3	5	3	1440	
2		43	4	57		4	37	1	1	5	1	1440	
3	1	31		30		17	28		11	1	4	1440	
4		40		15	2	22	29	3	10	1	2	1440	13 4
5		44		3		17	22	8	18		3	1440	
6		51	1	1		8	29	1		9		1440	
7		27			1	15	33	4	5			1440	
8		55		3		20	27	4	2		5	1440	
9	4	39		3		21	10		7		3	1440	
10	1	59		2		18	18	1	1		1	1440	
11		97		2		21	24	2	1		4	1440	6
12	1	71		5		26	25	2	1		1	1440	4
13	1	41		3		6	27	4	4		1	1440	
14	3	44		5		18	22	3	4	2	4	1440	
15	1	45		2		9	39	2	6	2	4	1440	
16	2	83	6			13	20	13	2	2	1	1440	
17		56	1	1		10	22			3	5	1440	
18	1	48		7		9	29	6	2	1	2	1440	
19*												1440	
20		38		10		15	29	2	4	3	2	1440	
21		36		7	1	20	20	6		2	1	1440	
22	1	37		3		8	29	5	4		3	1440	
23	1	46		2		20	31	4	4			1440	38
24	2	52		1	2	20	80	4	4		1	1440	
25		56		5		11	60	3			2	1440	
26		58		9		18	20		2		2	1440	

DATE 1995	KILAUEA SUMMIT				KILAUEA FLANK			MAUNA LOA			TREMOR (MINUTES)		
	SHORT PER.	LONG CALDERA	PERIOD	30 KM	KAO. & SW RIFT	UP. EAST RIFT	LOW. EAST RIFT	SHORT PER.	LONG PER.	NE RIFT	KILAUEA		MAUNA LOA
	CALD.	A	B	C							SHAL.	INT.	DEEP
NOV27		45		4		22	21	1	2	2	1440		
28		37		6		15	28	2	2	2	1440		
29		46		6	1	12	21	3	2	1	1440		
30		37		15	1	19	19			1	1440		8
DEC 1		63	1	95	1	15	43	1	7	1	1440		
2	1	31		80	1	22	29	6	12	2	1440		
3		139	1	27		22	40	2	7	1	1440		
4		153		1		31	40	1	9	3	1440		
5		129	2	1		20	28	3	4		1440	25	
6		76				21	26	3	2	1	1440		3
7		97		1	1	9	35	2	1	1	1440		
8		92				24	33	4	5	1	1440		
9		50		1		16	26	4	6	1	1440		
10		61		2		31	23	3	9	3	1440		
11		44		3		21	34	2	3	1	1440		
12		42		33		22	35	2	6		1440		
13		31	1			9	23	2	6	1	1440		
14	1	42	2			13	18	6	1	3	360		
15		222	1	3		3	40	2	1	3	420		
16		245	52	1		20	69	2		1	1440		
17		142	163	1		22	43	4	1	1	1440		
18		59	148	4		27	29	1	4	1	1440		
19		71	204	1	1	22	25	9	2	1	1440		
20		42	344	1		7	18	2		3	1440		
21		58	849	3		14	21	6		3	1440		
22		29	1730	5		11	29	3	3	2	1440		
23		25	988	2	2	10	15		2	1	1440		
24		34	1346	1		17	16	1	2	2	1440		
25*		5	46			2					1440		
26		78	57	2		20	12			2	1440		
27*											1440		
28*											1440		
29*											1440		
30*											1440		
31*											1440		

*Data incomplete - station(s) or recorder not in operation.

Table 4. Names and coordinates of regions used for classifying earthquakes.

All earthquakes locate in one of the following groups, identified by a numerical class or three-letter code:

—Shallow:

- 1 SNC - Shallow north caldera (0-5 km)
- 2 SSC - Shallow south caldera (0-5 km)
- 3 SEC - Shallow east caldera (0-5 km)
- 4 SER - Shallow east rift (0-5 km)
- 5 SME - Shallow middle east rift (0-5 km)
- 6 KOA - Koa'e fault zone (0-5 km)
- 7 SSF - Shallow south flank (0-5 km)
- 8 SLE - Shallow lower east rift (0-5 km)

—Intermediate depth:

- 9 SF1 - Kilauea south flank (5-13 km) (west end)
- 10 SF2 - Kilauea south flank (5-13 km)
- 11 SF3 - Kilauea south flank (5-13 km)
- 12 SF4 - Kilauea south flank (5-13 km)
- 13 SF5 - Kilauea south flank (5-13 km) (east end)
- 14 LER - Lower east rift (5-99 km)
- 15 MLO - Mauna Loa (0-13 km)
- 16 LSW - Lower southwest rift zones of Kilauea and Mauna Loa (0-13 km)
- 17 GLN - Glenwood (0-13 km)
- 18 SWR - Southwest rift zone of Kilauea (0-13 km)
- 19 INT - Intermediate caldera (5-13 km)
- 20 KAO - Ka'oiki (0-13 km)

—Deep:

- 21 DEP - Deep Kilauea (>13 km) (below regions 1-13, 17-19)
- 22 DLS - Deep lower southwest rift zone of Kilauea and Mauna Loa (>13 km) (below region 16)
- 23 DML - Deep Mauna Loa (>13 km) (below regions 15, 20)

—Outer regions, all depths:

- 24 LOI - Lo'ihl
- 25 KON - South Kona
- 26 HUA - Hualalai
- 27 KOH - Kohala
- 28 KEA - Mauna Kea
- 29 HIL - Hilo
- 30 DIS - Distant, everywhere else

Table 4 (continued). The latitude and longitude limits of the regions are given below. If the coordinates overlap, precedence is given as in the maps.

No.	Code	N. Lat.	S. Lat.	W. Lon.	E. Lon.
1	SNC	19 28.0	19 24.5	155 19.0	155 14.0
2	SSC	19 24.5	19 22.0	155 19.0	155 16.5
3	SEC	19 24.5	19 22.0	155 16.5	155 14.0
4	SER	19 26.0	19 20.5	155 14.0	155 07.2
5	SME	19 26.0	—	155 07.2	155 00.0
6	KQA	19 22.0	19 20.5	155 17.0	155 14.0
7	SSF	—	19 10.0	155 17.0	155 00.0
8	SLE	19 32.0	19 16.0	155 00.0	154 40.0
9	SF1	19 22.0	19 10.0	155 17.0	155 14.5
10	SF2	19 26.0	19 10.0	155 14.5	155 12.3
11	SF3	19 26.0	19 10.0	155 12.3	155 09.1
12	SF4	19 26.0	19 10.0	155 09.1	155 05.3
13	SF5	19 26.0	19 10.0	155 05.3	155 00.0
14	LER	19 32.0	19 16.0	155 00.0	154 40.0
15	MLO	19 35.0	19 19.0	155 35.0	155 19.0
16	LSW	19 19.0	18 40.0	155 43.0	155 25.0
17	GLN	19 35.0	19 26.0	155 19.0	155 00.0
18	SWR	19 22.0	19 10.0	155 25.0	155 17.0
19	INT	19 28.0	19 22.0	155 19.0	155 14.0
20	KAO	19 30.0	19 19.0	155 32.0	155 19.0
21	DEP	19 35.0	19 10.0	155 25.0	155 00.0
22	DLS	19 19.0	18 40.0	155 43.0	155 25.0
23	DML	19 35.0	19 19.0	155 35.0	155 19.0
24	LOI	19 10.0	18 40.0	155 25.0	155 00.0
25	KON	19 39.0	19 00.0	156 20.0	155 43.0
26	HUA	19 55.0	19 39.0	156 20.0	155 43.0
27	KOH	20 25.0	19 55.0	156 20.0	155 34.0
28	KEA	20 25.0	19 35.0	155 34.0	154 40.0
29	HIL	19 47.0	19 32.0	155 09.0	154 40.0

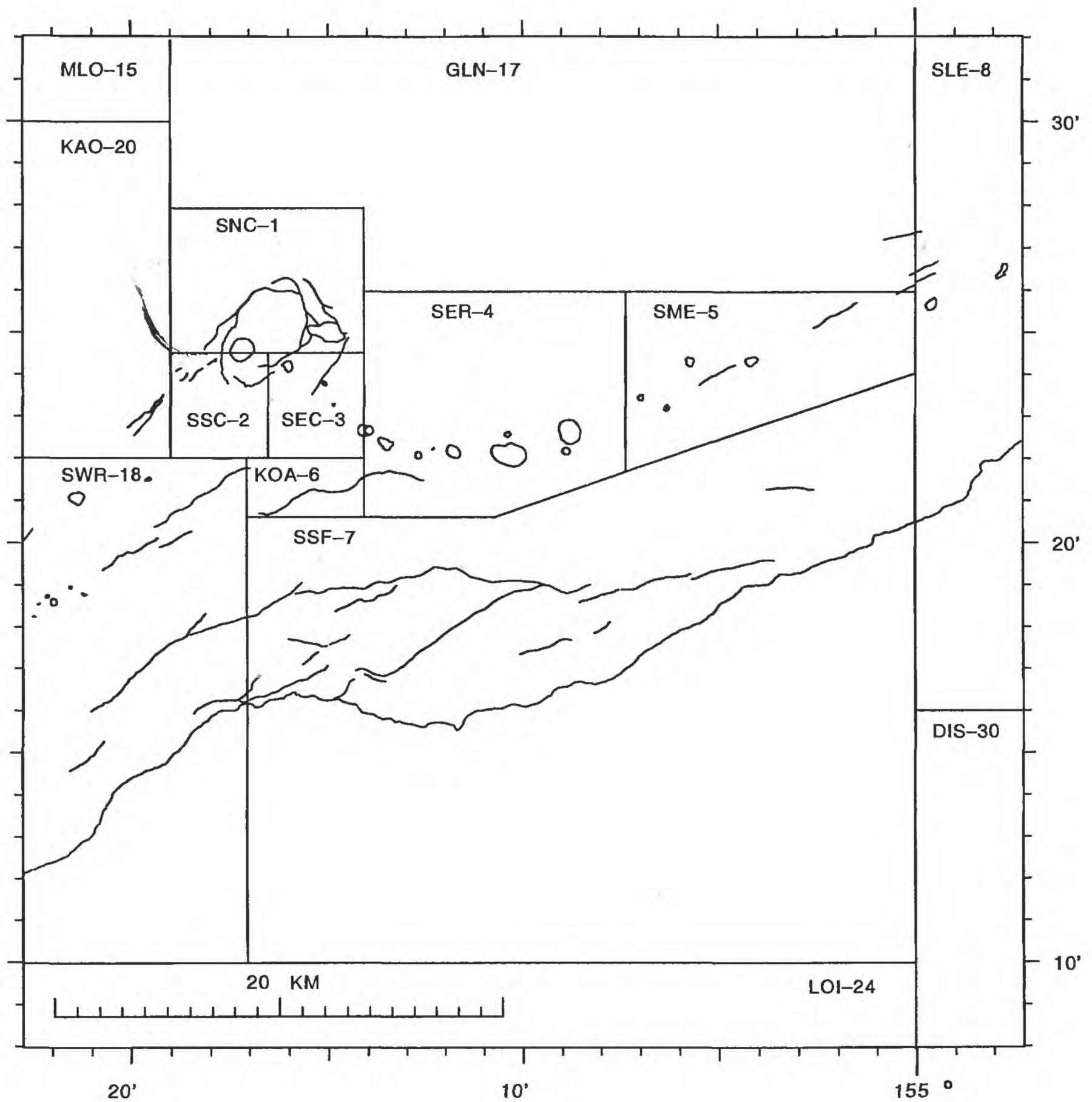


Figure 6. Earthquake classification, shallow (0-5 km deep), for Kilauea and the east flank of Mauna Loa.

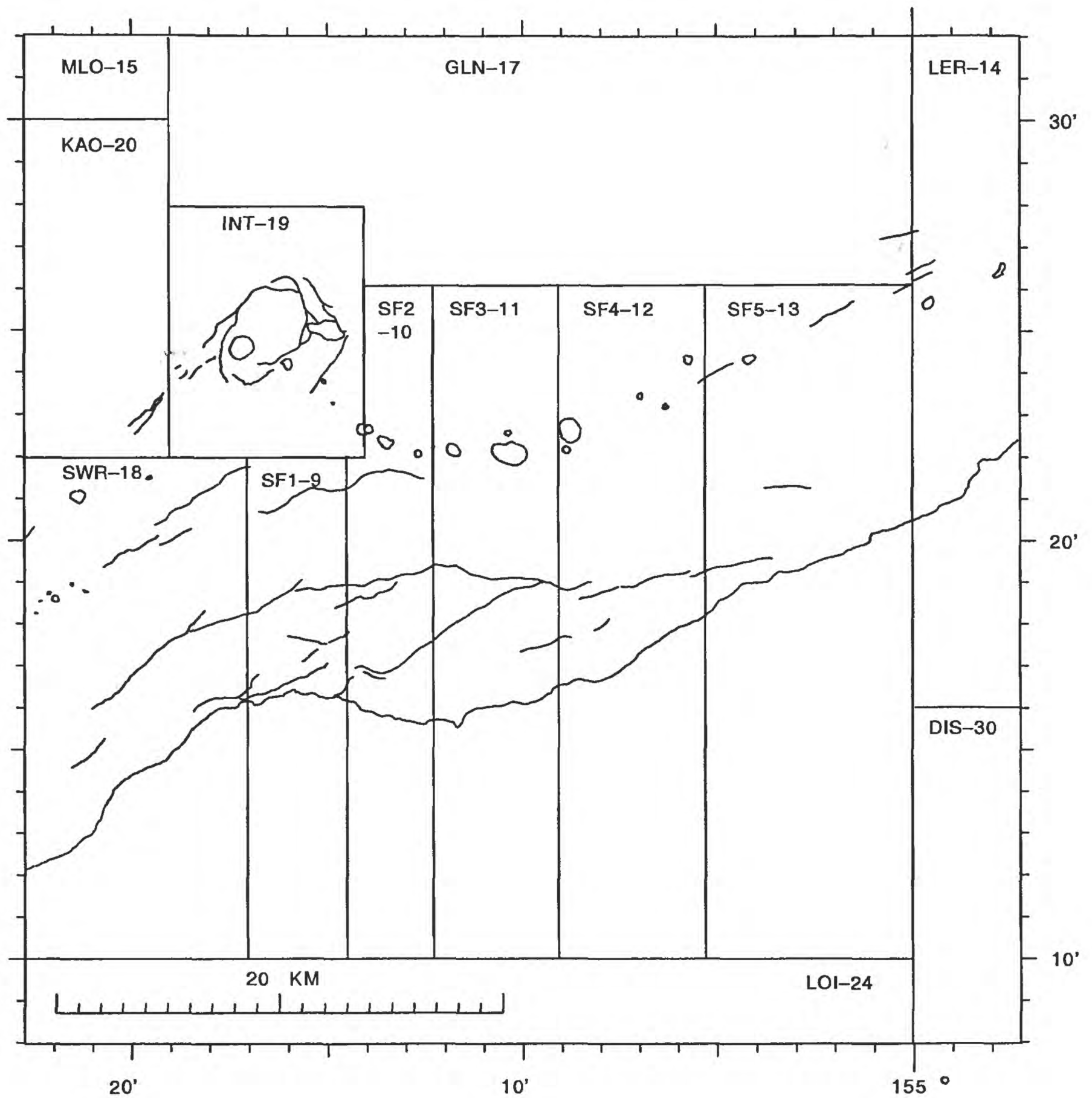


Figure 7. Earthquake classification, intermediate (5.1-13 km deep), for Kilauea and the east flank of Mauna Loa.

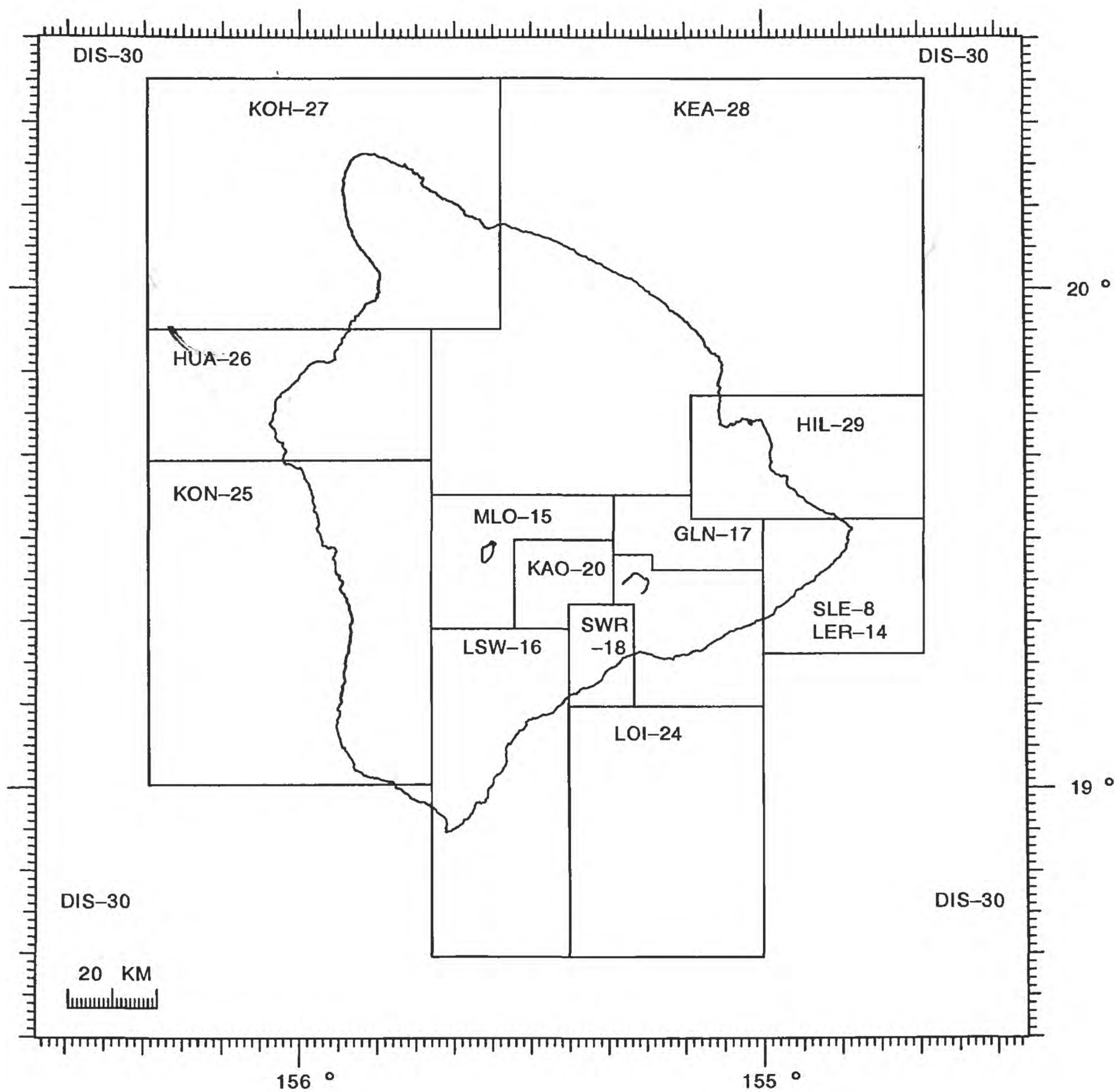


Figure 8. Earthquake classification, crustal (0-13 km deep), for the Island of Hawai'i.

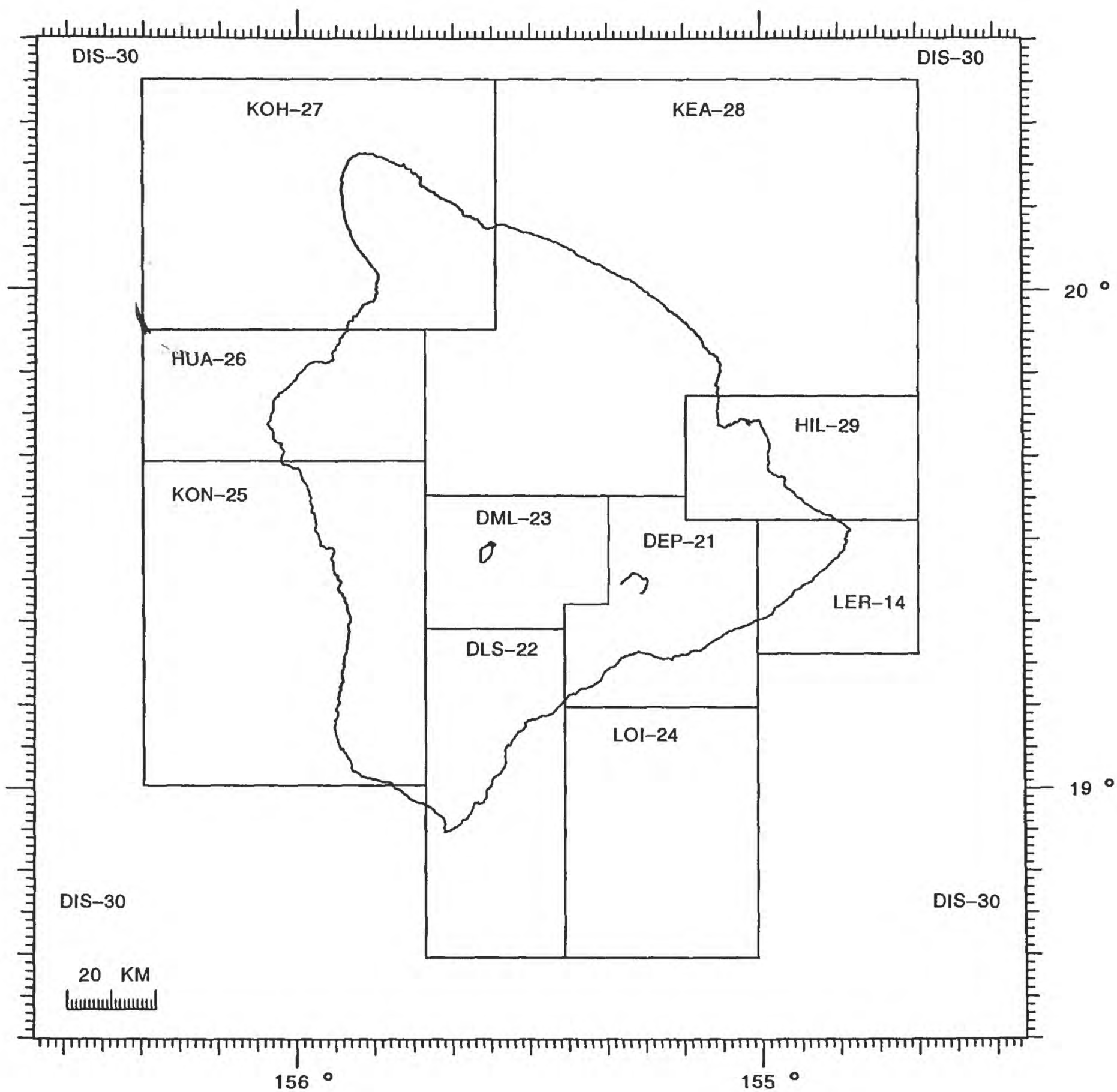


Figure 9. Earthquake classification, deep (greater than 13 km deep), for the Island of Hawai'i.

Figure 10. 1995 earthquake locations, Hawaiian Islands,
0–60 km depth, $M \geq 3.5$.

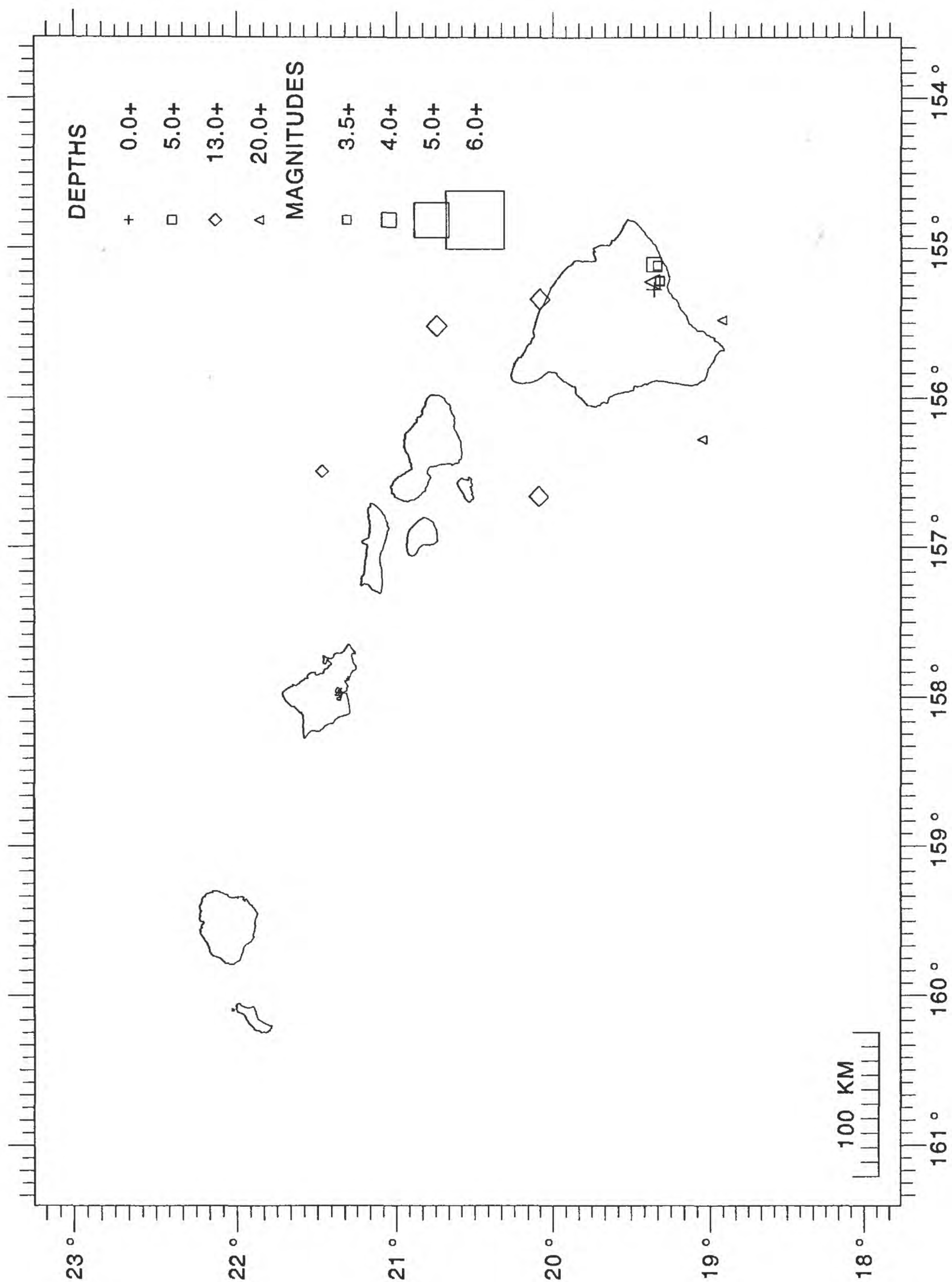


Figure 11. 1995 earthquake locations, Hawai'i Island,
0–60 km depth, $M \geq 3.0$.

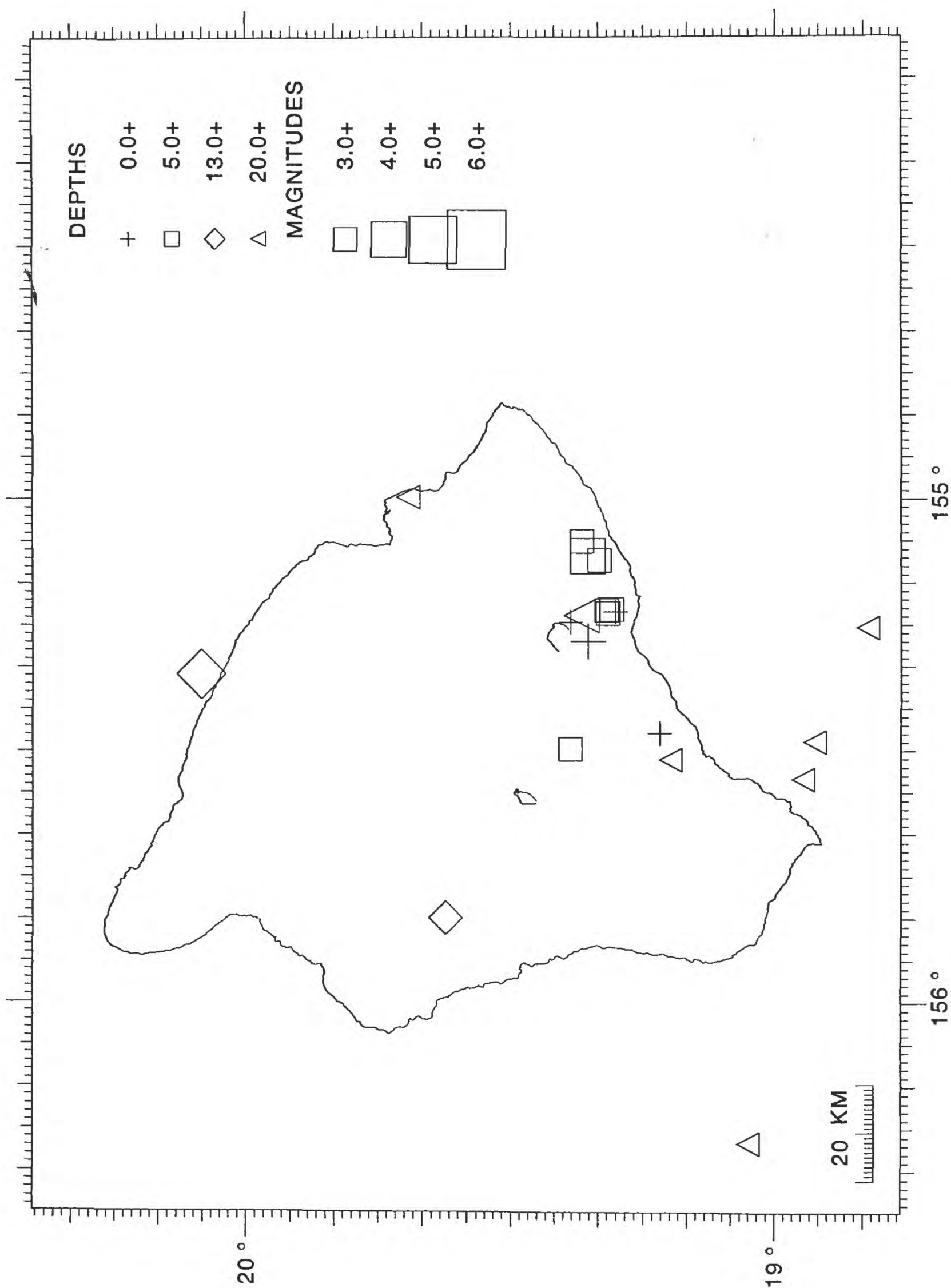


Figure 12. 1995 earthquake locations, Hawai'i Island, shallow (0–5.0 km depth), $M \geq 2.0$.

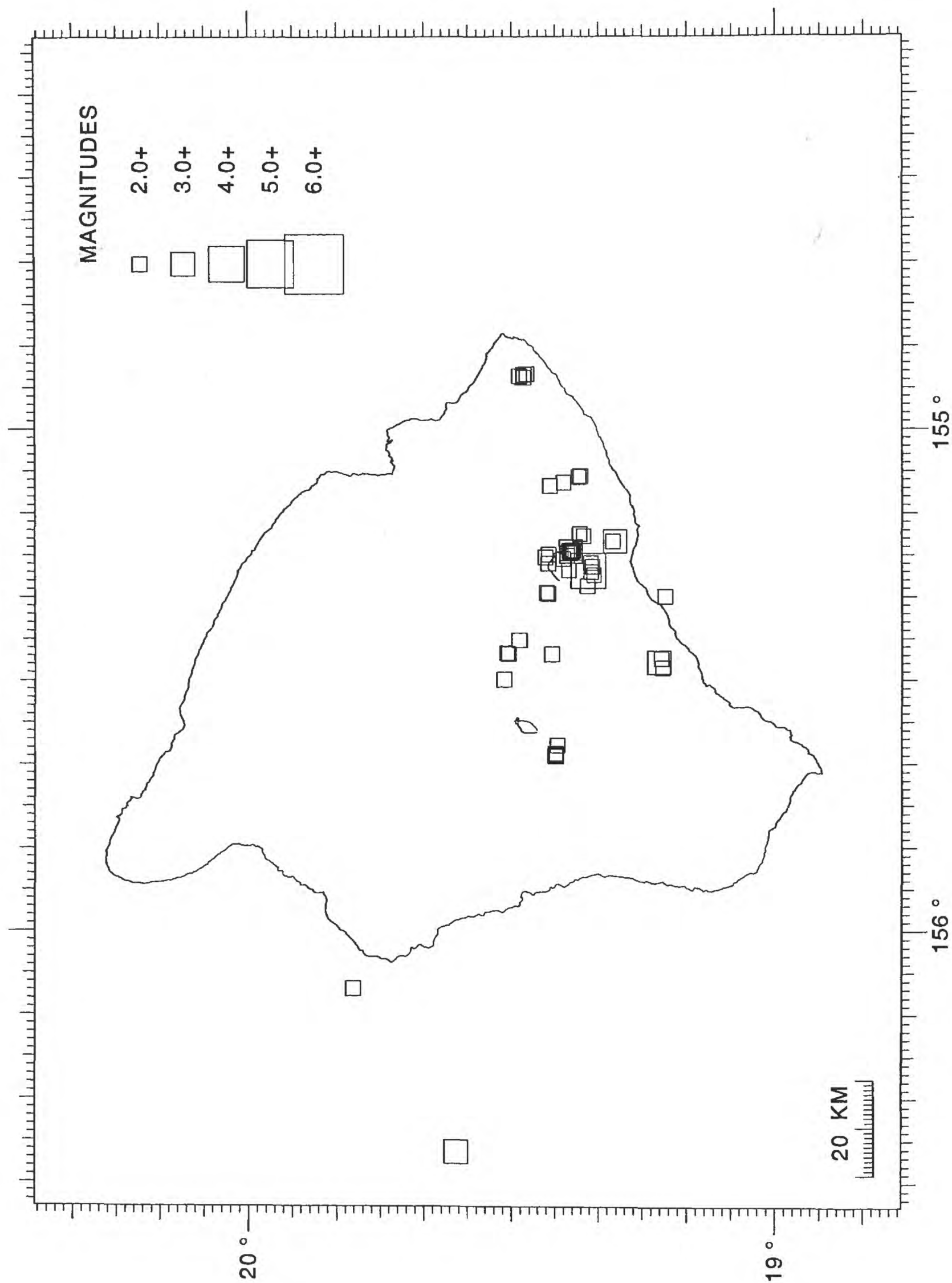


Figure 13. 1995 earthquake locations, Hawai'i Island, intermediate (5.1–13.0 km depth), $M \geq 2.0$.

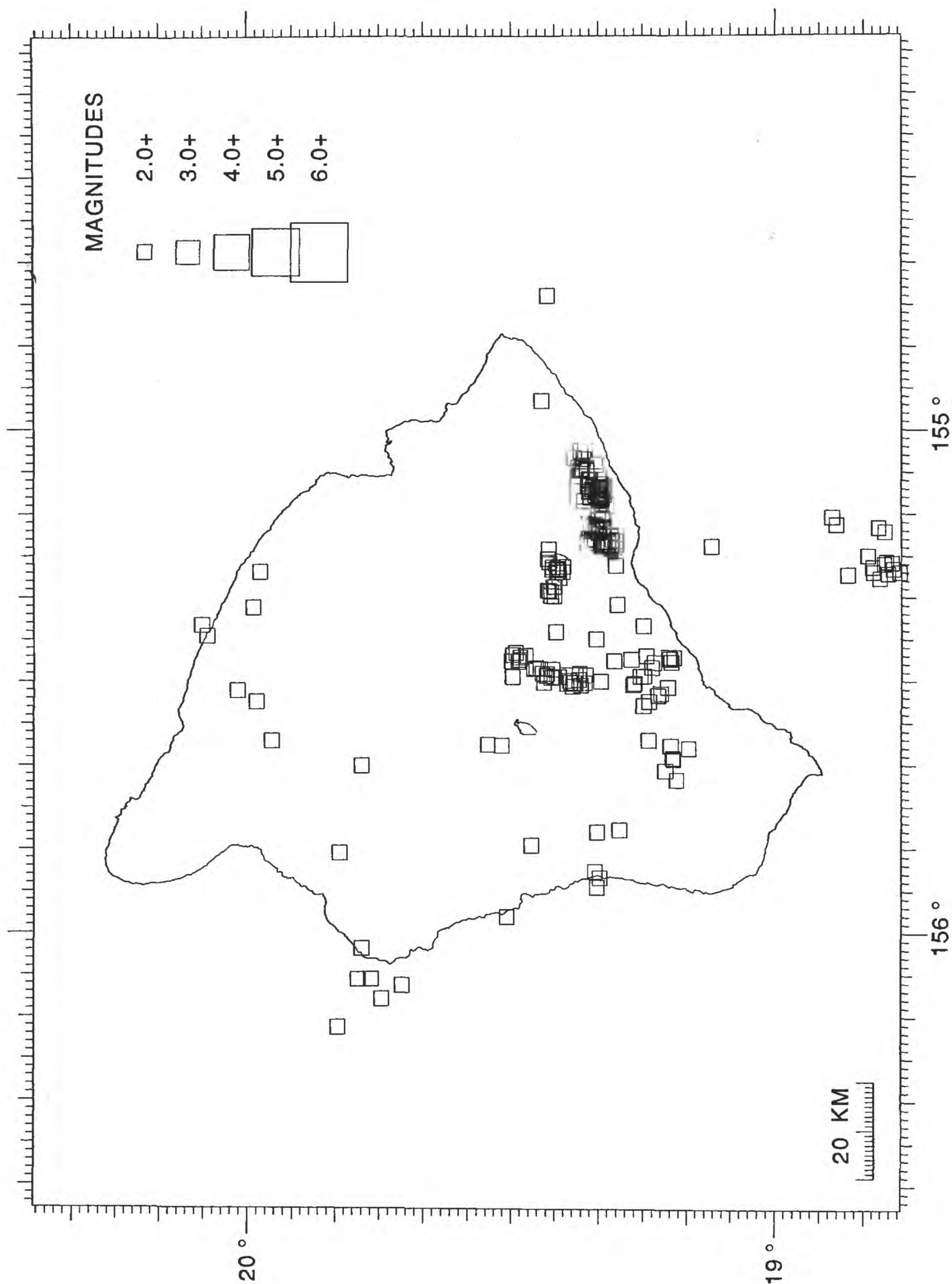


Figure 14. 1995 earthquake locations, Hawai'i Island, deep (13.1–60.0 km depth), $M \geq 2.0$.

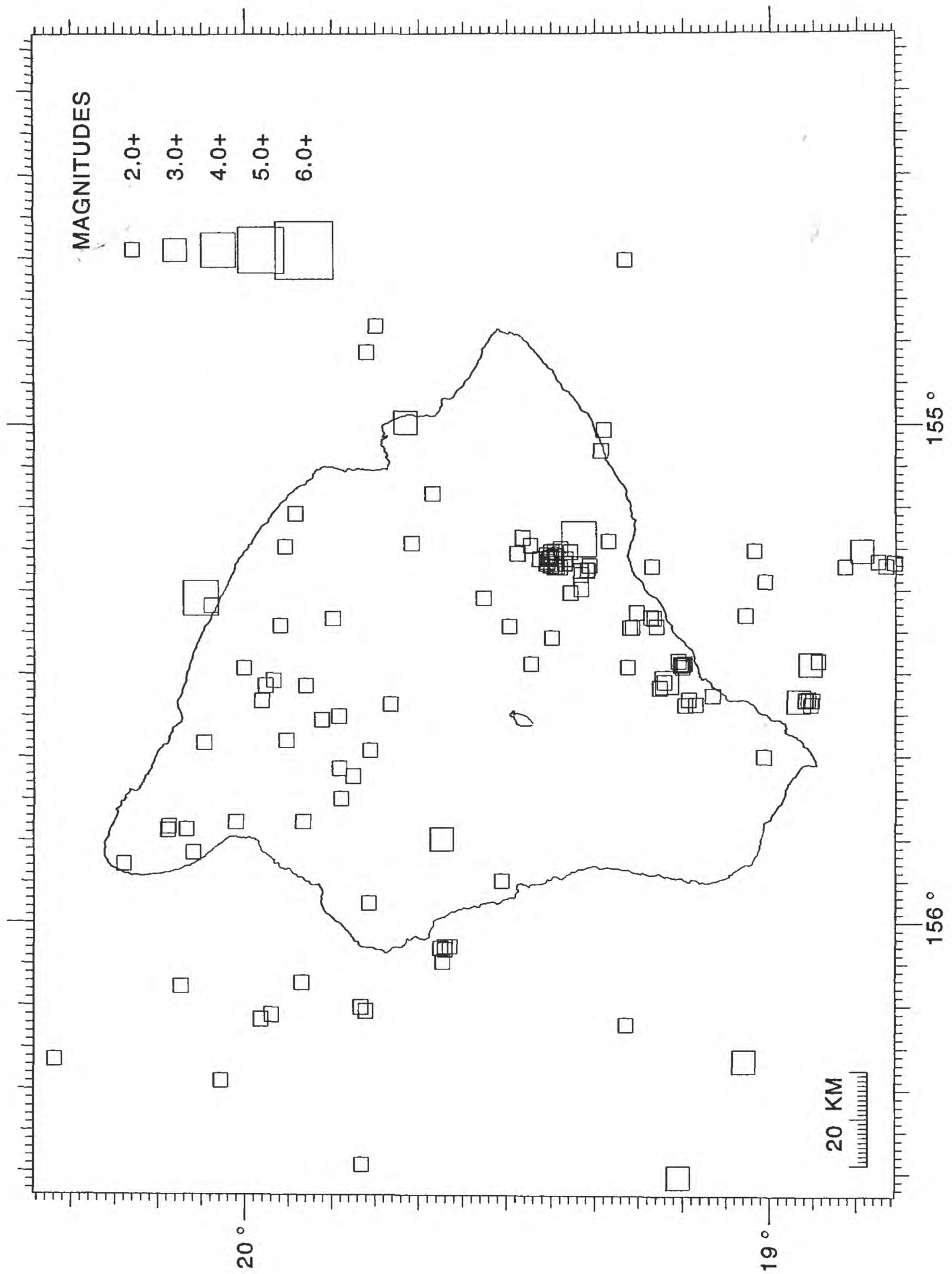


Figure 15. 1995 earthquake locations, Kilauea summit, shallow (0-5.0 km depth), $M \geq 1.0$.

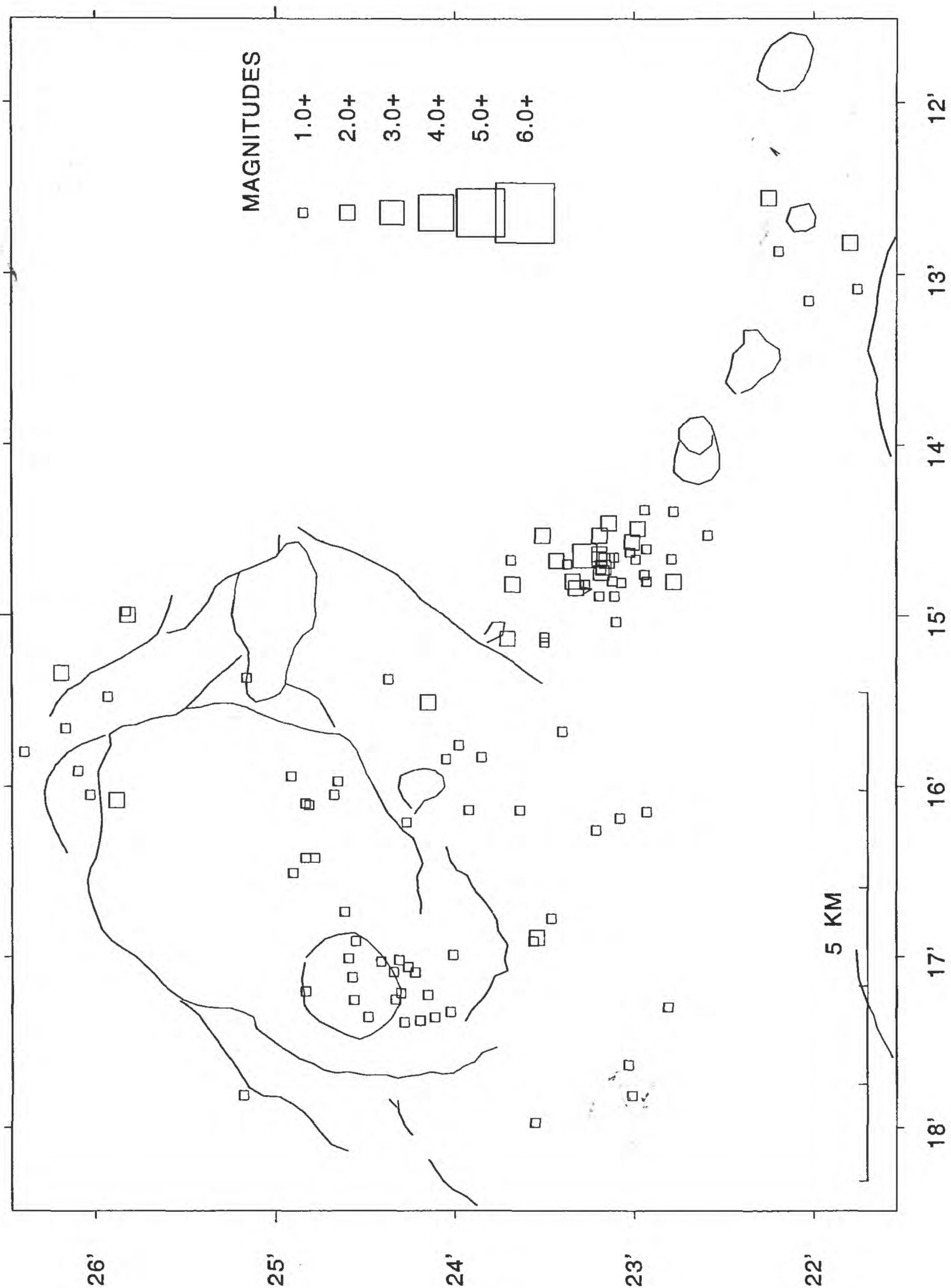


Figure 16. 1995 earthquake locations, Kilauea summit, intermediate (5.1–13.0 km depth), $M \geq 1.0$.

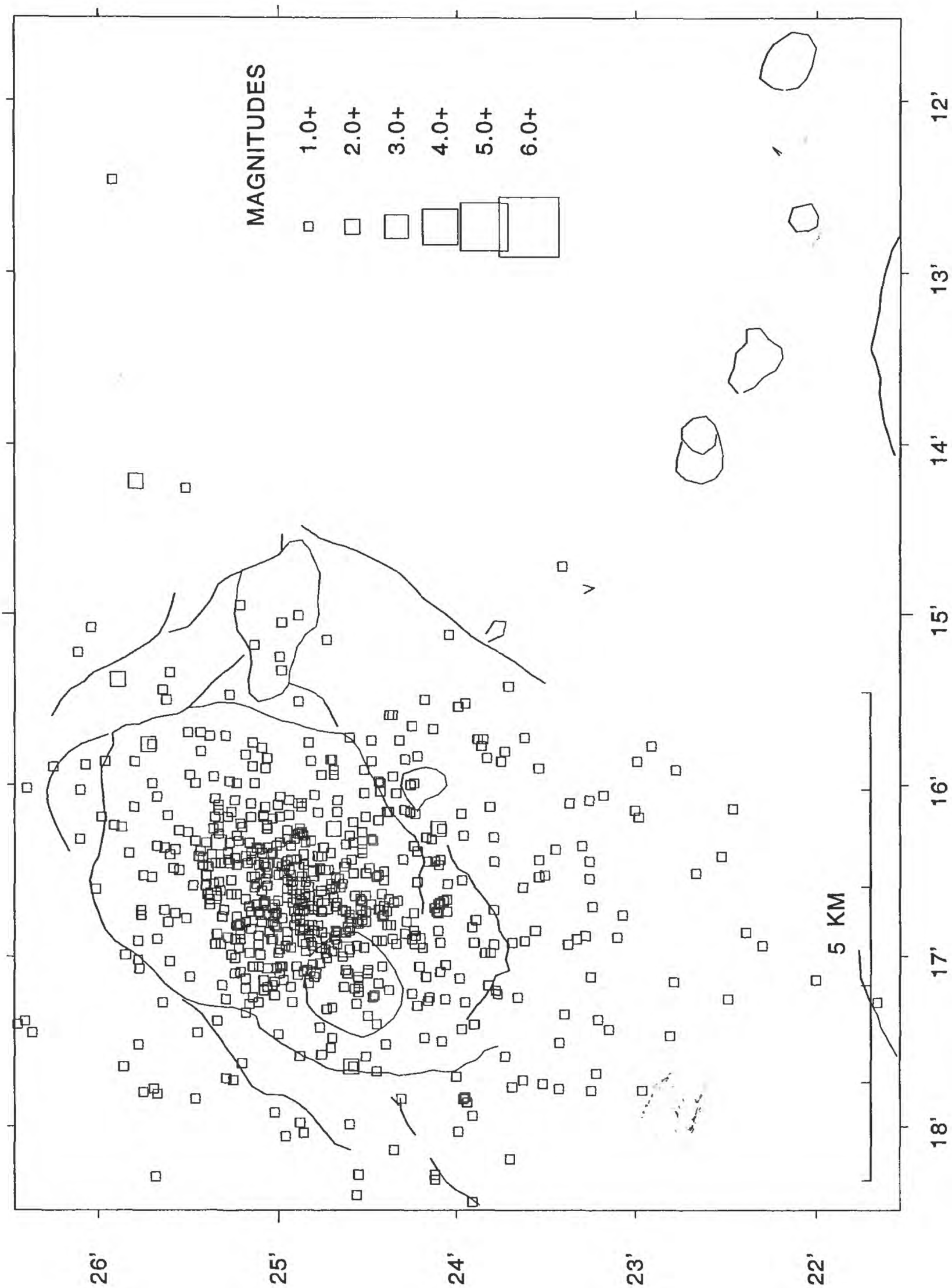


Figure 17. 1995 earthquake locations, Kilauea summit, deep (13.1–60.0 km depth), $M \geq 1.0$.

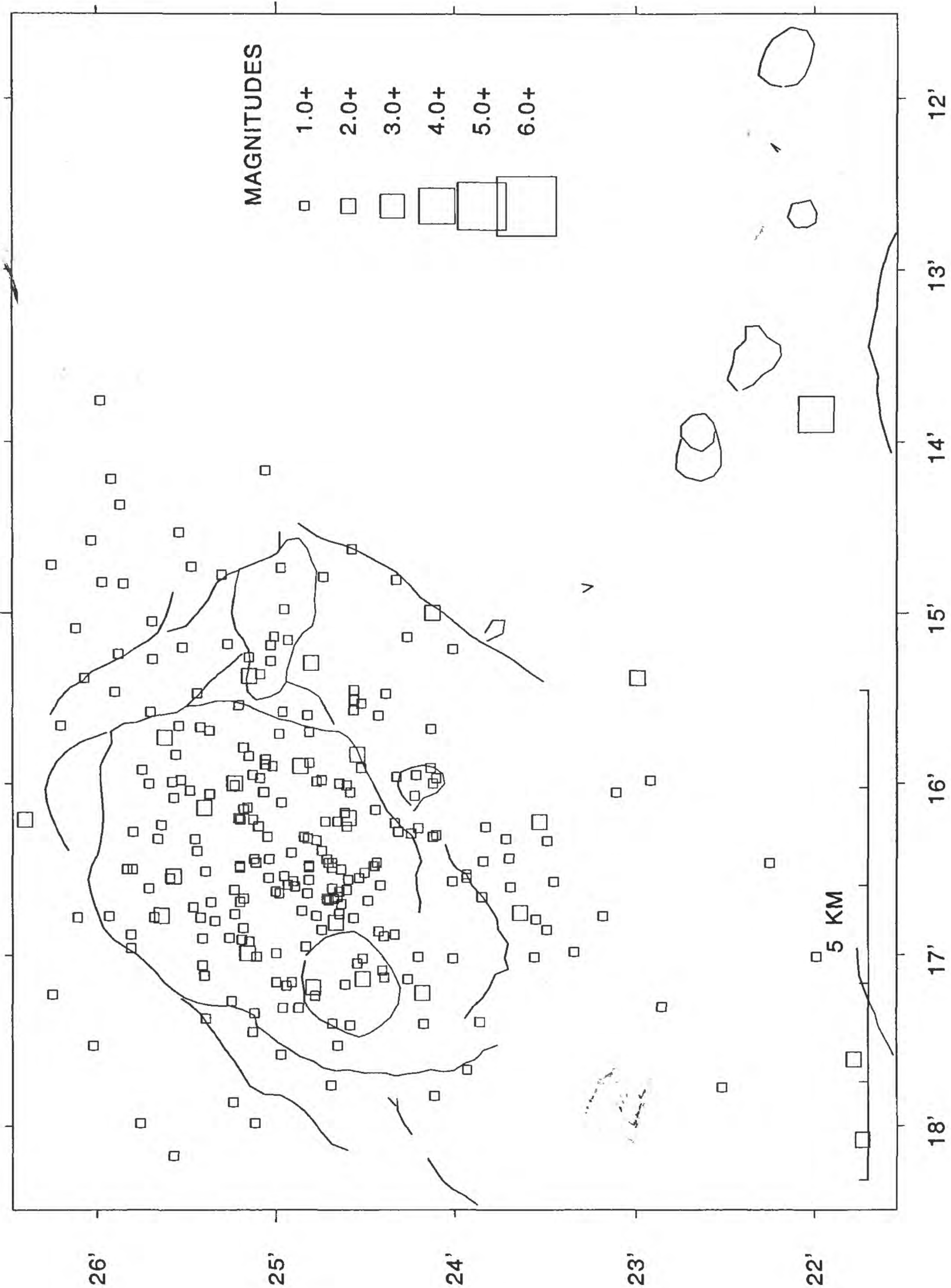


Figure 18. 1995 earthquake locations, Kilauea south flank, shallow (0–5.0 km depth), $M \geq 2.0$.

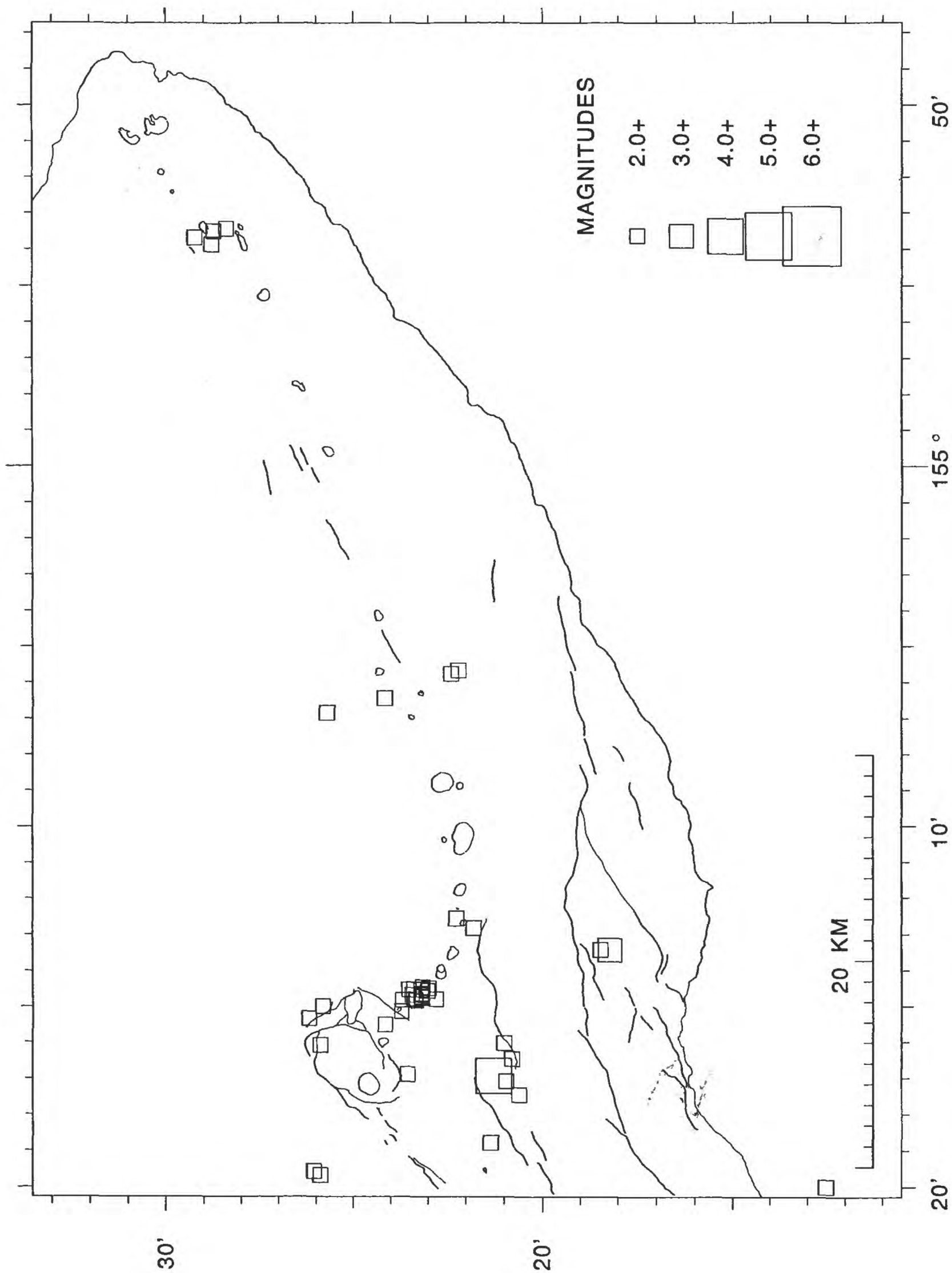


Figure 19. 1995 earthquake locations, Kilauea south flank, intermediate (5.1–13.0 km depth), $M \geq 2.0$.

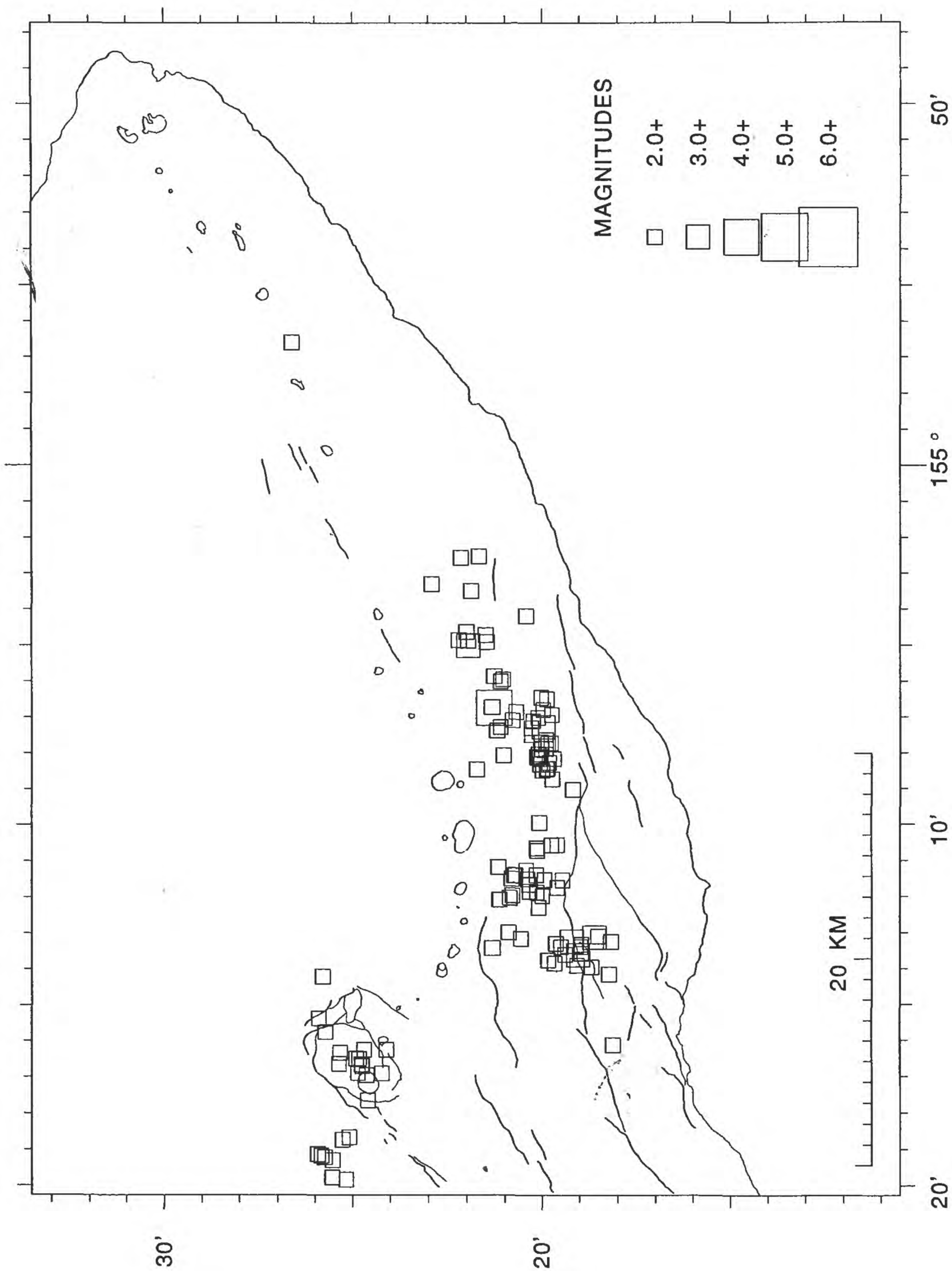
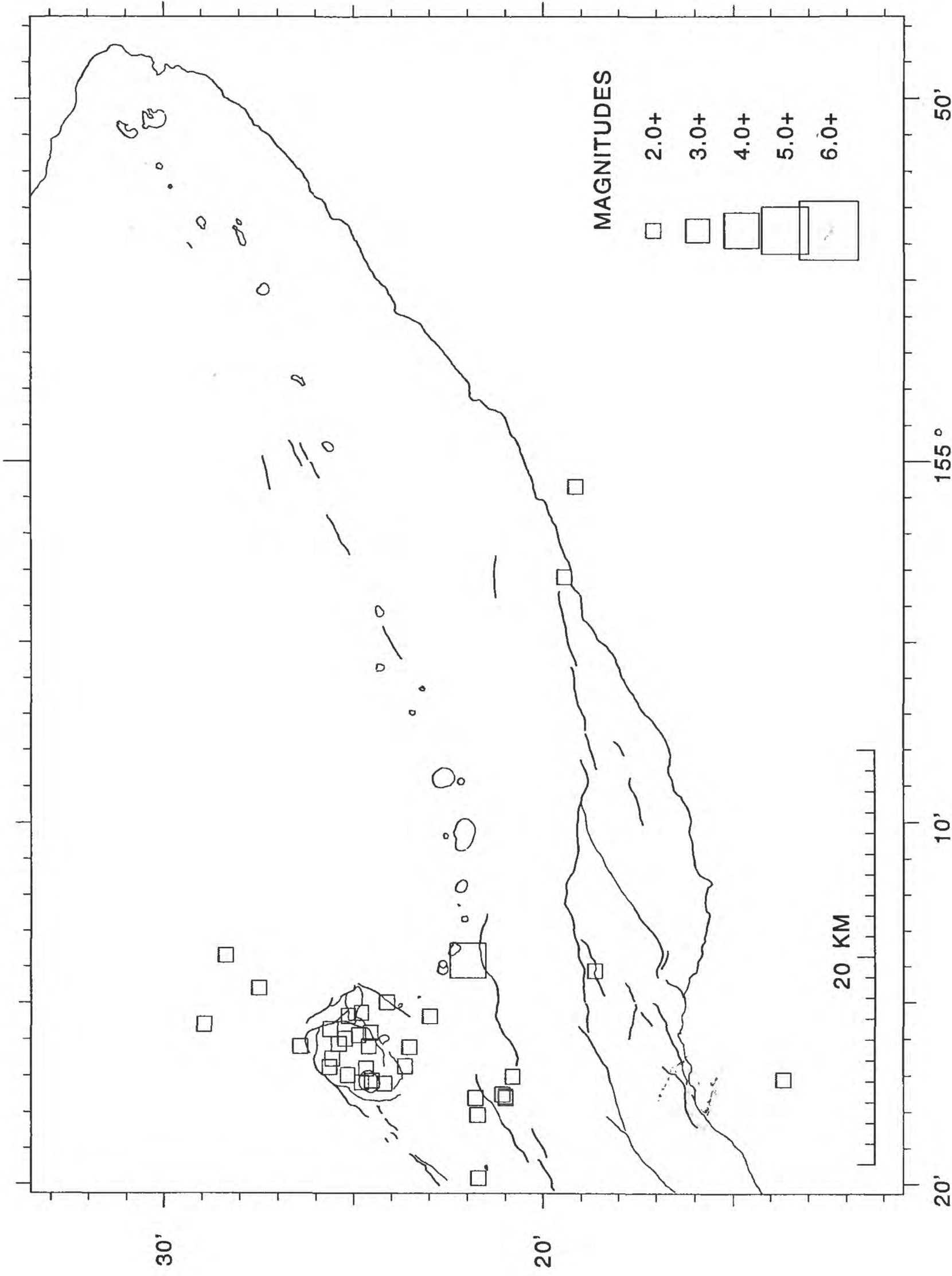


Figure 20. 1995 earthquake locations, Kilauea south flank, deep (13.1–60.0 km depth), $M \geq 2.0$.



The map displays the Hawaiian Islands with earthquake epicenters marked by squares of varying sizes. The size of each square corresponds to the earthquake's magnitude, as indicated by the legend. The legend shows five magnitude ranges: 2.0+, 3.0+, 4.0+, 5.0+, and 6.0+. The map includes a scale bar for 20 km and a coordinate system with longitude (150°, 155°, 160°, 165°) and latitude (20°, 25°, 30°, 35°) labels.

Figure 22. 1995 earthquake locations, Mauna Loa summit, intermediate (5.1–13.0 km depth), $M \geq 2.0$.

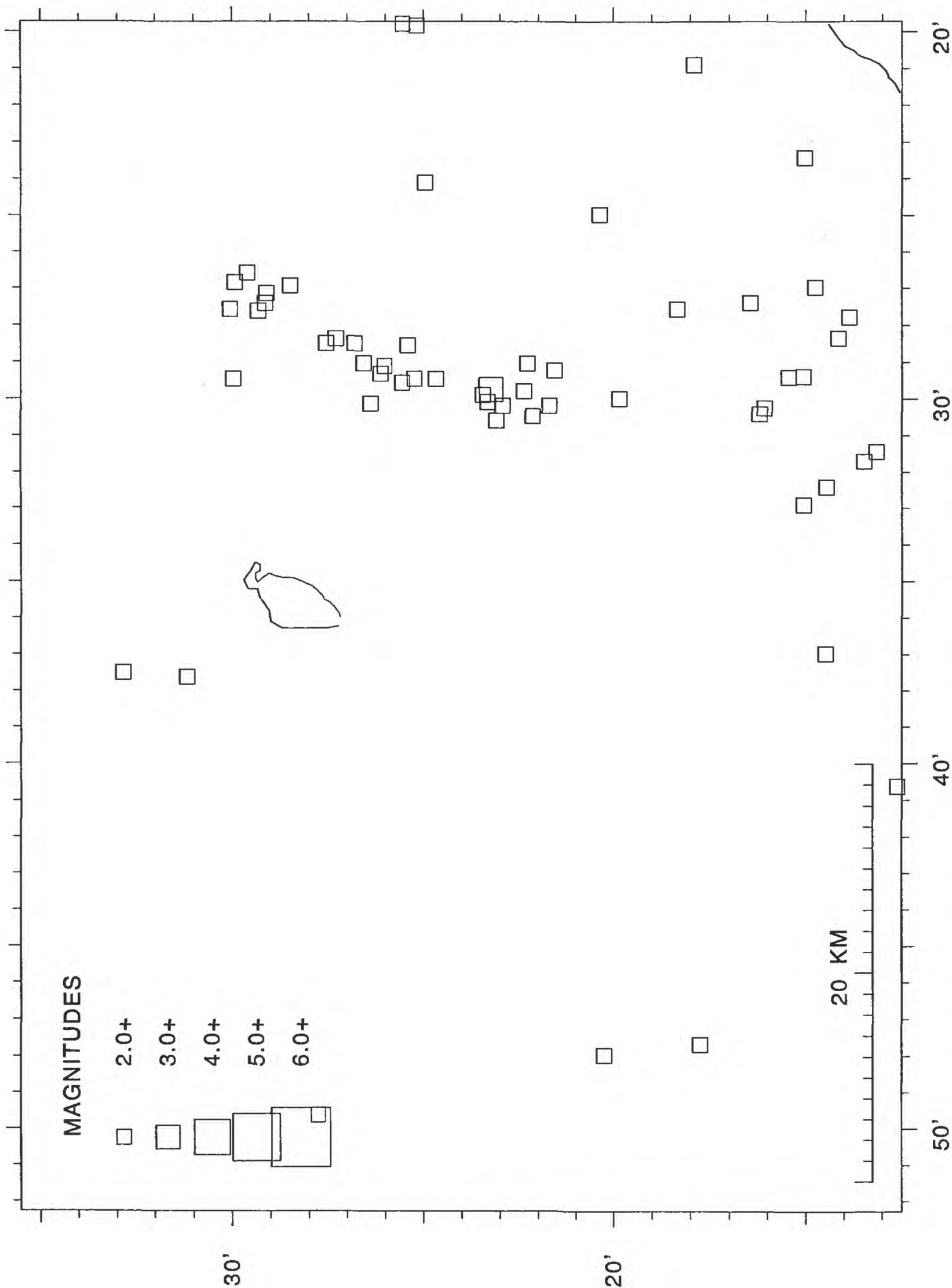


Figure 23. 1995 earthquake locations, Mauna Loa summit, deep (13.1–60.0 km depth), $M \geq 2.0$.

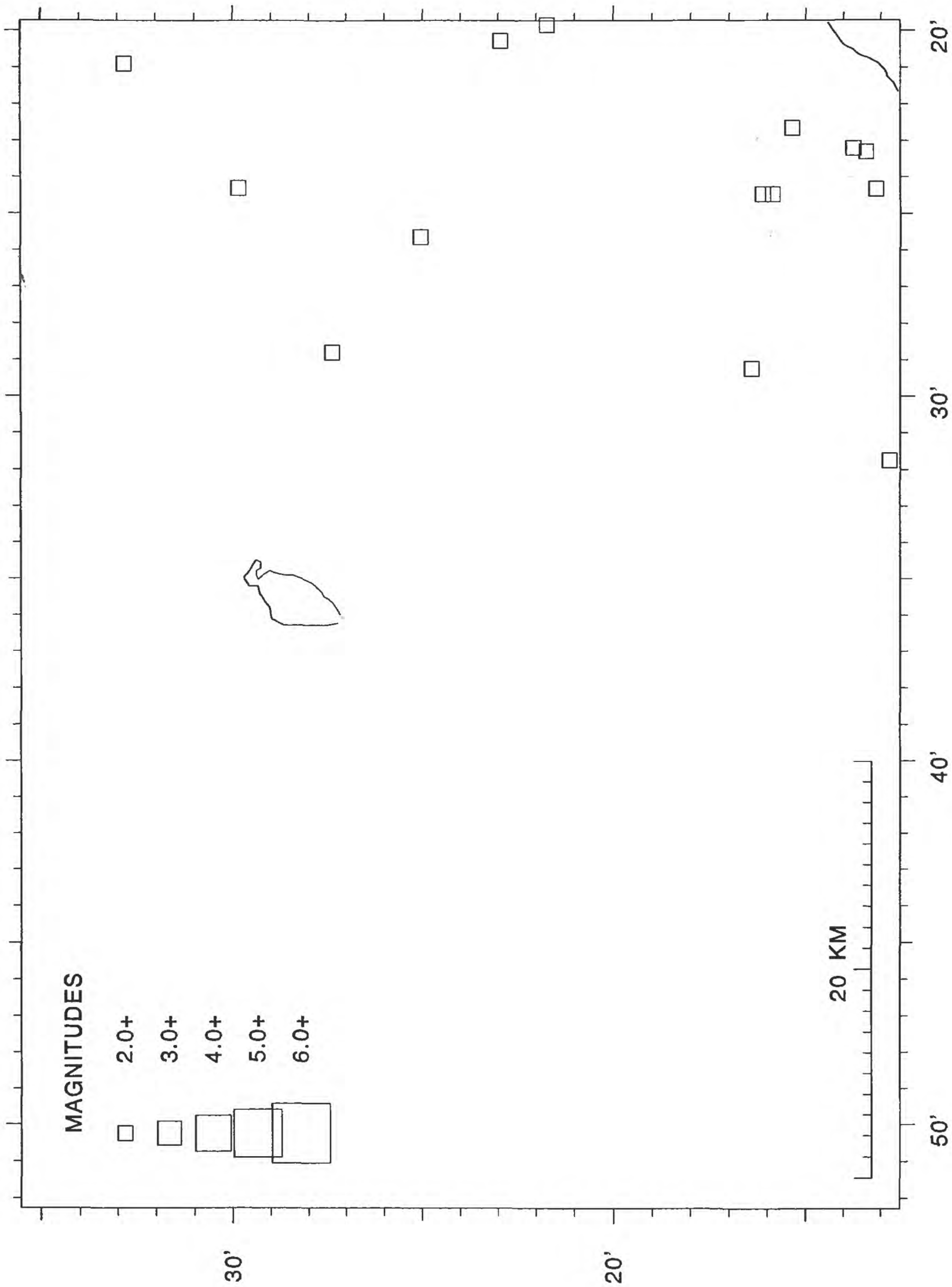


Table 5 is a chronological list of selected events successfully located during 1995. For each event, the following data are presented:

ORIGIN TIME - in Hawaiian Standard Time: date, hour (HR), minute(MN), and second (SEC).

EPICENTER - in degrees and minutes of north latitude (LAT N) and west longitude (LON W) in Old Hawaiian Datum.

DEPTH - Depth of focus in kilometers.

NRD - Number of P & S readings with final weights > 0.1.

NS - Number of S. readings with final weights > 0.1

RMS SEC - Root mean square travel time residuals, in seconds.

ERH km - Standard error of the epicenter, in kilometers.

ERZ km - Standard error of depth of focus, in kilometers.

LOC REMKS - Remarks, three-letter code for geographic location of events. See Figures 6-9 for location of mnemonic code. Additional one-letter codes have the following meanings:

- F felt
- L long-period character
- T associated with harmonic tremor
- B quarry or other blast
- * the location program had a convergence problem, which usually means that the depth may be unreliable.
- the depth was held fixed.

PREF MAG - The preferred magnitude chosen from the available magnitudes.
 Preference set as: X-amplitude magnitude, if none
 D-Develocorder duration magnitude, if none
 U-external magnitude, usually calculated from drum records.

NRD - The total weight of amplitude magnitude readings from contributing stations.

AZ GAP - Largest azimuthal gap in degrees between azimuthally adjacent stations.

MIN DS - Distance to the nearest station, in kilometers.

Table 5.

ORIGIN TIME				LAT N		LON W		DEPTH N		N RMS ERH ERZ LOC		PREF N		AZ MIN					
YR	MON	DA	HRMN	SEC	DEG	MIN	DEG	MIN	KM	RD	S	SEC	KM	KM	REMS	MAG	RD	GAP	DS
95	JAN	24	1442	12.18	19	13.13	155	24.34	36.09	56	9	.11	.6	.9 DEP	2.4X	6	149	2	
95	JAN	24	2038	30.27	20	4.68	155	39.41	26.75	45	1	.10	1.3	2.2 KOH	1.9X	3	188	14	
95	JAN	24	2057	17.75	19	24.48	155	17.35	1.95	14	2	.06	.3	.2 SSCL	1.8X	3	70	1	
95	JAN	25	2006	5.77	19	28.42	155	26.72	7.55	39	7	.12	.3	.7 KAO	1.9X	5	73	6	
95	JAN	25	2032	10.25	19	17.90	155	20.91	12.90	55	9	.12	.3	.3 SWR	2.0X	7	122	4	
95	JAN	26	323	14.34	19	25.17	155	19.84	6.05	50	9	.11	.3	.6 KAO	2.3X	4	46	3	
95	JAN	26	1318	45.84	19	19.41	155	13.49	6.63	40	6	.10	.3	.6 SF2	1.8X	4	68	4	
95	JAN	26	2302	56.66	19	21.88	155	3.51	9.18	47	9	.09	.5	.4 SF5	2.0X	4	108	4	
95	JAN	27	827	37.02	19	16.08	155	30.26	9.10	46	6	.14	.3	.7 LSWF	2.5X	6	54	2	
95	JAN	27	2144	29.20	19	22.03	155	27.43	10.80	46	4	.13	.4	.6 KAO	1.5X	5	42	1	
95	JAN	28	400	14.65	19	15.63	155	22.66	7.18	34	3	.10	.4	.8 SWR	1.5X	4	139	3	
95	JAN	28	1355	59.68	19	37.16	156	2.92	38.60	53	8	.10	.9	1.2 KON	3.0X	7	232	20	
95	JAN	30	641	37.86	20	47.37	155	9.12	17.34	41	3	.15	2.517.7	DIS	2.7X	4	308	98	
95	JAN	30	655	32.53	19	20.36	155	24.99	9.75	17	3	.09	.6	1.0 SWR	2.2X	2	131	3	
95	JAN	31	100	57.24	19	23.68	155	14.82	3.73	49	9	.12	.3	.4 SECF	2.5X	3	44	2	
95	JAN	31	903	49.56	19	23.06	155	5.55	5.88	10	2	.13	.9	1.8 SF4	1.5X	1	116	4	
95	JAN	31	2226	21.73	19	19.63	155	13.29	9.02	47	3	.12	.4	.5 SF2	2.3X	3	120	6	
95	FEB	1	2317	30.51	20	14.01	155	52.91	27.04	35	4	.10	1.3	2.9 KOH	2.2X	4	300	47	
95	FEB	2	751	4.98	19	18.22	155	15.02	7.99	36	5	.09	.4	.5 SF1	1.6X	4	117	4	
95	FEB	2	1521	25.96	19	47.43	156	5.55	5.81	30	7	.13	1.0	.7 HUA	2.0X	2	314	29	
95	FEB	2	2124	3.64	20	5.19	155	23.31	5.70	39	2	.12	1.0	.6 KEA	2.3X	4	221	22	
95	FEB	3	1119	32.21	19	23.46	155	16.78	3.07	20	3	.07	.3	.2 SSC	1.5X	3	45	0	
95	FEB	4	1200	44.93	18	49.48	155	15.31	46.42	52	8	.10	1.3	.9 LOI	3.0X	4	262	43	
95	FEB	4	2200	22.21	19	11.68	155	39.28	7.22	39	1	.19	.6	.9 LSW	2.3X	1	107	7	
95	FEB	4	2353	35.50	20	19.16	156	10.55	30.00	20		.1213.2	5.3	KOH	1.9D	1	324	96	
95	FEB	5	26	11.86	19	29.27	155	27.65	6.83	41	8	.12	.3	1.0 KAO	1.9X	2	82	5	
95	FEB	5	218	23.28	19	26.62	154	56.63	5.50	20		.12	.9	1.2 LER	2.1X	1	163	5	
95	FEB	5	439	4.73	19	19.50	155	13.39	9.23	46	2	.12	.5	.6 SF2	2.4X	1	123	6	
95	FEB	5	644	49.72	19	29.97	155	29.47	6.03	35	5	.11	.3	1.6 KAO	2.2X	1	67	5	
95	FEB	5	834	50.51	19	18.95	155	13.32	8.48	5813	.11	.3	.5	SF2	2.5X	7	78	4	
95	FEB	5	850	44.29	18	55.27	155	33.25	44.86	51	6	.09	1.1	.9 DLS	2.6X	4	251	14	
95	FEB	6	259	50.74	19	14.46	155	32.42	6.16	48	5	.13	.4	1.0 LSW	2.1X	4	115	4	
95	FEB	6	350	13.05	19	18.22	155	14.16	10.45	53	7	.12	.3	.4 SF2	2.8X	3	134	7	
95	FEB	6	909	36.73	19	20.02	155	7.88	8.91	22	7	.08	.6	.8 SF4	2.0X	3	150	5	
95	FEB	7	1531	59.92	19	20.04	155	7.70	8.12	46	7	.08	.3	.6 SF4	2.1X	3	95	5	
95	FEB	8	0	12.24	19	18.83	155	8.34	7.37	44	8	.09	.3	.5 SF4	2.0X	5	87	3	
95	FEB	8	528	33.78	19	8.69	155	25.03	47.76	29	7	.08	1.3	.7 DLST	1.9X	3	226	5	
95	FEB	8	1129	43.62	19	21.02	155	16.81	1.85	21	6	.06	.3	.3 KOA	1.5X	3	69	2	
95	FEB	8	1746	43.60	19	23.18	155	14.75	3.56	31	8	.07	.3	.3 SEC	2.0X	3	48	2	
95	FEB	8	1811	59.82	19	23.34	155	14.80	3.59	26	5	.08	.3	.3 SEC	2.1X	3	47	3	
95	FEB	8	2101	5.76	19	21.00	155	16.65	1.88	21	4	.07	.3	.3 KOA	1.6X	4	70	2	
95	FEB	9	21	16.86	18	56.01	155	33.27	41.40	5814	.09	.7	.8	DLS	2.8X	7	245	13	
95	FEB	9	131	27.43	19	22.22	155	4.65	7.72	40	2	.13	.4	.5 SF5	1.8X	3	82	4	
95	FEB	9	2232	37.60	19	49.98	155	23.33	25.35	6016	.11	.6	1.1	KEA	2.8X	10	145	8	
95	FEB	9	2324	23.64	19	22.05	155	4.83	7.91	43	5	.14	.4	.5 SF5	1.9X	5	78	4	

ORIGIN TIME				LAT N				LON W				DEPTH N				N RMS ERH ERZ LOC				PREF N AZ MIN						
YR	MON	DA	HRMN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	KM	RD	S	SEC	KM	KM	REMK	MAG	RD	GAP	DS
95	FEB	9	2332	23.10	19	24.67	155	16.05	2.61	29	5	10	.2	.2	SNCL	1.7X	3	69	2							
95	FEB	10	738	20.33	19	28.21	154	53.83	0.96	37	4	13	.3	.6	SLEF	1.6X	4	167	4							
95	FEB	10	918	2.61	19	28.23	154	53.54	0.00	38	5	19	.4	.3	SLEF#	1.9X	5	169	4							
95	FEB	10	1517	16.98	19	28.39	154	53.45	0.02	31	3	24	.5	.5	SLEF#	2.2X	5	168	4							
95	FEB	11	110	5.78	19	19.14	155	12.76	7.95	36	1	10	.5	.8	SF2	1.6X	2	126	6							
95	FEB	11	157	14.39	19	20.63	155	11.67	9.06	42	5	10	.4	.5	SF3	1.7X	4	110	4							
95	FEB	11	1231	32.34	19	22.93	155	14.61	3.41	22	6	10	.3	.4	SEC	1.5X	5	67	2							
95	FEB	11	1522	46.14	19	25.18	155	17.81	4.77	17	4	08	.5	.4	SNCL	1.9X	3	111	1							
95	FEB	11	1909	52.57	19	0.66	155	18.97	39.55	36	5	.09	1.1	1.4	LOI	2.2X	1	228	23							
95	FEB	11	2250	32.30	19	54.28	155	10.83	34.98	54	12	.10	.8	1.2	KEA	2.7D	1	236	17							
95	FEB	12	156	17.36	19	21.07	155	17.52	26.89	41	4	10	.7	.9	DEP	2.4X	1	37	2							
95	FEB	12	405	1.37	19	13.40	155	23.31	37.72	44	2	10	.7	1.3	DEP	2.1X	1	154	2							
95	FEB	12	1249	4.06	19	24.45	155	16.48	13.41	17	2	.09	.8	1.0	DEPL	1.7X	1	130	1							
95	FEB	12	1344	17.56	19	19.79	155	10.61	6.75	40	5	.11	.4	.6	SF3	1.5X	2	92	4							
95	FEB	12	1947	31.84	19	25.49	155	26.95	3.54	28	4	12	.3	.9	KAO	2.3X	2	60	3							
95	FEB	12	2008	34.64	19	25.92	155	14.22	15.00	19	3	.09	1.4	.8	DEPL	1.3X	1	150	2							
95	FEB	12	2224	40.78	19	19.81	155	7.74	7.98	28	.07	.5	.9	SF4	1.5X	1	97	5								
95	FEB	13	646	30.08	18	56.81	155	33.38	40.57	61	16	.08	.7	.9	DLSF	3.3X	6	238	12							
95	FEB	13	2251	47.30	19	13.44	155	23.03	36.62	40	5	.09	.7	1.0	DEP	1.8X	4	154	2							
95	FEB	14	325	13.14	19	20.30	155	7.31	8.44	47	6	.07	.3	.4	SF4	2.3X	5	97	6							
95	FEB	14	1437	32.50	19	3.07	156	16.59	34.88	47	4	.09	1.5	2.2	KON	3.5X	1	316	49							
95	FEB	14	1622	4.61	19	17.75	155	47.70	10.86	48	7	.11	.5	.3	KON	2.5X	4	135	9							
95	FEB	14	1822	2.97	18	55.46	155	28.94	37.32	59	14	.09	.8	1.1	DLSF	3.7X	3	243	20							
95	FEB	14	1838	24.55	18	54.58	155	28.55	38.34	56	11	.09	.9	1.0	DLS	2.3X	4	249	22							
95	FEB	14	1927	33.56	19	10.28	155	28.93	35.48	41	5	.07	.7	1.1	DLS	2.1X	3	96	2							
95	FEB	14	2305	20.72	19	29.92	155	26.85	5.17	21	5	.11	.4	1.6	KAO	2.1X	2	110	4							
95	FEB	15	621	21.08	19	18.01	155	29.99	7.29	33	1	14	.4	1.0	LSW	1.5X	1	63	5							
95	FEB	15	1008	11.73	19	19.75	155	6.94	9.18	45	5	.08	.5	.3	SF4	3.0X	3	115	5							
95	FEB	15	1527	12.24	19	22.03	155	5.01	6.95	35	4	12	.4	.6	SF5	1.8X	3	75	5							
95	FEB	15	2304	35.17	19	19.54	155	9.87	7.62	40	2	.10	.4	.7	SF3	2.0X	1	94	5							
95	FEB	16	323	55.61	19	19.91	155	8.22	8.32	35	4	.08	.4	.6	SF4	1.5X	2	84	5							
95	FEB	16	739	13.84	19	19.85	155	30.01	10.04	38	3	.08	.3	.6	KAO	2.0X	1	52	6							
95	FEB	16	837	41.01	19	21.05	155	16.09	1.72	15	5	.07	.2	.4	KOA	1.2X	3	70	3							
95	FEB	18	657	42.56	19	47.60	155	39.82	13.08	52	9	.13	.4	.4	KEA	2.2X	6	104	22							
95	FEB	18	951	44.54	19	45.73	155	39.29	18.40	23	5	.10	.6	2.0	KEA	2.8X	2	96	21							
95	FEB	18	1155	23.48	19	21.58	155	29.25	5.92	47	6	.11	.3	.8	KAO	2.0X	4	41	3							
95	FEB	18	1303	49.30	19	25.88	155	16.08	1.21	29	4	.08	.2	.3	SNCL	2.3X	3	83	2							
95	FEB	18	1338	58.07	19	26.03	155	16.05	1.19	18	4	.09	.3	.5	SNCL	1.6X	4	86	3							
95	FEB	18	1907	16.74	19	18.76	155	13.10	8.93	35	3	.08	.5	.7	SF2	1.5X	4	152	7							
95	FEB	18	1950	7.69	19	26.46	155	23.59	10.35	47	6	.12	.3	.6	KAO	1.8X	6	46	4							
95	FEB	18	2352	55.57	19	29.62	155	26.07	5.14	30	5	.10	.3	1.1	KAO	1.8X	3	74	5							
95	FEB	20	2112	48.40	18	55.42	155	33.80	41.78	36	8	.09	1.1	.8	DLS	2.2X	1	253	13							
95	FEB	21	951	6.52	19	24.12	155	15.00	44.88	28	3	18	1.7	1.3	DEP	2.2X	2	71	2							
95	FEB	21	1451	40.03	19	26.10	155	15.91	1.70	18	5	.10	.3	.5	SNCL	1.6X	3	91	3							
95	FEB	21	2123	34.05	19	19.86	155	8.43	7.97	47	5	.11	.4	.5	SF4	2.0X	5	80	5							

ORIGIN TIME				LAT N				LON W				DEPTH N				N RMS ERH ERZ LOC				PREF N AZ MIN				
YR	MON	DA	HRMN	SEC	DEG	MIN	DEG	MIN	DEG	MIN	DEG	MIN	DEG	MIN	DEG	MIN	DEG	MIN	DEG	MIN	DEG	MIN	DEG	MIN
95	FEB	25	1027	51.80	19	24.85	155	16.34	11.31	34	4	15	.6	.5	INTL	1.7X	4	98	1	1.7X	4	98	1	
95	FEB	25	1057	56.57	19	25.83	155	16.50	14.59	18	3	08	.9	1.2	DEPL	1.7X	3	110	2	1.7X	3	110	2	
95	FEB	25	1118	11.52	19	25.17	155	16.46	12.22	14	2	06	.9	1.2	INTL	1.5X	2	107	1	1.5X	2	107	1	
95	FEB	25	1137	30.34	19	24.43	155	16.90	13.02	31	6	13	.7	.6	DEPL	1.6X	4	57	1	1.6X	4	57	1	
95	FEB	25	1216	12.85	19	25.05	155	16.76	11.89	26	2	13	.6	.8	INTL	1.8X	1	62	1	1.8X	1	62	1	
95	FEB	25	1218	0.84	19	25.40	155	16.14	14.04	14	3	12	1.6	.6	DEPL	2.0X	2	187	3	2.0X	2	187	3	
95	FEB	25	1243	37.29	19	25.60	155	16.41	11.58	17	2	11	.8	.9	INTL	1.7X	1	72	2	1.7X	1	72	2	
95	FEB	25	1321	16.09	19	24.97	155	16.52	12.84	31	5	10	.5	.4	INTL	1.5X	4	65	1	1.5X	4	65	1	
95	FEB	25	1328	44.70	19	25.57	155	16.08	13.33	12	1	07	1.0	1.2	DEPL	1.7X	1	132	3	1.7X	1	132	3	
95	FEB	25	1357	15.50	19	24.88	155	16.74	11.55	24	1	10	.7	.8	INTL	1.6X	2	107	0	1.6X	2	107	0	
95	FEB	25	1431	27.64	19	24.53	155	16.55	13.64	24	5	10	.7	.7	DEPL	1.6X	4	88	1	1.6X	4	88	1	
95	FEB	25	1437	33.42	19	24.96	155	17.31	14.21	14	1	10	1.1	.8	DEPL	1.8X	1	91	1	1.8X	1	91	1	
95	FEB	25	1453	54.86	19	25.06	155	15.89	14.58	25	5	08	.8	.6	DEPL	1.7X	3	117	2	1.7X	3	117	2	
95	FEB	25	1458	5.52	19	24.64	155	16.76	13.51	11	2	07	1.1	1.2	DEPL	1.5X	2	87	1	1.5X	2	87	1	
95	FEB	25	1511	12.17	19	24.77	155	16.33	13.25	32	5	09	.6	.5	DEPL	1.7X	4	98	1	1.7X	4	98	1	
95	FEB	25	1544	52.03	19	22.53	155	16.42	10.09	13	1	12	.8	1.2	INTL	1.7X	1	96	1	1.7X	1	96	1	
95	FEB	25	1550	34.21	19	24.09	155	17.09	12.78	18	2	09	.6	.9	INTL	1.7X	3	72	1	1.7X	3	72	1	
95	FEB	25	1604	52.93	19	25.14	155	15.75	12.80	33	4	10	.6	.3	INTL	1.5X	4	86	2	1.5X	4	86	2	
95	FEB	25	1610	49.54	19	23.63	155	17.17	10.37	11	1	10	.7	1.4	INTL	.9X	2	78	2	.9X	2	78	2	
95	FEB	25	1613	41.93	19	24.68	155	29.47	9.02	52	9	12	.3	.6	KAO	2.3X	1	32	5	2.3X	1	32	5	
95	FEB	25	1630	57.89	18	56.08	155	33.22	41.42	5611	.09	.9	.8	DLS	2.6D	1	244	13	2.6D	1	244	13		
95	FEB	25	1702	44.88	19	24.51	155	16.80	12.01	26	2	11	.5	.5	INTL	1.6X	2	83	1	1.6X	2	83	1	
95	FEB	25	1706	4.43	19	25.34	155	16.80	15.26	10	2	09	1.1	.5	DEPL	1.5X	1	159	1	1.5X	1	159	1	
95	FEB	25	1715	27.90	19	25.11	155	16.93	12.55	23	5	07	.7	.6	INTL	1.5X	3	138	0	1.5X	3	138	0	
95	FEB	25	1728	30.52	19	25.46	155	17.84	10.66	21	2	13	.7	.7	INTL	1.5X	1	69	0	1.5X	1	69	0	
95	FEB	25	1733	46.78	19	25.01	155	15.14	13.11	9	1	10	1.5	.6	DEPL	1.5X	1	178	3	1.5X	1	178	3	
95	FEB	25	1740	31.11	19	25.14	155	17.24	8.82	23	.11	.6	.9	INTL	1.6X	2	82	1	1.6X	2	82	1		
95	FEB	25	1748	47.02	19	24.06	155	17.05	11.89	20	4	11	.6	.8	INTL	1.7X	3	71	1	1.7X	3	71	1	
95	FEB	25	1750	59.44	19	24.29	155	15.85	11.91	11	3	10	1.6	.7	INTL	1.2X	2	281	3	1.2X	2	281	3	
95	FEB	25	1807	14.54	19	24.94	155	16.18	11.40	17	3	10	.7	.8	INTL	1.7X	3	107	1	1.7X	3	107	1	
95	FEB	25	1809	13.38	19	24.77	155	15.99	13.29	25	5	12	.9	.4	DEPL	1.6X	3	105	2	1.6X	3	105	2	
95	FEB	25	1825	29.39	19	24.88	155	16.29	12.89	27	4	13	.9	.5	INTL	1.9X	3	103	1	1.9X	3	103	1	
95	FEB	25	1831	14.87	19	25.04	155	16.55	13.88	18	3	11	.8	.7	DEPL	1.7X	3	101	1	1.7X	3	101	1	
95	FEB	25	1842	35.44	19	25.23	155	16.62	13.29	18	2	09	.8	1.0	DEPL	1.7X	3	105	1	1.7X	3	105	1	
95	FEB	25	1850	35.94	19	24.44	155	16.73	11.57	17	2	08	.7	.9	INTL	1.7X	3	84	1	1.7X	3	84	1	
95	FEB	25	1859	28.60	19	25.08	155	16.46	11.48	29	4	10	.4	.5	INTL	1.7X	3	62	1	1.7X	3	62	1	
95	FEB	25	1922	11.95	19	25.57	155	16.38	11.68	24	6	13	.7	.6	INTL	1.8X	4	121	2	1.8X	4	121	2	
95	FEB	25	1930	47.97	19	25.31	155	17.17	10.69	20	.14	.7	1.3	INTL	1.5X	1	62	1	1.5X	1	62	1		
95	FEB	25	1939	16.26	19	24.99	155	16.19	10.42	22	1	14	.7	1.1	INTL	1.5X	1	102	1	1.5X	1	102	1	
95	FEB	25	1954	27.43	19	24.54	155	17.05	13.21	27	4	10	.5	.6	DEPL	1.5X	3	54	1	1.5X	3	54	1	
95	FEB	25	2005	26.26	19	25.32	155	16.62	11.10	27	1	10	.6	.7	INTL	1.8X	2	66	1	1.8X	2	66	1	
95	FEB	25	2025	31.34	19	25.01	155	16.83	11.34	26	4	10	.5	.6	INTL	1.9X	4	61	0	1.9X	4	61	0	
95	FEB	25	2029	25.29	19	24.91	155	16.32	12.92	32	4	09	.6	.6	INTL	1.7X	4	103	1	1.7X	4	103	1	
95	FEB	25	2034	30.35	19	24.98	155	16.64	13.29	14	1	10	1.0	1.0	DEPL	1.7X	1	149	2	1.7X	1	149	2	
95	FEB	25	2044	16.47	19	24.75	155	16.37	12.81	17	2	07	1.0	1.0	INTL	1.8X	3	96	1	1.8X	3	96	1	

ORIGIN TIME				LAT N				LON W				DEPTH N				N RMS ERH ERZ LOC				PREF N AZ MIN						
YR	MON	DA	HRMN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	KM	RD	S	SEC	KM	KM	RENKS	MAG	RD	GAP	DS
95	FEB	27	103	38.70	19	25.00	155	16.46	12.19	12	.07	.9	2.8	INTL	1.5X	2	66	2								
95	FEB	27	108	9.13	19	24.63	155	16.48	12.83	15	1.07	.7	.8	INTL	1.8X	2	111	1								
95	FEB	27	129	19.67	19	24.93	155	16.95	12.00	35	2.10	.5	.5	INTL	1.7X	4	39	0								
95	FEB	27	150	19.66	19	27.26	155	19.97	18.35	7	.11	5.810.1	DMLL-	1.8X	1	265	5									
95	FEB	27	157	37.19	19	23.56	155	17.01	13.21	12	1.07	1.0	1.3	DEPL	1.2X	1	69	0								
95	FEB	27	215	11.40	19	22.98	155	16.19	12.36	13	3.09	1.1	.8	INTL	1.6X	3	104	1								
95	FEB	27	249	29.48	19	23.03	155	17.63	4.76	21	3.12	.4	.6	SSCL	1.5X	4	64	1								
95	FEB	27	329	48.03	19	23.69	155	17.77	8.41	15	.11	.5	1.0	INTL	1.3X	3	48	3								
95	FEB	27	403	58.61	19	24.47	155	17.24	10.35	13	.11	.9	1.9	INTL	1.8X	1	88	1								
95	FEB	27	412	22.37	19	25.40	155	16.34	11.72	19	.09	.7	.9	INTL	1.3X	3	117	2								
95	FEB	27	425	32.44	19	24.30	155	17.21	2.19	18	5.06	.3	.2	SSCL	1.4X	3	63	1								
95	FEB	27	432	3.17	19	25.22	155	16.82	10.65	15	.12	.9	1.7	INTL	1.9X	3	63	1								
95	FEB	27	438	3.61	19	24.87	155	16.28	8.48	9	.10	.8	1.9	INTL	1.4X	1	76	2								
95	FEB	27	446	47.16	19	24.74	155	16.89	8.29	10	.10	1.1	1.5	INTL	1.3X	2	141	2								
95	FEB	27	449	17.59	19	25.46	155	16.72	20.95	10	.06	1.8	3.9	DEPL	1.6X	1	99	2								
95	FEB	27	500	58.14	19	22.46	155	16.14	12.48	12	.07	.9	1.4	INTL	1.3X	2	103	0								
95	FEB	27	509	5.52	19	25.13	155	16.54	11.74	32	5.14	.6	.5	INTL	1.5X	4	65	1								
95	FEB	27	517	30.22	19	23.45	155	16.38	9.94	13	2.11	.9	.9	INTL	1.2X	2	99	1								
95	FEB	27	545	59.87	19	24.64	155	16.00	13.92	20	5.11	1.0	.5	DEPL	1.8X	4	99	2								
95	FEB	27	649	2.00	19	24.46	155	17.23	12.96	31	4.10	.6	.5	INTL	1.7X	4	52	1								
95	FEB	27	736	48.59	19	55.37	155	38.08	13.36	53	9.10	1.0	.6	KOH	2.3X	6	236	24								
95	FEB	27	839	35.52	19	26.03	155	14.58	14.45	12	4.10	1.5	1.0	DEPL	1.4X	2	248	5								
95	FEB	27	951	5.89	19	24.60	155	16.25	14.95	11	3.07	1.8	1.0	DEPL	1.5X	2	217	1								
95	FEB	27	1013	6.10	19	24.76	155	17.58	12.22	17	2.11	.9	1.3	INTL	1.5X	3	85	1								
95	FEB	27	1029	53.11	19	23.82	155	17.17	12.50	20	3.10	.7	.7	INTL	1.6X	4	73	1								
95	FEB	27	1046	15.81	19	25.08	155	16.19	12.70	35	5.10	.5	.4	INTL	1.9X	4	71	1								
95	FEB	27	1120	54.92	19	23.73	155	15.80	12.98	13	3.10	1.3	.9	INTL	1.4X	1	96	1								
95	FEB	27	1121	5.82	19	22.52	155	17.77	13.37	13	4.07	1.2	.6	DEPL	1.7X	3	132	2								
95	FEB	27	1132	57.31	19	24.84	155	16.31	13.92	18	3.12	.8	.5	DEPL	1.7X	3	67	1								
95	FEB	27	1146	25.04	19	24.73	155	17.31	10.26	16	2.12	.7	.6	INTL	1.3X	2	82	1								
95	FEB	27	1213	8.82	19	25.08	155	16.18	12.37	16	4.09	.7	.8	INTL	1.5X	3	111	3								
95	FEB	27	1216	58.23	19	23.51	155	16.53	11.96	10	2.06	1.7	1.1	INTL	1.4X	3	101	1								
95	FEB	27	1245	58.41	19	23.98	155	17.13	12.50	18	3.12	.9	.7	INTL	1.7X	3	51	1								
95	FEB	27	1312	57.58	19	24.20	155	16.26	14.02	16	4.09	1.0	.8	DEPL	1.5X	3	120	1								
95	FEB	27	1328	18.97	19	25.02	155	17.92	10.30	22	.12	.5	.8	INTL	1.9X	3	81	1								
95	FEB	27	1405	4.50	19	24.85	155	16.90	11.48	29	3.09	.4	.4	INTL	2.0X	4	59	0								
95	FEB	27	1445	32.40	19	25.61	155	16.18	9.61	17	.13	.7	1.1	INTL	2.0X	2	73	2								
95	FEB	27	1601	27.30	19	23.95	155	17.27	12.78	37	5.14	.6	.5	INTL	1.7X	4	45	1								
95	FEB	27	1627	3.18	19	23.38	155	16.93	12.36	11	4.06	1.4	1.4	INTL	1.2X	2	72	0								
95	FEB	27	1627	26.55	19	24.69	155	15.91	12.63	13	4.08	1.4	.8	INTL	1.6X	3	155	2								
95	FEB	27	1651	45.78	19	23.40	155	17.34	11.94	21	4.14	.7	.6	INTL	1.9X	4	55	1								
95	FEB	27	1750	45.53	19	24.13	155	15.91	15.21	14	2.11	1.3	1.3	DEPL	1.9X	1	121	1								
95	FEB	27	1900	27.42	19	24.61	155	16.83	7.22	22	2.13	.5	.8	INTL	1.6X	3	59	1								
95	FEB	27	1921	45.87	19	20.32	155	14.09	16.99	14	.14	2.8	1.8	DEPL	1.8X	1	227	5								
95	FEB	27	2013	28.79	19	24.16	155	17.26	11.31	19	2.09	.5	.6	INTL	1.6X	3	61	1								

ORIGIN TIME				LAT N				LON W				DEPTH N				N RMS				ERH ERZ				LOC				PREF N				AZ MIN			
YR MON DA HRMN				SEC				DEG MIN				KM				RD S				KM				KM REMKS				MAG				RD GAP DS			
95	MAR	9	2138	8.60	19	22.94	155	14.38	3.72	29	5	.09	.3	.4	SEC	1.8X	3	49	2																
95	MAR	10	120	25.53	19	22.25	155	12.56	3.93	41	6	.11	.3	.3	SER	2.5X	3	96	1																
95	MAR	10	251	1.32	19	19.31	155	10.89	7.54	31	2	.11	.5	.9	SF3	1.8X	3	102	5																
95	MAR	11	519	5.98	19	20.03	155	6.46	8.99	41	5	.08	.6	.4	SF4	2.1X	7	153	6																
95	MAR	11	921	4.75	20	6.04	155	51.52	27.58	40	4	.11	1.1	1.6	KOH	2.2X	2	243	9																
95	MAR	12	846	4.90	19	25.01	155	39.12	2.96	33	2	.11	.7	.6	MLO	2.0X	6	194	3																
95	MAR	12	2233	53.88	19	45.07	154	48.23	41.34	5611	.11	.9	1.1	HIL	2.3X	6	256	24																	
95	MAR	13	937	59.36	19	50.04	155	42.91	14.60	33	6	.15	.9	.7	KEA	2.0X	3	130	6																
95	MAR	14	926	8.28	19	11.36	155	40.70	1.98	35	3	.14	.5	1.3	LSW	1.8X	4	117	19																
95	MAR	15	2310	9.01	20	2.82	156	18.99	30.40	43	5	.11	1.5	3.2	KOH	2.3X	5	308	72																
95	MAR	16	1200	35.51	19	24.87	155	19.05	6.09	26	6	.08	.4	.6	KAO	1.9X	4	66	2																
95	MAR	16	2048	17.73	19	14.97	155	27.13	8.92	27	4	.11	.4	.8	LSW	1.3X	1	86	5																
95	MAR	17	321	20.83	19	23.10	155	15.04	3.17	22	4	.08	.3	.3	SEC	1.5X	4	62	2																
95	MAR	17	419	53.71	21	17.58	156	47.62	16.44	25	3	.15	3.217.8	DIS	-	2.7X	1	339167																	
95	MAR	17	552	4.08	19	23.12	155	14.80	3.81	36	8	.13	.3	.4	SEC	1.9X	5	48	2																
95	MAR	17	1210	5.29	20	52.42	154	55.29	16.09	52	6	.12	4.114.4	DIS	-	3.3X	4	319117																	
95	MAR	17	2207	47.93	19	12.09	155	27.35	7.87	49	4	.18	.5	.6	LSWF	2.5X	6	117	5																
95	MAR	18	520	30.37	19	31.73	155	41.23	7.41	50	9	.14	.4	.9	MLO	1.9X	5	58	8																
95	MAR	18	2026	57.59	19	24.55	155	16.91	1.32	18	5	.15	.3	.2	SNCL	2.0X	4	74	1																
95	MAR	19	1900	23.61	19	13.74	155	23.22	35.94	52	7	.10	.6	.9	DEP	2.1X	6	152	2																
95	MAR	19	1925	8.31	19	20.25	155	7.12	7.99	46	6	.10	.4	.5	SF4	2.1X	6	102	6																
95	MAR	19	2200	3.42	19	25.53	155	19.30	6.24	43	7	.12	.3	.6	KAO	2.0X	5	49	3																
95	MAR	19	2200	43.41	19	25.27	155	19.28	6.20	39	6	.12	.3	.6	KAO	2.0X	4	46	3																
95	MAR	19	2229	51.05	20	5.48	156	39.74	15.13	5811	.13	6.711.8	DISF	-	4.8D	1	319	97																	
95	MAR	20	141	8.68	20	5.55	156	40.02	6.54	47	9	.13	7.910.0	DIS	-	2.8X	5	321	98																
95	MAR	21	1010	54.00	19	24.56	155	17.25	1.04	13	1	.10	.3	.3	SNCL	1.9X	2	67	1																
95	MAR	21	1052	37.61	19	15.04	155	23.43	9.23	36	5	.14	.6	1.1	SWR	2.6X	5	158	2																
95	MAR	21	1904	32.47	19	24.95	155	38.89	3.04	24	6	.11	.6	.5	MLO	2.3X	4	188	2																
95	MAR	22	1524	9.21	19	30.66	155	28.96	6.04	41	7	.09	.3	.8	MLO	2.0X	6	72	3																
95	MAR	23	703	52.25	20	7.44	156	7.71	35.56	52	8	.11	1.1	1.9	KOH	2.4X	4	303	57																
95	MAR	23	1642	14.50	19	25.22	155	29.39	9.52	40	5	.09	.3	.6	KAO	1.5X	5	35	6																
95	MAR	23	2025	27.10	19	19.55	155	10.31	7.64	42	8	.10	.4	.5	SF3	1.8X	4	96	5																
95	MAR	23	2126	42.16	19	21.71	155	30.20	9.83	47	5	.08	.3	.5	KAO	2.2X	6	45	5																
95	MAR	24	1547	42.44	19	22.17	155	4.82	7.56	42	5	.11	.3	.5	SF5	1.8X	5	79	4																
95	MAR	25	47	0.85	19	15.78	155	31.42	7.30	43	3	.18	.5	1.1	LSW	1.8X	5	110	3																
95	MAR	25	132	24.22	19	11.32	155	41.73	7.83	44	6	.18	.5	.9	LSW	2.7X	4	123	10																
95	MAR	26	1003	55.17	19	24.96	155	1.67	4.19	22	3	.10	.4	1.0	SME	1.6X	3	108	4																
95	MAR	26	1344	36.01	19	25.71	155	6.85	0.03	9	1	.19	.4	1.7	SME	#	2.5D	1	127	5															
95	MAR	27	604	42.75	19	21.99	155	13.84	28.89	56	8	.11	.5	.7	DEPF	4.1D	1	51	2																
95	MAR	27	915	34.52	19	24.80	155	16.73	11.87	28	6	.12	.5	.6	INTL	1.8X	5	62	1																
95	MAR	27	1049	35.26	19	16.33	155	28.84	8.70	30	4	.19	.5	1.0	LSW	1.6X	2	59	3																
95	MAR	27	1748	34.02	19	24.09	155	16.69	11.89	24	5	.09	.6	.5	INTL	1.7X	5	77	0																
95	MAR	29	1416	31.03	19	24.88	155	16.26	11.25	20	5	.11	.6	.7	INTL	1.9X	4	107	1																
95	MAR	29	2141	28.57	19	25.57	155	16.75	12.29	17	4	.10	1.1	.9	INTL	1.7X	3	110	1																
95	MAR	30	28	40.02	20	21.98	156	16.41	20.04	37	3	.13	1.5	8.2	KOH	2.5X	2	318	85																

ORIGIN TIME				LAT N				LON W				DEPTH N				N RMS ERH ERZ LOC				PREF N				AZ MIN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
YR	MON	DA	HRMN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN</

ORIGIN TIME				LAT N				LON W				DEPTH N				N RMS ERH ERZ LOC				PREF N AZ MIN				
YR	MON	DA	HRMN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN
95	MAY	4	822	3.91	19	31.16	155	37.64	11.79	44	8	10	.4	.3	MLO	2.4X	7	114	5					
95	MAY	4	1832	46.88	19	21.33	155	6.73	8.16	5010	.09	.4	.5	SF4	2.4X	6	86	4						
95	MAY	5	11	57.72	18	45.83	155	17.03	7.00	40	3	14	1.4	1.5	LOI	2.3X	4	282	48					
95	MAY	5	13	17.92	18	46.58	155	16.62	9.93	40	4	15	1.6	1.2	LOI	2.6X	4	281	47					
95	MAY	5	848	26.57	19	21.48	155	4.92	8.59	45	6	10	.4	.3	SF5	2.1X	5	86	5					
95	MAY	5	2003	23.38	19	28.38	155	13.69	22.92	4414	.12	.5	.7	DEP	2.1X	8	53	5						
95	MAY	6	441	51.95	19	25.74	155	19.22	6.18	37	6	12	.4	.7	KAO	2.2X	5	47	3					
95	MAY	6	1333	41.21	19	20.64	155	6.95	7.24	37	8	11	.4	.7	SF4	1.8X	3	97	5					
95	MAY	6	1335	2.55	19	20.95	155	7.04	6.05	33	4	11	.4	1.0	SF4	1.7X	3	90	5					
95	MAY	7	1611	22.89	18	42.32	155	14.88	7.59	40	6	12	1.1	.9	LOI	2.4X	4	284	54					
95	MAY	8	236	22.78	19	9.72	155	33.29	33.33	48	4	.08	.6	1.0	DLS	1.8X	5	119	10					
95	MAY	8	835	49.49	19	20.04	155	7.68	7.47	40	7	10	.4	.6	SF4	1.6X	4	95	5					
95	MAY	8	926	8.23	19	21.94	155	27.19	10.78	36	7	12	.4	.6	KAO	1.4X	3	42	1					
95	MAY	8	2035	0.42	19	22.46	155	4.34	8.18	42	6	10	.4	.3	SF5	1.8X	4	89	4					
95	MAY	9	2135	7.77	19	20.10	155	8.03	9.58	47	8	.09	.5	.3	SF4F	2.9X	3	86	5					
95	MAY	10	846	22.80	19	20.10	155	7.99	7.82	43	8	.07	.3	.5	SF4	1.9X	5	87	5					
95	MAY	10	925	19.13	19	17.79	155	13.17	5.61	36	5	10	.4	.9	SF2	1.4X	4	106	2					
95	MAY	11	349	20.40	20	5.18	155	20.91	15.77	53	5	11	1.2	1.6	KEAF	4.8D	1	267	22					
95	MAY	11	733	3.45	19	22.93	155	14.80	3.34	27	8	.07	.2	.3	SEC	2.0X	5	68	2					
95	MAY	12	50	5.00	19	26.39	155	30.14	10.45	5210	.10	.3	.5	KAO	2.4X	6	42	6						
95	MAY	12	151	54.16	19	16.13	155	27.06	9.44	39	6	11	.3	.5	LSW	1.6X	4	66	6					
95	MAY	12	723	18.72	20	4.00	155	21.82	15.53	45	9	.09	.8	.6	KEA	2.5X	3	268	20					
95	MAY	13	149	40.65	19	25.36	155	26.99	6.87	51	6	12	.3	.7	KAO	1.7X	6	26	3					
95	MAY	13	1641	34.77	19	30.46	155	26.89	4.58	35	5	11	.3	1.2	MLO	2.1X	4	81	3					
95	MAY	13	2126	43.28	19	25.16	155	39.13	2.65	20	3	.08	.6	.4	MLO	1.6X	1	192	3					
95	MAY	14	258	55.62	19	18.98	155	13.39	9.57	47	4	11	.4	.4	SF2	2.1X	5	129	7					
95	MAY	14	1928	50.97	19	20.07	155	8.51	7.89	48	7	.09	.4	.5	SF4	1.7X	5	77	4					
95	MAY	15	1315	34.88	19	19.47	155	5.10	6.38	34	4	12	.5	.7	SF5	1.7X	3	154	4					
95	MAY	15	1757	48.19	19	19.78	155	7.28	7.80	38	7	.08	.4	.6	SF4	1.6X	4	107	5					
95	MAY	15	2336	10.57	19	16.68	154	40.34	35.77	50	7	13	1.8	1.0	LER	2.4X	4	299	30					
95	MAY	16	1340	49.24	19	19.98	155	6.83	7.51	39	6	.08	.4	.6	SF4	1.7X	5	112	5					
95	MAY	16	2103	37.58	19	17.67	155	30.69	8.00	44	3	15	.3	.9	LSW	1.7X	4	72	5					
95	MAY	17	1503	9.29	19	19.15	155	0.72	36.59	54	8	11	1.0	.6	DEP	2.3X	6	209	4					
95	MAY	17	1512	45.90	19	55.14	155	22.15	15.43	22	4	10	.8	.4	KEA	1.8X	2	225	4					
95	MAY	18	1919	22.53	19	23.44	155	30.19	10.06	47	6	.07	.3	.6	KAO	1.7X	5	39	5					
95	MAY	19	522	31.72	19	37.65	156	3.12	22.32	50	3	11	1.4	1.6	KON	2.1X	6	233	21					
95	MAY	19	1513	45.83	19	24.61	155	16.74	1.50	21	6	12	.3	.2	SNCL	1.5X	4	88	1					
95	MAY	22	1349	30.49	19	19.69	155	8.17	8.59	48	6	.09	.3	.4	SF4	2.5X	4	87	4					
95	MAY	22	1355	21.32	19	19.16	155	5.35	0.02	14	4	.08	.4	.5	SSF #	1.3X	2	162	4					
95	MAY	24	1632	56.62	19	22.20	155	12.87	3.20	19	4	.07	.4	.3	SER	1.6X	3	56	1					
95	MAY	25	934	5.34	19	13.51	155	34.98	7.94	33	6	15	.4	.8	LSW	1.9X	2	128	5					
95	MAY	25	1909	35.98	19	27.49	154	1.02	54.86	35	.14	15.6	2.0	DLS	-	1.9X	3	330	101					
95	MAY	26	20	11.14	19	54.31	155	35.09	28.08	43	9	.09	.9	1.0	KEA	1.9X	5	225	19					
95	MAY	26	610	33.23	19	27.55	155	28.51	10.70	48	7	11	.3	.6	KAO	2.1X	6	49	7					
95	MAY	26	1638	49.12	19	21.10	155	17.12	1.67	18	3	.07	.3	.4	SWR	1.3X	4	58	2					

ORIGIN TIME				LAT N				LON W				DEPTH N				N RMS ERH ERZ LOC				PREF N				AZ MIN			
YR	MON	DA	HRMN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	KM	RD	S	SEC	KM	KM	REMK	MAG	RD	GAP	DS	
95	JUN	29	545	18.74	19	19.79	155	11.89	7.23	48	8.11	.4	.5	SF3	1.8X	5	113	6									
95	JUN	29	557	37.91	19	47.63	155	42.39	8.02	46	3.11	.8	2.0	KEA	2.4X	5	204	18									
95	JUN	29	700	21.10	19	21.03	155	8.08	8.70	47	7.10	.3	.4	SF4	2.1X	5	75	4									
95	JUL	1	1650	34.99	19	25.11	155	39.23	2.76	16	1.08	.9	.5	MLO	1.4D	1	197	3									
95	JUL	1	1921	14.74	19	45.95	156	5.51	8.60	42	5.14	1.2	.8	HUA	2.3X	3	242	45									
95	JUL	2	1803	37.56	19	26.40	155	15.80	1.71	24	6.12	.3	.4	SNCL	1.6X	3	142	3									
95	JUL	3	1022	8.63	19	37.50	155	49.91	14.83	57	8.13	.6	.3	KONF	3.2X	4	144	7									
95	JUL	3	1503	27.26	19	18.70	155	29.33	9.88	36	2.12	.4	.7	LSW	1.5X	3	51	7									
95	JUL	3	2057	52.44	19	29.47	155	19.49	13.76	25	11.10	.7	.7	DML	1.9X	5	206	4									
95	JUL	3	2252	4.90	19	20.58	155	13.16	8.24	49	6.13	.4	.5	SF2	2.1X	3	107	4									
95	JUL	4	16	57.08	19	15.35	155	22.66	35.71	56	12.11	.6	.8	DEP	2.1X	5	140	3									
95	JUL	4	346	46.60	19	18.49	155	26.61	31.28	37	3.10	.7	1.4	DLS	1.8X	1	53	7									
95	JUL	4	528	34.63	19	20.12	155	7.02	9.50	25	3.09	.5	.3	SF4	2.2X	1	105	5									
95	JUL	5	731	35.59	19	19.90	155	7.64	9.47	45	4.10	.5	.4	SF4	2.7X	3	98	5									
95	JUL	7	1156	11.01	19	58.60	155	16.95	12.69	44	4.12	1.3	.5	KEA	2.4X	4	210	12									
95	JUL	8	859	10.19	19	22.15	155	30.49	10.26	35	9.08	.3	.7	KAO	2.0X	5	44	5									
95	JUL	8	1229	17.65	19	26.82	155	28.51	9.73	66	15.10	.3	.5	KAO	2.2X	8	43	7									
95	JUL	8	1748	41.81	19	19.72	155	7.12	7.60	36	2.09	.4	.7	SF4	1.9X	3	112	5									
95	JUL	8	2246	31.59	19	24.01	155	16.99	1.68	17	4.12	.3	.2	SSCL	1.3X	4	71	1									
95	JUL	9	106	2.08	19	22.99	155	14.67	3.38	29	5.10	.3	.3	SEC	1.9X	3	66	2									
95	JUL	9	904	16.72	18	53.15	155	11.30	12.66	56	9.16	1.6	3.2	LOI	2.7D	1	254	44									
95	JUL	9	1845	54.79	19	19.84	155	13.75	8.68	44	3.11	.4	.5	SF2	2.1X	4	163	5									
95	JUL	11	824	11.01	19	23.10	155	30.61	9.52	45	6.08	.3	.7	KAO	2.2X	1	30	5									
95	JUL	11	1311	43.42	19	13.87	155	27.78	7.66	41	3.15	.4	.9	LSW	2.1X	4	100	5									
95	JUL	12	107	20.31	20	6.82	155	48.71	22.47	47	2.13	2.6	2.1	KOH	2.9X	4	234	4									
95	JUL	12	250	16.24	19	22.47	155	27.02	11.13	34	3.10	.4	.7	KAO	1.5X	3	42	1									
95	JUL	12	1235	38.23	19	20.73	155	13.09	8.65	42	5.09	.4	.5	SF2	1.9X	2	62	3									
95	JUL	12	1845	51.92	19	55.50	155	14.75	37.52	52	9.11	.8	.8	KEA	2.2X	5	236	11									
95	JUL	13	2038	53.81	19	18.97	155	8.45	8.08	44	11.09	.3	.5	SF4	1.7X	3	85	3									
95	JUL	13	2046	40.81	19	20.51	155	12.07	8.06	42	2.12	.4	.5	SF3	1.9X	2	120	4									
95	JUL	14	248	38.40	19	12.72	155	31.52	7.60	48	5.17	.4	.7	LSW	1.7X	3	79	5									
95	JUL	14	610	56.42	19	22.32	155	29.84	9.94	48	7.09	.3	.5	KAO	1.9X	4	40	4									
95	JUL	14	653	42.53	19	16.20	155	30.42	7.63	38	1.18	.4	1.0	LSW	2.2X	1	80	2									
95	JUL	14	834	48.54	19	21.73	155	18.08	32.18	57	11.11	.6	.6	DEP	2.4X	6	44	3									
95	JUL	15	2217	11.18	19	20.72	155	11.39	8.98	45	5.11	.5	.4	SF3	2.4X	3	114	4									
95	JUL	16	949	41.81	19	19.42	155	12.83	8.13	41	6.11	.4	.7	SF2	1.6X	3	122	6									
95	JUL	17	2253	55.11	19	24.15	155	15.51	3.46	26	6.10	.3	.3	SEC	2.3X	3	81	2									
95	JUL	18	1253	45.95	19	20.03	155	7.76	8.23	42	9.10	.4	.4	SF4	1.9X	4	93	5									
95	JUL	18	1318	44.01	19	18.57	155	12.75	8.37	39	5.09	.4	.5	SF2	1.7X	5	99	3									
95	JUL	18	1534	35.33	19	22.52	155	24.54	13.42	38	6.10	.4	.6	DML	1.8X	4	31	5									
95	JUL	19	1119	32.87	19	29.56	154	51.26	40.24	41	8.11	1.2	.6	LER	1.9X	3	177	2									
95	JUL	19	2006	54.22	19	19.42	155	13.39	8.79	40	4.11	.4	.5	SF2	1.8X	3	124	6									
95	JUL	20	900	31.77	19	19.88	155	6.50	9.24	45	8.09	.4	.4	SF4	2.2X	3	120	5									
95	JUL	21	1020	8.98	19	24.26	155	29.75	9.83	53	9.09	.3	.5	KAO	1.7X	5	31	5									
95	JUL	21	1023	46.08	19	12.81	155	28.55	0.03	60	14.16	.3	.2	LSW #	2.2X	7	92	6									

ORIGIN TIME				LAT N				LON W				DEPTH N				N RMS ERH ERZ LOC				PREF N A2 MIN			
YR	MON	DA	HRMN	SEC	DEG	MIN		DEG	MIN			KM	RD	S	SEC	KM	KM	REMS	KM	MAG	RD	GAP	DS
95	JUL	23	949	44.17	19	25.38	155	19.80	6.62	31	5	.11	.4	.8	KAO	1.9X	2	51	3				
95	JUL	23	1009	12.87	19	11.79	155	39.14	6.29	48	5	.16	.4	.8	LSW	2.4X	3	82	13				
95	JUL	24	718	46.78	19	24.83	155	16.10	2.38	28	1	.10	.3	.2	SNCL	1.9X	2	70	2				
95	JUL	24	832	18.23	19	25.24	155	29.47	9.79	5913	.11	.3	.5	KAO	2.3X	9	37	6					
95	JUL	24	1751	14.98	19	22.94	155	14.76	3.44	23	7	.08	.3	.4	SEC	1.9X	3	67	2				
95	JUL	26	657	39.74	19	20.40	155	12.22	7.84	50	6	.12	.4	.5	SF3	1.9X	5	108	4				
95	JUL	27	1452	36.26	19	45.78	155	57.66	13.83	39	5	.10	.9	.5	HUA	2.3X	3	214	15				
95	JUL	28	241	31.38	19	26.13	155	29.33	10.20	5110	.11	.3	.6	KAO	2.0X	6	41	7					
95	JUL	28	339	6.02	20	0.23	155	29.34	40.41	57	8	.10	.8	1.0	KEA	2.3X	7	255	20				
95	JUL	28	346	59.46	19	19.74	155	13.76	8.42	51	7	.13	.4	.5	SF2	1.6X	5	120	5				
95	JUL	28	908	10.96	19	1.93	155	15.25	46.28	53	7	.11	1.0	1.0	LOI	2.1X	6	224	26				
95	JUL	28	1039	59.42	19	20.45	155	10.73	9.42	49	8	.09	.4	.5	SF3	1.7X	5	79	3				
95	JUL	28	2311	26.11	19	20.22	155	8.24	9.25	46	7	.10	.3	.3	SF4	1.4X	5	81	4				
95	JUL	29	1458	13.40	19	26.58	155	28.89	8.36	48	9	.12	.3	.8	KAO	1.7X	1	44	7				
95	JUL	29	1747	16.36	19	26.85	154	55.52	5.95	20	3	.11	.7	.5	LER	1.3X	2	160	1				
95	JUL	30	113	25.54	19	20.23	155	6.77	8.67	46	4	.09	.4	.5	SF4	1.9X	4	107	6				
95	JUL	30	310	29.96	19	19.50	155	11.54	6.97	46	6	.11	.4	.6	SF3	1.6X	3	95	6				
95	JUL	30	555	0.23	19	24.22	155	17.09	2.31	20	5	.09	.3	.2	SSCL	1.4X	4	73	1				
95	JUL	30	1515	13.77	19	17.01	155	28.93	11.89	43	3	.11	.3	.6	LSW	1.5X	4	53	4				
95	JUL	30	2204	14.42	19	46.07	154	51.42	43.38	43	7	.12	1.3	1.4	HIL	2.1X	4	254	19				
95	JUL	31	422	49.99	19	19.54	155	11.42	9.44	46	7	.10	.4	.5	SF3	1.6X	4	95	5				
95	JUL	31	2100	55.83	19	25.93	154	44.06	9.46	22	1	.10	1.7	.5	LER	2.1X	1	297	13				
95	JUL	31	2346	58.41	19	20.25	155	47.99	11.29	44	2	.11	.4	.3	KON	2.1X	1	100	11				
95	AUG	1	1559	17.28	19	19.75	155	10.57	8.57	52	8	.11	.4	.4	SF3	2.8X	3	92	4				
95	AUG	1	2231	56.78	19	14.75	155	26.98	8.97	6013	.14	.3	.6	LSW	2.3X	8	92	5					
95	AUG	2	706	54.90	19	29.10	155	27.15	6.95	48	9	.11	.3	.7	KAO	2.0X	7	70	5				
95	AUG	2	910	45.19	19	22.18	155	9.80	3.22	27	3	.09	.4	.3	SER	1.6X	2	56	0				
95	AUG	2	1528	39.22	19	47.75	156	35.11	37.55	40	8	.12	1.4	2.7	DIS	2.4X	2	313	78				
95	AUG	2	2107	42.36	19	36.29	157	25.02	18.78	25	2	.13	2.811	6	DIS	-	2.2D	1	335158				
95	AUG	4	955	24.51	19	16.46	155	26.68	10.27	29	2	.12	.4	1.0	LSW	1.4X	2	60	6				
95	AUG	5	310	45.75	19	16.24	155	30.24	10.21	24	1	.12	.4	1.1	LSW	1.2X	1	71	2				
95	AUG	5	314	37.52	19	14.48	155	35.32	8.09	44	3	.17	.5	.7	LSW	1.3X	1	106	3				
95	AUG	6	613	6.45	19	22.26	155	27.62	9.62	33	1	.10	.4	.8	KAO	1.2D	1	43	0				
95	AUG	6	1225	14.00	19	27.59	154	52.93	4.36	13	2	.13	.6	1.0	SLE	1.5X	1	147	3				
95	AUG	6	1313	35.73	19	24.05	155	15.84	3.46	27	6	.06	.3	.3	SEC	1.8X	4	66	1				
95	AUG	6	1427	10.52	20	5.80	155	31.67	2.10	34	4	.12	.7	.8	KEA	1.9X	1	211	27				
95	AUG	7	542	17.13	19	21.32	155	13.42	8.56	6619	.13	.3	.3	SF2	2.4X	8	102	2					
95	AUG	7	1102	35.35	19	25.96	155	24.37	8.62	37	6	.10	.3	.8	KAO	2.0X	1	50	2				
95	AUG	7	1238	16.64	19	29.93	155	44.85	9.36	37	4	.12	.5	.7	KON	1.8X	4	90	2				
95	AUG	8	850	26.12	19	20.53	155	52.68	9.87	34	5	.18	.7	.5	KON	2.1X	3	171	8				
95	AUG	8	2133	48.41	20	8.81	155	48.37	17.83	6413	.11	.813	.3	KOHP-	2.9X	11	290	35					
95	AUG	9	1852	54.83	19	25.59	154	59.57	3.54	16	4	.08	.7	.5	SLE	1.2X	1	91	2				
95	AUG	9	2102	16.56	19	19.04	155	13.61	10.54	6619	.11	.4	.3	SF2F	3.8U	125	7						
95	AUG	9	2104	54.63	19	19.39	155	13.60	8.90	51	6	.13	.4	.5	SF2	2.2X	3	124	6				
95	AUG	9	2106	54.64	19	28.75	154	53.77	2.49	19	3	.09	.4	.4	SLE	1.4X	1	107	3				
95	AUG	9	2139	55.24	19	29.23	154	53.70	2.67	13	4	.08	.4	.6	SLE	2.1X	1	105	3				
95	AUG	9	2204	7.02	19	18.24	155	13.19	8.92	43	5	.09	.4	.5	SF2	1.8X	4	138	8				
95	AUG	10	657	28.28	20	1.18	155	47.83	28.95	29	5	.09	1.0	1.6	KOH	2.3X	1	181	12				
95	AUG	10	1159	38.88	19	9.96	155	28.95/36.32	36.32	53	7	.08	.6	.9	DLS	1.9X	4	110	2				
95	AUG	10	2054	21.50	19	27.30	154	53.10	4.72	24	2	.11	.6	.9	SLE	1.6X	2	146	3				
95	AUG	11	33	6.69	19	16.55	155	29.09	9.70	46	3	.15	.4	.8	LSW	1.6X	4	56	3				
95	AUG	11	200	3.69	19	15.65	155	26.99	8.84	53	5	.14	.3	.5	LSW	1.8X	5	73	6				
95	AUG	11	919	6.12	19	30.26	155	29.55	6.37	4610	.11	.3	1.1	MLO	1.7X	7	91	5					
95	AUG	11	1134	29.02	18	56.57	155	12.07	12.51	29	5	.12	1.1	.6	LOI	1.7X	2	256	37				
95	AUG	11	1844	10.89	19	18.75	155	15.34	8.74	50	8	.12	.3	.5	SF1	1.7X	6	129	4				
95	AUG	12	435	20.15	19	25.82	155	15.00	2.09	4110	.13	.2	.4	SNCL	2.3X	5	102	2					
95	AUG	12	1145	34.08	19	22.21	155	25.97	10.31	38	4	.13	.4	.7	KAO	1.5X	3	38	3				
95	AUG	12	2121	43.29	19	9.89	155	38.00	8.08	47	3	.17	.4	1.0	LSW	2.2X	4	98	9				
95	AUG	13	1141	30.58	19	20.13	155	7.91	7.85	45	8	.11	.4	.5	SF4	1.6X	4	89	5				
95	AUG	13	1406	11.12	19	32.84	155	37.52	10.75	6315	.12	.3	.3	MLO	2.6X	8	50	7					
95	AUG	14	410	48.39	19	24.81	155	16.11	2.66	25	4	.10	.3	.3	SNCL	1.9X	1	70	2				
95	AUG	14	838	18.68	19	24.89	155	38.73	3.04	21	4	.10	.6	.5	MLO	1.9X	1	185	2				
95	AUG	14	2146	30.08	19	25.83	155	14.98	1.47	26	9	.11	.3	.4	SNCL	1.4X	6	102	2				
95	AUG	15	1540	22.03	19	39.08	156	11.40	32.04	30	4	.13	1.5	1.9	HUA	1.8X	1	300	34				
95	AUG	15	1828	35.82	19	26.75	154	55.24	5.88	21	4	.11	.6	.6	LER	1.5X	1	147	1				
95	AUG	15	2050	18.85	19	47.00	156	1.85	10.79	26	4	.13	1.2	.7	HUA	2.2X	1	231	23				
95	AUG	15	2346	21.59	19	24.90	155	16.51	1.80	16	3	.13	.3	.2	SNC	1.6X	2	99	1				
95	AUG	16	1010	27.56	19	21.63	155	6.84	7.91	38	7	.11	.4	.6	SF4	1.7X	4	80	3				
95	AUG	17	547	33.41	19	32.82	155	20.91	54.51	5410	.10	.7	.6	DML	2.3X	7	95	7					
95	AUG	17	721	0.76	19	26.45	155	17.40	11.11	12	2												

ORIGIN TIME			LAT N			LON W			DEPTH N			N RMS ERH ERZ LOC			PREP N AZ MIN				
YR	MON	DA	HRMN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	
95	AUG	22	948	1.74	19	24.99	155	16.34	8.58	23	7	15	.6	.8	INTL	1.9X	6	105	1
95	AUG	22	1026	43.20	19	26.40	155	16.21	14.85	14	4	12	1.6	1.0	DEPL	2.3X	3	152	3
95	AUG	23	1402	31.72	19	18.82	155	13.42	8.91	37	5	09	.4	.6	SF2	1.8X	4	131	7
95	AUG	23	2338	30.93	19	24.55	154	59.69	7.40	21	5	12	1.1	.6	LER	1.3X	2	171	2
95	AUG	24	120	8.25	19	57.05	156	11.10	41.83	46	8	11	1.1	1.5	KOH	2.3X	5	298	47
95	AUG	24	401	24.26	19	18.97	155	13.63	1.47	53	16	17	.3	.6	SSF	1.5X	10	130	7
95	AUG	24	1020	12.34	19	23.02	155	14.63	3.19	20	6	06	.3	.4	SEC	1.7X	4	78	2
95	AUG	24	1633	33.33	19	24.70	155	17.48	11.30	12	3	05	1.0	.9	INTL	1.3X	1	75	1
95	AUG	24	1711	20.03	19	25.10	155	16.76	12.55	12	4	13	2.5	1.3	INTL	1.3X	1	215	1
95	AUG	24	1753	58.26	19	24.12	155	18.28	12.06	13	3	09	1.5	1.0	INTL	1.2X	3	126	3
95	AUG	24	1833	50.52	19	26.11	155	16.78	14.65	11	3	05	2.1	1.2	DEPL	1.4X	3	180	2
95	AUG	24	1905	45.37	19	24.39	155	17.13	13.33	14	3	08	1.1	.8	DEPL	1.4X	3	86	1
95	AUG	24	1923	8.89	19	23.14	155	14.46	3.97	60	16	12	.3	.4	SECF	2.7X	2	47	3
95	AUG	24	1940	18.23	19	25.10	155	16.25	13.59	15	3	06	1.2	.8	DEPL	1.3X	2	159	1
95	AUG	24	2029	51.38	19	24.42	155	16.77	11.37	13	3	08	1.3	1.0	INTL	1.3X	2	195	2
95	AUG	24	2111	45.48	19	29.85	155	23.29	14.92	54	17	11	.4	.3	DML	1.7X	8	52	0
95	AUG	24	2138	5.47	19	24.70	155	16.46	15.42	17	3	06	1.0	.7	DEPL	1.2X	3	105	1
95	AUG	24	2147	36.49	19	25.18	155	16.84	13.88	13	3	07	1.4	1.0	DEPL	1.2X	2	214	1
95	AUG	24	2157	9.51	19	25.09	155	16.40	11.91	13	3	06	1.5	.9	INTL	1.2X	2	155	1
95	AUG	24	2205	52.38	19	23.54	155	16.44	12.53	9	2	07	2.0	1.4	INTL	1.3X	2	96	1
95	AUG	24	2241	2.88	19	24.97	155	16.11	14.70	15	3	06	1.6	.6	DEPL	1.4X	3	153	2
95	AUG	24	2253	57.69	19	26.07	155	15.38	14.70	15	3	08	1.4	.6	DEPL	1.4X	2	128	3
95	AUG	24	2329	15.68	19	25.07	155	16.05	14.37	16	3	04	1.1	.8	DEPL	1.4X	3	150	2
95	AUG	24	2339	16.12	19	24.93	155	16.59	13.22	14	3	03	.9	.9	DEPL	1.5X	3	148	1
95	AUG	24	2349	31.61	19	25.05	155	16.31	14.96	14	3	04	1.1	.9	DEPL	1.4X	3	155	1
95	AUG	25	3	53.05	19	25.18	155	15.79	14.56	18	3	06	.9	.7	DEPL	1.4X	2	127	2
95	AUG	25	57	33.67	19	26.25	155	15.89	11.38	14	3	06	1.0	.8	INTL	1.2X	3	162	3
95	AUG	25	114	0.31	19	24.67	155	16.09	11.46	13	3	08	1.5	.9	INTL	1.1X	2	142	2
95	AUG	25	138	48.04	19	25.36	155	16.26	11.50	11	1	06	1.4	1.7	INTL	1.3X	1	182	2
95	AUG	25	216	41.11	19	24.90	155	16.67	11.64	20	3	08	.6	.8	INTL	1.5X	2	62	1
95	AUG	25	232	26.48	19	24.98	155	17.06	11.67	18	1	10	.8	.8	INTL	1.4X	2	109	1
95	AUG	25	335	50.80	19	25.22	155	16.95	11.10	18		07	.7	1.1	INTL	1.4X	2	60	1
95	AUG	25	408	10.04	19	25.23	155	16.33	13.02	19	3	12	.9	.7	DEPL	1.5X	3	113	1
95	AUG	25	419	23.00	19	25.13	155	16.21	13.39	11	2	05	1.4	1.0	DEPL	1.4X	2	202	2
95	AUG	25	504	5.04	19	25.11	155	16.46	13.46	12	1	10	1.0	.9	DEPL	1.6X	1	117	1
95	AUG	25	510	54.02	19	22.92	155	15.98	14.48	11	1	12	1.7	.6	DEPL	1.2X	2	122	1
95	AUG	25	530	41.11	19	25.16	155	16.14	14.42	17	3	09	1.0	.8	DEPL	1.6X	3	116	2
95	AUG	25	538	54.04	19	23.18	155	16.77	15.44	14	4	07	1.8	1.1	DEPL	1.5X	4	148	0
95	AUG	25	556	47.34	19	27.09	155	17.07	14.90	13	3	13	2.4	1.3	DEPL	1.1X	2	195	3
95	AUG	25	640	4.01	19	24.71	155	16.44	13.78	11	3	03	1.9	1.2	DEPL	1.2X	3	141	1
95	AUG	25	647	3.74	19	24.74	155	16.96	12.28	13	3	07	1.6	1.0	INTL	1.2X	4	103	0
95	AUG	25	658	29.46	19	25.11	155	17.06	12.72	30	6	11	.5	.5	INTL	1.6X	5	58	0
95	AUG	25	704	56.90	19	24.18	155	17.48	8.16	13		09	.8	1.4	INTL	1.0X	1	57	2
95	AUG	25	736	54.27	19	24.93	155	16.44	12.11	19	2	10	1.0	.6	INTL	1.5X	1	101	1
95	AUG	25	810	57.72	19	25.00	155	16.68	9.84	13	3	07	1.3	.9	INTL	1.4X	3	150	1

ORIGIN TIME				LAT N				LON W				DEPTH N				N RMS ERH ERZ LOC				PREF N AZ MIN				
YR	MON	DA	HRMN	SEC	DEG	MIN	DEG	MIN	DEG	MIN	DEG	MIN	DEG	MIN	DEG	MIN	DEG	MIN	DEG	MIN	DEG	MIN	DEG	MIN
95	SEP	2	619	53.40	19	24.81	155	16.51	12.96	14	4	.08	1.4	1.1	INTL	1.8X	1	153	1					
95	SEP	2	642	48.53	19	23.51	155	14.53	4.41	52	7	.14	.3	.5	SEC	2.7X	2	82	2					
95	SEP	2	1030	49.84	19	20.19	155	3.96	6.94	31	2	.12	.7	.9	SP5	1.8X	3	182	8					
95	SEP	2	1142	0.29	19	21.95	155	5.15	7.28	34	3	.11	.4	.6	SP5	1.8X	3	149	5					
95	SEP	2	1404	46.28	19	20.20	155	16.08	30.38	30	9	.09	.9	1.0	DEP	1.7X	4	85	2					
95	SEP	3	135	37.73	19	49.60	155	50.48	11.04	42	3	.10	.8	.6	HUA	2.5X	4	177	15					
95	SEP	3	322	4.50	19	12.27	155	42.60	1.91	39	8	.22	.5	.8	LSW	1.7X	2	68	8					
95	SEP	3	600	13.96	19	20.06	155	8.32	7.98	45	5	.10	.4	.5	SP4	2.3X	4	112	5					
95	SEP	3	843	17.95	19	31.47	155	41.78	9.50	41	7	.11	.5	.7	MLO	1.7X	5	108	7					
95	SEP	3	1237	46.52	19	18.44	155	13.29	7.92	41	7	.12	.4	.6	SP2	1.8X	4	85	3					
95	SEP	3	1256	25.76	19	18.20	155	13.15	6.48	19	4	.05	.4	1.0	SP2	1.6X	2	96	2					
95	SEP	3	1257	51.02	19	18.36	155	15.07	7.65	33	3	.12	.5	.7	SP1	1.5X	3	103	4					
95	SEP	3	1613	37.89	19	24.64	155	26.99	4.80	33	2	.12	.3	.9	KA0	1.6X	4	58	3					
95	SEP	4	545	56.33	19	19.59	155	8.36	7.15	43	6	.09	.4	.5	SP4	1.7X	5	112	4					
95	SEP	4	1228	54.92	19	13.15	155	31.45	8.74	40	6	.20	.5	.9	LSW	2.1X	3	119	4					
95	SEP	4	1620	31.79	19	8.59	155	13.51	64.70	20	3	.08	2.6	1.3	LOI	2.3X	1	272	16					
95	SEP	5	531	28.59	19	24.50	155	17.10	12.74	18	3	.08	.7	.9	INTL	1.5X	2	50	1					
95	SEP	5	629	15.48	19	24.99	155	38.10	2.80	41	6	.13	.3	.4	MLO	1.8X	5	99	1					
95	SEP	5	1142	58.88	19	25.10	155	16.38	12.95	27	3	.09	.6	.6	INTL	1.7X	4	99	1					
95	SEP	5	1638	13.31	19	24.74	155	16.39	13.91	17	3	.11	1.1	.8	DEPL	1.3X	3	143	1					
95	SEP	5	1712	44.11	19	25.64	155	15.44	10.88	16	3	.10	.7	.9	INTL	1.5X	2	123	3					
95	SEP	5	1741	6.29	19	24.32	155	15.96	14.71	18	3	.10	1.0	.8	DEPL	1.6X	3	102	2					
95	SEP	5	1819	36.43	19	24.12	155	18.31	10.69	18	3	.14	.8	.9	INTL	1.4X	3	70	3					
95	SEP	5	1900	53.81	19	21.81	155	15.86	3.46	21	3	.11	.3	.4	KOAL	.9X	3	128	1					
95	SEP	5	1912	17.80	19	24.09	155	16.92	8.72	26	5	.11	.4	.6	INTL	1.4X	3	73	1					
95	SEP	5	1929	25.08	19	24.81	155	15.70	13.85	18	4	.07	1.2	.6	DEPL	1.4X	4	142	2					
95	SEP	5	1938	31.63	19	25.01	155	16.46	12.80	22	3	.07	.6	.7	INTL	1.4X	4	108	1					
95	SEP	5	2004	43.58	19	22.00	155	17.14	7.62	17	3	.19	1.0	1.2	SWRL	1.2X	1	117	2					
95	SEP	5	2023	39.24	19	25.12	155	16.44	13.48	24	3	.09	.8	.7	DEPL	1.3X	3	110	1					
95	SEP	5	2116	13.95	19	24.60	155	16.76	12.52	22	3	.10	.6	.6	INTL	1.3X	3	97	1					
95	SEP	5	2140	1.07	19	25.06	155	16.37	11.42	17	3	.08	1.0	.8	INTL	1.3X	3	140	1					
95	SEP	5	2149	42.61	19	25.13	155	15.18	12.91	22	3	.11	1.3	.5	INTL	1.4X	3	168	2					
95	SEP	5	2204	9.07	19	23.64	155	16.14	1.66	20	3	.12	.3	.3	SECL	1.0X	3	90	1					
95	SEP	5	2221	52.81	19	24.91	155	16.40	13.35	19	3	.07	1.1	.6	DEPL	1.4X	3	142	1					
95	SEP	5	2232	25.81	19	24.55	155	16.81	12.24	28	3	.09	.6	.6	INTL	1.4X	3	88	1					
95	SEP	5	2242	58.89	19	25.09	155	15.97	13.40	14	3	.07	1.3	.9	DEPL	1.4X	4	151	2					
95	SEP	5	2255	18.36	19	24.86	155	16.47	11.92	23	3	.09	.7	.6	INTL	1.4X	3	107	1					
95	SEP	5	2310	24.92	19	24.93	155	16.36	11.97	17	2	.10	1.0	1.0	INTL	1.4X	4	143	1					
95	SEP	5	2324	50.16	19	24.56	155	16.78	13.29	23	3	.10	.7	.5	DEPL	1.5X	3	91	1					
95	SEP	5	2348	20.76	19	24.38	155	17.20	13.00	16	3	.08	1.1	.7	DEPL	1.3X	3	90	1					
95	SEP	6	8	37.42	19	25.61	155	16.80	11.83	18	3	.04	.9	.8	INTL	1.3X	3	158	1					
95	SEP	6	22	34.53	19	24.10	155	15.97	15.06	16	3	.11	1.5	.6	DEPL	1.4X	4	118	2					
95	SEP	6	35	9.06	19	27.21	155	13.26	11.45	18	3	.13	1.1	1.0	GLNL	1.4X	2	166	5					
95	SEP	6	50	32.49	19	24.82	155	15.60	14.28	23	3	.10	.9	.5	DEPL	1.5X	4	115	2					
95	SEP	6	114	18.04	19	25.54	155	15.66	14.14	14	3	.09	1.9	1.0	DEPL	1.2X	3	173	3					

ORIGIN TIME				LAT N				LON W				DEPTH N				N RMS ERH ERZ LOC				PREP N AZ MIN						
YR	MON	DA	HRMN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	KM	RD	S	SEC	KM	KM	REMKs	MAG	RD	GAP	DS
95	SEP	6	1836	4.04	19	24.01	155	15.21	155	15.06	21	3	.09	.9	.5	DEPL	1.9X	2	93	2						
95	SEP	6	1857	26.81	19	24.66	155	17.02	13.08	25	3	.10	.5	.6	DEPL	1.5X	4	57	0							
95	SEP	6	1909	52.09	19	24.87	155	16.68	12.08	26	3	.13	.7	.8	INTL	1.4X	3	62	1							
95	SEP	6	1921	21.32	19	25.12	155	16.58	12.53	31	4	.10	.5	.6	INTL	1.6X	3	64	1							
95	SEP	6	1931	41.16	19	24.25	155	17.22	12.32	27	3	.12	.6	.7	INTL	1.4X	3	43	1							
95	SEP	6	1943	47.87	19	24.95	155	16.86	12.18	28	3	.11	.6	.7	INTL	1.5X	4	60	0							
95	SEP	6	2000	15.79	19	24.95	155	16.61	12.22	23	3	.08	.6	.8	INTL	1.5X	3	63	1							
95	SEP	6	2013	38.45	19	24.53	155	16.68	12.67	30	3	.09	.5	.6	INTL	1.6X	2	60	1							
95	SEP	6	2023	27.49	19	25.35	155	16.19	12.54	21	3	.08	.7	.6	INTL	1.3X	3	74	2							
95	SEP	6	2033	32.43	19	24.76	155	16.95	11.95	29	3	.11	.5	.7	INTL	1.6X	3	58	0							
95	SEP	6	2046	30.46	19	25.27	155	15.98	12.59	28	3	.10	.6	.6	INTL	1.6X	3	76	2							
95	SEP	6	2101	44.09	19	25.02	155	16.70	12.61	31	3	.11	.6	.6	INTL	1.6X	3	63	1							
95	SEP	6	2138	51.78	19	24.98	155	16.48	12.06	23	3	.11	.7	.8	INTL	1.5X	3	65	1							
95	SEP	6	2203	19.82	19	25.18	155	16.42	12.09	28	3	.13	.6	.7	INTL	1.5X	4	99	1							
95	SEP	6	2227	8.80	19	24.83	155	16.85	11.82	31	3	.11	.5	.4	INTL	1.6X	2	59	0							
95	SEP	6	2245	33.85	19	23.54	155	16.89	3.38	59	15	.13	.2	.3	SSC	2.7X	5	36	0							
95	SEP	6	2302	16.39	19	24.84	155	17.08	11.50	37	7	.11	.4	.4	INTL	1.6X	4	48	0							
95	SEP	6	2328	47.09	19	24.29	155	16.87	11.28	30	3	.11	.5	.6	INTL	1.5X	4	57	1							
95	SEP	6	2350	44.11	19	25.26	155	16.99	11.85	34	3	.10	.5	.6	INTL	1.5X	4	59	1							
95	SEP	7	21	4.05	19	24.88	155	16.67	12.71	29	3	.09	.5	.6	INTL	1.8X	3	62	1							
95	SEP	7	38	39.27	19	25.15	155	16.74	12.71	33	3	.10	.6	.5	INTL	1.5X	3	63	1							
95	SEP	7	110	35.04	19	25.08	155	16.69	11.25	33	4	.12	.4	.5	INTL	1.7X	4	63	1							
95	SEP	7	128	22.60	19	25.39	155	16.48	11.27	34	3	.13	.6	.6	INTL	1.5X	3	69	1							
95	SEP	7	141	7.92	19	25.47	155	16.59	12.20	15	2	.12	1.1	.9	INTL	1.4X	3	112	1							
95	SEP	7	211	42.75	19	25.11	155	17.01	13.30	27	4	.10	.5	.6	DEPL	1.6X	4	51	0							
95	SEP	7	228	27.55	19	24.38	155	15.59	12.49	33	4	.11	.6	.5	INTL	1.6X	3	63	2							
95	SEP	7	245	23.65	19	25.03	155	16.72	12.24	22	4	.09	.6	.7	INTL	1.6X	3	63	1							
95	SEP	7	306	9.62	19	25.18	155	17.19	11.73	32	3	.10	.4	.5	INTL	1.5X	4	55	1							
95	SEP	7	314	16.51	19	25.55	155	16.27	11.26	25	3	.10	.6	.6	INTL	1.5X	4	74	2							
95	SEP	7	335	41.92	19	25.33	155	16.25	12.44	24	3	.11	1.0	.8	INTL	1.7X	4	118	2							
95	SEP	7	356	45.23	19	24.81	155	16.94	12.23	31	4	.11	.5	.6	INTL	1.8X	4	58	0							
95	SEP	7	421	25.90	19	25.35	155	16.46	11.90	36	4	.11	.5	.5	INTL	1.7X	3	43	1							
95	SEP	7	446	1.97	19	25.55	155	16.50	12.39	18	4	.06	.9	.8	INTL	1.8X	4	116	1							
95	SEP	7	502	0.12	19	24.74	155	15.98	14.17	32	3	.12	.6	.4	DEPL	1.4X	4	71	2							
95	SEP	7	513	0.60	19	25.00	155	16.98	11.82	35	5	.09	.5	.5	INTL	1.5X	4	59	0							
95	SEP	7	523	41.81	19	25.03	155	15.28	13.33	30	6	.11	.7	.5	DEPL	1.6X	3	83	2							
95	SEP	7	537	48.04	19	24.71	155	16.61	11.32	34	4	.10	.5	.5	INTL	1.4X	4	62	1							
95	SEP	7	608	36.48	19	24.69	155	16.66	11.81	32	3	.10	.6	.6	INTL	1.7X	4	45	1							
95	SEP	7	626	15.72	19	24.50	155	17.35	11.50	32	4	.13	.5	.7	INTL	1.6X	3	42	1							
95	SEP	7	646	3.92	19	24.55	155	17.21	10.63	27	3	.13	.6	.7	INTL	1.4X	3	42	1							
95	SEP	7	711	52.31	19	25.06	155	16.59	11.97	34	6	.10	.5	.5	INTL	1.3X	3	64	1							
95	SEP	7	724	19.10	19	23.49	155	16.85	15.37	17	4	.15	1.4	1.0	DEPL	1.5X	3	61	0							
95	SEP	7	742	17.61	19	25.23	155	16.30	12.98	18	4	.12	1.1	.7	INTL	1.7X	2	70	1							
95	SEP	7	809	25.78	19	24.57	155	16.65	12.81	25	4	.10	.6	.6	INTL	1.6X	3	60	1							
95	SEP	7	826	13.23	19	24.90	155	16.44	12.18	18	4	.09	.8	.5	INTL	1.4X	3	100	1							

ORIGIN TIME				LAT N				LON W				DEPTH N				N RMS ERH ERZ LOC				PREF N AZ MIN			
YR	MON	DA	HRMN	SEC	DEG	MIN	DEG	MIN	DEG	MIN	DEG	KM	RD	S	SEC	KM	KM	REMK	S	MAG	RD	GAP	DS
95	SEP	8	127	53.36	19	24.95	155	16.56	10.64	24	2	10	.6	.6	INTL	1.5X	4	64	1	1.5X	4	64	1
95	SEP	8	156	16.80	19	24.88	155	16.79	12.56	32	4	11	.5	.7	INTL	1.5X	3	61	0	1.5X	3	61	0
95	SEP	8	230	8.25	19	24.86	155	16.84	11.05	30	2	13	.5	.6	INTL	1.4X	4	60	0	1.4X	4	60	0
95	SEP	8	301	34.95	19	25.64	155	17.27	11.71	26	3	13	.7	.7	INTL	1.3X	3	60	1	1.3X	3	60	1
95	SEP	8	332	45.92	19	25.23	155	16.47	11.90	25	3	09	.6	.6	INTL	1.6X	4	68	1	1.6X	4	68	1
95	SEP	8	358	25.30	19	25.24	155	17.10	10.22	28	3	14	.6	.7	INTL	1.3X	4	57	1	1.3X	4	57	1
95	SEP	8	438	19.51	19	24.88	155	16.85	10.59	32	5	11	.5	.6	INTL	1.5X	5	60	0	1.5X	5	60	0
95	SEP	8	507	15.90	19	24.05	155	16.74	12.58	31	4	11	.6	.7	INTL	1.6X	3	57	1	1.6X	3	57	1
95	SEP	8	535	22.53	19	25.44	155	15.47	16.17	13	1	05	1.4	1.6	DEPL	1.7X	2	151	2	1.7X	2	151	2
95	SEP	8	600	12.20	19	25.21	155	16.87	12.24	18	2	07	.7	1.0	INTL	1.6X	3	99	1	1.6X	3	99	1
95	SEP	8	617	30.56	19	24.38	155	15.47	13.79	18	4	10	1.2	.7	DEPL	1.5X	2	92	2	1.5X	2	92	2
95	SEP	8	634	35.51	19	25.29	155	15.71	11.00	28	3	09	.5	.6	INTL	1.4X	3	82	2	1.4X	3	82	2
95	SEP	8	653	55.14	19	25.15	155	16.44	10.42	18	3	11	1.0	.7	INTL	1.5X	3	97	1	1.5X	3	97	1
95	SEP	8	727	56.93	19	24.69	155	15.94	12.92	18	3	11	.8	.7	INTL	1.2X	2	102	2	1.2X	2	102	2
95	SEP	8	800	27.07	19	23.79	155	16.73	12.65	17	3	10	1.1	.9	INTL	1.5X	3	68	1	1.5X	3	68	1
95	SEP	8	822	16.02	19	24.42	155	16.86	13.19	21	3	11	.7	.8	DEPL	1.5X	3	61	1	1.5X	3	61	1
95	SEP	8	939	2.04	19	23.97	155	16.17	12.08	22	3	07	.6	.7	INTL	1.5X	3	63	2	1.5X	3	63	2
95	SEP	8	1001	16.20	19	24.12	155	16.72	12.78	23	3	11	.7	.8	INTL	1.5X	3	79	1	1.5X	3	79	1
95	SEP	8	1020	34.87	19	25.03	155	16.40	10.82	17	4	07	1.2	.5	INTL	1.4X	2	146	1	1.4X	2	146	1
95	SEP	8	1050	45.95	19	24.43	155	16.46	13.25	16	2	08	1.1	.9	DEPL	1.5X	2	86	1	1.5X	2	86	1
95	SEP	8	1125	56.15	19	24.40	155	17.09	13.23	14	4	07	1.6	.8	DEPL	1.6X	3	74	1	1.6X	3	74	1
95	SEP	8	1211	6.15	19	24.17	155	16.31	11.43	24	3	11	.6	.7	INTL	1.7X	3	62	2	1.7X	3	62	2
95	SEP	8	1251	27.47	19	24.01	155	16.57	13.72	14	3	13	2.0	.7	DEPL	1.4X	3	193	1	1.4X	3	193	1
95	SEP	8	1315	21.43	19	23.69	155	16.92	12.16	14	4	09	.9	.7	INTL	1.6X	2	87	1	1.6X	2	87	1
95	SEP	8	1345	36.36	19	23.97	155	16.56	12.98	17	4	10	.9	.5	INTL	1.6X	2	87	1	1.6X	2	87	1
95	SEP	8	1417	15.35	19	24.58	155	16.05	14.34	20	5	07	.9	.5	DEPL	1.6X	4	104	2	1.6X	4	104	2
95	SEP	8	1443	13.37	19	22.67	155	18.78	15.08	13	4	11	1.7	.7	DEPL	1.6X	2	198	2	1.6X	2	198	2
95	SEP	8	1513	45.85	19	22.86	155	17.30	14.16	10	2	09	1.5	1.1	DEPL	1.3X	1	75	1	1.3X	1	75	1
95	SEP	8	1553	45.43	19	24.65	155	16.77	1.64	9	4	12	.4	.6	SNCL	.8X	1	130	1	.8X	1	130	1
95	SEP	8	1603	54.70	19	24.34	155	16.05	12.16	14	3	07	1.2	.5	INTL	1.3X	2	124	2	1.3X	2	124	2
95	SEP	8	1640	36.02	19	26.10	155	16.03	12.07	12	3	14	1.2	.7	INTL	1.4X	2	130	3	1.4X	2	130	3
95	SEP	8	1755	56.83	19	25.56	155	15.83	13.58	14	3	08	1.3	.8	DEPL	1.3X	3	187	2	1.3X	3	187	2
95	SEP	8	1841	34.57	19	25.64	155	16.24	13.53	14	2	08	1.2	.8	DEPL	1.5X	3	128	2	1.5X	3	128	2
95	SEP	8	1924	58.34	19	24.73	155	14.79	13.62	16	2	09	1.2	.4	DEPL	1.6X	3	126	1	1.6X	3	126	1
95	SEP	8	2012	4.24	19	24.95	155	16.32	12.78	13	2	08	1.3	.8	INTL	1.3X	3	104	1	1.3X	3	104	1
95	SEP	8	2103	5.26	19	24.90	155	16.57	13.32	26	3	10	.6	.4	DEPL	1.5X	4	64	1	1.5X	4	64	1
95	SEP	8	2125	9.68	19	24.89	155	16.11	10.83	25	3	11	.6	.7	INTL	1.5X	3	70	2	1.5X	3	70	2
95	SEP	8	2146	26.68	19	25.28	155	16.89	9.46	11	3	18	2.0	1.4	INTL	1.6X	2	99	1	1.6X	2	99	1
95	SEP	8	2233	58.92	19	25.24	155	16.43	12.65	21	3	11	.8	.8	INTL	1.3X	3	69	1	1.3X	3	69	1
95	SEP	8	2250	29.60	19	23.70	155	18.19	9.37	22	3	13	.6	.9	INTL	1.5X	1	49	2	1.5X	1	49	2
95	SEP	8	2340	41.35	19	25.15	155	16.54	11.35	19	1	08	.6	.8	INTL	1.5X	3	65	1	1.5X	3	65	1
95	SEP	9	17	9.00	19	25.20	155	16.21	13.12	20	3	10	1.2	.5	DEPL	1.1X	3	115	1	1.1X	3	115	1
95	SEP	9	57	41.88	19	24.64	155	17.00	10.85	21	2	09	.6	.9	INTL	1.3X	2	57	0	1.3X	2	57	0
95	SEP	9	115	49.97	19	23.85	155	16.66	13.46	12	4	08	1.3	.7	DEPL	1.4X	2	86	1	1.4X	2	86	1
95	SEP	9	208	41.58	19	24.97	155	14.74	13.62	20	4	11	.9	.6	DEPL	1.5X	3	89	1	1.5X	3	89	1

ORIGIN TIME				LAT N				LON W				DEPTH N				N RMS ERH ERZ LOC				PREF N				AZ MIN			
YR	MON	DA	HRMN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	KM	RD	S	SEC	KM	KM	REMS	MAG	RD	GAP	DS	
95	SEP	17	1714	39.00	19	21.35	155	18.78	4.38	5211	.12	.3	.8	SWR	2.3X	7	44	3									
95	SEP	17	1744	58.54	19	24.86	155	16.74	12.19	25	2	.08	.6	.7	INTL	1.8X	3	107	2								
95	SEP	17	2021	55.74	19	17.32	155	29.88	10.56	40	3	.08	.3	.6	LSW	1.5X	3	57	4								
95	SEP	17	2029	33.12	19	24.76	155	15.94	10.64	26	2	.10	.6	.7	INTL	1.7X	3	72	2								
95	SEP	17	2141	32.04	19	21.20	155	7.72	8.65	47	7	.08	.4	.3	SF4	1.8X	5	119	4								
95	SEP	17	2325	46.35	19	25.16	155	16.34	12.04	28	2	.11	.6	.6	INTL	1.7X	3	70	2								
95	SEP	18	247	13.26	19	25.14	155	17.06	10.94	29	2	.12	.6	.6	INTL	1.7X	3	82	1								
95	SEP	18	331	37.83	19	28.72	154	51.83	6.62	26	2	.13	.9	.6	LER	1.3X	1	191	3								
95	SEP	19	756	22.77	19	22.41	155	30.55	11.91	50	7	.08	.3	.5	KAO	1.9X	6	36	5								
95	SEP	19	823	7.24	19	24.96	155	24.11	10.98	42	7	.10	.3	.6	KAO	2.2X	5	42	8								
95	SEP	19	1311	24.49	19	18.80	155	13.84	7.61	35	6	.07	.4	.6	SF2	1.6X	3	142	7								
95	SEP	19	1836	14.28	19	22.54	155	5.40	8.06	36	3	.10	.4	.5	SF4	1.6X	3	143	4								
95	SEP	19	2143	22.05	19	53.58	156	7.34	38.98	5411	.10	.9	1.3	HUA	2.5X	7	291	37									
95	SEP	21	158	50.02	19	18.75	155	15.70	8.74	42	5	.12	.5	.5	SF1	1.6X	4	132	4								
95	SEP	21	1131	56.97	22	8.71	157	2.54	24.97	41	9	.11	2.8	3.3	DIS	3.2X	3	343259									
95	SEP	21	1205	24.45	19	11.96	155	27.71	7.10	41	2	.12	.4	.8	LSW	2.3X	4	111	5								
95	SEP	21	1552	46.63	19	20.80	155	12.79	8.89	37	5	.09	.4	.6	SF2	1.5X	4	64	3								
95	SEP	21	2241	5.03	19	19.82	155	11.60	7.80	39	4	.08	.4	.6	SF3	1.4X	4	88	5								
95	SEP	22	418	30.08	19	19.74	155	10.14	8.09	41	6	.09	.4	.6	SF3	1.5X	6	92	4								
95	SEP	23	150	13.47	19	20.15	155	11.87	10.00	5512	.11	.4	.3	SF3	2.1X	8	110	5									
95	SEP	23	152	34.91	19	28.78	154	53.89	2.63	9	.08	.5	.6	SLE	2.1X	1	164	3									
95	SEP	23	224	14.81	19	27.66	154	52.70	7.52	27	3	.11	1.0	.7	LER	1.1X	2	194	6								
95	SEP	24	517	53.22	19	24.21	155	17.06	10.86	15	3	.13	1.3	.9	INTL	1.5X	2	75	1								
95	SEP	24	1433	27.89	19	19.78	155	8.45	8.27	31	4	.08	.4	.6	SF4	1.5X	4	109	5								
95	SEP	24	2014	9.72	20	46.91	154	52.02	16.42	42	7	.12	2.315	.6	DIS	- 2.5X	3	317111									
95	SEP	25	120	9.25	19	24.28	155	17.38	1.86	21	5	.10	.3	.2	SSCL	1.7X	4	59	1								
95	SEP	25	708	31.85	19	25.21	155	14.95	11.96	24	3	.12	.7	.6	INTL	1.7X	3	90	1								
95	SEP	25	1345	30.16	19	15.94	155	28.70	11.41	26	4	.14	.4	.9	LSW	1.9X	2	65	3								
95	SEP	25	2223	5.16	19	24.13	155	18.55	13.69	23	3	.10	.7	.8	DEPL	1.6X	2	55	2								
95	SEP	26	440	58.96	19	31.29	155	55.62	10.00	37	6	.18	1.1	.5	KON	1.7X	4	221	4								
95	SEP	26	1904	16.90	19	1.36	155	25.46	41.00	39	6	.08	1.0	.8	DLS	1.8X	4	214	16								
95	SEP	26	2052	16.74	19	22.00	155	4.64	7.57	40	4	.13	.5	.4	SF5	2.0X	4	155	4								
95	SEP	27	225	49.78	19	58.27	156	11.67	36.15	44	8	.11	1.3	1.9	KOH	2.0X	2	299	49								
95	SEP	27	302	26.95	19	24.80	155	15.29	26.41	28	4	.08	1.0	1.2	DEPL	2.2X	4	80	2								
95	SEP	27	547	53.81	19	24.44	155	15.98	12.62	27	4	.09	.7	.5	INTL	1.8X	3	68	1								
95	SEP	27	716	21.58	19	25.12	155	17.34	14.05	16	3	.07	.8	.9	DEPL	2.0X	3	127	1								
95	SEP	27	752	20.22	19	14.77	156	27.42	39.31	31	7	.09	1.3	2.6	DIS	1.9X	1	309	63								
95	SEP	27	800	26.23	19	24.52	155	16.95	12.46	22	3	.08	.6	.7	INTL	1.8X	3	67	1								
95	SEP	27	840	35.23	19	24.10	155	16.85	11.06	30	4	.11	.5	.6	INTL	1.8X	4	56	1								
95	SEP	27	949	42.19	19	24.86	155	15.90	14.01	15	5	.12	1.6	.8	DEPL	2.0X	3	167	2								
95	SEP	27	1119	32.61	19	24.62	155	16.96	11.29	19	2	.07	.6	.8	INTL	2.1X	3	68	1								
95	SEP	27	1151	36.05	19	24.65	155	17.53	13.69	17	3	.09	1.0	1.0	DEPL	2.0X	2	69	1								
95	SEP	27	1215	48.00	19	19.87	155	8.50	7.52	41	5	.09	.4	.7	SF4	1.9X	4	109	5								
95	SEP	27	1246	13.78	19	24.14	155	16.32	11.43	15	6	.08	1.5	.6	INTL	1.8X	2	207	1								
95	SEP	27	1340	49.80	19	21.25	155	16.62	10.89	14	4	.12	1.3	.9	SF1L	1.8X	1	131	2								

ORIGIN TIME				LAT N				LON W				DEPTH N				N RMS ERH ERZ LOC				PREF N				AZ MIN				
YR	MON	DA	HRMN	SEC	DEG	NIN	DEG	MIN	DEG	MIN	DEG	KM	RD	S	SEC	KM	KM	REMK	LOC	MAG	RD	GAP	DS	PREF	N	AZ	MIN	
95	OCT	2	831	22.87	19	30.61	155	26.77	4.14	35	8	10	3	.9	MLO	2.3X	4	98	3									
95	OCT	2	1202	17.05	18	46.58	153	40.00	7.03	48	7	15	9.111.2	DIS	-	2.6X	2	331147										
95	OCT	2	1541	37.77	19	36.33	156	26.30	1.02	6317	13	2.7	1.0	DIS		3.4X	9	279	64									
95	OCT	2	1631	18.63	19	29.16	155	58.80	8.89	35	7	17	1.0	.7	KON	1.7X	5	239	23									
95	OCT	2	1842	41.28	19	25.00	155	16.12	12.67	26	4	08	.6	.5	INTL	1.7X	3	71	2									
95	OCT	2	1855	2.01	19	20.15	155	10.65	10.27	5315	10	.4	.4	SF3		2.3X	9	116	4									
95	OCT	2	2207	37.80	19	25.11	155	17.27	10.99	32	4	10	.4	.5	INTL	1.9X	3	56	1									
95	OCT	2	2312	13.77	19	24.44	155	16.21	11.48	30	3	07	.5	.5	INTL	1.8X	3	65	1									
95	OCT	3	57	5.00	19	24.45	155	16.54	8.54	30	4	12	.5	.5	INTL	1.7X	2	61	1									
95	OCT	3	218	56.08	19	24.60	155	16.30	12.99	29	4	12	.6	.5	INTL	2.0X	3	65	1									
95	OCT	3	329	3.26	19	24.83	155	16.60	11.31	34	4	10	.5	.4	INTL	1.9X	4	63	1									
95	OCT	3	524	39.69	19	24.58	155	17.65	11.01	32	4	10	.4	.5	INTL	1.8X	3	47	1									
95	OCT	3	735	21.87	19	24.59	155	16.44	10.38	35	4	13	.5	.4	INTL	1.6X	4	64	1									
95	OCT	3	1020	49.48	19	24.41	155	16.59	13.27	30	4	10	.5	.5	DEPL	1.9X	4	60	1									
95	OCT	3	1105	3.96	19	24.91	155	16.74	10.11	19	4	10	.8	.9	INTL	1.6X	3	61	0									
95	OCT	3	1231	10.79	19	25.19	155	16.91	13.76	19	3	09	.9	.9	DEPL	1.7X	2	61	1									
95	OCT	3	1324	47.10	19	26.51	155	15.86	15.08	15	3	12	1.6	1.1	DEPL	1.8X	3	172	3									
95	OCT	3	1508	49.44	19	24.81	155	16.48	14.09	26	3	11	.8	.5	DEPL	1.8X	3	64	1									
95	OCT	3	1719	59.67	19	24.23	155	16.17	10.35	18	3	11	.8	.8	INTL	1.9X	2	64	1									
95	OCT	3	1955	12.41	19	25.15	155	16.19	8.96	17	2	13	.8	1.0	INTL	1.9X	3	72	1									
95	OCT	3	2206	19.34	19	24.87	155	16.70	10.54	30	4	10	.5	.6	INTL	1.7X	3	62	1									
95	OCT	3	2313	46.33	19	25.29	155	17.72	10.61	14	2	08	.9	1.0	INTL	1.8X	2	80	0									
95	OCT	4	6	10.53	19	13.13	155	31.05	9.94	43	3	13	.4	.6	LSW	1.9X	2	71	4									
95	OCT	4	117	18.76	19	26.02	155	17.53	13.26	17	3	10	.9	.8	DEPL	2.0X	3	86	1									
95	OCT	4	220	27.75	19	25.78	155	17.52	11.38	18	3	09	.8	.9	INTL	1.9X	2	77	1									
95	OCT	4	322	45.89	19	25.78	155	16.91	10.12	13	3	06	1.3	.7	INTL	1.6X	2	108	1									
95	OCT	4	441	48.35	19	25.57	155	16.54	15.31	17	3	12	1.2	1.0	DEPL	2.1X	2	115	1									
95	OCT	4	457	11.33	19	24.82	155	15.86	12.32	25	3	10	.6	.6	INTL	1.7X	3	73	2									
95	OCT	4	538	51.41	19	22.03	155	28.60	10.28	41	4	10	.3	.6	KAO	1.9X	3	37	2									
95	OCT	4	546	37.97	19	25.13	155	16.60	11.66	30	3	08	.5	.6	INT	1.7X	4	64	1									
95	OCT	4	611	53.05	19	25.21	155	16.23	8.62	18	1	14	.8	.9	INTL	1.8X	2	72	1									
95	OCT	4	644	54.07	19	25.34	155	17.38	10.53	30	3	11	.5	.6	INTL	1.8X	3	60	0									
95	OCT	4	812	27.66	19	25.37	155	16.06	14.38	16	3	08	1.3	1.1	DEPL	2.0X	3	125	2									
95	OCT	4	909	4.04	19	24.56	155	15.51	13.33	30	3	10	.6	.5	DEPL	1.9X	3	75	2									
95	OCT	4	1042	52.46	19	25.71	155	16.00	14.26	16	3	11	1.6	.8	DEPL	1.9X	3	139	2									
95	OCT	4	1202	58.22	19	24.51	155	16.52	10.93	26	4	12	.6	.6	INTL	2.0X	3	61	1									
95	OCT	4	1305	38.23	19	24.62	155	16.35	10.51	27	4	12	.5	.6	INTL	1.9X	4	64	1									
95	OCT	4	1410	47.32	19	24.62	155	16.74	12.62	29	4	10	.5	.5	INTL	1.9X	4	61	1									
95	OCT	4	1530	40.01	19	45.30	155	13.93	33.50	41	9	12	.6	1.1	KEA	1.9X	4	142	19									
95	OCT	4	1648	53.77	19	23.24	155	16.71	7.30	15	3	11	.6	1.0	INTL	1.7X	2	55	0									
95	OCT	4	1814	18.35	19	24.58	155	16.22	10.94	32	4	09	.4	.5	INTL	1.8X	3	66	1									
95	OCT	4	1816	23.83	19	21.11	155	6.14	7.31	41	5	12	.5	.6	SF4	1.5X	5	145	5									
95	OCT	4	1843	45.40	19	25.21	155	17.09	10.13	18	3	10	.6	.8	INTL	1.7X	3	60	1									
95	OCT	4	2026	32.15	19	21.47	155	18.64	4.29	27	4	11	.3	.8	SWR	1.3X	3	47	3									
95	OCT	4	2036	2.01	19	25.04	155	16.90	10.67	34	4	10	.4	.4	INTL	1.8X	4	60	0									

ORIGIN TIME				LAT N				LON W				DEPTH N				N RMS ERH ERZ LOC				PREF N AZ MIN					
YR	MON	DA	HRMN	SEC	DEG	MIN	DEG	MIN	DEG	MIN	DEG	MIN	DEG	MIN	DEG	MIN	DEG	MIN	DEG	MAG	RD	GAP	DS		
95	OCT	6	2119	41.78	19	24.05	155	16.67	12.73	24	3	11	7	7	INTL	1.5X	3	57	0	1.5X	3	57	0		
95	OCT	6	2138	36.07	19	24.11	155	17.82	13.93	25	3	12	6	6	DEPL	1.6X	4	47	2	1.6X	4	47	2		
95	OCT	6	2256	52.36	19	24.88	155	16.64	12.81	26	3	10	6	6	INTL	1.6X	3	62	1	1.6X	3	62	1		
95	OCT	6	2328	54.17	19	24.59	155	16.80	11.56	29	4	10	5	4	INTL	1.7X	2	59	1	1.7X	2	59	1		
95	OCT	7	36	12.30	19	24.68	155	16.61	13.54	30	4	07	6	4	DEPL	1.6X	4	62	1	1.6X	4	62	1		
95	OCT	7	115	16.43	19	23.71	155	15.42	9.97	25	4	10	6	7	INTL	1.7X	3	84	2	1.7X	3	84	2		
95	OCT	7	211	42.01	19	24.00	155	17.71	10.39	18	6	13	9	5	INTL	1.8X	2	72	2	1.8X	2	72	2		
95	OCT	7	237	55.39	19	25.15	155	16.40	10.86	18	3	09	7	8	INTL	1.9X	3	68	1	1.9X	3	68	1		
95	OCT	7	317	56.14	19	24.53	155	16.38	12.41	22	3	07	6	6	INTL	1.5X	3	104	1	1.5X	3	104	1		
95	OCT	7	410	41.28	19	24.33	155	16.68	12.00	26	3	08	5	5	INTL	1.7X	3	59	1	1.7X	3	59	1		
95	OCT	7	701	55.60	19	24.97	155	17.14	12.55	26	3	11	6	6	INTL	1.7X	4	56	0	1.7X	4	56	0		
95	OCT	7	826	56.63	19	24.68	155	16.60	11.09	15	5	09	1	0	9	INTL	1.8X	2	91	1	1.8X	2	91	1	
95	OCT	7	856	36.67	19	24.92	155	16.69	11.23	21	3	12	8	7	INTL	1.7X	2	96	1	1.7X	2	96	1		
95	OCT	7	959	41.56	19	24.51	155	17.14	14.49	15	2	08	9	1	0	DEPL	2.1X	2	61	1	2.1X	2	61	1	
95	OCT	7	1107	3.27	19	24.51	155	16.65	11.70	26	3	09	6	5	INTL	1.9X	4	60	1	1.9X	4	60	1		
95	OCT	7	1154	59.47	19	25.67	155	17.81	8.20	12	3	11	9	1	1	INTL	1.7X	2	83	1	1.7X	2	83	1	
95	OCT	7	1246	1.94	19	25.37	155	16.41	11.69	32	4	11	5	5	INTL	1.8X	4	45	1	1.8X	4	45	1		
95	OCT	7	1340	11.16	19	25.07	155	16.68	12.22	18	4	07	9	8	INTL	2.0X	3	99	1	2.0X	3	99	1		
95	OCT	7	1430	2.90	19	24.67	155	16.16	12.77	31	4	10	5	4	INTL	2.0X	4	67	2	2.0X	4	67	2		
95	OCT	7	1505	46.52	19	24.76	155	16.74	11.81	13	3	04	1	6	9	INTL	1.7X	2	91	1	1.7X	2	91	1	
95	OCT	7	1615	26.12	19	24.71	155	16.58	12.33	15	4	05	1	0	8	INTL	1.7X	2	143	1	1.7X	2	143	1	
95	OCT	7	1653	51.14	19	24.98	155	16.78	11.64	20	2	09	6	7	INTL	1.7X	1	108	0	1.7X	1	108	0		
95	OCT	7	1731	56.52	19	24.82	155	16.33	6.40	21	4	10	6	5	INTL	1.6X	3	107	1	1.6X	3	107	1		
95	OCT	7	1806	38.33	19	25.69	155	17.78	12.19	16	5	07	1	0	6	INTL	1.6X	2	125	1	1.6X	2	125	1	
95	OCT	7	1837	7.57	19	24.79	155	17.19	14.94	18	3	08	1	1	1	0	DEPL	2.2X	3	65	0	2.2X	3	65	0
95	OCT	7	2048	2.43	19	24.92	155	17.27	10.28	28	4	10	5	4	INTL	1.7X	4	53	0	1.7X	4	53	0		
95	OCT	7	2105	4.12	19	25.20	155	17.63	10.21	15	3	13	1	0	7	INTL	1.5X	2	91	0	1.5X	2	91	0	
95	OCT	7	2202	9.80	19	24.89	155	16.73	10.40	16	5	10	1	3	6	INTL	1.9X	2	146	0	1.9X	2	146	0	
95	OCT	7	2220	39.83	19	26.10	155	16.32	10.99	15	3	08	1	3	7	INTL	1.8X	2	138	3	1.8X	2	138	3	
95	OCT	7	2258	38.37	19	25.64	155	16.77	15.55	19	5	11	1	1	8	DEPL	2.1X	2	110	1	2.1X	2	110	1	
95	OCT	7	2329	38.20	19	25.37	155	16.24	13.09	17	3	08	1	0	8	DEPL	1.8X	3	73	2	1.8X	3	73	2	
95	OCT	8	14	5.96	19	24.77	155	17.42	12.35	18	3	13	9	9	9	INTL	1.7X	2	78	1	1.7X	2	78	1	
95	OCT	8	40	12.01	19	23.43	155	17.51	7.32	12	3	10	1	1	9	INTL	1.5X	2	155	1	1.5X	2	155	1	
95	OCT	8	120	25.64	19	25.42	155	16.47	12.16	32	4	10	5	5	5	INTL	1.7X	3	69	1	1.7X	3	69	1	
95	OCT	8	124	30.25	19	24.64	155	16.58	11.38	29	4	10	5	6	INTL	1.6X	3	61	1	1.6X	3	61	1		
95	OCT	8	127	56.71	19	24.41	155	16.56	8.92	25	4	07	4	5	INTL	1.5X	4	60	1	1.5X	4	60	1		
95	OCT	8	130	58.12	19	25.00	155	16.53	10.08	30	4	09	5	4	INTL	1.8X	3	64	1	1.8X	3	64	1		
95	OCT	8	132	55.67	19	25.05	155	16.86	9.98	22	4	10	7	7	INTL	1.4X	3	61	0	1.4X	3	61	0		
95	OCT	8	135	31.35	19	25.10	155	16.99	11.11	29	4	10	5	6	INTL	1.8X	4	58	0	1.8X	4	58	0		
95	OCT	8	137	0.32	19	25.67	155	16.07	12.31	20	3	08	8	9	INTL	1.5X	3	80	2	1.5X	3	80	2		
95	OCT	8	206	43.49	19	25.01	155	16.36	12.56	20	3	09	8	7	INTL	1.5X	3	68	1	1.5X	3	68	1		
95	OCT	8	219	48.51	19	25.35	155	16.08	12.79	20	3	09	9	1	0	INTL	1.4X	3	76	2	1.4X	3	76	2	
95	OCT	8	231	34.28	19	25.36	155	15.95	11.73	28	4	10	6	5	INTL	1.7X	3	78	2	1.7X	3	78	2		
95	OCT	8	249	9.70	19	25.26	155	16.16	12.07	24	3	10	7	7	INTL	1.6X	3	73	2	1.6X	3	73	2		
95	OCT	8	413	52.79	19	24.95	155	16.54	13.17	23	3	10	9	7	DEPL	1.5X	2	64	1	1.5X	2	64	1		

ORIGIN TIME				LAT N				LON W				DEPTH N				N RMS ERH ERZ LOC				PREF N AZ MIN				
YR	MON	DA	HRMN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN
95	OCT	10	1720	4.62	19	23.26	155	16.55	10.04	26	3	12	.6	.6	INTL	1.8X	4	54	1					
95	OCT	10	1930	8.54	19	24.99	155	15.25	7.16	12	3	.07	1.3	.9	INTL	1.4X	2	168	2					
95	OCT	10	1945	21.23	19	47.05	155	40.08	12.24	25	6	.13	.5	.6	KEA	2.0X	4	125	8					
95	OCT	10	2105	49.53	19	24.22	155	15.83	7.11	22	3	.12	.6	.7	INTL	1.7X	3	67	1					
95	OCT	10	2353	7.85	19	24.95	155	16.27	12.45	24	3	.08	.7	.5	INTL	1.8X	3	107	1					
95	OCT	11	38	57.48	20	28.23	156	1.66	33.82	40	6	.14	1.5	1.6	DIS	2.7X	3	319	46					
95	OCT	11	122	32.30	19	22.67	155	16.52	7.67	26	3	.12	.5	.7	INTL	1.4X	1	84	1					
95	OCT	11	554	4.56	19	25.15	155	16.11	11.26	20	4	.10	1.0	.8	INTL	1.6X	2	128	2					
95	OCT	11	738	39.55	19	25.03	155	16.20	9.99	26	4	.10	.6	.6	INTL	1.5X	3	71	1					
95	OCT	11	1614	32.88	19	24.83	155	17.16	9.60	16	3	.09	.8	.8	INTL	1.5X	2	65	0					
95	OCT	11	1753	57.22	19	22.94	155	20.29	33.73	45	4	.11	.6	1.0	DML	2.0X	3	41	2					
95	OCT	11	1926	3.53	19	19.49	155	9.42	6.83	26	3	.10	.5	.9	SF3	1.6X	2	92	5					
95	OCT	11	1948	12.94	19	20.11	155	11.27	8.31	47	9	.12	.4	.6	SF3	1.8X	3	114	4					
95	OCT	11	2027	22.85	19	40.42	155	32.21	33.87	4910	.09	.6	.9	KEA	1.9X	7	121	9						
95	OCT	11	2201	41.22	19	29.64	155	27.78	7.23	5110	.11	.3	.9	KAO	1.9X	7	48	4						
95	OCT	12	151	51.16	19	24.26	155	16.16	11.37	26	4	.11	.5	.7	INTL	1.6X	3	64	1					
95	OCT	12	1456	40.02	19	19.98	155	6.80	8.87	6018	.10	.3	.3	SF4	2.6X	10	147	5						
95	OCT	12	1646	40.96	19	23.14	155	33.72	7.61	24	2	.07	.3	1.0	MLO	1.7X	2	45	4					
95	OCT	13	452	33.13	19	21.11	155	6.01	9.60	48	8	.07	.5	.4	SF4	2.2X	3	148	5					
95	OCT	13	850	42.17	19	25.15	155	16.92	13.73	14	3	.07	1.5	.7	DEPL	1.7X	2	96	0					
95	OCT	13	1109	17.60	19	24.71	155	17.54	11.13	16	2	.08	1.0	.9	INTL	1.7X	2	73	1					
95	OCT	13	1408	44.83	19	23.25	155	17.12	7.98	27	3	.10	.4	.6	INTL	1.7X	4	59	0					
95	OCT	13	1631	28.91	19	23.33	155	16.90	10.85	16	3	.18	1.1	1.1	INTL	1.7X	2	55	0					
95	OCT	13	1846	51.45	19	24.15	155	17.24	8.44	29	3	.08	.4	.4	INTL	1.5X	3	44	1					
95	OCT	13	2105	22.52	19	11.97	155	37.66	7.81	40	5	.16	.5	.8	LSW	2.0X	3	86	5					
95	OCT	13	2113	6.61	19	25.09	155	15.78	7.77	31	4	.10	.4	.4	INTL	1.7X	4	77	2					
95	OCT	13	2324	5.58	19	24.61	155	17.10	9.68	30	4	.12	.5	.6	INTL	1.6X	3	44	1					
95	OCT	14	227	26.46	19	25.15	155	15.84	14.62	16	3	.06	1.2	.8	DEPL	2.0X	2	124	2					
95	OCT	14	253	2.04	19	12.08	155	30.39	7.61	32	6	.15	.4	.7	LSW	1.8X	4	123	6					
95	OCT	14	308	37.62	19	24.13	155	15.67	12.08	31	3	.10	.6	.5	INTL	2.0X	3	68	2					
95	OCT	14	337	46.13	19	24.59	155	16.20	15.30	19	2	.09	1.2	.7	DEPL	2.1X	2	94	1					
95	OCT	14	745	37.44	19	42.43	156	6.30	8.11	46	6	.14	1.1	1.2	HUA	2.4X	8	243	42					
95	OCT	14	1148	40.05	19	25.69	155	15.05	13.23	15	3	.12	1.6	.9	DEPL	1.9X	1	230	4					
95	OCT	14	1549	17.38	19	25.27	155	16.34	12.55	15	4	.09	1.4	.9	INTL	1.8X	2	114	1					
95	OCT	14	1738	28.44	19	23.95	155	17.83	6.29	12	.15	.7	1.2	INTL	1.6X	2	62	2						
95	OCT	14	1942	2.29	19	24.95	155	16.66	11.41	22	3	.08	.6	.7	INTL	1.6X	3	108	1					
95	OCT	14	2137	16.80	19	23.94	155	17.86	9.27	16	3	.13	.7	.8	INTL	1.6X	1	76	2					
95	OCT	15	258	50.45	19	24.51	155	16.19	12.61	26	3	.11	.6	.6	INTL	1.7X	3	66	1					
95	OCT	15	642	17.40	19	26.90	155	18.70	7.53	15	4	.13	1.1	.9	INTL	1.7X	2	189	3					
95	OCT	15	842	19.37	19	22.96	155	17.79	6.89	25	3	.11	.4	.7	INTL	1.8X	2	53	2					
95	OCT	15	1129	20.65	19	25.58	155	16.49	11.83	26	3	.11	.8	.7	INTL	1.8X	3	114	2					
95	OCT	15	1242	27.92	18	43.49	154	12.50	30.62	40	2	.11	2.7	4.1	DIS	2.3X	1	329109						
95	OCT	15	1417	35.72	19	24.99	155	16.07	12.81	21	5	.09	1.2	.5	INTL	1.8X	2	111	2					
95	OCT	15	1744	9.04	19	24.77	155	17.04	9.58	19	4	.13	.9	.6	INTL	1.7X	2	55	0					
95	OCT	15	1945	20.91	19	24.22	155	17.29	12.71	20	5	.07	1.1	.7	INTL	1.6X	2	76	1					

ORIGIN TIME				LAT N				LON W				DEPTH N				N RMS ERH ERZ LOC				PREF N				AZ MIN			
YR	MON	DA	HRMN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	KM	RD	S	SEC	KM	KM	REMK	MAG	RD	GAP	DS	DS
95	OCT	22	624	19.92	19	20.38	155	11.90	8.52	34	7	.08	.4	.6	SF3	1.6X	4	76	5								
95	OCT	22	652	39.11	19	24.55	155	17.14	11.23	20	3	.09	.8	.9	INTL	1.8X	3	56	1								
95	OCT	22	1526	7.07	19	23.92	155	16.14	4.79	14	3	.11	.6	.7	SECL	1.4X	3	105	1								
95	OCT	22	1917	50.07	19	18.98	155	15.20	7.82	24	2	.09	.5	.9	SF1	1.2X	2	139	4								
95	OCT	22	2324	40.93	19	10.32	155	29.02	34.31	44	4	.07	.6	1.0	DLS	1.9X	3	97	3								
95	OCT	23	207	42.30	19	19.49	155	7.85	8.99	37	5	.09	.5	.5	SF4	1.4D	1	127	4								
95	OCT	23	1156	13.38	19	25.67	155	19.80	5.04	5113	.09	.3	.7	KA0	2.3D	1	47	4									
95	OCT	23	1157	52.20	19	25.56	155	29.58	11.36	5614	.10	.3	.6	KA0	2.4D	1	37	7									
95	OCT	23	1328	46.93	19	25.89	155	19.68	4.04	4911	.11	.3	.6	KA0	2.2D	1	47	4									
95	OCT	24	154	37.77	19	26.14	155	20.03	3.43	31	7	.10	.3	.5	KA0	1.6D	1	85	3								
95	OCT	24	1447	26.94	19	26.05	155	19.57	4.36	5514	.12	.3	.7	KA0	2.2X	7	48	3									
95	OCT	25	1529	9.31	19	11.05	155	27.57	43.13	28	5	.09	1.3	.8	DLS	1.9D	1	200	9								
95	OCT	25	1920	58.69	19	20.82	155	12.83	8.61	5415	.12	.4	.4	SF2	1.4D	1	106	3									
95	OCT	26	359	26.91	19	25.70	155	26.69	9.26	39	4	.13	.4	.9	KA0	1.6D	1	46	6								
95	OCT	26	604	4.10	19	24.56	155	17.28	10.55	25	3	.11	.6	.6	INTL	1.9D	1	50	1								
95	OCT	26	713	4.93	19	24.56	155	16.94	11.66	20	2	.09	.8	.8	INTL	1.4D	1	96	1								
95	OCT	27	432	17.43	20	49.21	155	0.85	88.29	24	3	.19	3.9	3.3	DIS	2.3X	3	328109									
95	OCT	27	610	57.90	19	23.93	155	16.55	15.69	24	3	.11	.8	.6	DEPL	1.9X	3	79	0								
95	OCT	27	1015	16.85	19	24.24	155	16.36	11.25	30	4	.11	.6	.5	INTL	1.8X	3	61	1								
95	OCT	27	1422	51.58	19	21.28	155	6.75	10.23	45	4	.11	.6	.4	SF4P	4.3D	1	172	4								
95	OCT	27	1451	38.67	19	19.45	155	6.74	7.17	32	5	.09	.5	.7	SF4	1.8X	6	156	4								
95	OCT	27	1826	46.55	19	24.78	155	16.68	12.90	27	4	.11	.5	.6	INTL	1.8X	3	61	1								
95	OCT	27	2153	38.82	19	24.26	155	16.00	9.05	26	4	.12	.6	.4	INTL	1.5X	3	66	1								
95	OCT	28	151	7.85	19	24.53	155	16.79	9.08	29	3	.08	.4	.5	INTL	1.5X	3	59	1								
95	OCT	28	607	42.97	19	24.38	155	16.16	11.48	28	4	.11	.5	.6	INTL	1.8X	3	65	1								
95	OCT	28	713	19.39	19	16.56	156	12.20	35.32	47	2	.09	2.0	1.4	KON	2.1X	4	266	35								
95	OCT	28	841	54.52	19	26.07	155	15.88	10.34	30	4	.11	.6	.6	INTL	1.8X	4	107	3								
95	OCT	28	1319	29.04	19	24.88	155	17.98	11.06	19	4	.09	1.0	.7	INTL	1.6X	2	77	1								
95	OCT	28	1623	24.89	19	23.21	155	16.26	3.89	27	4	.11	.3	.3	SECL	1.5X	3	56	1								
95	OCT	28	2058	39.11	19	25.62	155	15.50	10.45	26	4	.11	.8	.7	INTL	1.7X	3	123	3								
95	OCT	29	122	56.57	19	24.44	155	16.53	10.36	28	4	.13	.5	.5	INTL	1.8X	4	61	1								
95	OCT	29	333	52.55	19	25.43	155	15.80	11.26	30	3	.11	.6	.6	INTL	1.9X	3	82	2								
95	OCT	29	454	38.36	21	2.34	156	25.36	15.98	30					1214.616.2 DIS ~	2.6X	1	336153									
95	OCT	29	509	35.28	19	23.26	155	16.45	6.81	28	4	.13	.4	.6	INTL	1.4X	2	54	1								
95	OCT	29	741	25.78	19	24.48	155	15.74	7.71	31	4	.11	.4	.5	INTL	1.6X	3	71	2								
95	OCT	29	1025	18.91	19	24.42	155	17.06	10.93	18	4	.11	.7	.6	INTL	1.6X	2	77	1								
95	OCT	29	1202	24.36	19	26.04	155	15.08	7.01	21	4	.09	.6	.6	INTL	1.7X	3	192	3								
95	OCT	29	1333	39.42	19	24.92	155	16.59	9.40	14	2	.09	.8	1.1	INTL	1.6X	2	97	1								
95	OCT	29	1433	23.56	19	25.63	155	16.73	11.10	30	4	.11	.6	.5	INTL	2.0X	4	114	1								
95	OCT	29	1705	27.76	19	24.45	155	16.91	12.33	16	3	.10	1.0	1.0	INTL	2.0X	2	81	1								
95	OCT	29	2023	49.28	19	25.41	155	17.06	14.38	15	3	.10	1.5	1.1	DEPL	1.8X	1	108	1								
95	OCT	29	2149	4.60	19	24.65	155	16.60	11.77	31	4	.11	.5	.5	INTL	1.8X	4	61	1								
95	OCT	30	12	10.47	19	25.43	155	16.39	11.59	15	3	.11	1.3	.6	INTL	1.6X	2	117	1								
95	OCT	30	114	29.72	19	12.02	155	28.22	5.29	36	7	.17	.4	1.8	LSW	1.5X	3	98	5								
95	OCT	30	158	51.07	19	24.28	155	16.80	11.27	19	4	.12	.7	.9	INTL	1.8X	2	79	1								

ORIGIN TIME				LAT N				LON W				DEPTH N				N RMS ERH ERZ LOC				PREF N AZ MIN				
YR	MON	DA	HRMN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN
95	NOV	3	47	56.90	19	22.99	155	15.86	11.44	31	4	12	6	.6	INTL	1.5X	3	85	1					
95	NOV	3	1045	11.45	19	22.79	155	14.67	3.35	2710	10	.3	.3	SEC	1.8X	4	70	2						
95	NOV	3	1147	30.53	19	23.62	155	15.72	8.17	26	3	13	6	.6	INTL	1.6X	3	77	2					
95	NOV	3	1421	13.92	19	22.93	155	16.15	2.04	18	4	.07	.3	.2	SECL	1.3X	3	66	1					
95	NOV	3	1632	25.36	19	25.54	155	19.78	7.08	5013	11	.3	.5	KAO	2.1X	7	53	3						
95	NOV	3	1815	45.29	19	24.98	155	15.33	12.20	27	4	12	.8	.5	INTL	1.6X	3	82	2					
95	NOV	4	129	44.62	19	24.48	155	16.32	11.27	31	4	10	.5	.6	INTL	1.7X	3	63	1					
95	NOV	4	1400	45.18	20	24.53	155	41.01	6.68	34	3	14	1.6	1.8	KOH	2.3X	2	304	33					
95	NOV	4	1807	59.99	19	25.83	155	16.40	7.53	27	4	11	.4	.4	INTL	1.6X	3	75	2					
95	NOV	4	2218	59.49	19	22.76	155	2.45	8.67	40	5	10	.6	.4	SF5	1.6X	3	168	4					
95	NOV	4	2228	26.04	19	59.64	155	32.50	8.73	32	4	14	.7	.5	KEA	1.9X	3	177	19					
95	NOV	4	2317	25.67	19	24.34	155	17.09	1.34	26	4	11	.3	.2	SSCL	1.0X	2	51	1					
95	NOV	5	721	29.66	19	25.20	155	16.25	11.09	28	4	10	.5	.6	INTL	1.7X	3	71	1					
95	NOV	5	1236	42.86	19	10.00	155	28.90	35.64	43	6	.07	.6	1.0	DLS	1.9X	7	107	2					
95	NOV	6	2302	37.16	19	20.56	155	11.69	9.71	38	8	.07	.3	.4	SF3	1.6X	6	111	4					
95	NOV	7	1326	27.17	19	20.82	155	11.49	8.86	4511	.09	.4	.5	SF3	2.2X	3	72	4						
95	NOV	7	1607	29.85	19	28.73	154	53.52	0.03	16	1	11	.6	.7	SLE #	2.3X	1	293	4					
95	NOV	7	1755	22.08	19	20.80	155	11.43	9.95	4310	11	.4	.5	SF3	1.7X	7	72	4						
95	NOV	7	1814	10.19	19	15.73	155	27.34	10.55	31	4	.09	.3	.6	LSW	1.5X	4	72	5					
95	NOV	9	116	30.63	19	29.91	155	29.39	3.43	3711	13	.3	.9	KAO	1.7X	7	67	5						
95	NOV	9	746	42.38	19	19.50	155	11.54	5.96	35	5	10	.4	.9	SF3	1.8X	3	95	6					
95	NOV	9	1748	9.61	19	18.74	155	26.33	10.57	41	4	12	.4	.7	LSW	1.5X	4	56	6					
95	NOV	10	151	0.42	19	14.72	155	29.93	9.90	5111	15	.3	.6	LSW	1.7X	6	66	1						
95	NOV	10	1524	19.77	19	17.73	155	15.77	7.98	34	5	.09	.4	.8	SF1	1.6X	3	143	5					
95	NOV	10	1757	5.58	19	22.25	155	4.75	9.38	4410	.09	.5	.4	SF5	1.8X	5	149	4						
95	NOV	10	2326	22.90	19	20.07	155	8.89	9.83	42	7	10	.5	.5	SF4	1.8X	6	99	5					
95	NOV	12	1833	23.83	19	13.37	155	23.24	36.36	4911	10	.6	.9	DEP	2.0X	5	154	2						
95	NOV	12	1905	51.96	19	16.40	155	29.25	33.21	41	2	.08	.6	1.1	DLS	2.0X	3	57	3					
95	NOV	12	2044	13.52	19	17.75	155	21.44	7.94	46	9	11	.3	.7	SWR	1.6X	6	121	5					
95	NOV	13	451	16.55	19	25.42	155	18.98	5.62	4013	12	.3	.6	INT	1.9X	7	45	2						
95	NOV	13	2127	36.07	19	23.71	155	15.14	3.02	33	7	11	.3	.3	SEC	2.0X	5	68	3					
95	NOV	13	2149	40.99	19	17.75	155	13.04	8.97	29	2	13	.7	1.0	SF2	1.6X	4	146	9					
95	NOV	14	332	5.97	19	20.99	155	16.02	1.45	34	9	10	.2	.3	KOA	2.1X	5	72	3					
95	NOV	16	1245	37.97	19	18.44	155	27.92	9.33	30	1	13	.4	.8	LSW	1.8X	3	42	7					
95	NOV	16	1708	33.94	19	9.84	155	33.82	31.82	4111	10	.6	1.1	DLS	2.2X	5	115	10						
95	NOV	16	1918	36.31	19	20.72	155	9.20	7.89	35	3	.08	.4	.5	SF3	1.8X	4	94	3					
95	NOV	17	1204	14.22	19	27.30	155	28.38	9.95	49	9	12	.3	.8	KAO	2.2X	7	47	9					
95	NOV	18	221	47.97	19	20.07	155	12.19	9.23	5312	11	.3	.4	SF3	2.0X	7	111	5						
95	NOV	18	1045	7.45	19	41.66	154	59.83	43.66	6625	10	.5	.7	HILF	3.0X	9	219	23						
95	NOV	18	2133	5.64	19	20.30	155	54.55	12.77	4511	14	.7	.3	KON	2.0X	6	204	9						
95	NOV	20	956	55.44	19	28.73	154	48.15	9.14	26	4	13	1.6	.6	LER	1.6X	3	317	13					
95	NOV	20	1527	37.55	19	24.26	155	7.47	0.70	10	3	.09	.3	.5	SER	1.9X	1	104	2					
95	NOV	20	1609	57.10	19	28.71	154	51.93	6.39	28	4	15	1.8	.6	LER	1.6X	2	281	6					
95	NOV	20	1703	3.86	19	20.29	155	7.50	8.89	38	7	10	.4	.5	SF4	2.1X	4	130	5					
95	NOV	21	544	21.55	19	18.35	155	27.58	10.89	5016	13	.3	.5	LSW	2.1X	10	44	8						

ORIGIN TIME				LAT N				LON W				DEPTH N				N RMS ERH ERZ LOC				PREF N AZ MIN				
YR	MON	DA	HRMN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN
95	NOV	21	740	26.05	19	15.48	155	29.62	10.12	35	4	14	.4	.7	LSW	1.6X	3	67	1					
95	NOV	21	1828	26.24	19	25.88	155	19.96	7.08	4411	12	.3	.6	KAO	1.8X	7	59	3						
95	NOV	21	1846	5.09	19	17.47	155	26.74	11.22	42	2	11	.3	.7	LSW	1.9X	3	48	7					
95	NOV	22	1831	35.01	19	20.26	155	7.15	18.13	4511	.09	.4	.5	SF4	1.8X	6	137	6						
95	NOV	22	1943	9.35	19	59.08	155	32.43	11.06	49	7	10	.6	.6	KEAF	2.5X	5	173	23					
95	NOV	23	2008	54.03	19	2.94	155	23.02	32.72	5411	.09	.7	1.0	LOI	2.1X	7	210	15						
95	NOV	23	2141	45.90	19	23.50	155	15.16	3.77	26	9	10	.3	.4	SEC	1.5X	5	66	2					
95	NOV	24	1000	9.93	19	18.63	155	14.13	31.38	5515	11	.6	.7	DEP	2.0X	8	74	3						
95	NOV	24	1642	8.05	19	15.40	155	25.95	8.98	25	6	10	.4	1.1	LSW	1.6X	3	78	4					
95	NOV	25	529	1.07	19	20.94	155	17.08	1.62	4010	10	.2	.3	SWR	2.1X	6	62	2						
95	NOV	25	529	16.62	19	21.27	155	16.93	2.69	39	6	11	.3	.4	KOAF	4.1D	1	87	2					
95	NOV	25	600	11.73	19	20.61	155	17.46	2.22	3810	10	.2	.3	SWR	2.3X	4	40	1						
95	NOV	25	610	39.26	19	20.59	155	17.31	2.16	24	9	12	.3	.3	SWR	1.2X	4	61	1					
95	NOV	25	611	1.08	19	20.55	155	16.81	1.80	20	6	.07	.3	.3	KOA	1.7X	4	76	1					
95	NOV	25	620	44.72	19	20.73	155	16.83	1.79	18	6	.07	.3	.3	KOA	1.4X	3	82	2					
95	NOV	25	627	20.40	19	20.56	155	17.50	1.93	33	9	.08	.2	.2	SWR	1.8X	5	36	1					
95	NOV	25	631	35.18	19	20.65	155	17.60	2.09	29	9	.07	.2	.3	SWR	1.6X	5	66	1					
95	NOV	25	826	15.85	19	20.79	155	16.46	1.63	4310	11	.2	.3	KOA	2.2X	7	74	2						
95	NOV	25	834	18.84	19	20.85	155	16.61	2.07	24	8	.09	.2	.3	KOA	1.5X	6	72	2					
95	NOV	25	834	35.13	19	20.72	155	16.49	1.55	2910	10	.2	.3	KOA	1.9X	5	75	2						
95	NOV	25	928	39.97	19	20.75	155	17.07	1.82	17	5	.09	.3	.3	SWR	1.5X	2	69	1					
95	NOV	25	1017	52.62	19	21.09	155	17.14	1.80	2711	.08	.2	.3	SWR	1.5X	5	58	2						
95	NOV	26	706	42.39	19	22.26	155	29.27	10.19	5317	10	.3	.5	KAO	1.9X	9	43	3						
95	NOV	26	2346	24.53	19	25.38	155	29.40	9.79	36	6	10	.3	.7	KAO	1.9X	4	65	6					
95	NOV	27	736	16.56	19	18.98	155	13.87	7.66	29	7	.07	.4	.7	SF2	1.4X	6	90	4					
95	NOV	28	531	46.54	19	17.87	155	23.09	2.97	29	5	.09	.3	.8	SWR	1.6X	4	99	4					
95	NOV	28	648	8.38	19	25.87	155	14.37	13.36	19	3	16	1.0	1.0	DEPL	1.9X	3	109	5					
95	NOV	28	1337	50.78	19	26.57	155	29.05	9.73	5214	11	.3	.7	KAO	2.1X	9	43	8						
95	NOV	28	1931	10.82	19	20.80	155	7.09	8.35	5316	12	.4	.5	SF4	2.8X	6	133	5						
95	NOV	29	920	54.47	19	24.12	154	59.13	7.56	33	4	15	.9	.6	LER	1.7X	3	200	2					
95	NOV	30	2113	52.05	19	28.93	155	15.60	32.11	6423	11	.5	.6	DEP	2.6X	10	97	3						
95	DEC	1	256	20.31	19	24.89	155	15.51	11.86	21	4	11	.9	.7	INTL	1.8X	2	79	3					
95	DEC	1	1425	10.33	19	20.71	155	6.79	9.36	32	3	.08	.6	.3	SF4	1.5X	2	139	5					
95	DEC	1	2329	20.28	19	25.07	155	15.90	12.82	26	4	12	.8	.6	INTL	1.7X	3	76	2					
95	DEC	2	208	54.67	19	24.34	155	16.93	12.55	31	4	11	.5	.4	INTL	1.7X	4	57	1					
95	DEC	2	238	58.98	19	24.13	155	15.68	14.13	30	4	14	.8	.4	DEPL	1.9X	2	68	2					
95	DEC	2	401	50.84	19	24.93	155	16.57	12.12	39	7	12	.4	.4	INTL	1.9X	4	64	1					
95	DEC	2	439	28.74	19	23.96	155	17.84	10.92	30	4	13	.5	.6	INTL	1.7X	4	47	2					
95	DEC	2	511	31.63	19	25.79	155	14.22	11.86	30	4	10	.5	.6	INTL	2.0X	3	72	5					
95	DEC	2	738	39.14	19	25.44	155	16.42	10.15	30	4	15	.5	.5	INTL	1.9X	3	70	1					
95	DEC	2	842	14.93	19	24.18	155	17.22	13.89	27	4	14	.8	.5	DEPL	2.1X	3	44	1					
95	DEC	2	1047	22.76	19	24.81	155	15.88	13.56	27	4	11	.7	.5	DEPL	1.9X	3	73	2					
95	DEC	2	1204	43.37	19	25.18	155	17.13	10.43	31	4	14	.5	.4	INTL	1.7X	3	56	1					
95	DEC	2	1301	6.34	19	25.86	155	17.65	10.22	30	4	12	.6	.5	INTL	1.8X	3	71	1					
95	DEC	2	1356	51.93	19	24.52	155	16.05	10.47	27	4	11	.5	.5	INTL	1.7X	3	68	1					

ORIGIN TIME				LAT N				LON W				DEPTH N				N RMS ERH ERZ LOC				PREF N AZ MIN				
YR	MON	DA	HRMN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	DEG	MIN	SEC	KM	RD	S	SEC	KM	KM	REMKS	MAG	RD	GAP	DS
95	DEC	2	1431	27.42	19	25.23	155	15.99	10.50	22	2	.09	.6	.6	INTL	1.7X	2	76	3					
95	DEC	2	1510	33.91	19	24.10	155	16.47	11.38	21	4	.13	.6	.7	INTL	1.9X	3	98	0					
95	DEC	2	1551	0.08	19	23.79	155	16.93	7.30	26	4	.14	.5	.5	INTL	1.5X	2	54	1					
95	DEC	2	1650	27.11	19	24.94	155	17.18	13.84	15	3	.15	1.1	.9	DEPL	1.8X	2	66	0					
95	DEC	2	1801	52.34	19	25.26	155	16.90	13.41	14	2	.13	1.4	1.0	DEPL	1.7X	2	111	1					
95	DEC	2	2007	42.23	19	23.93	155	17.67	14.08	27	3	.15	.6	.7	DEPL	2.0X	2	47	2					
95	DEC	2	2049	31.50	19	18.11	155	16.13	9.29	47	10	.13	.5	.6	SF1	2.1X	5	138	4					
95	DEC	2	2102	6.46	19	18.65	155	30.05	10.09	44	8	.10	.3	.6	LSW	1.8X	8	72	7					
95	DEC	2	2132	42.44	19	23.90	155	17.40	12.91	15	3	.08	1.2	1.0	INTL	1.9X	3	86	1					
95	DEC	2	2158	18.87	19	25.70	155	15.76	12.90	13	3	.26	2.3	1.5	INTL	1.7X	2	144	3					
95	DEC	2	2322	12.01	19	25.91	155	16.24	11.20	28	4	.11	.6	.5	INTL	1.7X	2	76	2					
95	DEC	2	2353	25.33	19	25.51	155	14.26	9.82	23	4	.13	1.0	.5	INTL	1.4X	3	204	5					
95	DEC	3	58	4.23	19	38.58	155	8.40	41.67	49	12	.10	.8	.8	HIL	2.3X	6	210	18					
95	DEC	3	101	40.92	19	24.41	155	16.51	12.99	29	4	.13	.7	.6	INTL	1.9X	3	61	1					
95	DEC	3	303	4.17	19	23.78	155	17.20	12.79	16	2	.13	1.3	.8	INTL	1.8X	3	68	1					
95	DEC	3	430	39.60	19	25.75	155	17.80	10.07	16	4	.11	1.1	.6	INTL	1.7X	2	83	1					
95	DEC	3	654	30.53	19	24.40	155	17.52	12.13	31	4	.13	.5	.5	INTL	1.8X	3	45	1					
95	DEC	3	749	18.41	19	23.11	155	14.89	3.54	28	10	.08	.3	.3	SEC	1.5X	6	136	2					
95	DEC	3	849	2.66	19	23.37	155	14.70	3.67	25	6	.09	.3	.4	SEC	1.7X	4	68	3					
95	DEC	3	912	57.03	19	23.63	155	17.73	12.18	13	3	.10	1.1	.8	INTL	1.8X	2	64	2					
95	DEC	3	1000	34.63	19	25.42	155	16.78	14.09	16	2	.10	1.0	.8	DEPL	1.8X	2	114	1					
95	DEC	3	1108	56.95	19	20.23	155	7.44	8.75	34	4	.08	.6	.4	SF4	2.0X	4	194	5					
95	DEC	3	1206	27.63	19	24.32	155	15.74	10.52	11	2	.25	2.3	1.8	INTL	1.7X	2	138	2					
95	DEC	3	1410	52.18	19	21.50	155	6.67	7.90	32	4	.11	.5	.6	SF4	1.8X	4	133	4					
95	DEC	3	1901	35.59	19	19.16	155	13.21	8.58	37	4	.10	.5	.6	SF2	1.7X	4	127	6					
95	DEC	4	10	30.93	19	25.43	155	15.69	8.82	25	4	.13	.8	.5	INTL	1.4X	2	142	2					
95	DEC	4	328	24.81	19	24.57	155	17.12	2.67	27	11	.11	.3	.2	SNCL	1.6X	7	79	1					
95	DEC	5	50	50.15	19	19.69	155	9.60	9.36	50	14	.11	.4	.4	SF3	1.8X	8	89	4					
95	DEC	5	145	42.32	19	19.34	155	9.61	7.84	39	7	.08	.4	.6	SF3	1.7X	2	97	5					
95	DEC	5	731	5.97	19	18.73	155	26.61	10.21	37	4	.12	.4	.7	LSW	1.5X	2	53	6					
95	DEC	5	1316	38.71	19	13.11	155	34.62	8.60	37	6	.20	.5	1.1	LSW	1.9X	2	132	5					
95	DEC	5	1454	26.82	19	21.40	155	8.10	9.88	29	3	.08	.4	.4	SF4	1.5X	2	111	3					
95	DEC	7	1208	45.08	19	19.45	155	3.21	41.50	50	9	.10	.7	.7	DEP	2.4X	8	197	9					
95	DEC	7	1827	30.17	19	25.93	155	15.48	2.39	22	8	.12	.3	.6	SNCF	1.5X	6	96	3					
95	DEC	8	59	3.13	19	16.83	155	47.45	8.47	36	4	.12	.4	.8	KON	1.9X	6	91	9					
95	DEC	8	1127	30.56	19	11.20	155	30.67	6.86	36	5	.15	.4	1.1	LSW	1.6X	3	141	6					
95	DEC	9	620	35.43	19	19.74	155	11.11	7.87	44	10	.12	.4	.6	SF3	1.7X	7	92	5					
95	DEC	10	1041	36.12	19	20.03	155	7.28	6.97	33	6	.08	.4	.6	SF4	1.3X	4	137	5					
95	DEC	10	1711	45.74	19	22.94	155	30.20	11.40	63	24	.10	.2	.5	KAO	2.1X	10	31	5					
95	DEC	11	24	38.51	19	25.80	155	20.10	8.40	42	10	.11	.3	.5	KAO	1.7X	4	58	3					
95	DEC	11	926	44.58	19	20.53	155	11.90	8.82	41	12	.10	.4	.4	SF3	1.6X	7	112	4					
95	DEC	11	1211	32.66	19	18.75	155	15.67	6.97	24	2	.10	.5	1.0	SF1	1.5X	1	132	4					
95	DEC	11	1844	44.25	19	13.47	155	31.71	9.93	34	3	.13	.5	.8	LSW	2.0X	5	126	4					
95	DEC	11	1951	20.49	19	13.01	155	31.71	9.52	36	5	.12	.4	.8	LSW	1.9X	2	76	5					
95	DEC	11	2009	8.08	19	12.41	155	31.50	9.26	29	1	.15	.6	.9	LSW	1.8X	3	127	5					

ORIGIN TIME		LAT N		LON W		DEPTH N		N RMS		ERH		ER2		LOC		PREF N		AZ MIN		
YR	MON	DA	HR	MIN	SEC	DEG	MIN	DEG	MIN	KM	RD	S	SEC	KM	KM	REMARKS	MAG	RD	GAP	DS
95	DEC	30	2	54.29	19	22.55	155	8.72	3.33	21	4	.09	.5	.3	SER	1.6X	3	98	2	
95	DEC	30	1713	40.89	19	12.68	155	28.94	6.77	37	5	.15	.4	1.0	LSW	2.0X	6	96	5	
95	DEC	30	1828	44.32	19	24.88	155	19.55	5.83	26	7	.07	.3	.7	KAO	1.5X	6	78	2	
95	DEC	31	757	17.57	19	20.26	155	6.78	7.33	25	2	.08	.6	.8	SF4	1.6X	3	144	6	
95	DEC	31	1328	24.31	19	36.62	156	2.90	33.87	40	5	.10	1.0	1.1	KON	2.0X	2	262	19	

Table 6.

ORIGIN TIME					LAT N		LON W		DEPTH N		N RMS	ERH	ERZ	LOC	PREF N	AZ MIN			
YR	MON	DA	HRMN	SEC	DEG	MIN	DEG	MIN	KM	RD	S	SEC	KM	KM	REMKS	MAG	RD	GAP	DS
95	JAN	28	1355	59.68	19	37.16	156	2.92	38.60	53	8	.10	.9	1.2	KON	3.0X	7	232	20
95	FEB	4	1200	44.93	18	49.48	155	15.31	46.42	52	8	.10	1.3	.9	LOI	3.0X	4	262	43
95	FEB	13	646	30.08	18	56.81	155	33.38	40.57	61	16	.08	.7	.9	DLSF	3.3X	6	238	12
95	FEB	14	1437	32.50	19	3.07	156	16.59	34.88	47	4	.09	1.5	2.2	KON	3.5X	1	316	49
95	FEB	14	1822	2.97	18	55.46	155	28.94	37.32	59	14	.09	.8	1.1	DLSF	3.7X	3	243	20
95	FEB	15	1008	11.73	19	19.75	155	6.94	9.18	45	5	.08	.5	.3	SF4	3.0X	3	115	5
95	FEB	24	349	11.49	19	10.57	156	30.57	30.79	46	6	.10	1.2	2.6	DIS	3.0X	5	306	68
95	MAR	8	2212	16.12	19	19.97	155	7.28	8.83	45	5	.08	.3	.4	SF4F	4.0D	1	104	5
95	MAR	17	1210	5.29	20	52.42	154	55.29	16.09	52	6	.12	4.1	14.4	DIS -	3.3X	4	319	117
95	MAR	19	2229	51.05	20	5.48	156	39.74	15.13	58	11	.13	6.7	11.8	DISF-	4.8D	1	319	97
95	MAR	27	604	42.75	19	21.99	155	13.84	28.89	56	8	.11	.5	.7	DEPF	4.1D	1	51	2
95	APR	8	2042	11.12	21	28.15	156	29.55	17.80	51	7	.13	2.3	16.5	DIS -	3.5X	5	337	166
95	MAY	3	1149	34.16	19	18.61	155	13.12	10.19	54	10	.12	.4	.6	SF2F	3.1X	2	129	7
95	MAY	3	1207	55.64	19	18.21	155	13.42	0.03	54	13	.21	.4	.3	SSFF#	3.0X	3	139	8
95	MAY	3	1228	36.11	19	19.20	155	13.23	9.92	50	5	.13	.5	.5	SF2F	3.9D	1	126	6
95	MAY	11	349	20.40	20	5.18	155	20.91	15.77	53	5	.11	1.2	1.6	KEAF	4.8D	1	267	22
95	MAY	30	2229	35.43	19	23.25	155	29.76	10.38	62	10	.10	.3	.4	KAO	3.0X	3	32	4
95	JUN	3	2021	1.52	19	23.27	155	14.65	3.53	56	10	.12	.3	.3	SECF	3.3X	1	84	3
95	JUN	19	2150	43.40	20	44.40	155	31.52	17.42	52	7	.12	1.3	16.1	DIS -	4.1D	1	315	96
95	JUL	3	1022	8.63	19	37.50	155	49.91	14.83	57	8	.13	.6	.3	KONF	3.2X	4	144	7
95	AUG	9	2102	16.56	19	19.04	155	13.61	10.54	66	19	.11	.4	.3	SF2F	3.8U		125	7
95	SEP	9	243	58.57	19	11.97	155	31.06	37.62	65	22	.09	.6	.7	DLS	3.3X	4	130	6
95	SEP	21	1131	56.97	22	8.71	157	2.54	24.97	41	9	.11	2.8	3.3	DIS	3.2X	3	343	259
95	OCT	2	1541	37.77	19	36.33	156	26.30	1.02	63	17	.13	2.7	1.0	DIS	3.4X	9	279	64
95	OCT	27	1422	51.58	19	21.28	155	6.75	10.23	45	4	.11	.6	.4	SF4F	4.3D	1	172	4
95	NOV	18	1045	7.45	19	41.66	154	59.83	43.66	66	25	.10	.5	.7	HILF	3.0X	9	219	23
95	NOV	25	529	16.62	19	21.27	155	16.93	2.69	39	6	.11	.3	.4	KOAF	4.1D	1	87	2
95	DEC	14	423	51.30	19	21.95	155	5.02	9.18	46	9	.10	.5	.4	SF5	3.0X	4	151	5
95	DEC	17	1828	8.41	19	13.20	155	27.89	0.56	58	20	.10	.2	.2	LSW	3.1X	2	102	7
95	DEC	19	2350	42.97	19	27.38	155	28.82	24.91	65	21	.10	.4	.6	DMLF	3.0X	7	49	9