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Hawaiian Volcano Observatory Seismic Network History 1950-79

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INTRODUCTION

The purpose of this report is to assemble information on the growth and recording of the Hawaiian Volcano Observatory's seismic network. It is meant as a guide for those using the seismic records to determine the availability, format, and characteristics of records on a station-by-station basis. This report is intended to be kept up to date with new entries made when stations, their recording, or their characteristics change. The emphasis is on the most recent information (1967 - 1 October 1979), but effort has been made to include some network characteristics back to 1950.

This report also includes information on the growth of the network as recording capacity increased. Response curves and calibration factors are given in an attempt to allow users of the data to relate measured amplitudes to ground displacement, at least for data after 1974. Also included is a brief description of scale factors presently in use in setting up network electronics which relates Develocorder to magnetic tape amplitudes.

Detailed descriptions of seismic instrumentation, particularly the variety of types in use before 1970, can be found in several original sources. The information presented here is drawn from these original sources, as well as log books and notebooks maintained by the technical staff:

1) Weekly and Monthly Bulletins of the Hawaiian Volcano Observatory, June 1913 through July 1929. This is a compilation of weekly newspaper columns and other releases describing activities of the observatory and Hawaiian volcanoes including seismicity.

2) The Volcano Letter, published for limited circulation at irregular intervals from January 1925 (issue no. 1) until December 1955 (issue no. 530). This contains news of the observatory, Hawaiian and other volcanoes, and information on some earthquakes recorded at the observatory.

3) Annual reports on Hawaiian Volcanoes 1948-1955 as follows:

a)	Report of the Hawaiian Volcano Observatory for 1948 and 1949, USGS Bulletin 974-D, 1950.					
b)	Hawaiian Volcanoes during		1950,	USGS	Bulletin	996-B, 1953
c)	"	"	" 1951,	"	"	996-D, 1954
d)	"	"	" 1952,	"	"	1021-B, 1955
e)	"	"	" 1953,	"	"	1021-D, 1955
f)	"	"	" 1954,	"	"	1061-B, 1957
g)	"	"	" 1955,	"	"	1171, 1964

These describe geologic and seismic data gathered by the observatory during the respective years.

4) Hawaiian Volcano Observatory Summaries, issued as follows:

   a) Quarterly from first quarter 1956 through third quarter 1959 (summaries 1-15)
   b) Quarterly from fourth quarter 1961 through fourth quarter 1973 (summaries 24-72)
   c) Annually beginning with 1974 (summary 74).

   Summaries 16-23 were skipped because of the overwhelming quantity of data gathered during eruptions. No summary 73 was issued so that the later summary numbers would be the same as the year. The summaries contain descriptions of volcanic activity, information about the seismic network, lists of earthquakes with locations, daily earthquake count data, and changes measured on water-tube tiltmeters.

5) Station notebooks, kept by the technical staff to record instrumentation changes and site visits.

6) Calibration notebook, containing measured system calibration factors.

7) Magnetic tape format notebook.

8) Develocorder trace assignment slips, kept in the can with each Develocorder film.

BRIEF HISTORY OF THE SEISMIC NETWORK

With the aid of an endowment for geophysical research, Mr. F. A. Perret and Dr. E. S. Shepard (Carnegie Institute of Washington) were able to spend the summer of 1911 doing some of the earliest organized physical research at Kilauea. Temperature measurements of fresh lava was the major project, however they were able to set up a simple seismoscope to record earth vibrations. Their observations were a prelude to the formation of the Hawaiian Volcano Observatory by T. A. Jaggar in January, 1912. Preliminary observations had been made by Jaggar during 1909 before and after his visit to Japan to study volcanoes and seismological methods. During 1909 and 1910 Jaggar placed an order for 3 seismographs in Japan. By August, 1912 one Omori horizontal-pendulum tromometer had been set up in the original Whitney vault (station WHN) to record east-west motion. This particular instrument with no damping, a magnification factor of 120, a period of 15 seconds, had originally been designed to record teleseisms. Seismic motion was recorded on a revolving drum wound with paper coated with soot from a kerosene lamp. In addition, a three-component short period selfstarting recording seismograph was installed in the same vault. By July 1913, two horizontal Bosch-Omori seismographs

were also operating in the Whitney vault. During these early years volcanological observations took precedence over seismology.

During 1912 a Howard clock, checked at intervals by solar observations with a transit, was referred to for timing of events. A wireless, introduced in 1918, was used to check the clock at intervals with the Pearl Harbor Naval Station. In the ensuing years effort was concentrated on enlarging the net to locate earthquakes. In 1922 the Hawaiian type seismograph designed by Jaggar and Romberg was first used at the old Hilo station. Several of these were built for installation around the island of Hawaii. In 1926 R. M. Wilson developed a method to record a radio time signal directly on the smoked paper record. A key connected to the radio circuit was depressed when it received the appropriate radio signal. By measuring the interval between the clocktime and the radiotime a time correction for the clock could be obtained. For the first time events recorded at the Hawaiian Volcano Observatory could be correlated with the Kona station which was located on the leeward side of Hawaii.

In 1928 a short-period 3-component Imamura seismograph was installed at the Uwekahuna vault (station UWE). These early instruments recorded at 15mm/min. Several drums were later modified to run at 30mm/min. By 1938 the Bosch-Omori had been converted to a 49-51mm/minute. Despite early attempts to determine clock corrections the best timing accuracy was to the nearest second. This at least enabled seismologists to correlate events.

In 1939 Hugh H. Waesche, together with the local telephone company, devised a method of transmitting a time signal over pre-existing telephone lines through a phantom circuit. The use of standard repeating coils enabled the Observatory to use a common clock for Mauna Loa (established in 1938), Uwekahuna, Halemaumau (Pit), and the Hawaiian Volcano Observatory. The common clock together with a radio check gave a time correction ability for the Observatory under 0.5 sec. Continuous operation was prevented by various mechanical problems. During the years from 1939 to 1948, except for minor modifications, instrumentation remained the same.

During the move of the Hawaiian Volcano Observatory across the street in 1941, the vertical Jaggar instrument installed at the Whitney vault in 1929 was moved to the new building. The Bosch-Omori was left in the old vault. In 1948 the vertical instrument was finally placed in the Uwekahuna vault. In the year 1948, Hilo, Kona, and Mauna Loa stations were equipped with two-component "Hawaiian"-type seismographs. The Bosch-Omori recording drums were powered by a synchronous A. C. motor, and the other drums were powered by spring-wound clocks. In 1950 existing seismographs at Uwekahuna vault were supplemented, on a part time basis, with a Sprengnether vertical seismograph, and Hilo station was moved to its present location. Magnification for the Hilo pendulums had been increased to 200 times. Early in 1952 field wire was laid from the Whitney vault to Uwekahuna and Mauna Loa stations to provide more reliable timing for Uwekahuna and

Mauna Loa stations. A new standard self-winding clock, with an invar pendulum, was installed in the Whitney vault in September 1950.

It was not until late 1952, after some experimentation, that a synchronized time signal was transmitted to all three Kilauea stations. The time signal originated from the standard clock placed in the Whitney vault. On November 1, 1953 commercial power became available at the Observatory, thus permitting the full operation of the Sprengnether vertical. In this same year the Maui station (Haleakala) was reactivated and construction was started on three new seismograph stations. These were:

1) Pahoa; near east rift zone of Kilauea

2) Naalehu; near the southwest rift zone of Mauna Loa

3) Kamuela; on the south slopes of Kohala mountain

By mid-1955 the first high magnification short period instruments for Hawaii had been developed. One was for optical recording through a galvonometer for general station use (HVO-1), and one was for remote recording via telephone wires for use in almost inaccessible regions near the Volcano Observatory (HVO-2). Both instruments have peak magnifications at a period of about 0.2 second: HVO-1 about 25,000, and HVO-2 40,000.

By July 1958 signals were being recorded at the Volcano Observatory from four telerecording stations equipped with HVO-2 instruments: Mauna Loa, Desert, North Pit, and Outlet (later moved to Ahua). Three of these stations form a triangle about 15 km on a side near the summit of Kilauea, with the fourth station (North Pit) at the center of Kilauea caldera. Since they record visibly in the Observatory, these stations provided a continuous monitor of seismic disturbances in Hawaii.

By the fall of 1958, HVO-1 seismometers had replaced the older instruments at Uwekahuna, Hilo, and Haleakala, and a similar instrument was being operated for HVO at Barbers Point, Oahu, through the courtesy of the U.S. Coast and Geodetic Survey. Standard, short-period Wood-Anderson seismometers were also in operation at Haleakala and at Hilo, and a 3 component long-period Press-Ewing system was in operation at Uwekahuna. Subsequently, HVO-1 seismometers were installed at Pahoa, Naalehu, and Kamuela.

The Kona station was rebuilt and activated in 1963. At this time the first EV-17 seismometers were installed (one vertical and two horizontals). The seismometers were hooked up to .286 second period galvonometers and recording was on a standard optical drum (60mm/min).

In the few years following 1963 various improvements were made on the net. Miles of more durable wire were laid for the existing telemetry stations and for the addition of more stations around the summit of Kilauea. A gradual transition was made from the original tube-type pre-

amps to solid state pre-amps for telemetry stations. The low drift rate of new crystal controlled chronometers improved the reliability of independent stations for use in earthquake locations.

As the net developed it was increasingly obvious that a better recording method than the usual 60mm per minute smoked paper drums was needed for the Observatory. The many individual optical and smoked-paper records and the large numbers of earthquakes made interpretation an almost impossible task. By the end of 1967 a Develocorder Model 4000D was in full operation. In the Develocorder, analog seismic signals are applied to a bank of twenty mirror galvonometers which reflect light to an opal glass screen where it is photographed continuously on standard 16 millimeter film. The film is processed and stored automatically. Eighteen galvonometers are used for seismic signals and the remaining two are used for timing. At a glance a seismogram reader can decide whether or not an event is worth studying and there is also the advantage of measuring phases from a common time signal. A second Develocorder was added in April 1971, increasing the recording capacity to 36 stations.

Meanwhile, the introduction of VHF telemetry radios in the late-1960's permitted the installation of new stations without the need for costly and difficult to maintain overland cable. In addition, formerly independent stations could be transmitted to the observatory and recorded without the need for clock corrections. At the present time (September 1979) only 4 stations use overland cable, and two of these are partly transmitted by radio. The observatory eventually plans to eliminate overland cable from the network. The availability of telemetry radios, greater recording capacity of the two Develocorders, and frequent eruptions spurred an accelerated growth of the network during 1968-1973.

Network growth is shown graphically in figure 1. From 5 stations in 1950, the number of stations on Hawaii island has grown to 44 at present (Sept. 1979). The separation of the "number of components" and "number of stations" curves prior to 1968 reflects the large number of horizontal components. Network growth during 1968-73 has been primarily by the addition of new vertical-only stations. Operation of the Haleakala (Maui) and Kipapa (Oahu) stations is also shown, together with the modern recording devices.

In May 1975 a major increase in recording capacity was achieved with the installation of a Bell and Howell 3700B instrumentation tape recorder. It records up to 96 stations in FM multiplexed form. In 1978 the tape format was changed to permit a maximum of 112 stations. The additional recording capacity available in 1975 was accompanied by the addition of 12 horizontal components to existing stations, as shown by the step in the upper curve of figure 1. The observatory did not acquire playback facilities for the tapes until December 1978 when the Eclipse computer and digitizer arrived. Data from the additional stations which was recorded on tape but not on the Develocorder were not routinely examined or read until 1979, although dubbed tape copies of many earthquakes

recorded after 1975 are kept in Menlo Park, California. Starting in 1979, many earthquake seismograms have been digitized and kept on computer tape at HVO.

The growth of the network is shown dramatically by a series of maps of the network from 1950 to 1979, in figures 2 through 27. The figures are in pairs, one covering the entire island and the other an enlargement of the Kilauea summit region. The maps show the seismic network as it was in December of the years 1950, 1955, 1960, and every two years from 1960 to 1978. Stations which did not operate in December of those years, which operated for less than a year, or which were only recorded intermittently are not plotted on the maps.

In 1979, all stations were equipped with short period (1 second) geophones, and electronic preamplifiers and voltage controlled oscillators, with the exception of Hilo (HIL) and UWE (HVO located at Uwekahuna). Hilo is equipped with an HVO-1 vertical seismometer (HIL) and two Wood-Anderson torsion seismometers (HIE, HIN), all recording optically at 60mm/minute. Uwekahuna is equipped with vertical and east-west Sprengnether seismometers (USZ, USE) and an EV-17 horizontal geophone (UWH), all recording optically at 60mm/minute. There is also a three component long period Press-Ewing set recording at 15mm/minute.

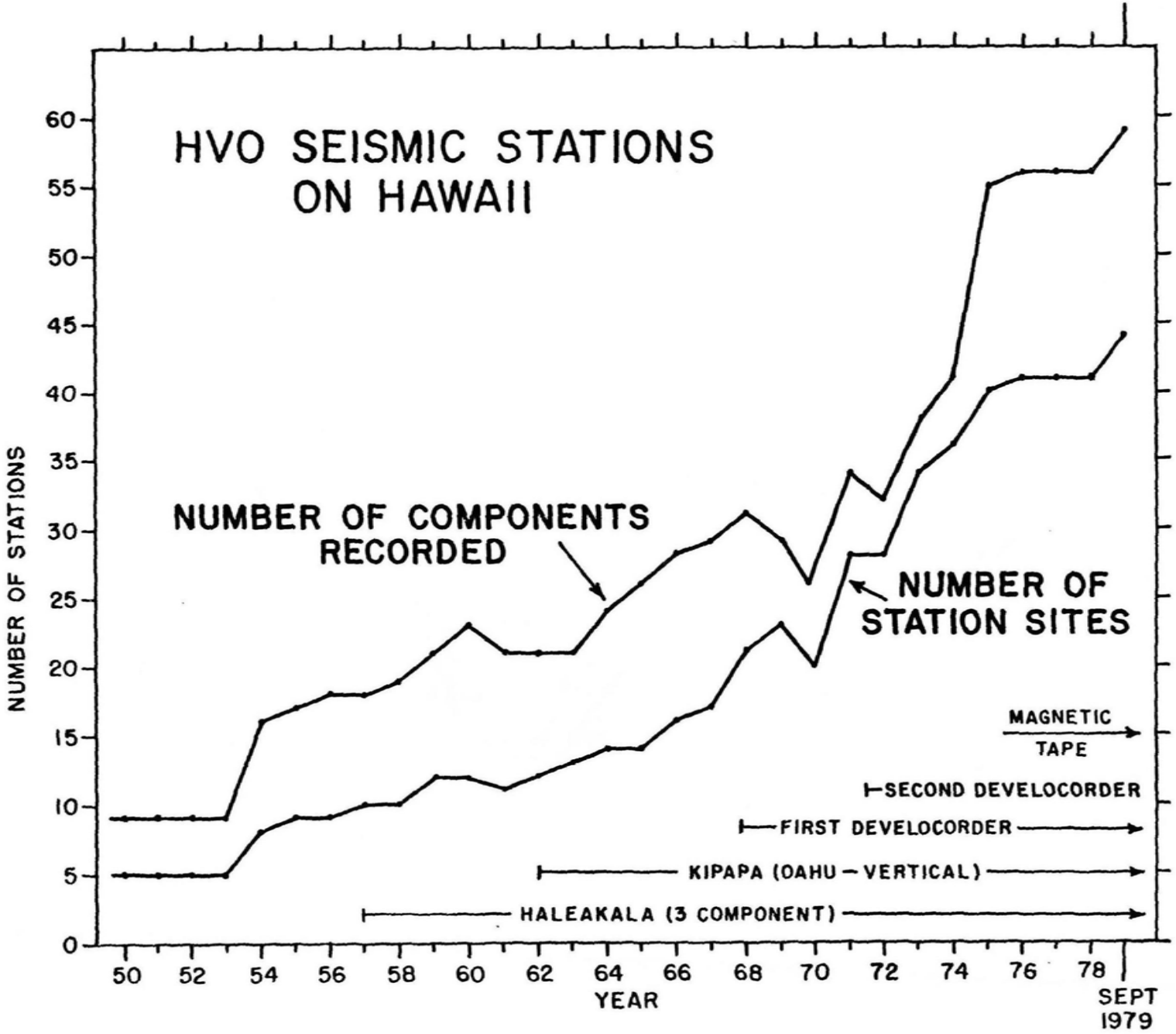

Figure 1. Numbers of HVO seismic stations, 1950-1979

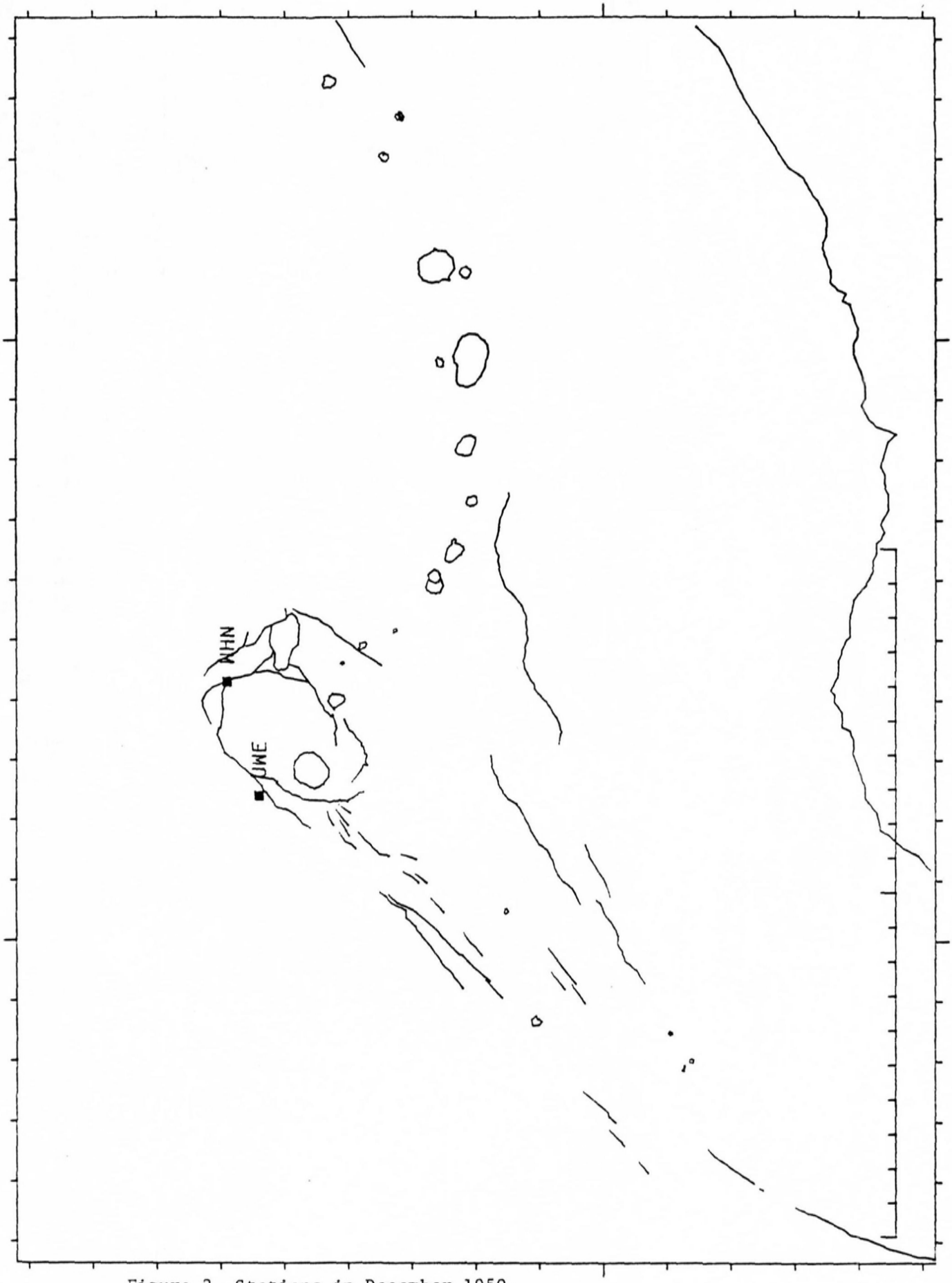

Figure 2. Stations in December 1950.

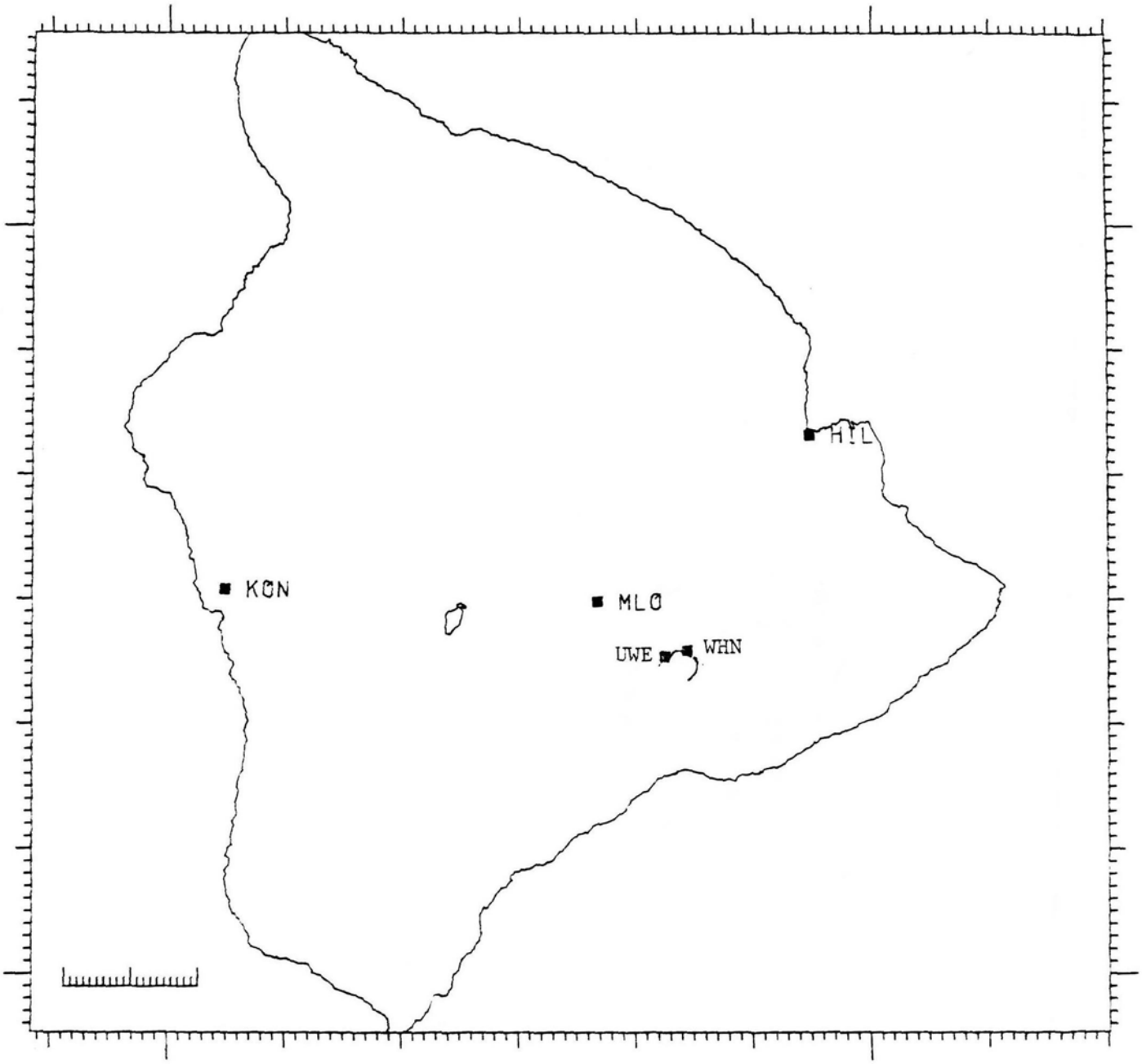

Figure 3. Stations in December 1950.

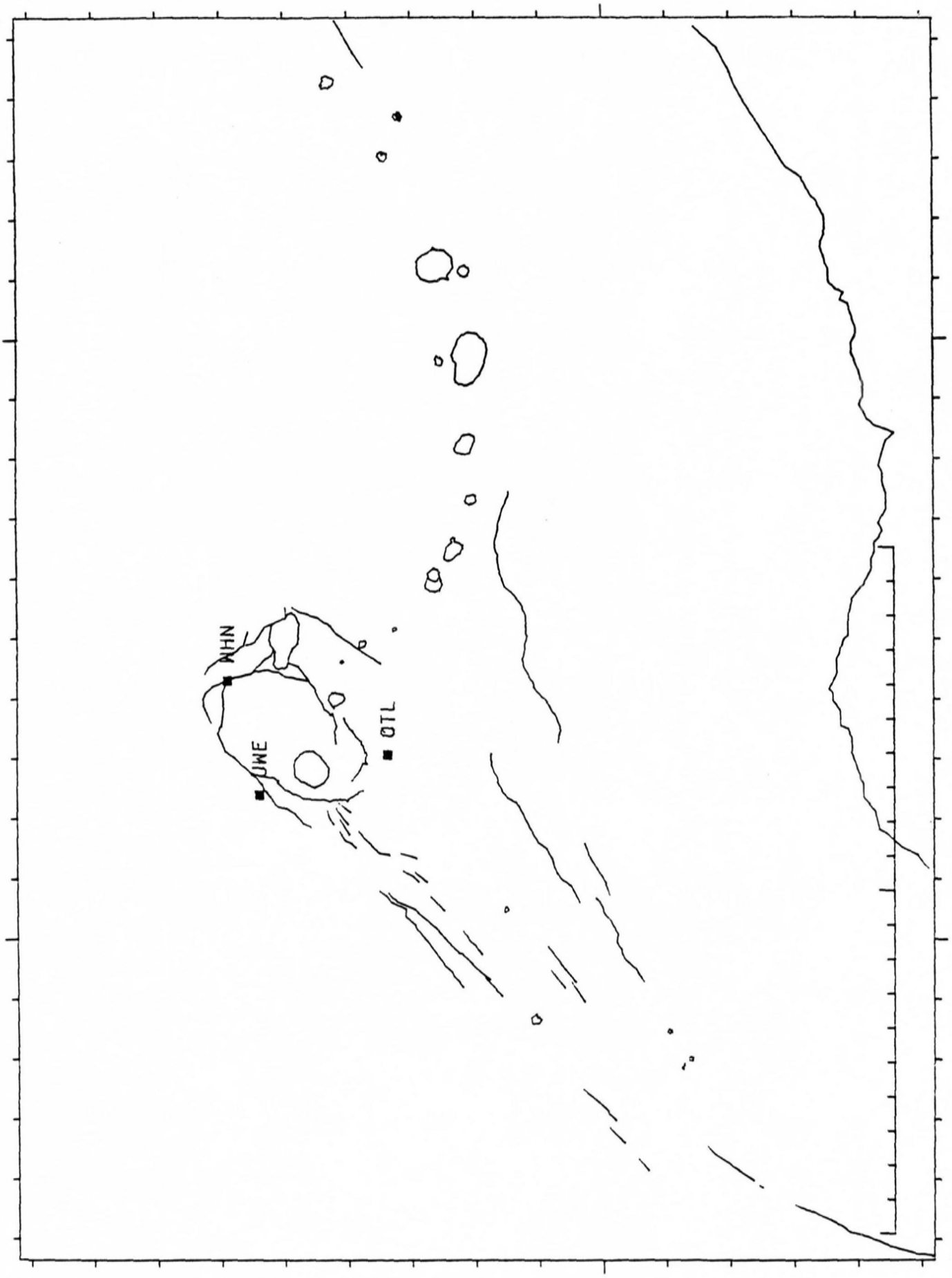

Figure 4. Stations in December 1955.

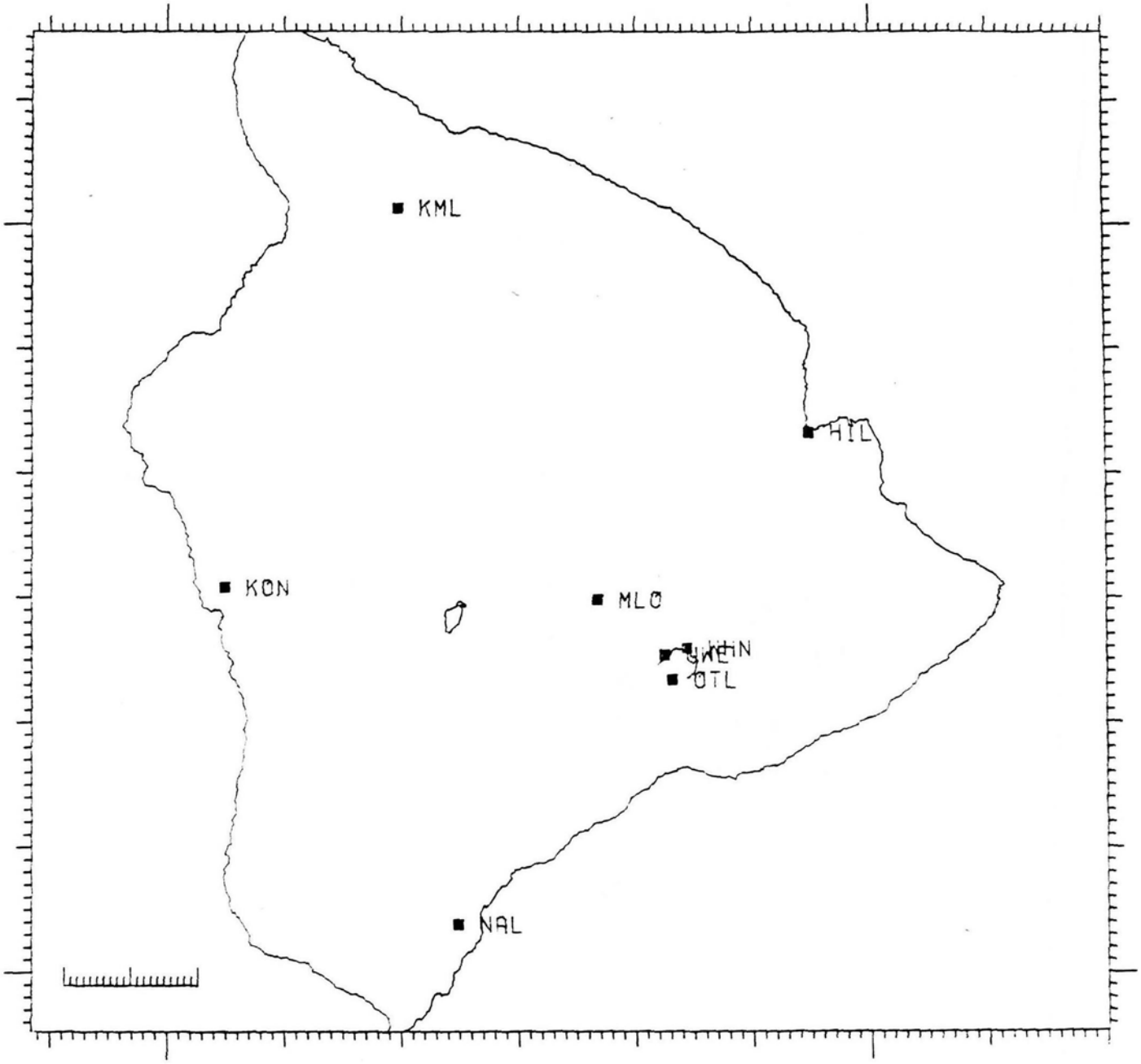

Figure 5. Stations in December 1955.

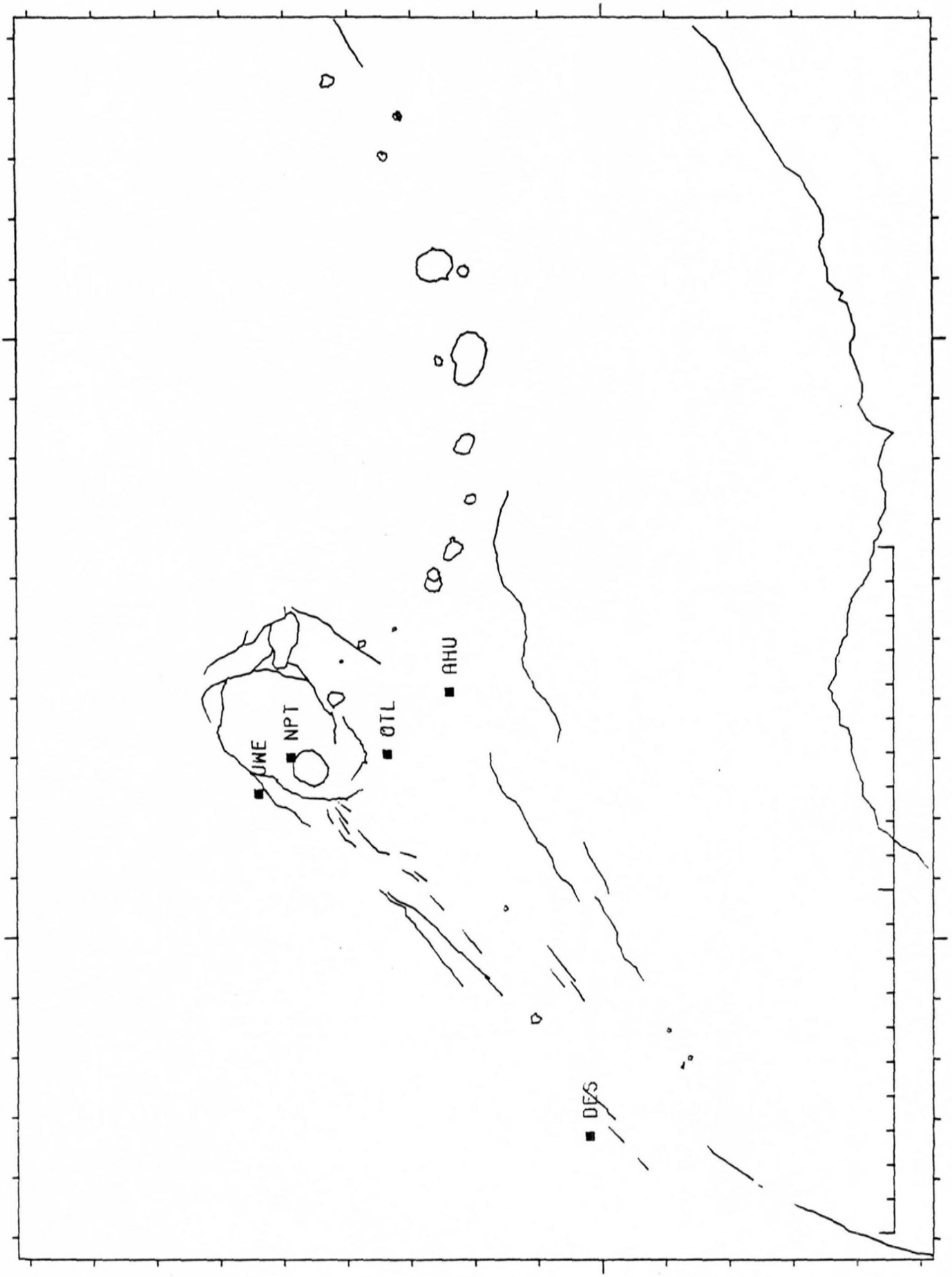

Figure 6. Stations in December 1960.

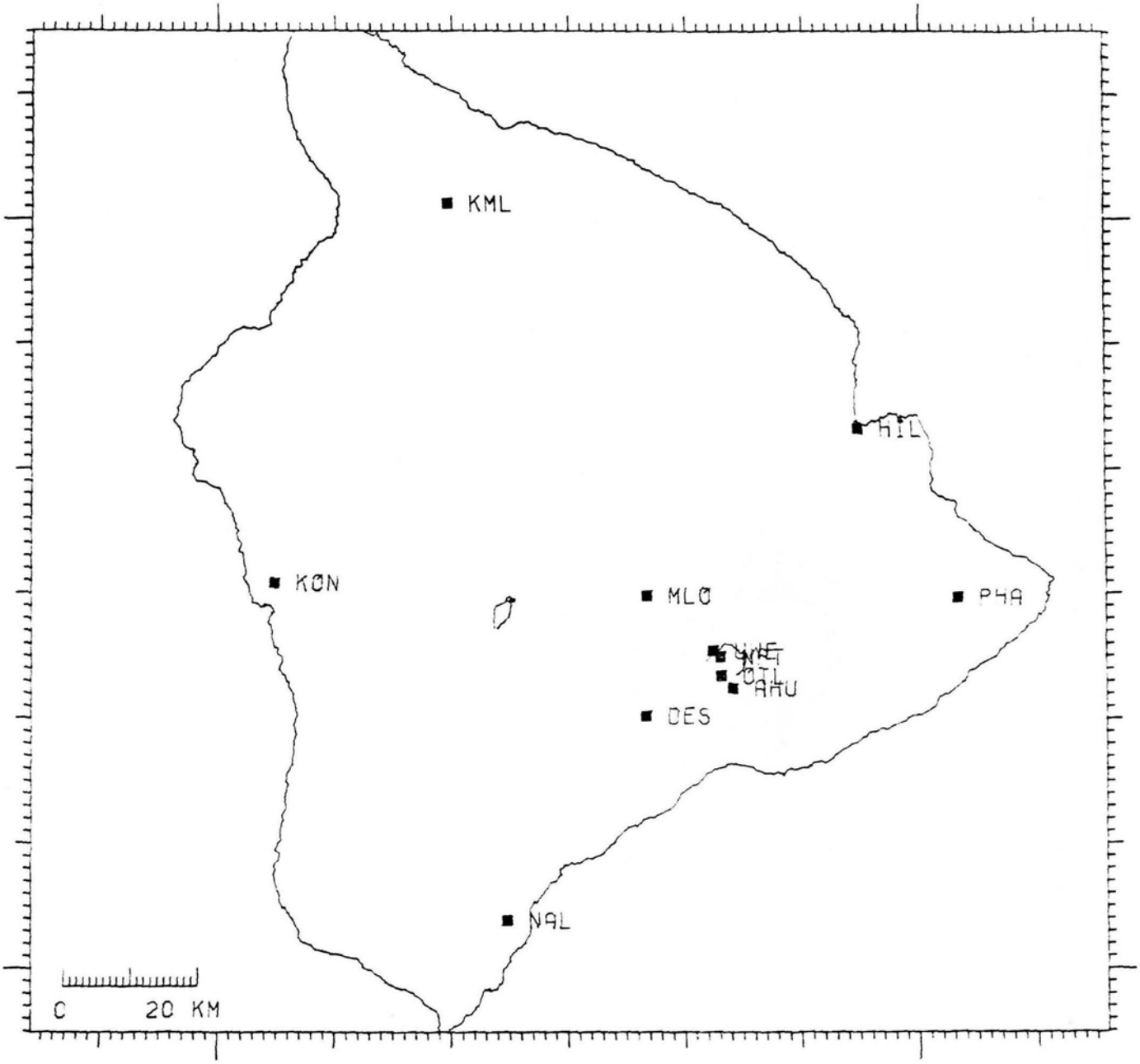

Figure 7. Stations in December 1960.

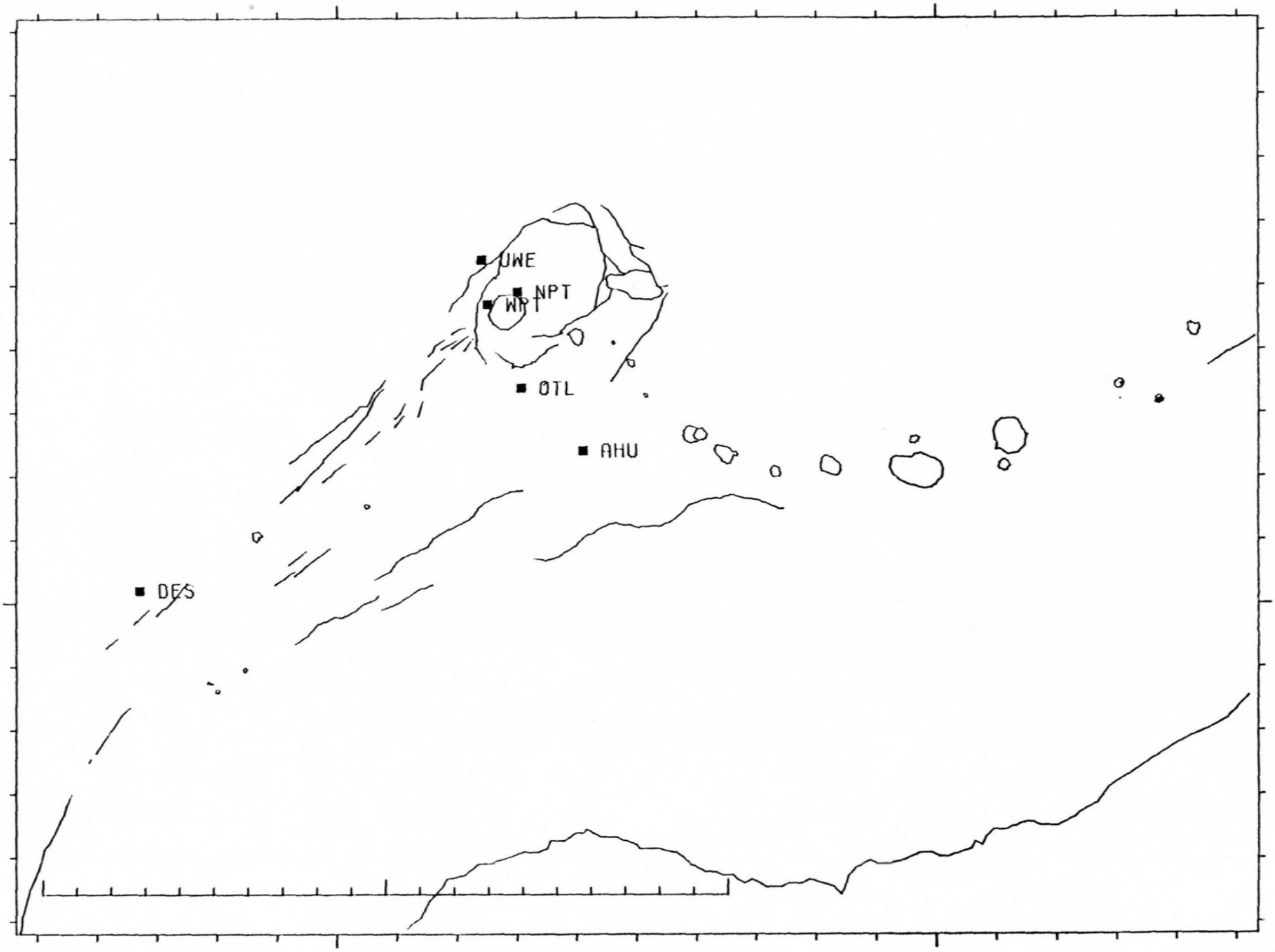

Figure 8. Stations in December 1962.

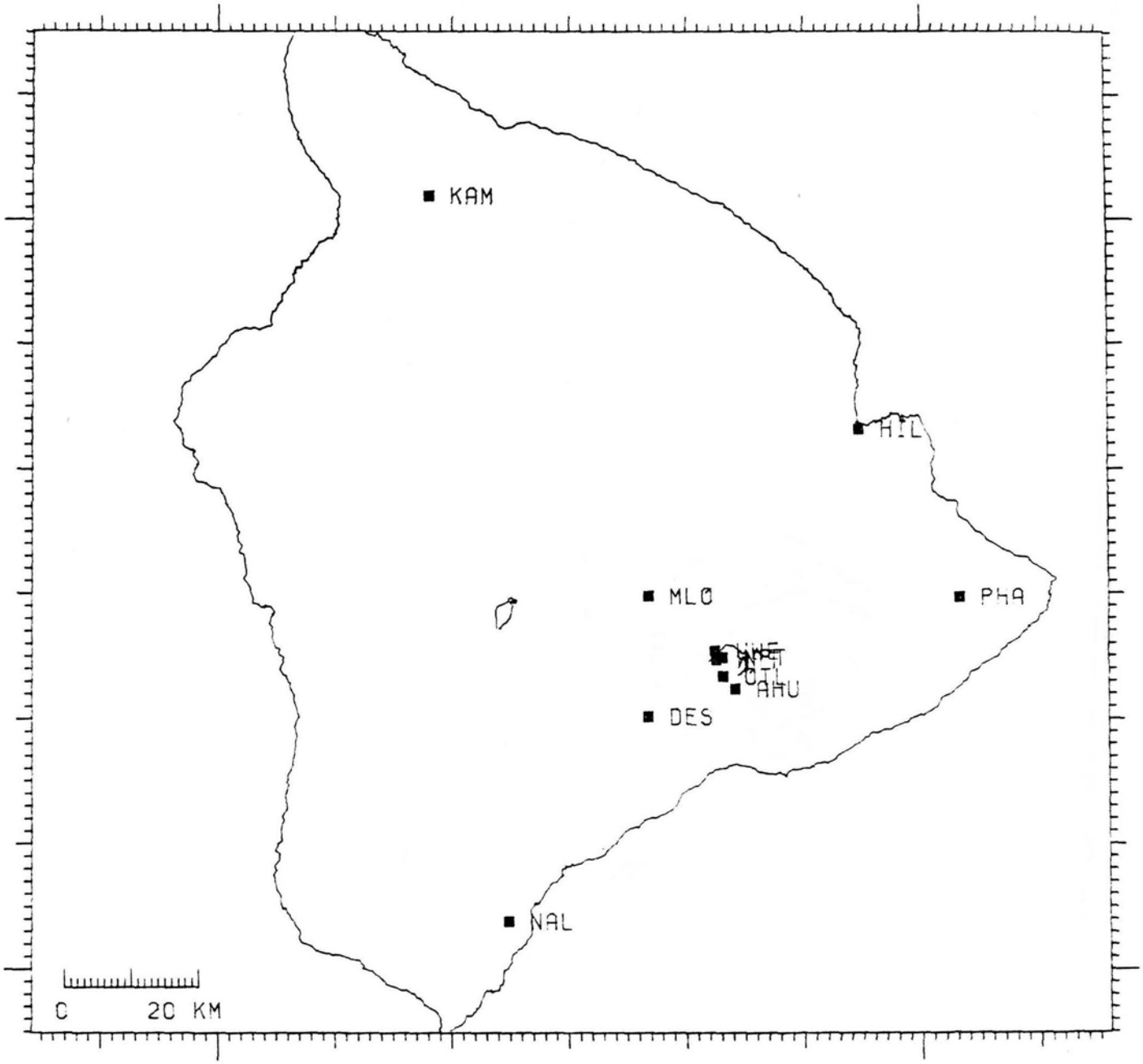

Figure 9. Stations in December 1962.

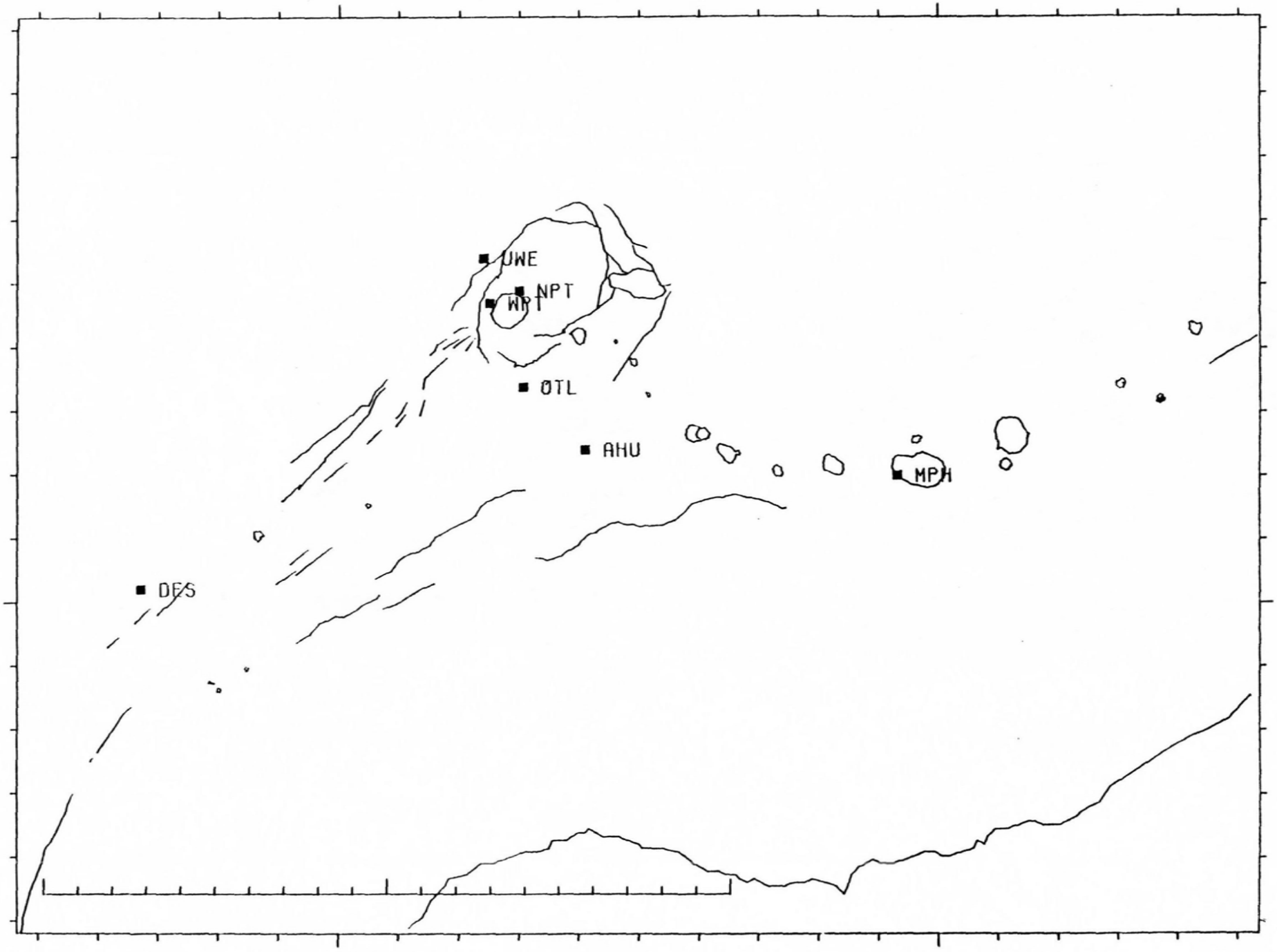

Figure 10. Stations in December 1964.

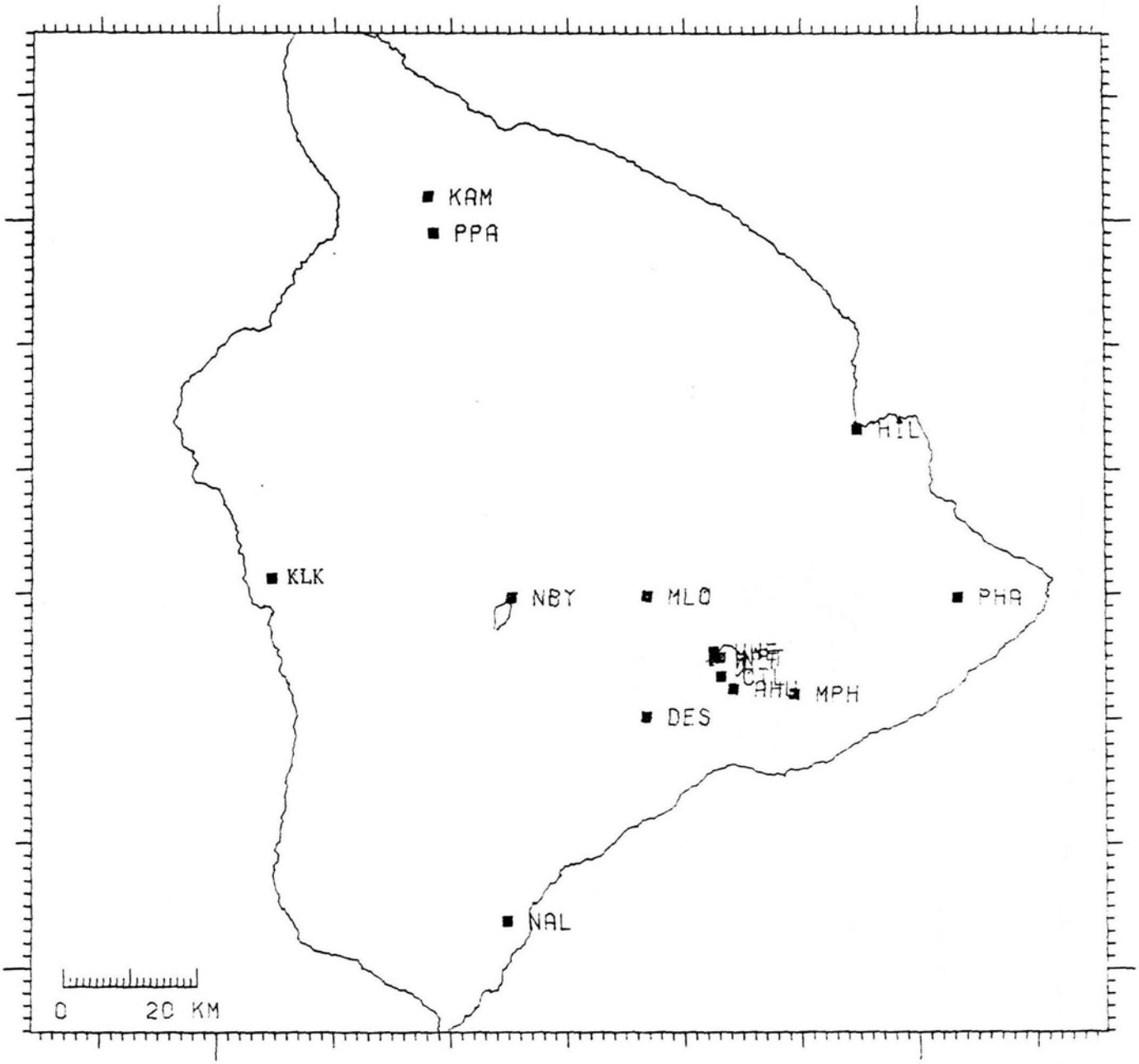

Figure 11. Stations in December 1964.

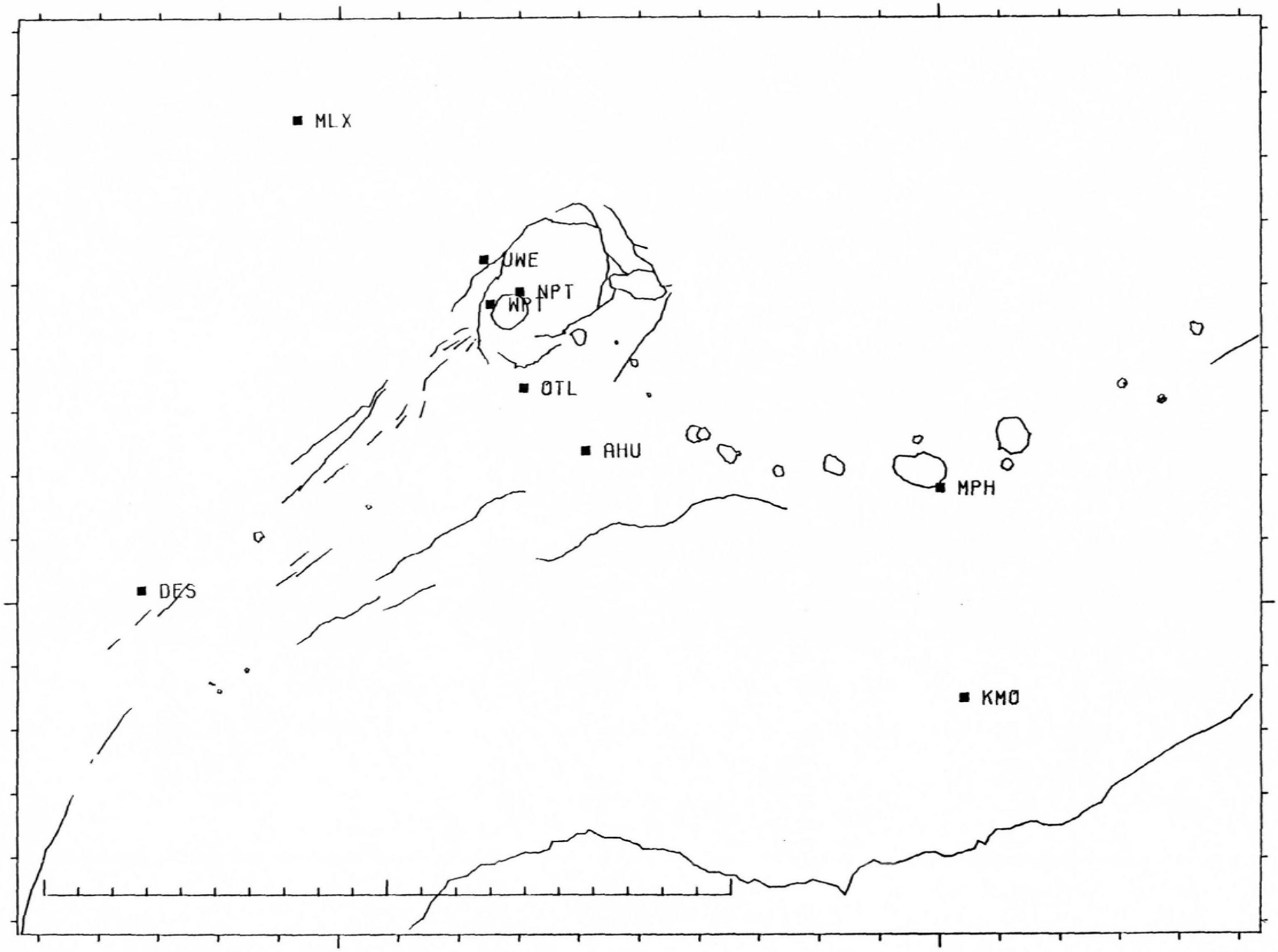

Figure 12. Stations in December 1966.

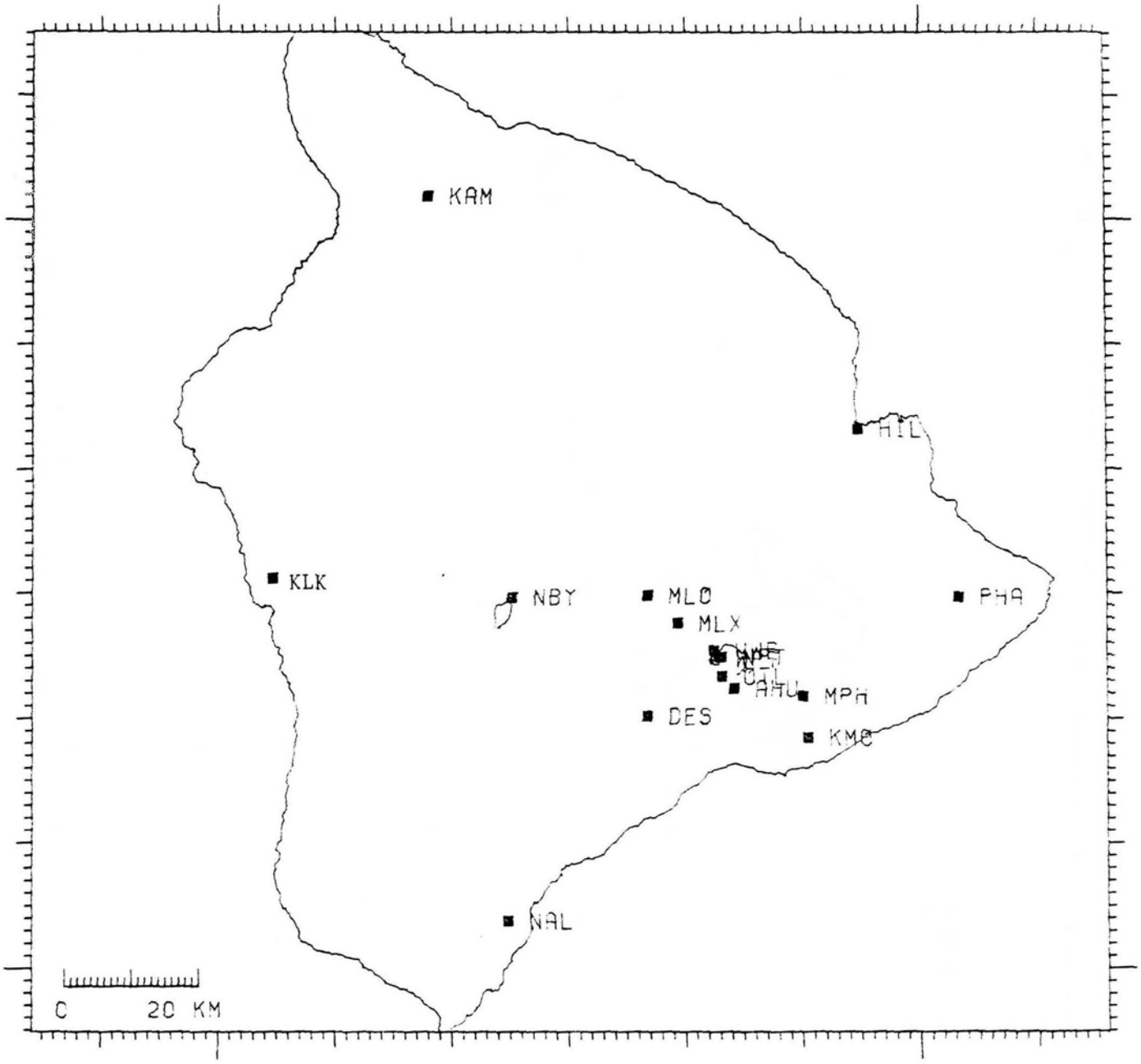

Figure 13. Stations in December 1966.

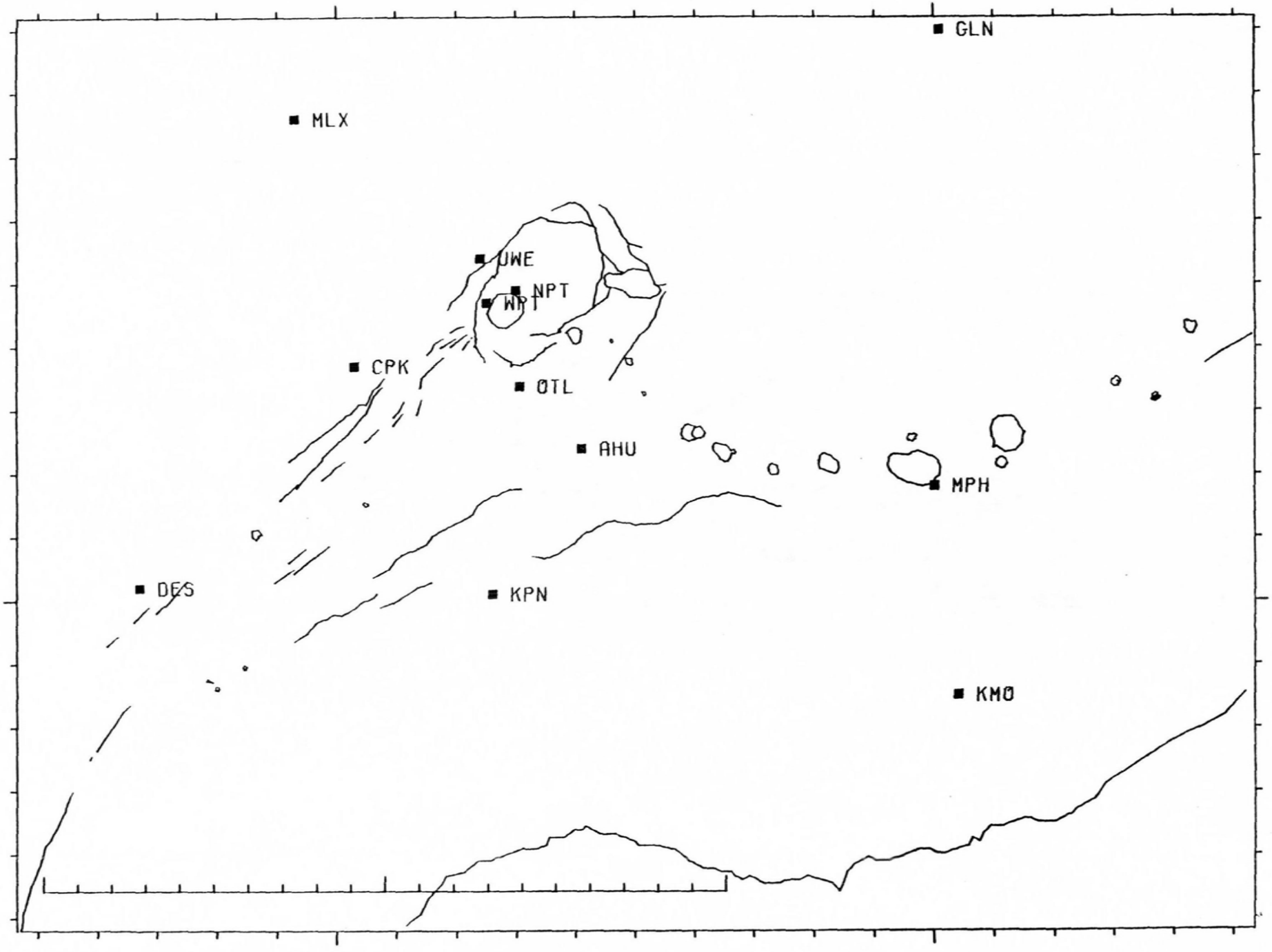

Figure 14. Stations in December 1968.

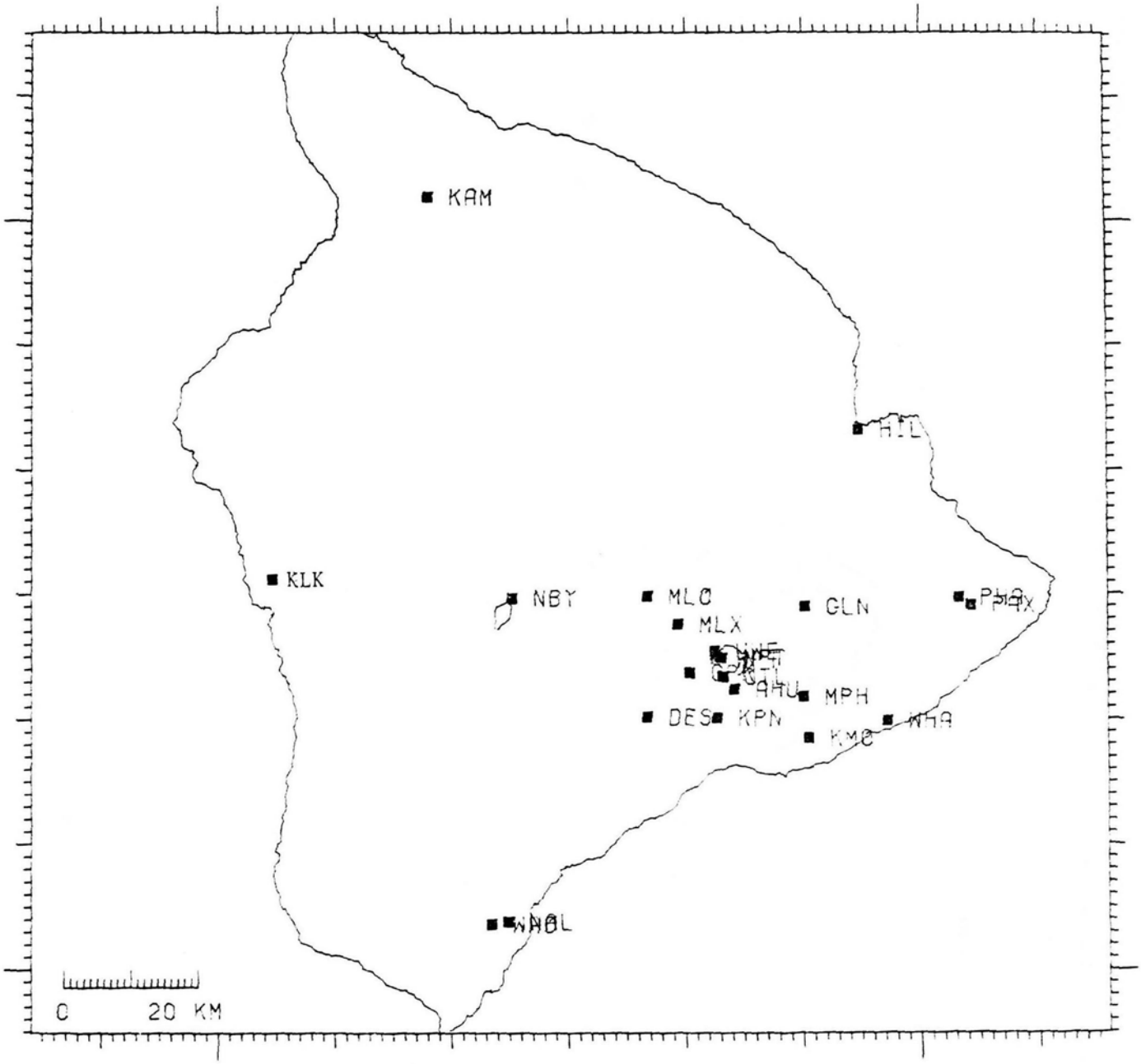

Figure 15. Stations in December 1968.

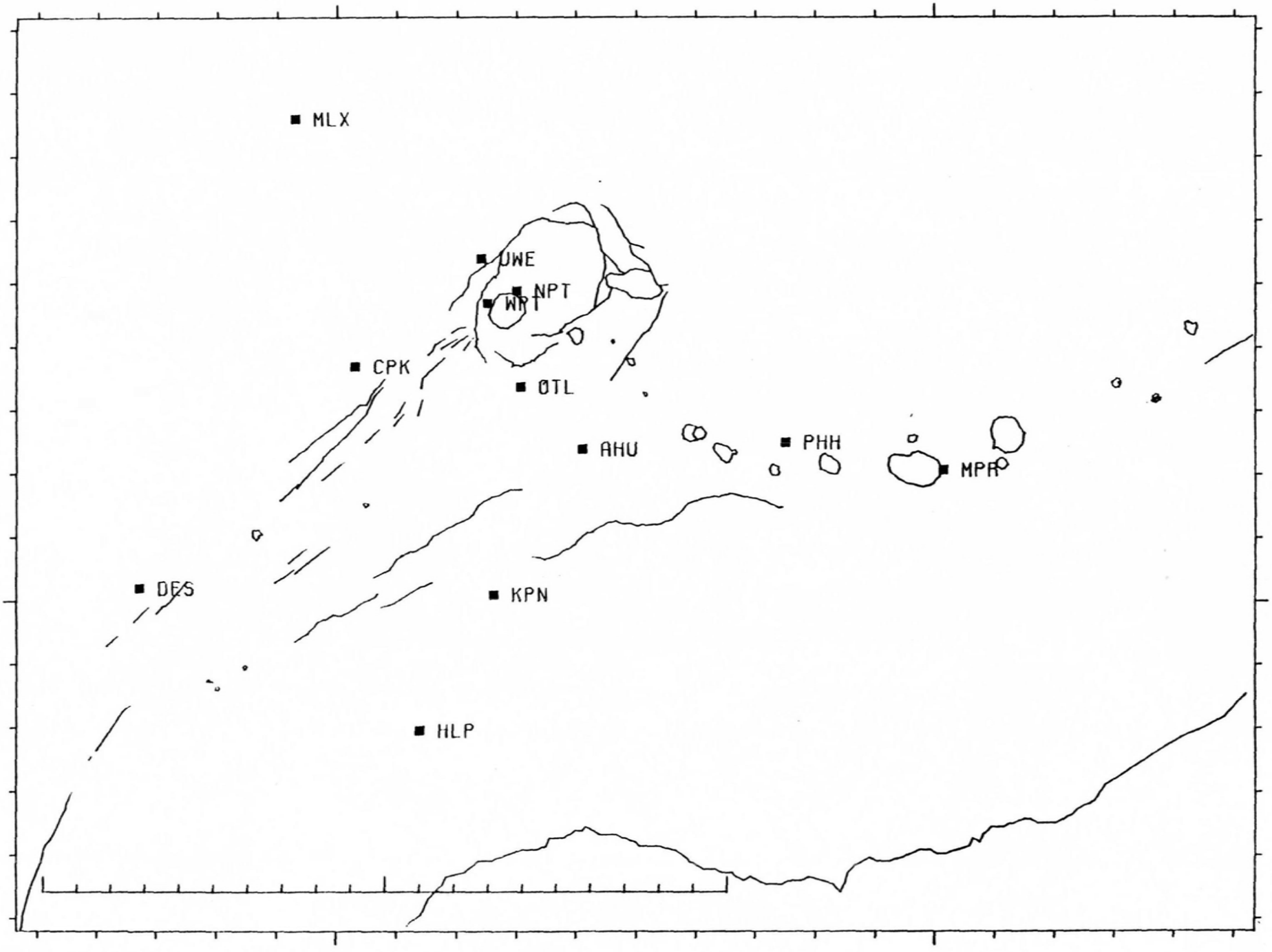

Figure 16. Stations in December 1970.

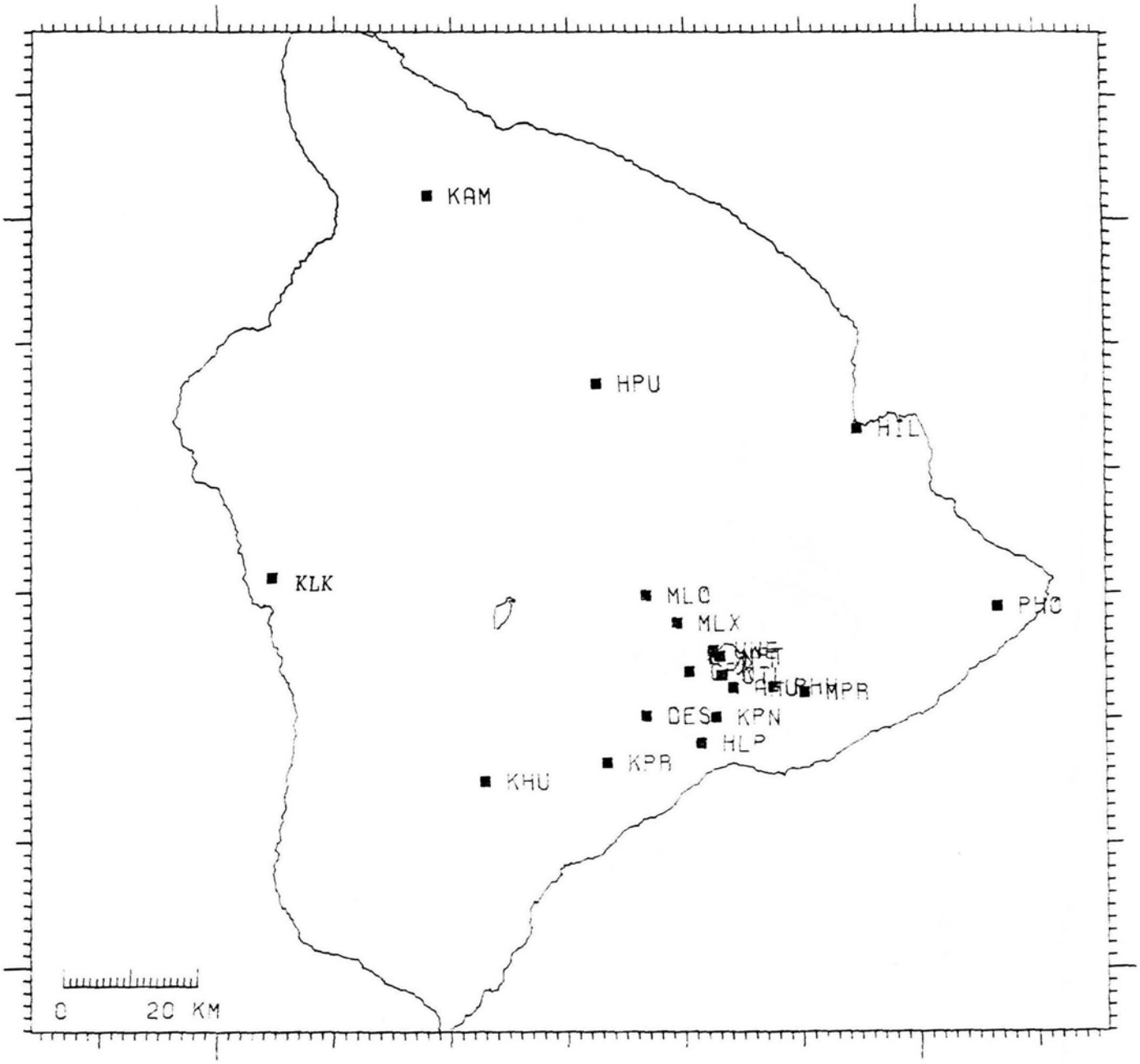

Figure 17. Stations in December 1970.

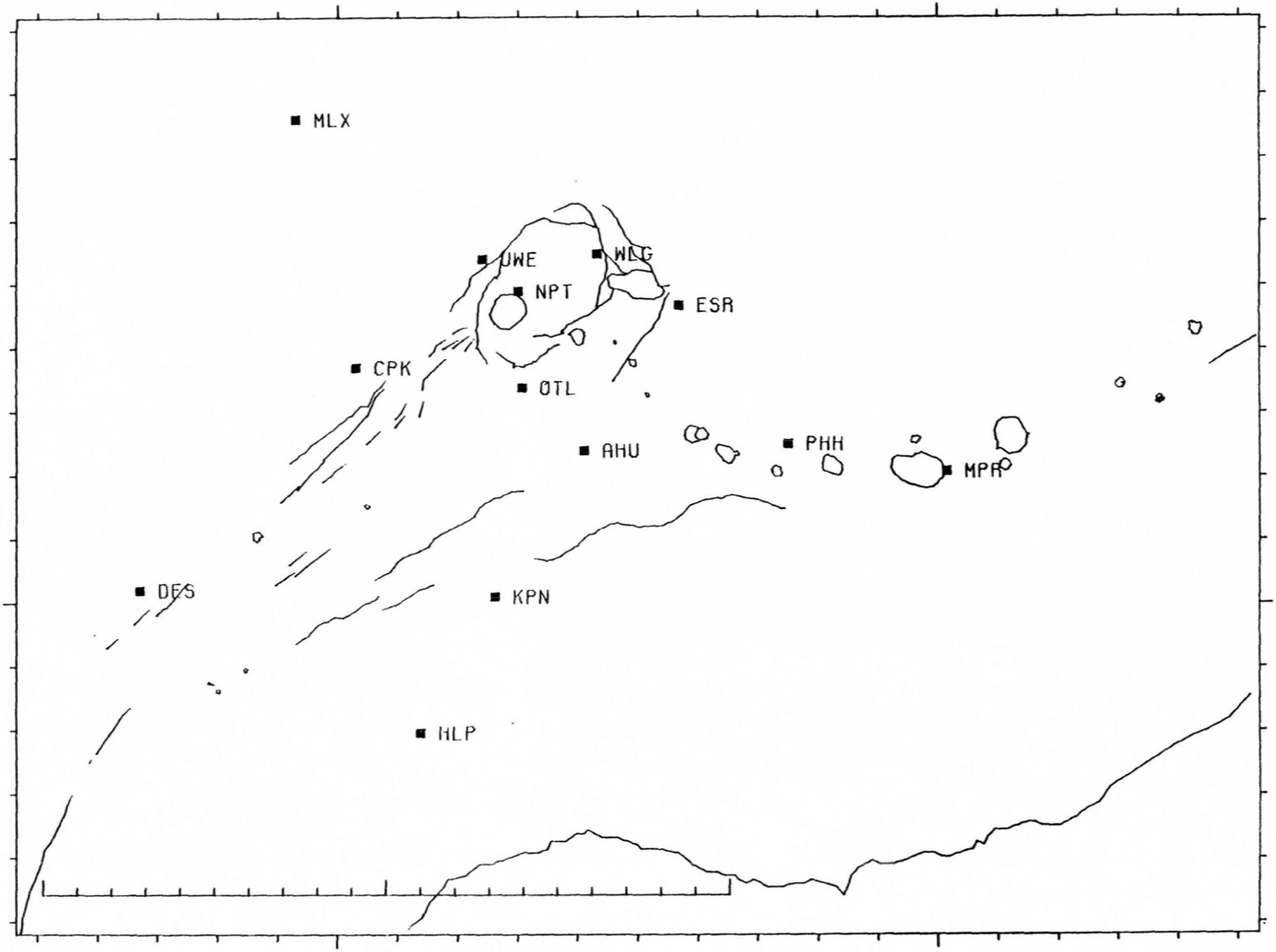

Figure 18. Stations in December 1972.

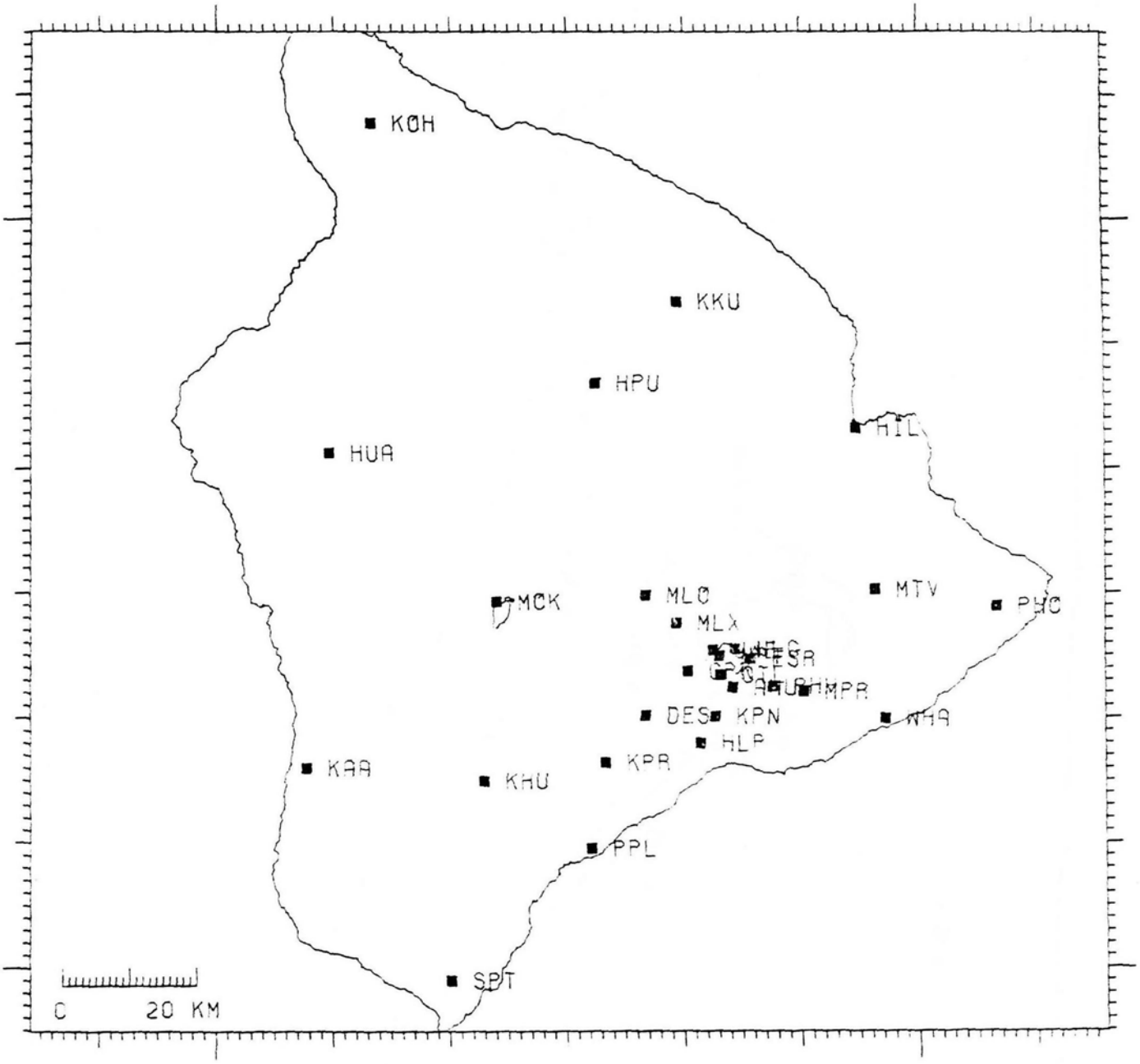

Figure 19. Stations in December 1972.

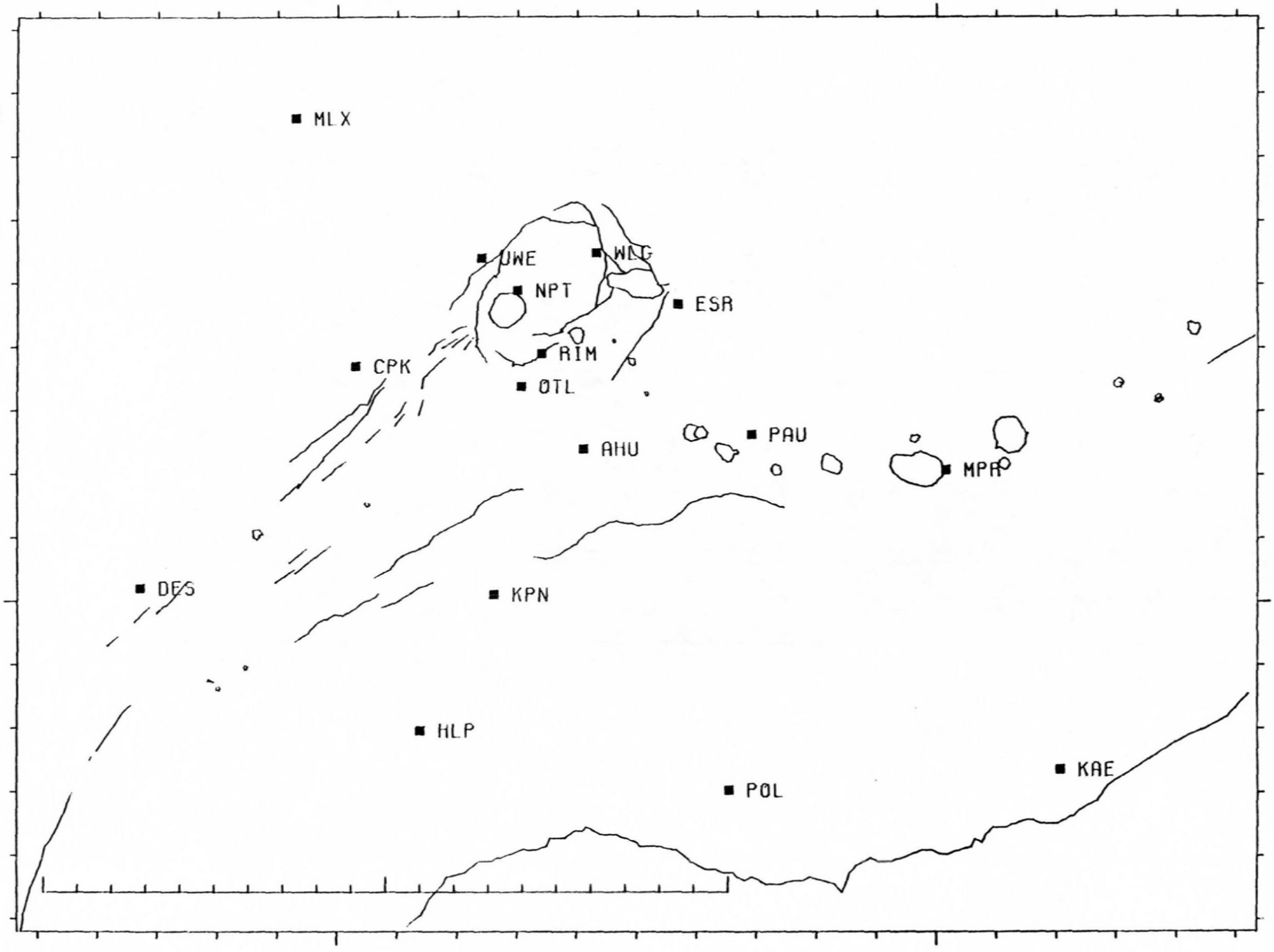

Figure 20. Stations in December 1974.

Figure 21. Stations in December 1974.

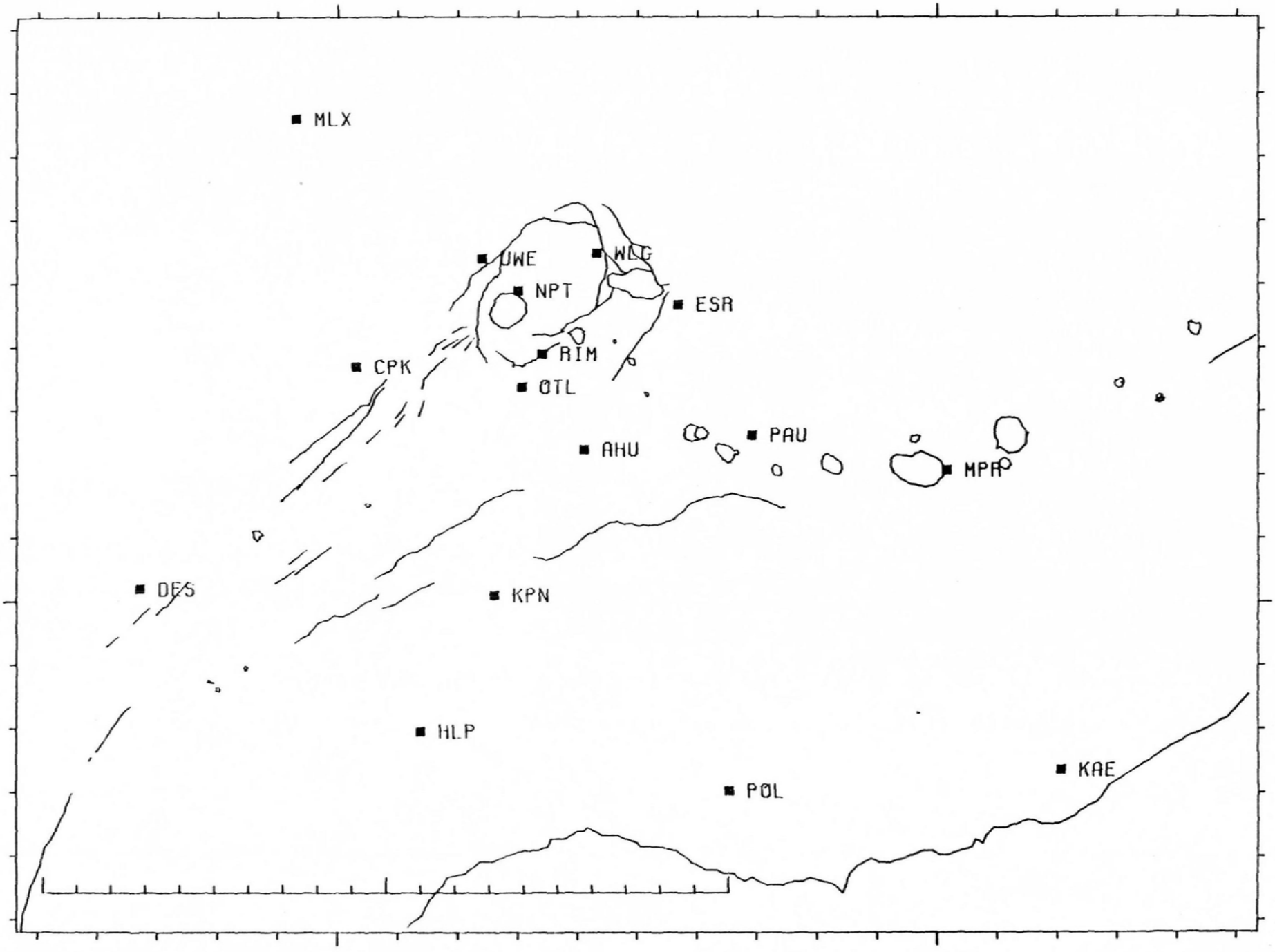

Figure 22. Stations in December 1976.

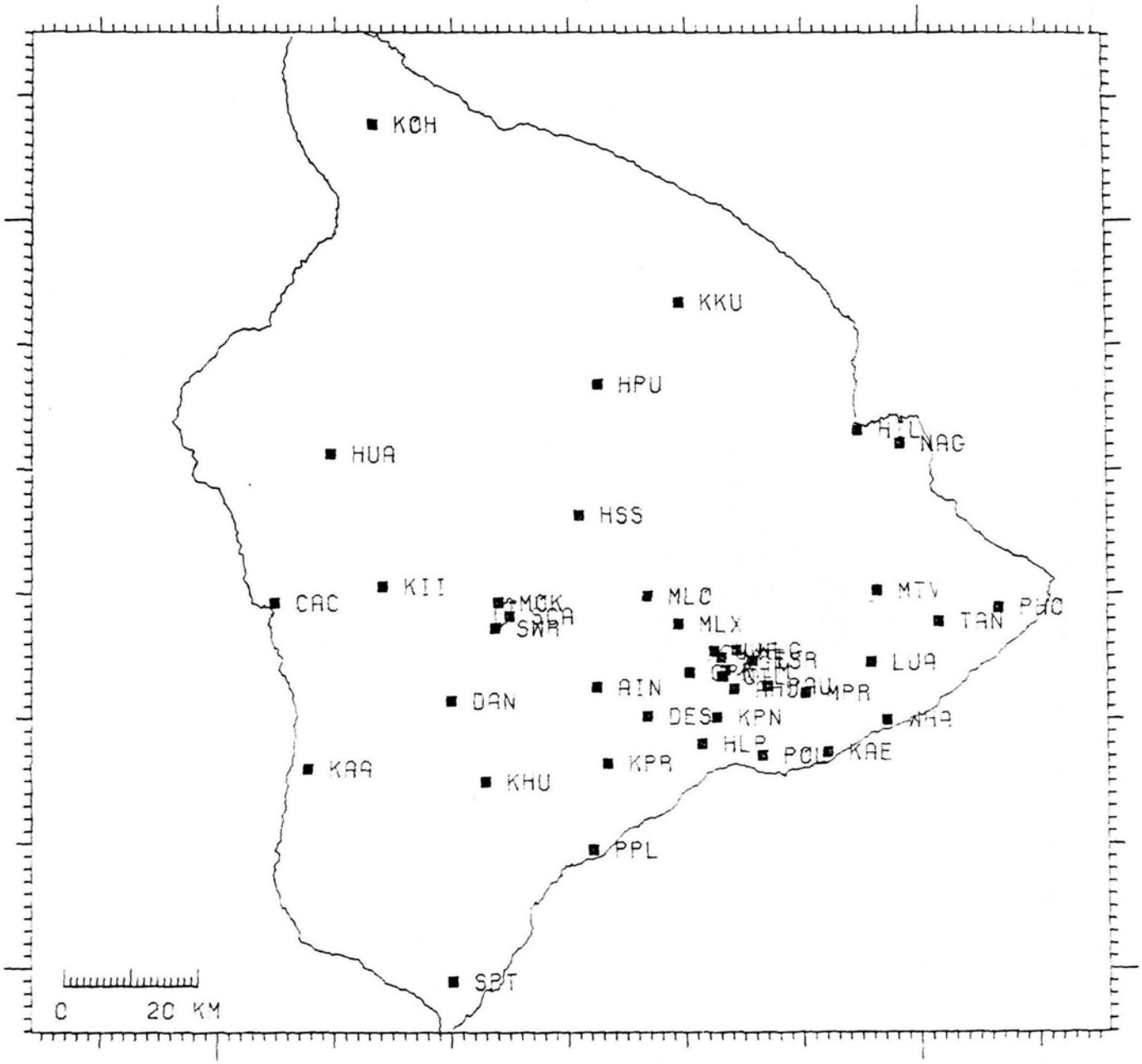

Figure 23. Stations in December 1976.

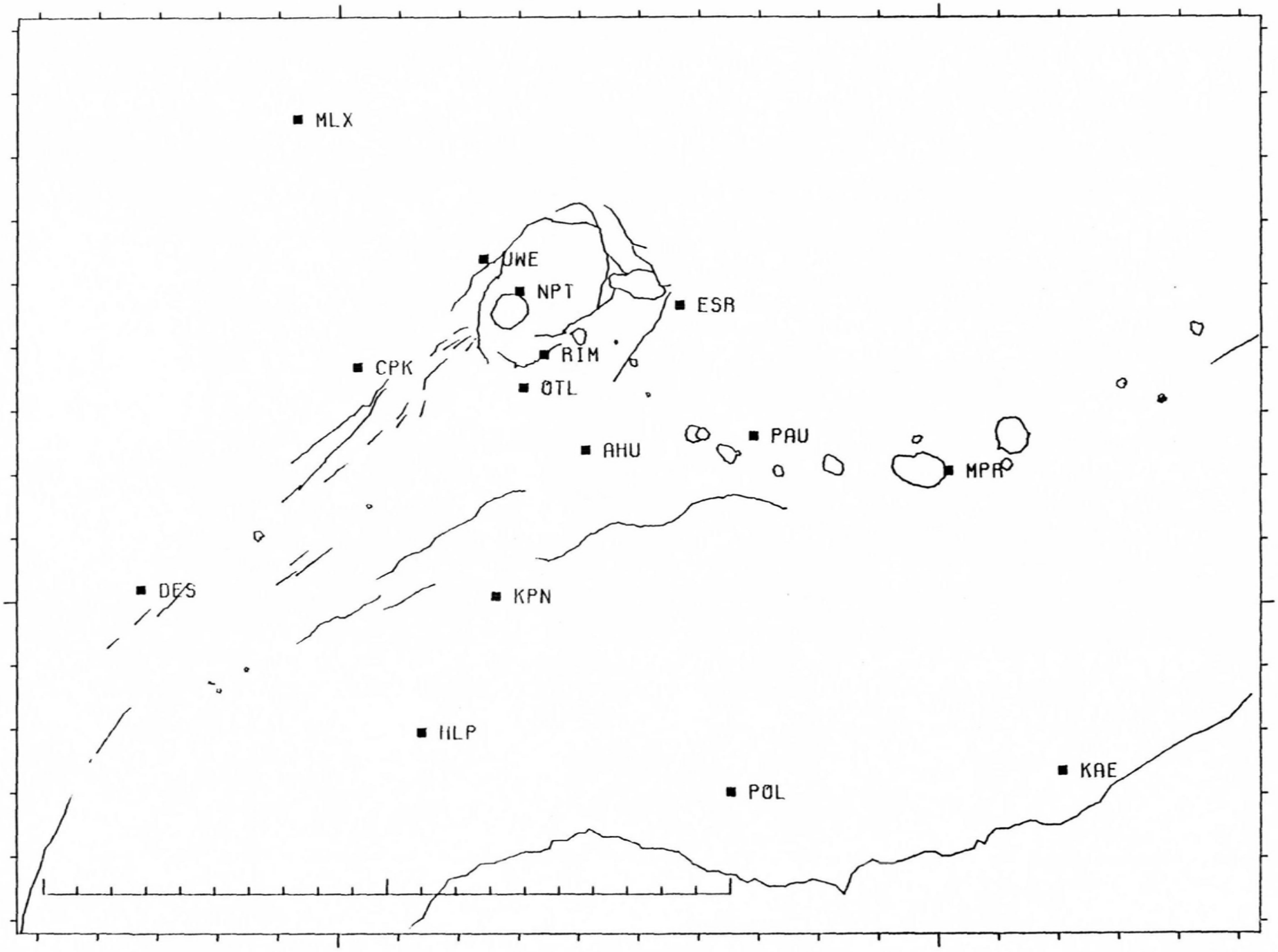

Figure 24. Stations in December 1978.

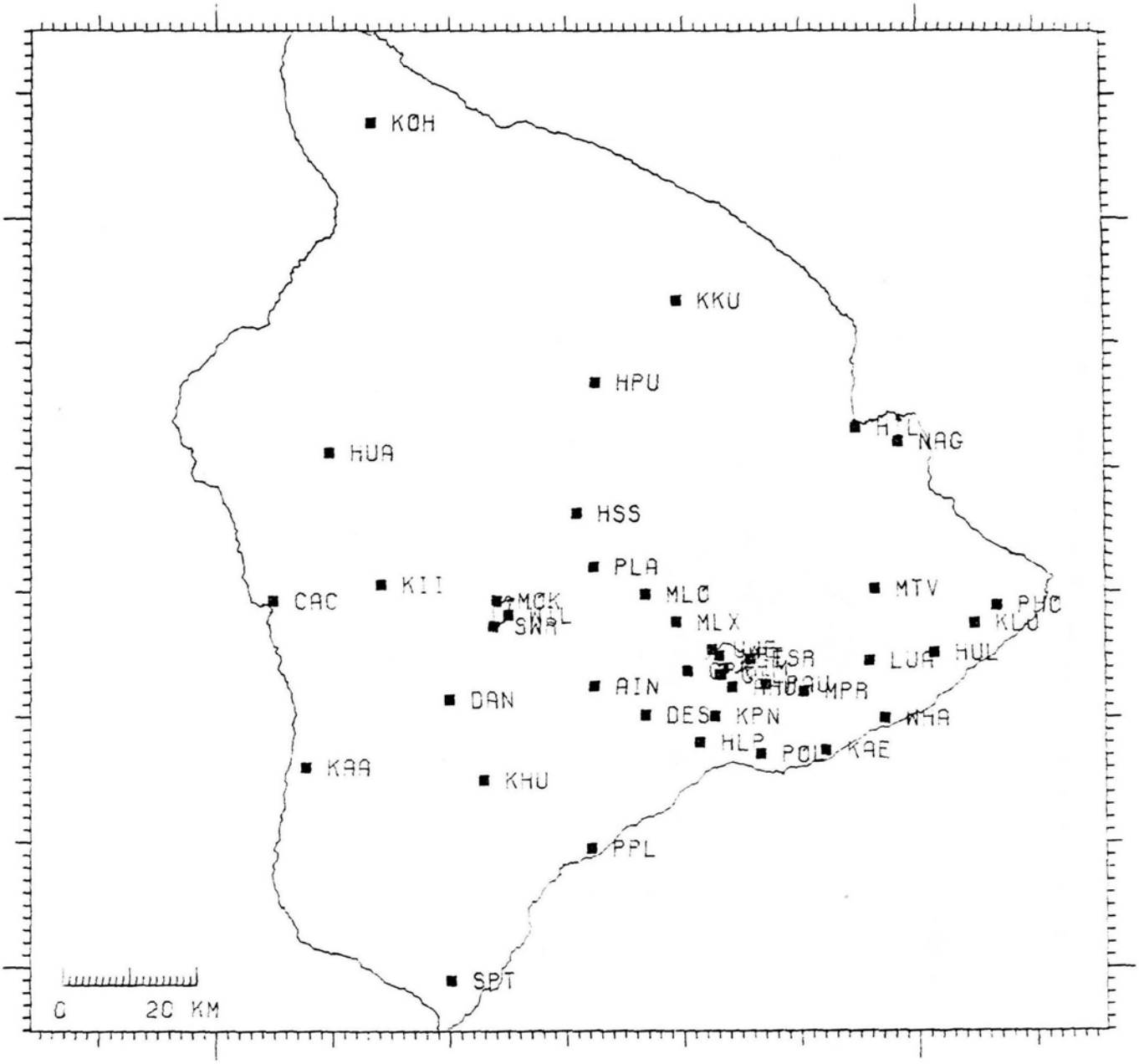

Figure 25. Stations in December 1978.

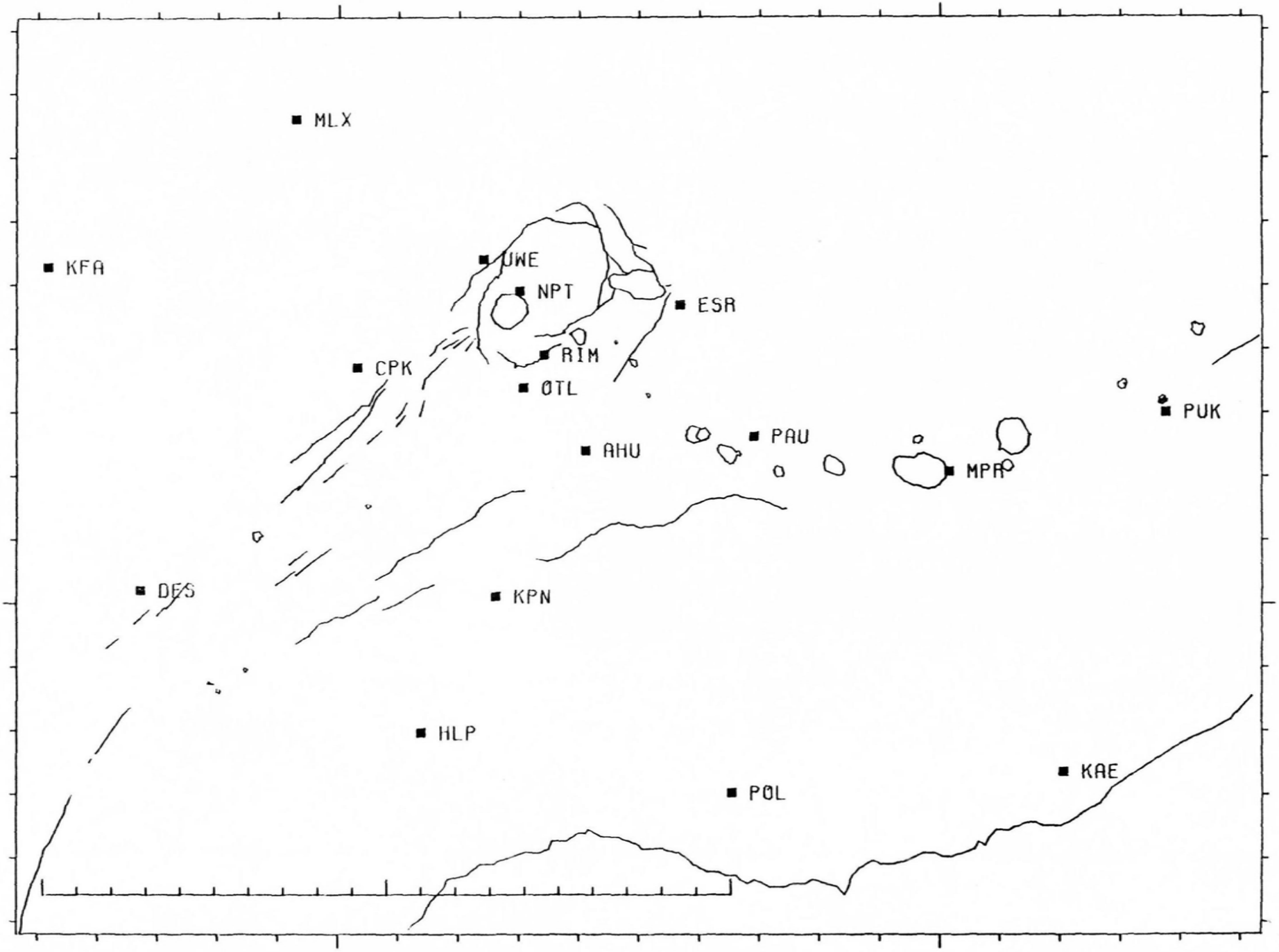

Figure 26. Stations in October 1979.

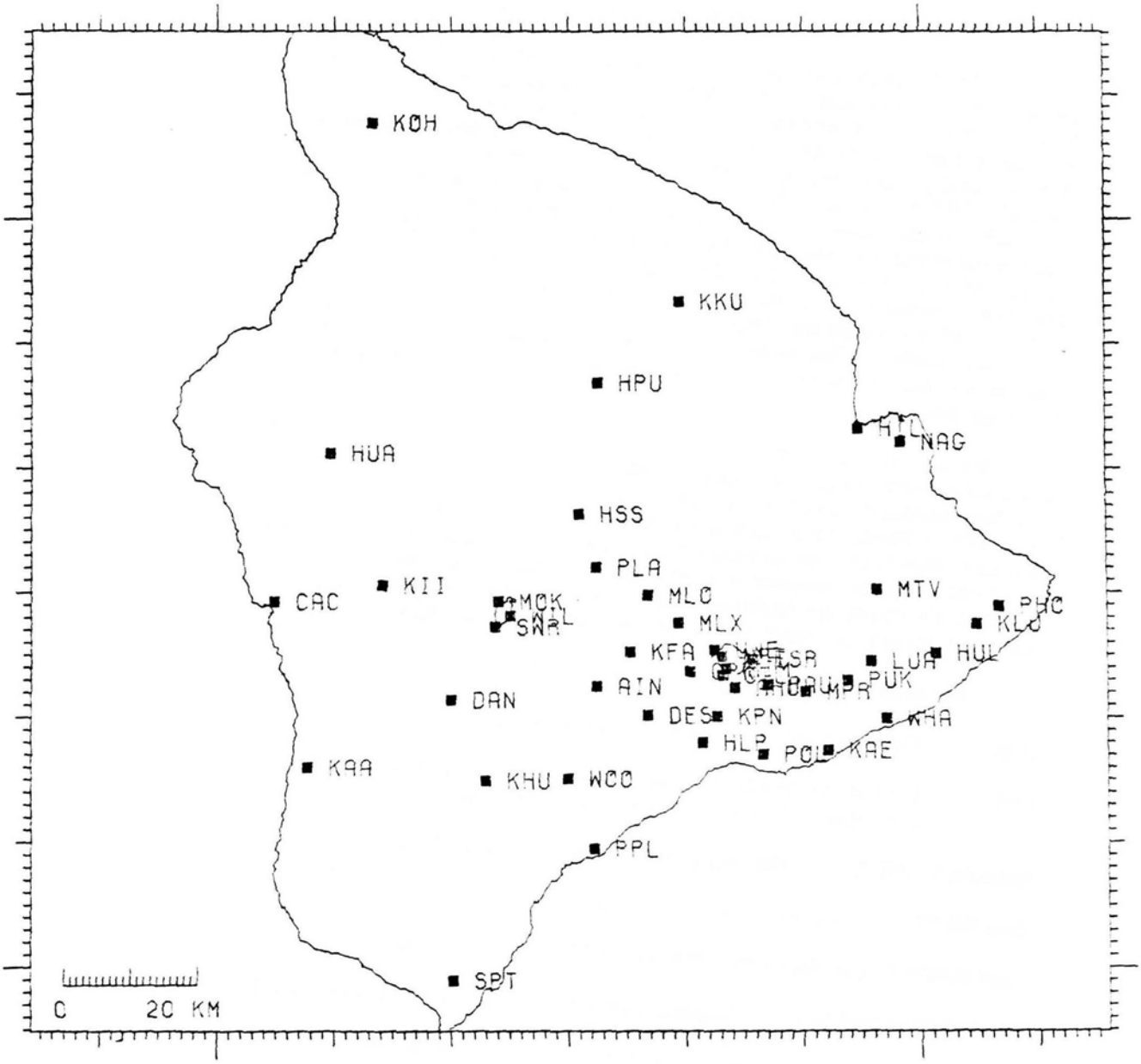

Figure 27. Stations in October 1979.

SEISMOGRAPH INSTRUMENTATION

Table 1 lists the various types of seismometers used by HVO over the years. For additional information on the seismometers, their implementation and interface to a telemetry or recording system, the reader is referred to the primary sources listed in the introduction. All seismometers are commercially made units except the "Jaggar type", "Hawaiian type", "Loucks-Omori", "HVO-1" and "HVO-2" units. In some cases, such as with the HVO or EV17 seismometers, a different entry and different response curve is used depending on whether the seismometer is used with an optical galvanometer, preamplifier for direct signal transmission, or VCO for frequency modulated transmission. The response curves of the four non-mechanical seismometer types are plotted in figure 28 along with the Wood-Anderson curve. The response curve for type 1 includes the fact that geophones in the Hawaii network are set for a motor constant of 0.5 microvolt/cm/sec.

Beginning in 1979, many of the existing VCO units will be replaced with USGS-made J402 VCO units. VCO units previously in use (E or L codes) include Develco model 6202, or USGS-made J202 or J302 units. The new J402 VCO's have identical response characteristics, but in addition provide identity and attenuation codes, seismometer mass release and electronics step response tests once daily. The self-calibration tests are set to occur at midnight HST. The E4 and L4 codes are used to identify stations which possess the self calibration information.

The headings in table 1 are as follows:

CODE The one- or two-letter code used in table 3.

TYPE Either mechanical, electromagnetic (with a galvanometer) or geophone for electronic transmission.

RESPONSE CURVE The relevant curve in figure 28.

COMPONENT Vertical or horizontal.

SEISMOMETER AND GALVANOMETER PERIODS in seconds.

PEAK MAGNIFICATION Magnifications of mechanical instruments are static.

USE Years during which seismometers were employed.

TABLE 1. SEISMOMETER TYPES

CODE	NAME	TYPE	RESPONSE CURVE	COMPO-NENT	SEIS. PERIOD	GALVO. PERIOD	PEAK MAG.	USE
OM	OMORI	MECH.	--	H	7.7	--	115	1912-1963
BO	BOSCH-OMORI	MECH.	--	H	7.7	--	115	1913-1963
J	JAGGAR TYPE	MECH.	--	V	0.4	--	250	1929-1957
H	HAWAIIAN TYPE	MECH.	--	H	7.3	--	115	1922-1956
LO	LOUCKS-OMORI	MECH.	--	H	3.0	--	175	1950-1961
S	SPRENGNETHER	ELECT.	TYPE 4	V	0.5	1.5	1,750	1950-PRES
S	"	ELECT.	TYPE 4	H	1.0	1.5	600	1952-PRES
H1	HVO-1 w/GALVO.	ELECT[1]	TYPE 2	V	0.5	0.5	20,000	1955-PRES
H2	HVO-2 w/AMP.	GEOPH[2]	TYPE 3	V	0.8	--	40,000	1959-1970
PE	PRESS-EWING	ELECT.	--	V, H	15	90	4,500?	1957-PRES
W	WOOD-ANDERSON	TORSION	WA	H	(1.0)	(1.0)	2,800	1956-PRES
E2	ELECTROTECH EV17	ELECT.	TYPE 2	V, H	1.0	0.3	25,000	1964-PRES
E3	EV17 w/AMP.	GEOPH.	TYPE 3	V, H	1.0	--	40,000	1964-1971
HS	HALL-SEARS HS10	GEOPH.	TYPE 3	V	0.5	--	40,000	1970-1972
B	BENIOFF	GEOPH.	TYPE 3	V	1.0	--	40,000	1964-1965
E	EV17 w/VCO	GEOPH.	TYPE 1	V, H	1.0	--	120,000	1970-PRES
L	MARK PROD. L4C	GEOPH.	TYPE 1	V, H	1.0	--	120,000	1975-PRES
E4	EV17 w/J402 VCO	GEOPH.	TYPE 1	V, H	1.0	--	120,000	1979-PRES
L4	L4C w/J402 VCO	GEOPH.	TYPE 1	V, H	1.0	--	120,000	1979-PRES

1/ HVO-1 is a moving-coil, hinged, vertical-component seismograph with seismometer and galvanometer periods of 0.5 second. Over-damping of both seismometer and galvanometer is used to control the strong galvanometer reaction. This seismograph has a peak magnification of about 20,000 at a period of 0.25 second. Recording is optical, on photographic paper.

2/ HVO-2 is a moving-coil, vertical-component seismograph with a seismometer perio of 0.8 second. Its signal is transmitted over telephone wires to the Hawaiian Volcano Observatory, where it is recorded on smoked paper. The response of this seismograph is similar to that of HVO-1.

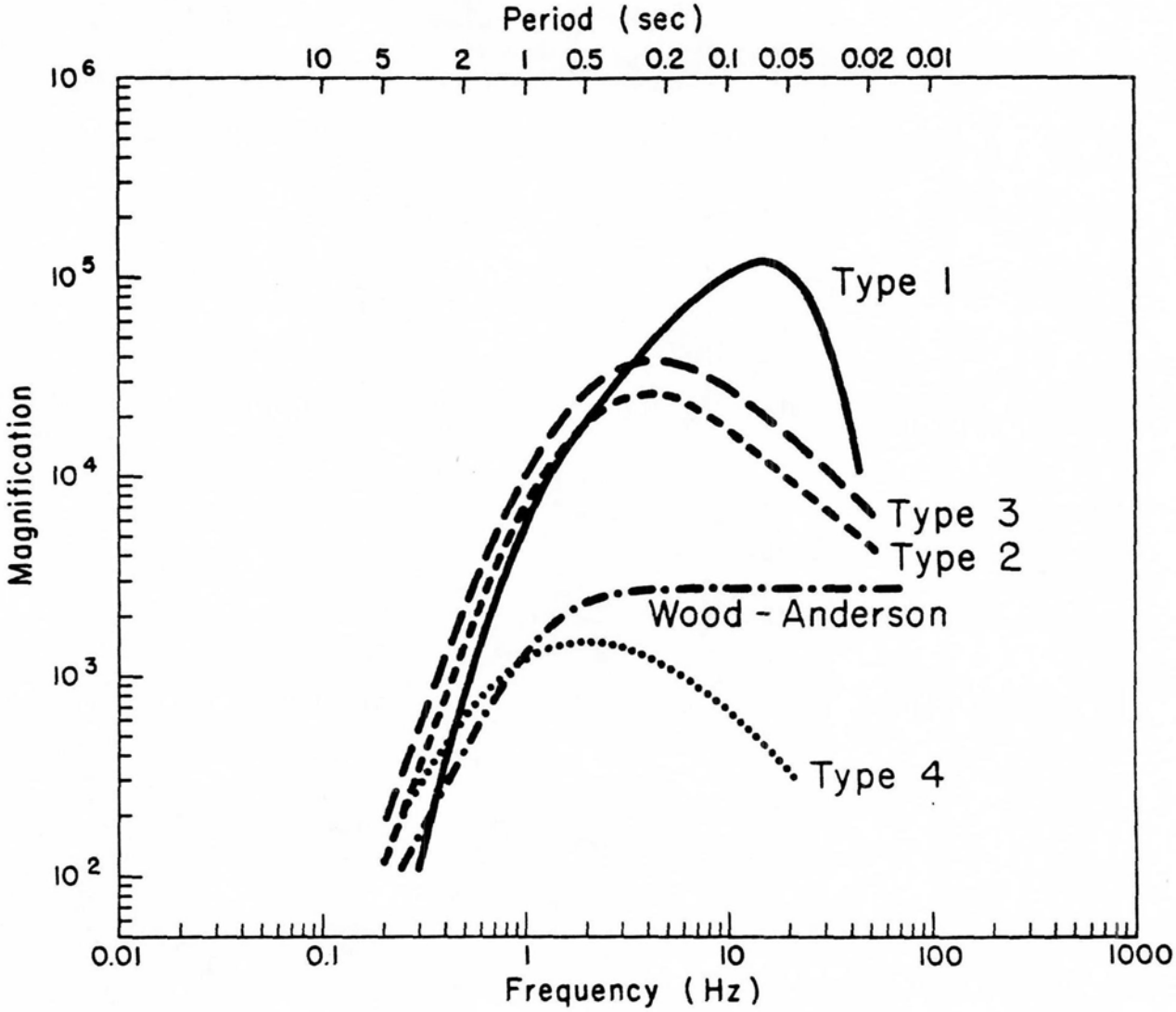

Figure 28. Displacement response curves for the Wood-Anderson and four electromagnetic or electronic seismographs used by HVO. All types except type 2 were in use in October 1979.

INSTRUMENTATION AND RECORDING HISTORY BY STATION

The core of this report is table 3, which lists several types of information as a chronological history of each station. The table gives the three or four letter code used as a computer identification, station name, coordinates, elevation and installation date.

Most of the older stations were referred to with more than one code before computer locations became routine. One or two letter codes were used to label records and phase readings in notebooks. When this older data was keypunched for computer processing, the conversion from handwritten notes to a three letter code was often inconsistent, and resulted in different codes which appear in the computerized phase data. The one and two letter codes are listed as remarks with the main entry for a station. The additional three letter codes are given separate entries in the table, but noted as "same as...". The component direction codes such as Z, E, N, S or W refer to the direction of ground motion which corresponds to up on the record. An H code means a horizontal of unspecified azimuth.

An additional complication arises because some three letter codes were used for more than one station in existing computerized phase data. This situation can arise because a second code was used intermittently for a station, and a later station was assigned the same code not realizing the code had actually been used before. Other duplicated codes arise because a station was moved and not renamed. These cases are treated in the table by placing an asterisk (*) in front of the three letter code for the earlier version of the station. The asterisk does not appear in the computerized phase data. The distinction need be made only in this table, since duplicate names were never actually in use at the same time.

The table has entries listed chronologically, and the dates and times are those at which some change or measurement was made, such as installation of a new seismometer or a calibration. It is assumed that the conditions listed with a date apply until the date of the next entry. One possible exception is an entry of R in the reversed polarity column. Where possible, the first date listed in a continuous sequence of R entries is the date of a station visit when the polarity reversal occurred. Occasionally the date may be of an observation of reversed polarity when the beginning date of reversal cannot be determined. The reversed polarity information must therefore be considered incomplete, both as to uncertainty of beginning dates and possible omission of reversed episodes if no observations have been made.

The calibration factors are obtained by placing a 5 hertz, 10 microvolt RMS signal into the preamplifier in place of the seismometer. The calibration factor is then the peak to peak amplitude of the signal in millimeters on the screen of the Develocorder viewer. If the calibration factor is 1.0, the displacement response curve of figure 28 applies. Other calibration factors should be treated as scale factors multiplying the curves of figure 28.

Several events during the network's history affect recording and calibration, and are evident in table 3. On March 27, 1967, the first Develocorder was introduced, dramatically improving timing accuracy over that possible with independent smoked paper records. The second Develocorder was installed on April 26, 1971. During 1974 and 1975 a systematic calibration of the network was done, as well as establishing procedures for continued calibration. Any calibration factors before this time were generally assumed. On May 20, 1975 magnetic tape recording of the FM signals began, and track and frequency assignments are noted from this date on. Even though VCO frequencies were used before this date, the actual frequency has no bearing on the data. The calibration factors prior to August 1, 1979 strictly refer to amplitudes measured on the Develocorder and not on magnetic tape playouts.

On August 1, 1979 the discriminators driving the Develocorder were reset to a standard output level which changed many of the calibration factors by a known factor. The new calibration factors on this date are thus not actually measured but derived from the change in discriminator output. The change was done to place both Develocorder and magnetic tape playback discriminators at standard settings so that signal amplitudes can be related to each other. These standard settings are such that all of the following refer to an equivalent signal:

1) Field preamp output of 6.0 volts peak to peak
2) VCO output of ±125 HZ (250 HZ peak to peak)
3) Develocorder discriminator output of 4.0 volts peak to peak
4) Develocorder screen signal of 80mm peak to peak
5) Develocorder viewer screen signal of 160mm peak to peak
6) Eclipse computer playback discriminator output of 5.0 volts peak to peak. This 5.0 volt signal is the range of the Eclipse A/D unit, and is scaled to values from 0-1023 (10 bits) by the hardware and to 160mm by the software.

Therefore, amplitudes measured from magnetic tape playouts after August 1, 1979 can be related to ground motion using calibration factors listed for that date or after, but a previous calibration factor must be adjusted by the ratio of the change which took place on August 1, 1979.

TABLE 2. ABBREVIATION CODES USED IN STATION HISTORY

SEISMOMETER TYPES (see also table 1)

Past		Present	
OM	Omori	S	Sprengnether
BO	Bosch-Omori	H1	HVO-1 w/galvanometer
J	Jaggar type	PE	Press-Ewing
H	Hawaiian type	W	Wood-Anderson
LO	Loucks-Omori	E2	EV17 w/galvanometer
H2	HVO-2 w/amplifier	E	EV17 w/VCO
E3	EV17 w/amplifier	L	L4C w/VCO
HS	HS10	E4	EV17 w/J402 VCO
B	Benioff	L4	EV17 w/J402 VCO

OPTICAL RECORDING

S	Smoked paper	H	Helicorder
P	Photographic paper	D	Develocorder

HOW CALIBRATION MEASURED

D Develocorder viewer measurement of 5 HZ calibration signal

E Eclipse computer (from magnetic tape)

C Derived from J402 calibration pulse read on Develocorder

A Derived from J402 calibration pulse read on Eclipse

blank - assumed value, or carried from above entry.

VCO FREQUENCY

1:680, 2:1020, 3:1360, 4:1700, 5:2040, 6:2380, 7:2720, 8:3060

REVERSED POLARITY

R	reversed
RT	reversed on tape but not Develocorder
RD	reversed on Develocorder but not tape
blank	normal

AHE AHE

STATION CODE: AHE STATION NAME: AHUA
LATITUDE:19 DEG N 22.40' LONGITUDE:155 DEG W 15.90' ELEVATION (M):1070
FIRST INSTALLED: 10/30/65 COMPONENT: E
REMARKS AND OTHER STATION CODES USED:
A CODE ALSO USED

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
10/30/65		E3	S					
2/ 2/67		X	***** STATION TERMINATED				2/ 2/67	*****

AHN AHN

STATION CODE: AHN STATION NAME: AHUA
LATITUDE:19 DEG N 22.40' LONGITUDE:155 DEG W 15.90' ELEVATION (M):1070
FIRST INSTALLED: 10/30/65 COMPONENT: N
REMARKS AND OTHER STATION CODES USED:
A CODE ALSO USED

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
10/30/65		E3	S					
2/ 3/67	11 0	X						
5/ 1/67		E3	D					
8/19/69		X	***** STATION TERMINATED				8/19/69	*****

AHU AHU

STATION CODE: AHU STATION NAME: AHUA
LATITUDE:19 DEG N 22.40' LONGITUDE:155 DEG W 15.90' ELEVATION (M):1070
FIRST INSTALLED: 12/ 1/59 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
A CODE USED BEFORE 1969

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
12/ 1/59		H2	S					
3/27/67		H2	SD					
12/ 3/71		HS	SD					R
12/ 9/71		HS	SD					
12/14/72		E3	SD					R
1/ 3/73		E3	SD					
2/ 7/73		E3	SD					R
2/ 8/73		E3	SD					
3/29/73		E3	SD					R
4/ 6/73		E3	SD					
9/23/74		E	SD	3.8	D			
5/20/75		E	SD	3.8		12	6	
12/17/75		E	SD	3.8	D	12	6	
9/29/76	1040	E	SD	4.3	D	12	6	
11/13/78		E	SD	4.3		11	6	
3/ 1/79	1458	E	SD	4.4	D	11	6	
8/ 1/79	10 0	E	SD	3.1		11	6	

I	10/ 2/79	1045	I	E	SD	I	3.1	D	I	11	6	I	I

AIN AIN

STATION CODE: AIN STATION NAME: AINAPO
LATITUDE:19 DEG N 22.50' LONGITUDE:155 DEG W 27.62' ELEVATION (M):1524
FIRST INSTALLED: 4/28/73 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
4/28/73		E	D					
10/30/74		E	D	8.5	D			
5/20/75		E	D	8.5				
5/30/75		E	D	9.2	D	6	2	
11/14/75		E	D	9.2		3	1	
1/10/78	1242	E	D	4.8	D	3	1	
8/ 1/79	10 0	E	D	3.3		3	1	

AINE AINE

STATION CODE:AINE STATION NAME: AINAPO
LATITUDE:19 DEG N 22.50' LONGITUDE:155 DEG W 27.62' ELEVATION (M):1524
FIRST INSTALLED: 8/ 5/75 COMPONENT: E
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
8/ 5/75		L						
9/10/75		L				6	6	
12/ 1/75		L				3	6	

AINN AINN

STATION CODE:AINN STATION NAME: AINAPO
LATITUDE:19 DEG N 22.50' LONGITUDE:155 DEG W 27.62' ELEVATION (M):1524
FIRST INSTALLED: 8/ 5/75 COMPONENT: N
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
8/ 5/75		L						
9/10/75		L				6	7	
12/ 1/75		L				3	7	

ALO ALO

STATION CODE: ALO STATION NAME: ALOI CRATER
LATITUDE:19 DEG N 22.00' LONGITUDE:155 DEG W 12.80' ELEVATION (M): 963
FIRST INSTALLED: 2/24/69 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
2/24/69		E3	D					
5/ 3/70		X	***** STATION TERMINATED 5/ 3/70 *****					

BPT BPT

****

STATION CODE: BPT STATION NAME: BARBERS POINT, OAHU

LATITUDE:21 DEG N 18.40' LONGITUDE:158 DEG W 5.70' ELEVATION (M): 10

FIRST INSTALLED: 0/ 0/57 COMPONENT: Z

REMARKS AND OTHER STATION CODES USED:

SAME AS HMO (BPT SOMETIMES USED 1957-60)

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
0/ 0/57		H1	P					
0/ 0/60		X	***** STATION TERMINATED 0/ 0/60 *****					

CAC CAC

****

STATION CODE: CAC STATION NAME: CAPTAIN COOK

LATITUDE:19 DEG N 29.29' LONGITUDE:155 DEG W 55.09' ELEVATION (M): 323

FIRST INSTALLED: 9/20/73 COMPONENT: Z

REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
9/20/73		E	D					
8/26/74		E	D	3.3	D			
5/20/75		E	D	3.3		1	3	
1/22/76	10 6	E	D	5.4	D	1	3	
1/26/76		L	D	1.5	D	1	3	
3/19/76		L	D	1.5		5	3	
11/30/77	1041	L	D	1.1	D	5	3	
9/ 1/79	12 0	L	D	3.6	D	5	3	

CPK CPK

****

STATION CODE: CPK STATION NAME: CONE PEAK

LATITUDE:19 DEG N 23.70' LONGITUDE:155 DEG W 19.70' ELEVATION (M):1038

FIRST INSTALLED: 11/ 7/67 COMPONENT: Z

REMARKS AND OTHER STATION CODES USED:

CP USED BEFORE 1969

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
11/ 7/67		E3	D					
2/22/73		E3	D	3.3	D			
11/24/74		E	D	3.5	D			R
12/23/74		E	D	3.5				
5/20/75		E	D	3.5		11	4	
8/21/75		E	D	3.5		11	4	R
9/ 2/75		E	D	3.5		11	4	
12/30/75		E	D	4.0	D	11	4	
6/ 5/78	12 0	E	D	2.2	D	11	4	

I 6/27/78	I	E	D	I	4.6	D	I	11	4	I	I
I 10/17/78	I	E	D	I	6.0	D	I	11	4	I	I

CPKH CPKH

****

STATION CODE:CPKH STATION NAME: CONE PEAK

LATITUDE:19 DEG N 23.70' LONGITUDE:155 DEG W 19.70' ELEVATION (M):1038

FIRST INSTALLED: 12/23/74 COMPONENT: H

REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
12/23/74	1122	LE						
5/20/75		LE				11	2	
10/16/79		LN				11	2	

DAN DAN

****

STATION CODE: DAN STATION NAME: DANDELION

LATITUDE:19 DEG N 21.42' LONGITUDE:155 DEG W 40.04' ELEVATION (M):3003

FIRST INSTALLED: 4/27/76 COMPONENT: Z

REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
4/27/76		L	D			9	6	
5/10/76	11 0	L	D	4.8	D	9	6	
8/ 4/76	917	L	D	7.0	D	9	6	
6/ 7/78	935	L	D	6.0	D	9	6	
1/25/79	827	L	D	6.0		12	6	

DES DES

****

STATION CODE: DES STATION NAME: DESERT

LATITUDE:19 DEG N 20.20' LONGITUDE:155 DEG W 23.30' ELEVATION (M): 815

FIRST INSTALLED: 9/13/57 COMPONENT: Z

REMARKS AND OTHER STATION CODES USED:

D USED 1957-1969

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
9/13/57		H2	S					
7/14/66		E3	S	1.3				
3/27/67		E3	SD	1.3				
4/30/75		E	SD	4.2	D			
5/20/75		E	SD	4.8		2	1	
2/13/76	1448	E	SD	5.2	D	2	1	
3/16/76	1135	E	SD	4.2	D	2	1	
3/28/78		E	SD	4.4	D	2	1	
8/ 1/79	10 0	E	SD	3.5		2	1	

EKO EKO

****

STATION CODE: EKO STATION NAME: EAST KOAE FAULT

LATITUDE:19 DEG N 21.80' LONGITUDE:155 DEG W 15.30' ELEVATION (M):1009
FIRST INSTALLED: 5/20/69 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
5/20/69		E3	SD					
9/29/71		X	***** STATION TERMINATED 9/29/71 *****					

*ESR *ESR

STATION CODE:*ESR STATION NAME: MAKAOPUHI
LATITUDE:19 DEG N 22.00' LONGITUDE:155 DEG W 10.70' ELEVATION (M): 885
FIRST INSTALLED: 4/19/63 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
ESR CODE SOMETIMES USED FOR MPH BEFORE ESCAPE ROAD STATION STARTED

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
4/19/63		B	S					
10/19/65		X	***** STATION TERMINATED 10/19/65 *****					

ESR ESR

STATION CODE: ESR STATION NAME: ESCAPE ROAD
LATITUDE:19 DEG N 24.68' LONGITUDE:155 DEG W 14.33' ELEVATION (M):1177
FIRST INSTALLED: 9/29/71 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
9/29/71		E	D					
8/20/74		E	D	1.7	D			
5/16/75		E	D	1.7	D			
5/20/75		E	D	1.7		2	7	
7/10/75		X						
10/ 2/75		E	D	1.7		2	7	
2/13/76	1124	E	D	1.9	D	2	7	
9/21/76	915	E	D	2.0	D	2	7	
1/ 5/77	1310	E	D	3.6	D	2	7	
5/23/77	1527	E	D	2.8	D	2	7	
10/31/77	1023	E	D	1.5	D	2	7	
11/10/77	1044	E	D	1.2	D	2	7	
6/ 6/78	1415	E	D	1.2	D	2	7	
7/ 2/78	14 2	E	D	1.2	D	2	7	
11/28/78	11 4	E	D	1.2	D	2	7	
5/ 1/79	947	E	D	2.4	D	2	7	
6/20/79	957	L	D	2.4	D	2	7	
8/ 1/79	10 0	L	D	2.1		2	7	

ETN ETN

STATION CODE: ETN STATION NAME: EATON HOUSE
LATITUDE:19 DEG N 25.62' LONGITUDE:155 DEG W 15.50' ELEVATION (M):1210
FIRST INSTALLED: 12/12/59 COMPONENT: Z

REMARKS AND OTHER STATION CODES USED:
TEMPORARY PORTABLE

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
12/12/59		H1	S					
12/13/59		X	***** STATION TERMINATED 12/13/59 *****					

GLN GLN

STATION CODE: GLN STATION NAME: GLENWOOD
LATITUDE:19 DEG N 29.00' LONGITUDE:155 DEG W 9.90' ELEVATION (M): 732
FIRST INSTALLED: 5/27/68 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
5/27/68		E	D					
5/ 3/70		X	***** STATION TERMINATED 5/ 3/70 *****					

HAE HAE

STATION CODE: HAE STATION NAME: HALEAKALA, MAUI
LATITUDE:20 DEG N 46.00' LONGITUDE:156 DEG W 15.00' ELEVATION (M):2090
FIRST INSTALLED: 8/20/53 COMPONENT: E
REMARKS AND OTHER STATION CODES USED:
MAV, HA, WA USED 12/56-1/70; HAH USED 2-6/70

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
8/20/53		LO	S					
12/ 0/55		X						
12/20/56		W	P		1.0			

HAH HAH

STATION CODE: HAH STATION NAME: HALEAKALA, MAUI
LATITUDE:20 DEG N 46.00' LONGITUDE:156 DEG W 15.00' ELEVATION (M):2090
FIRST INSTALLED: 2/ 0/70 COMPONENT: E,N
REMARKS AND OTHER STATION CODES USED:
SAME AS HAE, HAN (HAH SOMETIMES USED 2-7/70)

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
2/ 0/70		W	P		1.0			
7/ 0/70		X	***** STATION TERMINATED 7/ 0/70 *****					

HAL HAL

STATION CODE: HAL STATION NAME: HALEAKALA, MAUI
LATITUDE:20 DEG N 46.00' LONGITUDE:156 DEG W 15.00' ELEVATION (M):2090
FIRST INSTALLED: 5/19/57 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
MAV, HA, MAZ USED 5/57-1/70

```
-----------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I------------I----------I----------I------I
I  5/19/57 1710  I  H1     P   I   .7     I          I      I
-----------------------------------------------------------
```

HAN HAN

```
*****************************************************************
STATION CODE: HAN  STATION NAME: HALEAKALA, MAUI
LATITUDE:20 DEG N 46.00' LONGITUDE:156 DEG W 15.00' ELEVATION (M):2090
FIRST INSTALLED:  8/20/53                          COMPONENT: N
REMARKS AND OTHER STATION CODES USED:
  MAN, HA, WA USED 12/56-1/70; HAH SOMETIMES USED 2-6/70
-----------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I------------I----------I----------I------I
I  8/20/53       I  LO    S   I          I          I      I
I 12/ 0/55       I  X        I          I          I      I
I 12/20/56       I  W     P  I  1.0     I          I      I
-----------------------------------------------------------
```

HIE HIE

```
*****************************************************************
STATION CODE: HIE  STATION NAME: HILO
LATITUDE:19 DEG N 43.20' LONGITUDE:155 DEG W  5.30' ELEVATION (M):  20
FIRST INSTALLED:  0/ 0/27                          COMPONENT: E
REMARKS AND OTHER STATION CODES USED:
  HIH SOMETIMES USED 7/58-12/74
-----------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I------------I----------I----------I------I
I  0/ 0/27       I  H     S   I          I          I      I
I  0/ 0/50       I  LO    S   I          I          I      I
I  7/30/58       I  W     P  I  1.0     I          I      I
-----------------------------------------------------------
```

HIH HIH

```
*****************************************************************
STATION CODE: HIH  STATION NAME: HILO
LATITUDE:19 DEG N 43.20' LONGITUDE:155 DEG W  5.30' ELEVATION (M):  20
FIRST INSTALLED:  7/ 0/58                          COMPONENT: E,N
REMARKS AND OTHER STATION CODES USED:
  SAME AS HIE, HIN
-----------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I------------I----------I----------I------I
I  7/ 0/58       I  W     P  I  1.0     I          I      I
I  1/ 0/75       I  X  ***** STATION TERMINATED  1/ 0/75 *****I
-----------------------------------------------------------
```

HIL HIL

```
*****************************************************************
STATION CODE: HIL  STATION NAME: HILO
LATITUDE:19 DEG N 43.20' LONGITUDE:155 DEG W  5.30' ELEVATION (M):  20
FIRST INSTALLED: 10/22/58                          COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
  HI USED 10/58-3/69
-----------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
```

CHANGE TIME	TYPE RECORD	FACT MEAS	TRAK FREQ	POL
10/22/58	H1 P	1.0		

HIN HIN

STATION CODE: HIN STATION NAME: HILO
LATITUDE:19 DEG N 43.20' LONGITUDE:155 DEG W 5.30' ELEVATION (M): 20
FIRST INSTALLED: 0/ 0/27 COMPONENT: N
REMARKS AND OTHER STATION CODES USED:
HIH SOMETIMES USED 7/58-12/74

DATE OF CHANGE TIME	SEIS OPTIC TYPE RECORD	CALIB HOW FACT MEAS	TAPE VCO TRAK FREQ	REV POL
0/ 0/27	H S			
0/ 0/50	LO S			
7/30/58	W P	1.0		

HLP HLP

STATION CODE: HLP STATION NAME: HILINA PALI
LATITUDE:19 DEG N 17.96' LONGITUDE:155 DEG W 18.63' ELEVATION (M): 707
FIRST INSTALLED: 6/12/61 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE TIME	SEIS OPTIC TYPE RECORD	CALIB HOW FACT MEAS	TAPE VCO TRAK FREQ	REV POL
6/12/61	H2 S			
6/28/61	X			
9/ 3/70	E3 D			
6/27/72	E D	2.5		
10/21/74	E D	2.5 D		
5/20/75	E D	2.5	10 5	
5/21/75	E D	5.0 D	10 5	
1/ 5/76	E D	4.0 D	10 5	
8/ 1/79 10 0	E D	2.4	10 5	

HMO HMO

STATION CODE: HMO STATION NAME: HONOLULU MAGNETIC OBSERVATORY, OAHU
LATITUDE:21 DEG N 18.40' LONGITUDE:158 DEG W 5.70' ELEVATION (M): 10
FIRST INSTALLED: 5/21/57 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
HPT USED 12/59; HOE & HOH USED 1957-59, 8/62-4/64

DATE OF CHANGE TIME	SEIS OPTIC TYPE RECORD	CALIB HOW FACT MEAS	TAPE VCO TRAK FREQ	REV POL
5/21/57 14 0	H1 P			
6/ 0/63	X ***** STATION TERMINATED 6/ 0/63 *****			

HOE HOE

STATION CODE: HOE STATION NAME: HONOLULU MAGNETIC OBSERVATORY, OAHU
LATITUDE:21 DEG N 18.40' LONGITUDE:158 DEG W 5.70' ELEVATION (M): 10
FIRST INSTALLED: 12/ 0/59 COMPONENT: E,N

REMARKS AND OTHER STATION CODES USED:
DATA READ INTERMITTENTLY 1959-64; CODES HMO, HOH ALSO USED

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
12/ 0/59		S	P					
5/ 0/64		X	***** STATION TERMINATED 5/ 0/64 *****					

HOH HOH

STATION CODE: HOH STATION NAME: HONOLULU MAGNETIC OBSERVATORY, OAHU
LATITUDE:21 DEG N 18.40' LONGITUDE:158 DEG W 5.70' ELEVATION (M): 10
FIRST INSTALLED: 12/ 0/59 COMPONENT: E,N
REMARKS AND OTHER STATION CODES USED:
DATA READ INTERMITTENTLY 1959-64; CODES HMO, HOE ALSO USED

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
12/ 0/59		S	P					
5/ 0/64		X	***** STATION TERMINATED 5/ 0/64 *****					

HPU HPU

STATION CODE: HPU STATION NAME: HALE POHAKU
LATITUDE:19 DEG N 46.85' LONGITUDE:155 DEG W 27.50' ELEVATION (M):3396
FIRST INSTALLED: 8/18/69 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
8/18/69		E	D	5.6				
3/15/71		E		5.6				
4/26/71		E	D	5.6				
5/20/75		E	D	5.6		1	7	
7/ 8/75	1346	E		5.6		1	7	
10/31/75	9 0	E	D	5.6		1	7	
11/18/75		E	D	4.5	D	1	7	
3/19/76		E	D	4.5		5	7	
10/21/76	12 0	E	D	4.7	D	5	7	
10/25/77	13 1	E	D	3.3	D	5	7	
10/13/78	10 9	E	D	5.2	D	5	7	
8/ 1/79	10 0	E	D	3.7		5	7	

HSC HSC

STATION CODE: HSC STATION NAME: HALEAKALA, MAUI
LATITUDE:20 DEG N 43.70' LONGITUDE:156 DEG W 15.30' ELEVATION (M):3049
FIRST INSTALLED: 4/14/70 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
4/14/70		S	H					
11/16/70		X	***** STATION TERMINATED 11/16/70 *****					

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 HSS                                                              HSS
*****************************************************************
STATION CODE: HSS  STATION NAME: HUMUULA SHEEP STATION
LATITUDE:19 DEG N 36.31' LONGITUDE:155 DEG W 29.13' ELEVATION (M):2445
FIRST INSTALLED:  7/ 7/75                              COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

-----------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I-------------I----------I----------I------I
I  7/ 7/75       I  E     D    I  6.2  D   I   6   4   I  R   I
I  3/22/77 1230  I  E     D    I  8.4  D   I   6   4   I  R   I
I  8/ 1/79 10 0  I  E     D    I  5.6      I   6   4   I  R   I
I 12/ 8/79 18 1  I  X     D    I  2.7  D   I           I      I
I 12/12/79 15 0  I  L4    D    I  2.7      I   6   4   I      I
-----------------------------------------------------------------

HSSE                                                             HSSE
*****************************************************************
STATION CODE:HSSE  STATION NAME: HUMUULA SHEEP STATION
LATITUDE:19 DEG N 36.31' LONGITUDE:155 DEG W 29.13' ELEVATION (M):2445
FIRST INSTALLED:  7/ 7/75                              COMPONENT: E
REMARKS AND OTHER STATION CODES USED:

-----------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I-------------I----------I----------I------I
I  7/ 7/75       I  L         I          I   6   1   I      I
I 12/ 8/79 1730  I  X  ***** STATION TERMINATED 12/ 8/79 *****I
-----------------------------------------------------------------

HSSN                                                             HSSN
*****************************************************************
STATION CODE:HSSN  STATION NAME: HUMUULA SHEEP STATION
LATITUDE:19 DEG N 36.31' LONGITUDE:155 DEG W 29.13' ELEVATION (M):2445
FIRST INSTALLED:  7/ 7/75                              COMPONENT: N
REMARKS AND OTHER STATION CODES USED:

-----------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I-------------I----------I----------I------I
I  7/ 7/75       I  L     D    I          I   6   7   I      I
I 10/31/75       I  L         I          I   6   8   I      I
I 12/ 8/79 1730  I  X  ***** STATION TERMINATED 12/ 8/79 *****I
-----------------------------------------------------------------

 HUA                                                              HUA
*****************************************************************
STATION CODE: HUA  STATION NAME: HUALALAI
LATITUDE:19 DEG N 41.25' LONGITUDE:155 DEG W 50.32' ELEVATION (M):2189
FIRST INSTALLED:  7/22/71                              COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

-----------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I-------------I----------I----------I------I
I  7/22/71       I  E     D    I  5.2     I           I      I
```

```
I  8/13/74       I  E      D     I  5.3  D    I              I        I
I  2/ 4/75       I  E      D     I  2.2  D    I              I        I
I  5/20/75       I  E      D     I  2.2       I    1    4    I        I
I  1/27/76 1636  I  E      D     I  2.6  D    I    1    4    I        I
I  3/19/76       I  E      D     I  2.6       I    5    4    I        I
I  8/ 3/77 1239  I  E      D     I  3.8  D    I    5    4    I        I
I  8/ 1/79 10 0  I  E      D     I  3.0       I    5    4    I        I
-------------------------------------------------------------------------

 HUL                                                                    HUL
*************************************************************************
STATION CODE: HUL  STATION NAME: HEIHEIAHULU
LATITUDE:19 DEG N 25.13' LONGITUDE:154 DEG W 58.72' ELEVATION (M): 369
FIRST INSTALLED:  4/12/77                                COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
  REPLACED STATION TAN
-------------------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I------------I----------I----------I------I
I  4/12/77 1457  I  E      DS    I  4.2  D    I    4    2    I        I
I  7/13/77 1324  I  E      DS    I  3.0  D    I    4    2    I        I
I  3/20/78 1334  I  E      DS    I  2.2  D    I    4    2    I        I
I  4/19/79 1630  I  E      DS    I  3.2  D    I    4    2    I        I
I  8/ 1/79 10 0  I  E      DS    I  2.2       I    4    2    I        I
-------------------------------------------------------------------------

 HVO                                                                    HVO
*************************************************************************
STATION CODE: HVO  STATION NAME: UWEKAHUNA (HAWAII VOLCANO OBSERVATOR
LATITUDE:19 DEG N 25.45' LONGITUDE:155 DEG W 17.37' ELEVATION (M):1243
FIRST INSTALLED:  4/ 0/67                                COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
  HVO CODE USED OCCAISIONALLY IN PLACE OF UWE
-------------------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I------------I----------I----------I------I
I  4/ 0/67       I  H1     D    I            I            I        I
I  7/30/69       I  H1          I            I            I        I
I 12/ 1/70       I  H1     D    I            I            I        I
I  6/ 1/71       I  E      D    I   .7       I            I        I
I  7/ 6/75       I  X  ***** STATION TERMINATED  7/ 6/75 *****I
-------------------------------------------------------------------------

HVOH                                                                    HVOH
*************************************************************************
STATION CODE:HVOH  STATION NAME: UWEKAHUNA (HAWAII VOLCANO OBSERVATOR
LATITUDE:19 DEG N 25.45' LONGITUDE:155 DEG W 17.37' ELEVATION (M):1243
FIRST INSTALLED:  6/27/73                                COMPONENT: E
REMARKS AND OTHER STATION CODES USED:

-------------------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I------------I----------I----------I------I
I  6/27/73 15 4  I  E      DS    I            I            I        I
I 11/24/73       I  X  ***** STATION TERMINATED 11/24/73 *****I
-------------------------------------------------------------------------

 IIL                                                                    IIL
*************************************************************************
STATION CODE: IIL  STATION NAME: IILEWA
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LATITUDE:19 DEG N 26.30' LONGITUDE:154 DEG W 57.54' ELEVATION (M): 0
FIRST INSTALLED: 7/22/77 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
TEST STATION, POOR TIMING

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
7/22/77		E	HS					
9/19/77		X	***** STATION TERMINATED 9/19/77 *****					

KAA KAA

STATION CODE: KAA STATION NAME: KAAPUNA
LATITUDE:19 DEG N 15.98' LONGITUDE:155 DEG W 52.28' ELEVATION (M): 524
FIRST INSTALLED: 1/ 4/72 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
1/ 4/72		E	D	5.5				
3/21/72		E	D	5.5				R
8/16/72		E	D	5.5				
10/ 4/74		E	D	6.0	D			
3/28/75		E	D	4.9	D			
5/20/75		E	D	4.9		1	2	
1/22/76	12 6	E	D	4.9		1	2	R?
3/19/76		E	D	4.9		5	2	R?
5/24/76	12 4	E	D	5.7	D	5	2	R?
12/ 1/76	1445	E	D	5.2	D	5	2	R?
11/30/77	1351	E	D	5.6	D	5	2	R?
3/ 1/78	12 0	E	D	5.7	D	5	2	R?
5/ 2/78		E	D	5.7		5	2	R
8/ 1/79	10 0	E	D	4.2		5	2	R

KAE KAE

STATION CODE: KAE STATION NAME: KAENA POINT
LATITUDE:19 DEG N 17.35' LONGITUDE:155 DEG W 7.95' ELEVATION (M): 37
FIRST INSTALLED: 5/ 8/73 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
5/ 8/73		E	D					
9/ 3/74		E	D	2.2	D			
5/20/75		E	D	2.2		10	6	
10/27/76	1425	E	D	1.3	D	10	6	
6/11/78	13 8	E	D	1.4	D	10	6	
8/ 1/79	10 0	E	D	1.3		10	6	

KAM KAM

STATION CODE: KAM STATION NAME: KAMUELA
LATITUDE:20 DEG N 1.30' LONGITUDE:155 DEG W 40.30' ELEVATION (M): 815
FIRST INSTALLED: 1/28/62 COMPONENT: Z

REMARKS AND OTHER STATION CODES USED:
KA ALSO USED; KAM (IN GARAGE) REPLACED KML AT HAWAII PREP. ACADEMY

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
1/28/62		H1	P					
0/ 0/66		E2	P					
10/30/71		X	***** STATION TERMINATED 10/30/71 *****					

KFA KFA

STATION CODE: KFA STATION NAME: KAOIKI FAULTS
LATITUDE:19 DEG N 25.26' LONGITUDE:155 DEG W 25.14' ELEVATION (M):1579
FIRST INSTALLED: 3/20/79 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
3/20/79		E	H			13	4	
8/10/79		E	DH			13	4	
8/14/79		E	H			13	4	

KFB KFB

STATION CODE: KFB STATION NAME: KAOIKI FAULTS
LATITUDE:19 DEG N 25.26' LONGITUDE:155 DEG W 25.14' ELEVATION (M):1579
FIRST INSTALLED: 8/15/79 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
EXPERIMENTAL TELEDYNE S-500 HIGH FREQUENCY SYSTEM

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
8/15/79		TE	S			13	6	

KGN KGN

STATION CODE: KGN STATION NAME: KALAPANA GARDENS
LATITUDE:19 DEG N 21.52' LONGITUDE:154 DEG W 59.67' ELEVATION (M): 30
FIRST INSTALLED: 9/15/77 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
TEMPORARY PORTABLE

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
9/15/77		E	S					
9/20/77		X	***** STATION TERMINATED 9/20/77 *****					

KHU KHU

STATION CODE: KHU STATION NAME: KAHUKU
LATITUDE:19 DEG N 14.90' LONGITUDE:155 DEG W 37.10' ELEVATION (M):1939
FIRST INSTALLED: 8/26/69 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
8/26/69		E	D	5.7				
3/15/71		E		5.7				
4/26/71		E	D	5.7				
1/10/75		E	D	3.5	D			
2/18/75		E	D	3.7	D			
5/20/75		E	D	3.7		4	4	
10/25/77		E	D	3.2	D	4	4	
8/23/78	010	E	D	6.3	D	4	4	
1/ 9/79	1134	E	D	6.2	D	4	4	
8/ 1/79	10 0	E	D	4.0		4	4	

KII KII

STATION CODE: KII STATION NAME: KANEKII
LATITUDE:19 DEG N 30.56' LONGITUDE:155 DEG W 45.90' ELEVATION (M):1841
FIRST INSTALLED: 7/ 6/75 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
7/ 6/75		E	D	4.0	D	6	5	R
11/13/75		E	D	7.1	D	6	5	R
3/16/77	14 0	E	D	5.5	D	6	5	R
7/18/78	1046	E	D	5.6	D	6	5	R
8/ 1/79	10 0	E	D	4.1		6	5	R

KIIE KIIE

STATION CODE:KIIE STATION NAME: KANEKII
LATITUDE:19 DEG N 30.56' LONGITUDE:155 DEG W 45.90' ELEVATION (M):1841
FIRST INSTALLED: 7/ 6/75 COMPONENT: E
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
7/ 6/75		L						
12/ 1/75		L				6	2	

KIIN KIIN

STATION CODE:KIIN STATION NAME: KANEKII
LATITUDE:19 DEG N 30.56' LONGITUDE:155 DEG W 45.90' ELEVATION (M):1841
FIRST INSTALLED: 7/ 6/75 COMPONENT: N
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
7/ 6/75		L						
12/ 1/75		L				6	3	

KIP KIP

STATION CODE: KIP STATION NAME: KIPAPA, OAHU
LATITUDE:21 DEG N 25.40' LONGITUDE:158 DEG W .90' ELEVATION (M): 76
FIRST INSTALLED: 11/ 8/62 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
HVO INSTRUMENT MAINTAINED BY PACIFIC TSUNAMI WARNING CENTER

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
11/ 8/62		H1	P	.6				

KKU KKU

STATION CODE: KKU STATION NAME: KEANAKOLU
LATITUDE:19 DEG N 53.39' LONGITUDE:155 DEG W 20.58' ELEVATION (M):1863
FIRST INSTALLED: 4/ 1/71 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
4/ 1/71		E	D	4.8				
4/ 3/71		E		4.8				
4/26/71		E	D	4.8				
2/13/74		E	D	2.3	D			
4/15/75		E	D	2.3	D			
5/20/75		E	D	2.3		4	6	
8/31/77	955	E	D	4.2	D	4	6	
9/27/77	1030	E		4.2		4	6	
9/30/77	930	E	D	4.2		4	6	
10/ 3/77	910	E		4.2		4	6	
10/21/77	830	E	D	4.2		4	6	
11/ 8/77	12 0	E	D	4.8	D	4	6	
2/10/78	1136	E	D	2.0	D	4	6	
1/11/79	11 0	E	D	3.7	D	4	6	
2/13/79	1141	L	D	2.2	D	4	6	
3/27/79	1137	L	D	1.6	D	4	6	
8/ 1/79	10 0	L	D	1.1		4	6	

KLE KLE

STATION CODE: KLE STATION NAME: KEALAKEKUA
LATITUDE:19 DEG N 31.20' LONGITUDE:155 DEG W 55.30' ELEVATION (M): 505
FIRST INSTALLED: 0/ 0/63 COMPONENT: E
REMARKS AND OTHER STATION CODES USED:
KLH, KOE USED; KOH USED 10/63-6/64

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
0/ 0/63		E2	P					
9/20/72		X	***** STATION TERMINATED 9/20/72 *****					

KLH KLH

STATION CODE: KLH STATION NAME: KEALAKEKUA

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LATITUDE:19 DEG N 31.20' LONGITUDE:155 DEG W 55.30' ELEVATION (M): 505
FIRST INSTALLED:  0/ 0/63                                  COMPONENT: E,N
REMARKS AND OTHER STATION CODES USED:
  SAME AS KLE, KLN
-------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I-------------I-----------I-----------I------I
I  0/ 0/63       I  E2    P    I           I           I      I
I  9/20/72       I  X  ***** STATION TERMINATED  9/20/72 *****I
-------------------------------------------------------------

 KLK                                                          KLK
*************************************************************
STATION CODE: KLK  STATION NAME: KEALAKEKUA
LATITUDE:19 DEG N 31.20' LONGITUDE:155 DEG W 55.30' ELEVATION (M): 505
FIRST INSTALLED:  0/ 0/63                                  COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
  KON, KE CODES ALSO USED
-------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I-------------I-----------I-----------I------I
I  0/ 0/63       I  E2    P    I   .7      I           I      I
I  9/20/72       I  X  ***** STATION TERMINATED  9/20/72 *****I
-------------------------------------------------------------

 KLN                                                          KLN
*************************************************************
STATION CODE: KLN  STATION NAME: KEALAKEKUA
LATITUDE:19 DEG N 31.20' LONGITUDE:155 DEG W 55.30' ELEVATION (M): 505
FIRST INSTALLED:  0/ 0/63                                  COMPONENT: N
REMARKS AND OTHER STATION CODES USED:
  KLH, KON USED; KOH USED 10/63-6/64
-------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I-------------I-----------I-----------I------I
I  0/ 0/63       I  E2    P    I           I           I      I
I  9/20/72       I  X  ***** STATION TERMINATED  9/20/72 *****I
-------------------------------------------------------------

 KLU                                                          KLU
*************************************************************
STATION CODE: KLU  STATION NAME: PUU KALIU
LATITUDE:19 DEG N 27.48' LONGITUDE:154 DEG W 55.26' ELEVATION (M): 271
FIRST INSTALLED:  9/15/77                                  COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
  K, KX USED TO LABEL RECORDS; STATION VANDALIZED 9/27/78
-------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I-------------I-----------I-----------I------I
I  9/15/77       I  E     OH   I           I   6   6   I      I
I  9/27/78       I  X          I           I           I      I
I 12/21/78       I  E     O    I           I   6   6   I      I
-------------------------------------------------------------

 KML                                                          KML
*************************************************************
STATION CODE: KML  STATION NAME: KAMUELA
LATITUDE:20 DEG N  1.30' LONGITUDE:155 DEG W 40.30' ELEVATION (M): 815
FIRST INSTALLED:  6/ 9/54                                  COMPONENT: EN;Z
```

REMARKS AND OTHER STATION CODES USED:
KA, W CODES ALSO USED; KAM USED 10-11/59; REPLACED BY STATION KAM

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
6/ 9/54		LO	P					
0/ 0/61		H1	S					
2/ 1/62		X	***** STATION TERMINATED 2/ 1/62 *****					

KMO KMO

STATION CODE: KMO STATION NAME: KEALAKOMO
LATITUDE:19 DEG N 18.50' LONGITUDE:155 DEG W 9.60' ELEVATION (M): 201
FIRST INSTALLED: 9/27/66 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
K ALSO USED; CABLE SEVERED BY 1969 LAVA FLOW

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
9/27/66		E3	S					
3/27/67		E3	D					
2/22/69		X	***** STATION TERMINATED 2/22/69 *****					

KOA KOA

STATION CODE: KOA STATION NAME: KOAE FAULTS
LATITUDE:19 DEG N 22.15' LONGITUDE:155 DEG W 14.90' ELEVATION (M):1009
FIRST INSTALLED: 5/24/69 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
TEMPORARY PORTABLE

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
5/24/69		E	S					
5/25/69		X	***** STATION TERMINATED 5/25/69 *****					

KOE KOE

STATION CODE: KOE STATION NAME: KEALAKEKUA-KONA
LATITUDE:19 DEG N 31.20' LONGITUDE:155 DEG W 55.30' ELEVATION (M): 505
FIRST INSTALLED: 0/ 0/63 COMPONENT: E
REMARKS AND OTHER STATION CODES USED:
SAME AS KLE

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
0/ 0/63		E2	P					
9/20/72		X	***** STATION TERMINATED 9/20/72 *****					

*KOH *KOH

STATION CODE:*KOH STATION NAME: KEALEKUA-KONA
LATITUDE:19 DEG N 31.20' LONGITUDE:155 DEG W 55.30' ELEVATION (M): 505
FIRST INSTALLED: 0/ 0/63 COMPONENT: E,N
REMARKS AND OTHER STATION CODES USED:

KOH CODE USED INTERMITTENTLY FOR KLE OR KLN

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
0/ 0/63		E2	P					
9/20/72		X	***** STATION TERMINATED 9/20/72 *****					

KOH KOH

****

STATION CODE: KOH STATION NAME: KOHALA

LATITUDE:20 DEG N 7.69' LONGITUDE:155 DEG W 46.77' ELEVATION (M):1166

FIRST INSTALLED: 7/ 7/71 COMPONENT: Z

REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
7/ 7/71		E	D					
1/ 0/74		E	D	3.2	D			
5/20/75		E	D	3.2		1	6	
12/19/75		E	D	2.4	D	1	6	
12/22/75		E	D	2.4		1	1	
3/19/76		E	D	2.4		5	1	
7/11/77	1252	L	D	2.4	D	5	1	
9/ 8/77	1116	L	D	1.7	D	5	6	
11/ 8/77	1652	L	D	2.2	D	5	6	
6/19/78	1510	L	D	2.2	D	5	6	
3/17/79		L	D	2.2	D	5	6	
8/10/79		L	D	2.2		5	6	
8/14/79	1453	L	D	2.2	D	5	6	

*KOK *KOK

****

STATION CODE:*KOK STATION NAME: KEALEKUA-KONA

LATITUDE:19 DEG N 31.20' LONGITUDE:155 DEG W 55.30' ELEVATION (M): 505

FIRST INSTALLED: 0/ 0/63 COMPONENT: E,N

REMARKS AND OTHER STATION CODES USED:

KOK CODE USED INTERMITTENTLY FOR KLE OR KLN

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
0/ 0/63		E2	P					
9/20/72		X	***** STATION TERMINATED 9/20/72 *****					

KOK KOK

****

STATION CODE: KOK STATION NAME: KOKOOLAU CRATER

LATITUDE:19 DEG N 23.32' LONGITUDE:155 DEG W 14.90' ELEVATION (M):1079

FIRST INSTALLED: 5/21/73 COMPONENT: Z

REMARKS AND OTHER STATION CODES USED:

TEMPORARY PORTABLE

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
5/21/73		E	S					
5/22/73		X	***** STATION TERMINATED 5/22/73 *****					

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-----------------------------------------------------------------

 KON                                                                    KON
*********************************************************************
STATION CODE: KON  STATION NAME: KONAWAENA-KONA
LATITUDE:19 DEG N 30.80' LONGITUDE:155 DEG W 55.10' ELEVATION (M): 495
FIRST INSTALLED:  0/ 0/22                                COMPONENT: E,N
REMARKS AND OTHER STATION CODES USED:
  KOW, KO ALSO USED
-----------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE   TIME I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I-------------I-----------I-----------I------I
I  0/ 0/22       I  H      S    I           I           I      I
I  0/ 0/56       I  LO     S    I           I           I      I
I 12/ 0/60       I  X  ***** STATION TERMINATED 12/ 0/60 *****I
-----------------------------------------------------------------

*KON                                                                   *KON
*********************************************************************
STATION CODE:*KON  STATION NAME: KEALEKUA-KONA
LATITUDE:19 DEG N 31.20' LONGITUDE:155 DEG W 55.30' ELEVATION (M): 505
FIRST INSTALLED:  0/ 0/63                                COMPONENT: E,N
REMARKS AND OTHER STATION CODES USED:
  KON CODE USED INTERMITTENTLY FOR KLE OR KLN
-----------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE   TIME I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I-------------I-----------I-----------I------I
I  0/ 0/63       I  E2     P    I           I           I      I
I  9/20/72       I  X  ***** STATION TERMINATED  9/20/72 *****I
-----------------------------------------------------------------

 KOW                                                                    KOW
*********************************************************************
STATION CODE: KOW  STATION NAME: KONAWAENA-KONA
LATITUDE:19 DEG N 30.80' LONGITUDE:155 DEG W 55.10' ELEVATION (M): 495
FIRST INSTALLED:  0/ 0/22                                COMPONENT: E,N
REMARKS AND OTHER STATION CODES USED:
  SAME AS KON
-----------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE   TIME I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I-------------I-----------I-----------I------I
I  0/ 0/22       I  H      S    I           I           I      I
I  0/ 0/56       I  LO     S    I           I           I      I
I 12/ 0/60       I  X  ***** STATION TERMINATED 12/ 0/60 *****I
-----------------------------------------------------------------

 KPN                                                                    KPN
*********************************************************************
STATION CODE: KPN  STATION NAME: KIPUKA NENE
LATITUDE:19 DEG N 20.10' LONGITUDE:155 DEG W 17.40' ELEVATION (M): 924
FIRST INSTALLED:  9/21/67                                COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

-----------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE   TIME I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I-------------I-----------I-----------I------I
I  9/21/67       I  E3     D    I           I           I      I
I  9/ 4/74       I  E      D    I  5.0  D   I           I      I
I  5/20/75       I  E      D    I  5.0      I   9   3   I      I
```

12/ 1/75		E	D	5.0		2	3		
3/25/76	1332	E	D	5.2	D	2	3		
8/16/76	1133	E	D	6.4	D	2	3		
8/ 1/79	10 0	E	D	4.3		2	3		

KPR KPR

STATION CODE: KPR STATION NAME: KAPAPALA RANCH
LATITUDE:19 DEG N 16.40' LONGITUDE:155 DEG W 26.70' ELEVATION (M): 610
FIRST INSTALLED: 8/18/71 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
8/18/71		E	D					
9/17/74		E	D	4.3	D			
5/20/75		E	D	4.3		5	4	
12/ 1/75		E	D	4.3		2	4	
1/26/76	10 8	E	D	6.0	D	2	4	
6/16/77		E	D	5.0	D	2	4	
9/15/77		X	***** STATION TERMINATED 9/15/77 *****					

LAF LAF

STATION CODE: LAF STATION NAME: LAVA FLOW
LATITUDE:19 DEG N 28.70' LONGITUDE:154 DEG W 53.80' ELEVATION (M): 189
FIRST INSTALLED: 5/ 1/70 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
5/ 1/70		E	D					
11/17/70		X	***** STATION TERMINATED 11/17/70 *****					

LOS LOS

STATION CODE: LOS STATION NAME: LOWER STATION
LATITUDE:19 DEG N 28.40' LONGITUDE:154 DEG W 53.10' ELEVATION (M): 159
FIRST INSTALLED: 4/30/70 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
4/30/70		E	D					
9/ 3/70		X						
10/ 2/70		E	D					
11/30/70		X	***** STATION TERMINATED 11/30/70 *****					

LUA LUA

STATION CODE: LUA STATION NAME: KALALUA
LATITUDE:19 DEG N 24.55' LONGITUDE:155 DEG W 4.25' ELEVATION (M): 622
FIRST INSTALLED: 12/ 9/75 COMPONENT: Z

REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
12/ 9/75		L	D	4.6	D	14	2	
3/16/76		L	D	4.6		7	2	
11/23/76		L	D	4.6		7	3	
8/10/77		L	D	4.6		7	2	
9/ 9/77		L	D	3.0	D	7	2	
10/ 6/77	1130	L	DH	4.6	D	7	2	
7/ 5/78	1021	L	DH	4.4	D	7	2	
8/ 1/79	10 0	L	DH	3.9		7	2	

MAE MAE

STATION CODE: MAE STATION NAME: HALEAKALA, MAUI
LATITUDE:20 DEG N 46.00' LONGITUDE:156 DEG W 15.00' ELEVATION (M):2090
FIRST INSTALLED: 10/ 0/59 COMPONENT: E
REMARKS AND OTHER STATION CODES USED:
SAME AS HAE

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
10/ 0/59		W	P	1.0				
1/ 0/70		X	***** STATION TERMINATED 1/ 0/70 *****					

MAN MAN

STATION CODE: MAN STATION NAME: HALEAKALA, MAUI
LATITUDE:20 DEG N 46.00' LONGITUDE:156 DEG W 15.00' ELEVATION (M):2090
FIRST INSTALLED: 10/ 0/59 COMPONENT: N
REMARKS AND OTHER STATION CODES USED:
SAME AS HAN

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
10/ 0/59		W	P	1.0				
1/ 0/70		X	***** STATION TERMINATED 1/ 0/70 *****					

MAU MAU

STATION CODE: MAU STATION NAME: MAUNA ULU
LATITUDE:19 DEG N 22.34' LONGITUDE:155 DEG W 12.52' ELEVATION (M): 994
FIRST INSTALLED: 1/ 9/74 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
OVERRUN BY LAVA

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
1/ 9/74		E	DS					
1/25/74		X	***** STATION TERMINATED 1/25/74 *****					

MAV MAV

STATION CODE: MAV STATION NAME: HALEAKALA, MAUI
LATITUDE:20 DEG N 46.00' LONGITUDE:156 DEG W 15.00' ELEVATION (M):2090
FIRST INSTALLED: 10/ 0/59 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
SAME AS HAL

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
10/ 0/59		H1	P	.7				
1/ 0/70		X	***** STATION TERMINATED				1/ 0/70	*****

MKS MKS

STATION CODE: MKS STATION NAME: MAUNA KEA SUMMIT
LATITUDE:19 DEG N 49.60' LONGITUDE:155 DEG W 28.30' ELEVATION (M):4146
FIRST INSTALLED: 8/ 7/70 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
UNIV. OF HAWAII EXPERIMENTAL STATION

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
8/ 7/70		HS	H					
8/ 8/70		X	***** STATION TERMINATED				8/ 8/70	*****

MLE MLE

STATION CODE: MLE STATION NAME: MAUNA LOA
LATITUDE:19 DEG N 29.80' LONGITUDE:155 DEG W 23.30' ELEVATION (M):2010
FIRST INSTALLED: 7/27/79 COMPONENT: E
REMARKS AND OTHER STATION CODES USED:
EXPERIMENTAL 3 SEC. LOW GAIN RUSSIAN SSS SEISMOMETER

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
7/27/79	10 0	SS				3	S	

MLN MLN

STATION CODE: MLN STATION NAME: MAUNA LOA
LATITUDE:19 DEG N 29.80' LONGITUDE:155 DEG W 23.30' ELEVATION (M):2010
FIRST INSTALLED: 7/27/79 COMPONENT: N
REMARKS AND OTHER STATION CODES USED:
EXPERIMENTAL 3 SEC. LOW GAIN RUSSIAN SSS SEISMOMETER

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
7/27/79	10 0	SS				3	4	

MLO MLO

STATION CODE: MLO STATION NAME: MAUNA LOA
LATITUDE:19 DEG N 29.80' LONGITUDE:155 DEG W 23.30' ELEVATION (M):2010
FIRST INSTALLED: 0/ 0/38 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
M USED BEFORE 1969

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
0/ 0/38		H	S					
6/ 0/53		LO	S					
4/ 7/57		H2	S					
3/27/67		H2	SD					
12/ 0/69		E	SD					
10/21/74		E	SD	11.8	D			
5/ 9/75		E	SD	10.5	D			
5/20/75		E	SD	10.5		14	5	
1/29/76	1141	E	SD	10.0	D	14	8	
3/19/76		E	SD	10.0		7	8	
4/ 5/77	1413	E	SD	10.0	D	7	8	
5/ 3/77	1023	E	SD	9.2	D	7	8	
4/26/78		E4	SD	9.2		7	8	RT
8/ 1/79	10 0	E4	SD	5.8		7	8	RT
10/16/79	1616	L4	SD	5.8		7	8	RD
10/18/79		L4	SD	5.8		7	8	

MLOH MLOH

STATION CODE:MLOH STATION NAME: MAUNA LOA
LATITUDE:19 DEG N 29.80' LONGITUDE:155 DEG W 23.30' ELEVATION (M):2010
FIRST INSTALLED: 3/31/75 COMPONENT: S
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
3/31/75		E						
5/20/75		E				14	2	
6/ 2/75		E				14	4	
1/29/76		E				14	5	
3/19/76		E				7	5	
5/12/78		E				7	3	

MLV MLV

STATION CODE: MLV STATION NAME: MAUNA LOA
LATITUDE:19 DEG N 29.80' LONGITUDE:155 DEG W 23.30' ELEVATION (M):2010
FIRST INSTALLED: 7/27/79 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
EXPERIMENTAL 3 SEC. LOW GAIN RUSSIAN SSS SEISMOMETER

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
7/27/79	10 0	SS				3	2	

MLX MLX

STATION CODE: MLX STATION NAME: MAUNA LOA X
LATITUDE:19 DEG N 27.60' LONGITUDE:155 DEG W 20.70' ELEVATION (M):1475
FIRST INSTALLED: 9/21/66 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
9/21/66		E3	S	1.3				
3/27/67		E3	D	1.3				
11/ 0/74		E	D	2.1				R
2/ 7/75		E	D	2.1				
4/24/75		E	D	2.1	D			
5/20/75		E	D	2.1		14	6	
8/16/75		E		2.1		14	6	
3/16/76		E		2.1		7	6	

MLXH MLXH

****

STATION CODE:MLXH STATION NAME: MAUNA LOA X

LATITUDE:19 DEG N 27.60' LONGITUDE:155 DEG W 20.70' ELEVATION (M):1475

FIRST INSTALLED: 11/19/75 COMPONENT: E

REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
11/19/75		E				14	8	
12/ 1/75		E				14	7	
3/19/76		E				7	7	

MOK MOK

****

STATION CODE: MOK STATION NAME: MOKUAWEONEO

LATITUDE:19 DEG N 29.28' LONGITUDE:155 DEG W 35.98' ELEVATION (M):4104

FIRST INSTALLED: 5/22/71 COMPONENT: Z

REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
5/22/71		E	D	6.5				
8/28/74		E	D	7.5	D			
5/20/75		E	DH	7.5		1	5	
3/19/76		E	DH	7.5		5	5	
9/23/76	823	E	DH	8.0	D	5	5	
8/12/77	956	E	DH	8.0	D	5	5	
8/ 1/79	10 0	E	DH	5.0		5	5	
12/ 8/79	16 5	L4	DH	4.0	D	5	5	

*MPH *MPH

****

STATION CODE:*MPH STATION NAME: MAKAOPUHI

LATITUDE:19 DEG N 22.00' LONGITUDE:155 DEG W 10.70' ELEVATION (M): 885

FIRST INSTALLED: 7/ 2/61 COMPONENT: Z

REMARKS AND OTHER STATION CODES USED:

STATION MOVED SLIGHTLY BUT NOT RENAMED 10/65; MOVED AND RENAMED 7/69

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
7/ 2/61		H1	S					
7/ 4/61		X						

```
I  4/19/63       I  B     S    I            I            I       I
I 10/19/65       I  X  ***** STATION TERMINATED 10/19/65 *****I
-------------------------------------------------------------------

 MPH                                                                MPH
*********************************************************************
STATION CODE: MPH  STATION NAME: MAKAOPUHI
LATITUDE:19 DEG N 21.80' LONGITUDE:155 DEG W 10.00' ELEVATION (M): 866
FIRST INSTALLED: 10/19/65                              COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
  STATION MOVED SLIGHTLY BUT NOT RENAMED 10/65; MOVED AND RENAMED 7/69
-------------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I----------------I-------------I-----------I-----------I------I
I 10/19/65       I  E3    S    I            I            I       I
I  3/27/67       I  E3    DS   I            I            I       I
I  2/22/69       I  X  ***** STATION TERMINATED  2/22/69 *****I
-------------------------------------------------------------------

 MPP                                                                MPP
*********************************************************************
STATION CODE: MPP  STATION NAME: MAKAOPUHI
LATITUDE:19 DEG N 21.02' LONGITUDE:155 DEG W 10.20' ELEVATION (M): 796
FIRST INSTALLED:  5/24/69                              COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
  TEMPORARY PORTABLE
-------------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I----------------I-------------I-----------I-----------I------I
I  5/24/69       I  E     S    I            I            I       I
I  5/25/69       I  X  ***** STATION TERMINATED  5/25/69 *****I
-------------------------------------------------------------------

 MPR                                                                MPR
*********************************************************************
STATION CODE: MPR  STATION NAME: MAKAOPUHI
LATITUDE:19 DEG N 22.07' LONGITUDE:155 DEG W  9.85' ELEVATION (M): 881
FIRST INSTALLED:  7/31/69                              COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

-------------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I----------------I-------------I-----------I-----------I------I
I  7/31/69       I  E     D    I            I            I  R?  I
I 10/22/69       I  E     D    I            I            I  R?  I
I  9/ 3/70       I  E     D    I            I            I  R?  I
I  8/ 6/71       I  E     D    I            I            I  R?  I
I 10/10/71       I  E     D    I            I            I      I
I  3/25/75       I  E     D    I  1.7  D    I            I      I
I  5/20/75       I  E     D    I  1.7       I    5    7  I      I
I 11/ 7/75       I  E     D    I  2.1  D    I    3    7  I      I
I 12/ 1/75       I  E     D    I  2.1  D    I   12    7  I      I
I  1/12/76       I  E     D    I  3.3  D    I   12    7  I      I
I  1/19/76       I  L     D    I  2.4       I   12    7  I      I
I 11/23/76 1114  I  L     D    I  2.4  D    I   12    7  I      I
I  1/21/77 1032  I  L     D    I  3.1  D    I   12    7  I      I
I  9/ 9/77 1012  I  L     D    I  1.6  D    I   12    7  I      I
I  3/13/78 1531  I  L     D    I  1.3  D    I   12    7  I      I
I  7/ 5/78  939  I  L     D    I  1.3  D    I   12    7  I      I
I  7/13/79 1034  I  L     D    I  1.1  D    I   12    7  I      I
```

```
I  8/ 1/79 10 0 I  L     D    I  1.4      I  12   7   I      I
-----------------------------------------------------------------

 MTV                                                                    MTV
*********************************************************************
STATION CODE: MTV  STATION NAME: MOUNTAIN VIEW
LATITUDE:19 DEG N 30.25' LONGITUDE:155 DEG W  3.75' ELEVATION (M): 409
FIRST INSTALLED:  3/ 4/71                                COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

-----------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I-------------I-----------I-----------I------I
I  3/ 4/71       I  E     D    I  6.2  X   I           I  R?  I
I  5/13/75       I  E     D    I  3.2  D   I           I  R?  I
I  5/20/75       I  E     D    I  3.2      I  14   1   I  R?  I
I  3/16/76       I  E     D    I  3.2      I   7   1   I  R?  I
I 11/17/76       I  E     D    I  3.2      I   7   1   I  R?  I
I 11/18/76 16 0  I  E     D    I  7.8  D   I   7   1   I      I
I 12/15/77       I  E     D    I  5.2  D   I   7   1   I      I
I  3/29/79 16 9  I  E     D    I  6.4  D   I   7   1   I      I
I  8/ 1/79 10 0  I  E     D    I  4.8      I   7   1   I      I
-----------------------------------------------------------------

 M12                                                                    M12
*********************************************************************
STATION CODE: M12  STATION NAME: M12
LATITUDE:19 DEG N 23.97' LONGITUDE:155 DEG W 18.45' ELEVATION (M):1116
FIRST INSTALLED:  4/24/73                                COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

-----------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I-------------I-----------I-----------I------I
I  4/24/73       I  E     D    I           I           I      I
I  2/17/74       I  X  ***** STATION TERMINATED  2/17/74 *****I
-----------------------------------------------------------------

 NAE                                                                    NAE
*********************************************************************
STATION CODE: NAE  STATION NAME: NAALEHU
LATITUDE:19 DEG N  3.80' LONGITUDE:155 DEG W 35.20' ELEVATION (M): 205
FIRST INSTALLED:  9/ 3/54                                COMPONENT: E
REMARKS AND OTHER STATION CODES USED:
  NA USED; NAH USED 4/60
-----------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I-------------I-----------I-----------I------I
I  9/ 3/54       I  LO    S   I           I           I      I
I 11/ 0/69       I  X  ***** STATION TERMINATED 11/ 0/69 *****I
-----------------------------------------------------------------

 NAG                                                                    NAG
*********************************************************************
STATION CODE: NAG  STATION NAME: NATIONAL GUARD
LATITUDE:19 DEG N 42.12' LONGITUDE:155 DEG W  1.72' ELEVATION (M):  18
FIRST INSTALLED:  6/14/73                                COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

-----------------------------------------------------------------
```

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
6/14/73		E	D					
3/15/74	1430	X						
5/ 1/74		E	D					
10/ 3/74		E	D	8.5	D			
5/20/75		E	D	8.5		4	3	
2/11/76	1125	E	D	10.2	D	4	3	
1/ 5/78	1314	E	D	11.0	D	4	3	
8/ 1/79	10 0	E	D	8.5		4	3	
11/14/79		E	D	4.5	D	4	3	

NAH NAH

STATION CODE: NAH STATION NAME: NAALEHU
LATITUDE:19 DEG N 3.80' LONGITUDE:155 DEG W 35.20' ELEVATION (M): 205
FIRST INSTALLED: 10/ 0/59 COMPONENT: E,N
REMARKS AND OTHER STATION CODES USED:
SAME AS NAE, NAN

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
10/ 0/59		LO	S					
12/ 0/60		X	***** STATION TERMINATED 12/ 0/60 *****					

NAL NAL

STATION CODE: NAL STATION NAME: NAALEHU
LATITUDE:19 DEG N 3.80' LONGITUDE:155 DEG W 35.20' ELEVATION (M): 205
FIRST INSTALLED: 0/ 0/60 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
0/ 0/60		H1	P					
0/ 0/64		E2	P					
3/29/69		X	***** STATION TERMINATED 3/29/69 *****					

NAN NAN

STATION CODE: NAN STATION NAME: NAALEHU
LATITUDE:19 DEG N 3.80' LONGITUDE:155 DEG W 35.20' ELEVATION (M): 205
FIRST INSTALLED: 9/ 3/54 COMPONENT: N
REMARKS AND OTHER STATION CODES USED:
NA USED; NAH USED 4/60

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
9/ 3/54		LO	S					
11/ 0/60		X	***** STATION TERMINATED 11/ 0/60 *****					

NBY NBY

STATION CODE: NBY STATION NAME: NORTH BAY

LATITUDE:19 DEG N 29.70' LONGITUDE:155 DEG W 34.80' ELEVATION (M):4005
FIRST INSTALLED: 3/12/64 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
FREQUENT FAILURES DUE TO LIGHTNING DAMAGE TO CABLE

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
3/12/64		E3	H					
4/11/70		X	***** STATION TERMINATED 4/11/70 *****					

NOS NOS

****

STATION CODE: NOS STATION NAME: NOSE
LATITUDE:19 DEG N 23.20' LONGITUDE:155 DEG W 18.28' ELEVATION (M):1083
FIRST INSTALLED: 4/17/73 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
4/17/73		E	D					
7/22/73		X	***** STATION TERMINATED 7/22/73 *****					

NPT NPT

****

STATION CODE: NPT STATION NAME: NORTH PIT
LATITUDE:19 DEG N 24.90' LONGITUDE:155 DEG W 17.00' ELEVATION (M):1115
FIRST INSTALLED: 1/ 7/59 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
1/ 7/59	12 0	H2	S					
0/ 0/66		E3	S					
3/27/67		E3	D					
8/30/74		E3	SD	8.4	D			
11/21/74		HS	SD	9.0	D			
5/20/75		HS	SD	9.0		12	1	
3/ 1/76	1136	HS	SD	8.0	D	12	1	R?
5/17/76		HS	SD	8.0		12	1	R
8/17/76	1345	HS	SD	4.4	D	12	1	
12/15/77	1035	HS	SD	5.2	D	12	1	
3/ 1/79	10 0	HS	SD	4.0		12	1	
11/14/79	1410	E4	SD	4.5	D	12	1	
11/14/79	16 3	X						
11/15/79	1530	E4	SD	4.5		12	1	

OBS OBS

****

STATION CODE: OBS STATION NAME: UWEKAHUNA - OBSERVATORY
LATITUDE:19 DEG N 25.40' LONGITUDE:155 DEG W 17.60' ELEVATION (M):1240
FIRST INSTALLED: 12/ 0/59 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
SAME AS UWE; USED OCCAISIONALLY 12/59

DATE OF	SEIS	OPTIC	CALIB	HOW	TAPE	VCO	REV

```
I  CHANGE  TIME I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I-------------I-----------I-----------I------I
I 12/ 0/59      I  H1     P   I           I           I      I
I  1/ 0/60      I  X  ***** STATION TERMINATED  1/ 0/60 *****I
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```

OTL OTL

```
*****************************************************************
STATION CODE: OTL  STATION NAME: OUTLET
LATITUDE:19 DEG N 23.38' LONGITUDE:155 DEG W 16.94' ELEVATION (M):1038
FIRST INSTALLED: 12/ 0/55                              COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
  ORIGINAL VAULT DESTROYED BY FLOW 9/24/71
-----------------------------------------------------------------
I DATE OF       I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I-------------I-----------I-----------I------I
I 12/ 0/55      I  H1     S   I           I           I      I
I  8/ 1/57      I  H2     S   I           I           I      I
I  1/13/60      I  X          I           I           I      I
I  2/ 3/67 11 0 I  H2     S   I           I           I      I
I  3/27/67      I  H2     D   I           I           I      I
I  9/24/71      I  X          I           I           I      I
I  3/ 7/72      I  E      D   I           I           I      I
I  3/29/73 16 0 I  E      D   I           I           I  R   I
I  4/ 3/73 11 0 I  E      D   I           I           I      I
I  8/21/75      I  E      D   I           I  11   3   I  R   I
I  9/ 2/75 10 0 I  E      D   I           I  11   3   I      I
I  3/ 1/76 1025 I  E      D   I  4.8  D   I  11   3   I      I
I  9/ 8/76 10 8 I  E      D   I  5.0  D   I  11   3   I      I
I  9/22/76 1121 I  E      D   I  4.9  D   I  11   3   I      I
I  6/23/77      I  L          I  4.9      I  11   3   I      I
I  9/27/77 1035 I  L      D   I  4.9      I  11   3   I      I
I 10/21/77  830 I  L          I  4.9      I  11   3   I      I
I  9/28/78      I  L      D   I  4.9      I  11   3   I      I
I 12/21/78      I  L          I  4.9      I  11   3   I      I
I 11/21/79 10 0 I  L4         I  4.9      I  11   3   I      I
-----------------------------------------------------------------
```

OTLH OTLH

```
*****************************************************************
STATION CODE:OTLH  STATION NAME: OUTLET
LATITUDE:19 DEG N 23.38' LONGITUDE:155 DEG W 16.94' ELEVATION (M):1038
FIRST INSTALLED:  5/20/75                              COMPONENT: H
REMARKS AND OTHER STATION CODES USED:

-----------------------------------------------------------------
I DATE OF       I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I-------------I-----------I-----------I------I
I  5/20/75      I  E          I           I  11   5   I      I
I 11/21/79 10 0 I  X  ***** STATION TERMINATED 11/21/79 *****I
-----------------------------------------------------------------
```

PAU PAU

```
*****************************************************************
STATION CODE: PAU  STATION NAME: PAUAHI
LATITUDE:19 DEG N 22.62' LONGITUDE:155 DEG W 13.10' ELEVATION (M): 994
FIRST INSTALLED:  3/15/74                              COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

-----------------------------------------------------------------
I DATE OF       I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
```

CHANGE	TIME	TYPE	RECORD	FACT	MEAS	TRAK	FREQ	POL
3/15/74		E	SD	3.8				
11/13/74		E	SD	3.8	D			
5/20/75		E	SD	3.8		7	5	
12/ 1/75		E	SD	3.8		2	5	
11/ 1/76	1034	E	SD	5.4	D	2	5	
1/ 6/77	1115	E	SD	5.3	D	2	5	
6/21/77	1014	E	SD	6.2	D	2	5	
10/15/78	1212	E	SD	4.0	D	2	5	
8/ 1/79	10 0	E	SD	2.8		2	5	

PAUH PAUH

****

STATION CODE:PAUH STATION NAME: PAUAHI

LATITUDE:19 DEG N 22.62' LONGITUDE:155 DEG W 13.10' ELEVATION (M): 994

FIRST INSTALLED: 5/20/75 COMPONENT: H

REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
5/20/75		E				7	2	
12/ 1/75		E				2	2	
11/15/79	9 0	X	***** STATION TERMINATED 11/15/79 *****					

PAX PAX

****

STATION CODE: PAX STATION NAME: PAHOA

LATITUDE:19 DEG N 29.70' LONGITUDE:154 DEG W 56.80' ELEVATION (M): 205

FIRST INSTALLED: 4/24/68 COMPONENT: Z

REMARKS AND OTHER STATION CODES USED:

REPLACED BY PHO

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
4/24/68		E	D					
4/15/70		X	***** STATION TERMINATED 4/15/70 *****					

PEE PEE

****

STATION CODE: PEE STATION NAME: UWEKAHUNA

LATITUDE:19 DEG N 25.40' LONGITUDE:155 DEG W 17.60' ELEVATION (M):1240

FIRST INSTALLED: 10/16/57 COMPONENT: E

REMARKS AND OTHER STATION CODES USED:

PRESS-EWING

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
10/16/57		P	PS					

PEN PEN

****

STATION CODE: PEN STATION NAME: UWEKAHUNA

LATITUDE:19 DEG N 25.40' LONGITUDE:155 DEG W 17.60' ELEVATION (M):1240

FIRST INSTALLED: 10/16/57 COMPONENT: N

REMARKS AND OTHER STATION CODES USED:
PRESS-EWING

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
10/16/57		P	PS					

PEZ PEZ

STATION CODE: PEZ STATION NAME: UWEKAHUNA
LATITUDE:19 DEG N 25.40' LONGITUDE:155 DEG W 17.60' ELEVATION (M):1240
FIRST INSTALLED: 10/16/57 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
PRESS-EWING

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
10/16/57		P	PS					

PHA PHA

STATION CODE: PHA STATION NAME: PAHOA
LATITUDE:19 DEG N 29.70' LONGITUDE:154 DEG W 56.80' ELEVATION (M): 205
FIRST INSTALLED: 4/ 1/54 COMPONENT: E,N
REMARKS AND OTHER STATION CODES USED:
PA USED, PHO USED 7-9/61

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
4/ 1/54		LO	S					
1/ 2/60		H1	P					
4/ 1/69		X	***** STATION TERMINATED 4/ 1/69 *****					

PHH PHH

STATION CODE: PHH STATION NAME: PUU HULUHULU
LATITUDE:19 DEG N 22.50' LONGITUDE:155 DEG W 12.50' ELEVATION (M):1021
FIRST INSTALLED: 7/29/69 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
MOVED FROM TOP OF HILL 6/29/71; MOVED TO PAU 1/74

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
7/29/69		E	D					
6/30/71		E	D					
8/ 0/71		E	DS					
7/ 6/73		E	DS					R
7/24/73		E	DS					
1/25/74		X	***** STATION TERMINATED 1/25/74 *****					

*PHO *PHO

STATION CODE:*PHO STATION NAME: PAHOA
LATITUDE:19 DEG N 29.70' LONGITUDE:154 DEG W 56.80' ELEVATION (M): 205
FIRST INSTALLED: 7/ 0/61 COMPONENT: E,N

REMARKS AND OTHER STATION CODES USED:
PHO CODE SOMETIMES USED FOR PHA BEFORE IT WAS MOVED AND RENAMED

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
7/ 0/61		H1	P					
9/ 0/61		X	***** STATION TERMINATED 9/ 0/61 *****					

PHO PHO

STATION CODE: PHO STATION NAME: PUU HONUALUA
LATITUDE:19 DEG N 28.90' LONGITUDE:154 DEG W 53.40' ELEVATION (M): 215
FIRST INSTALLED: 4/ 4/70 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
REPLACED PAX

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
4/ 4/70		E	D	6.5				
4/ 1/71		E		6.5				
4/ 3/71		E	D	6.5				
10/ 8/74		E	D	4.8	D			
5/20/75		E	D	4.8		4	7	
6/18/75		E	D	3.6	D	4	7	
1/ 6/76		E	D	1.9	D	4	7	
3/31/77	1634	E	D	4.2	D	4	7	
8/ 1/79	10 0	E	D	3.2		4	7	

PLA PLA

STATION CODE: PLA STATION NAME: PUU ULAULA
LATITUDE:19 DEG N 32.00' LONGITUDE:155 DEG W 27.67' ELEVATION (M):2992
FIRST INSTALLED: 6/23/77 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
6/23/77	1225	L	D	6.0	D	3	5	
9/ 7/77	10 5	L	D	7.4	D	3	5	
6/ 7/78	1034	L	D	6.8	D	3	8	
8/ 1/79	10 0	L	D	5.4		3	8	

POL POL

STATION CODE: POL STATION NAME: POLIOKEAWE PALI
LATITUDE:19 DEG N 17.02' LONGITUDE:155 DEG W 13.47' ELEVATION (M): 169
FIRST INSTALLED: 5/23/73 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
5/23/73		E	D	3.0	D			
5/20/75		E	D	3.0		10	3	
12/10/75		E	D	4.8	D	10	3	

```
I 11/23/76 1158 I  E     D    I  4.8  D   I  10   3   I       I
I  3/31/77      I  E     D    I  4.2  D   I  10   3   I       I
I  7/ 5/78 1026 I  E     D    I  2.5  D   I  10   3   I       I
I  6/ 6/79 1257 I  E     D    I  5.2  D   I  10   3   I       I
I  8/ 1/79 10 0 I  E     D    I  3.5      I  10   3   I       I
-----------------------------------------------------------------
```

PPA PPA

```
*****************************************************************
STATION CODE: PPA  STATION NAME: PUU PA
LATITUDE:19 DEG N 59.00' LONGITUDE:155 DEG W 41.50' ELEVATION (M): 750
FIRST INSTALLED:  8/ 5/63                              COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
  RECORDS FURNISHED BY GEOTECH
-----------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I------------I----------I----------I------I
I  8/ 5/63       I  B     H    I          I          I      I
I  9/20/64       I  X  ***** STATION TERMINATED  9/20/64 *****I
-----------------------------------------------------------------
```

*PPL *PPL

```
*****************************************************************
STATION CODE:*PPL  STATION NAME: PUU PA
LATITUDE:19 DEG N 59.00' LONGITUDE:155 DEG W 41.50' ELEVATION (M): 750
FIRST INSTALLED:  8/ 5/63                              COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
  PPL CODE SOMETIMES USED FOR PPA (GEOTECH STATION 8/63-9/64)
-----------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I------------I----------I----------I------I
I  8/ 5/63       I  B     H    I          I          I      I
I  9/20/64       I  X  ***** STATION TERMINATED  9/20/64 *****I
-----------------------------------------------------------------
```

PPL PPL

```
*****************************************************************
STATION CODE: PPL  STATION NAME: PUU PILI
LATITUDE:19 DEG N  9.50' LONGITUDE:155 DEG W 27.87' ELEVATION (M):  35
FIRST INSTALLED:  2/17/71                              COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

-----------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I------------I----------I----------I------I
I  2/17/71       I  E     D    I          I          I      I
I  5/20/75       I  E     D    I  2.2     I   6   3  I      I
I  8/12/75       I  E     D    I  2.2  D  I   6   3  I      I
I 12/ 1/75       I  E     D    I  2.2     I   3   3  I      I
I  5/14/76 1133 I  E     D    I  2.2  D  I   3   3  I      I
I 11/ 3/77 1153 I  E     D    I  2.3  D  I   3   3  I      I
I  3/23/78       I  E     D    I  2.4  D  I   3   3  I      I
I  8/ 1/79 10 0 I  E     D    I  1.7     I   3   3  I      I
-----------------------------------------------------------------
```

PUK PUK

```
*****************************************************************
STATION CODE: PUK  STATION NAME: PUU KAMOAMOA
LATITUDE:19 DEG N 23.00' LONGITUDE:155 DEG W  5.25' ELEVATION (M): 704
FIRST INSTALLED:  3/22/79                              COMPONENT: Z
```

REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
3/22/79		L	D			7	5	

RIM RIM

****

STATION CODE: RIM STATION NAME: RIM

LATITUDE:19 DEG N 23.90' LONGITUDE:155 DEG W 16.60' ELEVATION (M):1128

FIRST INSTALLED: 5/24/73 COMPONENT: Z

REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
5/24/73		E	D					
10/ 2/74		E	D	1.1	D			
5/ 7/75		E	D	7.3	D			
5/20/75		E	D	7.3	D	12	3	
12/ 8/75		E		7.3	D	12	3	
9/27/77	1030	E	D	7.3	D	12	3	
9/30/77	930	E		7.3	D	12	3	
10/ 3/77	850	E		7.3	D	12	3	
11/13/78		E		7.3	D	11	1	
11/21/79	10 0	L4				11	1	

RIMH RIMH

****

STATION CODE:RIMH STATION NAME: RIM

LATITUDE:19 DEG N 23.90' LONGITUDE:155 DEG W 16.60' ELEVATION (M):1128

FIRST INSTALLED: 5/20/75 COMPONENT: H

REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
5/20/75		E				12	5	
11/13/78		E				11	7	
11/20/78		X						
1/23/79		E				11	7	
5/18/79	1416	E		.8	E	11	7	
11/21/79	10 0	X	***** STATION TERMINATED 11/21/79 *****					

SCA SCA

****

STATION CODE: SCA STATION NAME: SUMMIT CABIN

LATITUDE:19 DEG N 28.20' LONGITUDE:155 DEG W 35.08' ELEVATION (M):4048

FIRST INSTALLED: 8/22/74 COMPONENT: Z

REMARKS AND OTHER STATION CODES USED:

MOVED AND RENAMED WIL

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
8/22/74		E	D	17.0	D			

3/ 0/75		E	D	18.8	D						
5/20/75		E	D	18.8			3	4			
5/28/75		E	D	15.0	D		3	4			
10/ 5/75		E	D	9.0	D		3	4			
4/29/76		E	D	9.0			9	4			
8/ 4/76	1414	L	D	10.2	D		9	4			
9/24/76	942	L	D	9.9	D		9	4			
9/24/76	10 0	E	D	11.5	D		9	4			
12/16/76		X	***** STATION TERMINATED 12/16/76 *****								

SHL SHL

STATION CODE: SHL STATION NAME: SANDHILL
LATITUDE:19 DEG N 23.75' LONGITUDE:155 DEG W 17.67' ELEVATION (M):1128
FIRST INSTALLED: 12/28/67 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
SH ALSO USED

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
12/28/67		E3	D$					
1/ 5/68		X	***** STATION TERMINATED 1/ 5/68 *****					

SPT SPT

STATION CODE: SPT STATION NAME: SOUTH POINT
LATITUDE:18 DEG N 58.91' LONGITUDE:155 DEG W 39.92' ELEVATION (M): 244
FIRST INSTALLED: 4/26/71 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
4/26/71		E	D					
8/23/74		E	D	4.8	D			
5/20/75		E	D	4.8		3	5	
6/10/75		E	D	3.6	D	3	5	R
1/22/76		E	D	3.6		3	5	R
4/19/76		E	D	3.6		9	5	R
5/23/77	17 9	E	D	3.6	D	9	5	
1/25/79	827	E	D	3.6		12	5	
8/ 1/79	10 0	E	D	2.7		12	5	

SWR SWR

STATION CODE: SWR STATION NAME: SOUTHWEST RIFT
LATITUDE:19 DEG N 27.26' LONGITUDE:155 DEG W 36.30' ELEVATION (M):4048
FIRST INSTALLED: 8/22/74 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
8/22/74		E	D	11.1	D			
4/27/75		L	D	11.1				
5/20/75		L	D	11.1		3	2	
10/15/75		L	D	2.4	D	3	2	

```
I  4/19/76        I  L      D     I  2.4        I   9   2   I       I
I  7/26/77   836  I  L      D     I  4.7   D    I   9   2   I       I
I  9/27/77  1035  I  L            I  4.7        I   9   2   I       I
I  9/30/77  10 0  I  L      D     I  4.7        I   9   2   I       I
I 10/ 3/77   910  I  L            I  4.7        I   9   2   I       I
I 10/21/77   830  I  L      D     I  4.7        I   9   2   I       I
I  4/27/78   754  I  L      D     I  9.0   D    I   9   2   I       I
I  1/25/79   827  I  L      D     I  9.0        I  12   3   I       I
I  8/ 1/79  10 0  I  L      D     I  6.4        I  12   3   I       I
-------------------------------------------------------------------
```

```
 TAN                                                                TAN
*******************************************************************
STATION CODE: TAN  STATION NAME: TANGERINE
LATITUDE:19 DEG N 27.79' LONGITUDE:154 DEG W 58.51' ELEVATION (M): 351
FIRST INSTALLED: 12/ 2/75                                COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

-------------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I------------I----------I----------I------I
I 12/ 2/75 1857  I  E      SD  I          I   4   2   I      I
I  3/17/76       I  E      SD  I  8.0  D  I   4   2   I      I
I  4/ 7/77       I  X  ***** STATION TERMINATED  4/ 7/77 *****I
-------------------------------------------------------------------
```

```
 USE                                                                USE
*******************************************************************
STATION CODE: USE  STATION NAME: UWEKAHUNA
LATITUDE:19 DEG N 25.40' LONGITUDE:155 DEG W 17.60' ELEVATION (M):1240
FIRST INSTALLED:  6/ 0/52                                COMPONENT: E
REMARKS AND OTHER STATION CODES USED:
  SPE ALSO USED TO LABEL RECORDS; *OPERATED 8 HOURS A DAY, 5 DAYS A WEEK
-------------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I------------I----------I----------I------I
I  6/ 0/52       I  S      P*  I  1.0     I          I      I
I 11/ 1/53       I  X          I          I          I      I
I  7/17/56       I  S      P   I  1.0     I          I      I
-------------------------------------------------------------------
```

```
 USH                                                                USH
*******************************************************************
STATION CODE: USH  STATION NAME: UWEKAHUNA
LATITUDE:19 DEG N 25.40' LONGITUDE:155 DEG W 17.60' ELEVATION (M):1240
FIRST INSTALLED:  2/ 0/70                                COMPONENT: E
REMARKS AND OTHER STATION CODES USED:
  SAME AS USE
-------------------------------------------------------------------
I DATE OF        I SEIS OPTIC  I CALIB HOW I TAPE VCO  I REV  I
I  CHANGE  TIME  I TYPE RECORD I FACT MEAS I TRAK FREQ I POL  I
I---------------I------------I----------I----------I------I
I  2/ 0/70       I  S      P   I  1.0     I          I      I
I 10/ 0/70       I  X  ***** STATION TERMINATED 10/ 0/70 *****I
-------------------------------------------------------------------
```

```
 USN                                                                USN
*******************************************************************
STATION CODE: USN  STATION NAME: UWEKAHUNA
LATITUDE:19 DEG N 25.40' LONGITUDE:155 DEG W 17.60' ELEVATION (M):1240
FIRST INSTALLED:  6/21/56                                COMPONENT: N
```

REMARKS AND OTHER STATION CODES USED:
SPN ALSO USED TO LABEL RECORDS

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
6/21/56		S	P	1.0				
7/17/56		X	***** STATION TERMINATED 7/17/56 *****					

USZ USZ

STATION CODE: USZ STATION NAME: UWEKAHUNA
LATITUDE:19 DEG N 25.40' LONGITUDE:155 DEG W 17.60' ELEVATION (M):1240
FIRST INSTALLED: 3/ 0/51 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
SPZ ALSO USED TO LABEL RECORDS; *OPERATED 8 HOURS A DAY, 5 DAYS A WEEK

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
3/ 0/51		S	P*	1.0				
11/ 1/53		S	P	1.0				

UWE UWE

STATION CODE: UWE STATION NAME: UWEKAHUNA
LATITUDE:19 DEG N 25.40' LONGITUDE:155 DEG W 17.60' ELEVATION (M):1240
FIRST INSTALLED: 0/ 0/48 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
OBS CODE USED 12/59; U, UZ, HVO ALSO USED INTERMITTENTLY

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
0/ 0/48		J	S					
4/10/57		H1	P					
3/27/67		H1	SD					
7/30/69		H1	S					
12/ 1/70		H1	SD					
6/ 1/71		E	SD	.7				
7/ 6/75		X	***** STATION TERMINATED 7/ 6/75 *****					

UWH UWH

STATION CODE: UWH STATION NAME: UWEKAHUNA
LATITUDE:19 DEG N 25.40' LONGITUDE:155 DEG W 17.60' ELEVATION (M):1240
FIRST INSTALLED: 5/31/72 COMPONENT: E
REMARKS AND OTHER STATION CODES USED:
REPLACEMENT FOR VERTICAL EV17

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
5/31/72		E2	PS					

WAO WAO

STATION CODE: WAO STATION NAME: WAIOHINU
LATITUDE:19 DEG N 3.60' LONGITUDE:155 DEG W 36.60' ELEVATION (M): 274

FIRST INSTALLED: 5/ 1/68 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
5/ 1/68		E	D					
9/30/70		X	***** STATION TERMINATED 9/30/70 *****					

WHA WHA

STATION CODE: WHA STATION NAME: WAHAULA
LATITUDE:19 DEG N 19.90' LONGITUDE:155 DEG W 2.92' ELEVATION (M): 29
FIRST INSTALLED: 3/ 2/71 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
3/ 2/71		E	D					
9/ 3/74		E	D	3.7	D			
5/20/75		E	D	3.7		10	1	
12/16/75		E	D	3.7		10	2	
10/27/76	13 9	E	D	2.3	D	10	2	
8/ 1/79	10 0	E	D	1.6		10	2	

WHN WHN

STATION CODE: WHN STATION NAME: WHITNEY VAULT
LATITUDE:19 DEG N 25.90' LONGITUDE:155 DEG W 15.70' ELEVATION (M):1210
FIRST INSTALLED: 8/ 0/12 COMPONENT: E,N
REMARKS AND OTHER STATION CODES USED:
W CODE ALSO USED

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
8/ 0/12		OM	S					
0/ 0/13		BO &OM	S					
2/ 1/63		X	***** STATION TERMINATED 2/ 1/63 *****					

WHZ WHZ

STATION CODE: WHZ STATION NAME: WHITNEY VAULT
LATITUDE:19 DEG N 25.90' LONGITUDE:155 DEG W 15.70' ELEVATION (M):1210
FIRST INSTALLED: 0/ 0/29 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
W CODE ALSO USED

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
0/ 0/29		J	SS					
0/ 0/48		X	***** STATION TERMINATED 0/ 0/48 *****					

WIL WIL

STATION CODE: WIL STATION NAME: WILKES CAMP
LATITUDE:19 DEG N 28.15' LONGITUDE:155 DEG W 35.02' ELEVATION (M):4037
FIRST INSTALLED: 12/15/76 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
REPLACED SCA

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
12/15/76		L	D	5.1	D	9	4	
5/25/77	918	L	D	4.0	D	9	4	
6/ 7/78	1156	L	D	3.7	D	9	4	
1/25/79	827	L	D	3.7		12	4	
3/22/79	1430	L		3.7		12	4	
3/26/79	1145	L	D	3.7		12	4	
8/ 1/79	10 0	L	D	2.6		12	4	

WLG WLG

STATION CODE: WLG STATION NAME: WALDRON LEDGE
LATITUDE:19 DEG N 25.49' LONGITUDE:155 DEG W 15.69' ELEVATION (M):1067
FIRST INSTALLED: 9/30/71 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
9/30/71		E	D					
1/26/72	13 0	E	D					R
9/14/72		E	D					
10/ 2/73	11 0	E	D					R
10/ 9/73	14 0	E	D					
7/25/74		E	D					R
7/29/74		E	D					
8/26/74		E	D	2.2	D			
1/10/75		E	DS	2.2	D			
2/ 7/75		E	DS	2.2	D			R
5/20/75		E	DS	2.2	D	2	6	R
10/10/76		X						
11/ 2/76	1530	E	S	2.2		2	6	R?
4/12/77		E		2.2		2	6	R?
6/22/77		X	***** STATION TERMINATED 6/22/77 *****					

WOO WOO

STATION CODE: WOO STATION NAME: WOOD VALLEY
LATITUDE:19 DEG N 15.08' LONGITUDE:155 DEG W 30.12' ELEVATION (M): 909
FIRST INSTALLED: 3/ 8/79 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
3/ 8/79		E	D	4.6		10	4	
3/18/79		E	D	4.6	D	10	4	

WPT WPT

STATION CODE: WPT STATION NAME: WEST PIT
LATITUDE:19 DEG N 24.70' LONGITUDE:155 DEG W 17.50' ELEVATION (M):1115
FIRST INSTALLED: 10/31/62 COMPONENT: Z
REMARKS AND OTHER STATION CODES USED:
W, WP CODES USED BEFORE 1969

DATE OF CHANGE	TIME	SEIS TYPE	OPTIC RECORD	CALIB FACT	HOW MEAS	TAPE TRAK	VCO FREQ	REV POL
10/31/62		H2	S					
0/ 0/66		E3	S					
3/27/67		E3	DS					
0/ 0/70		HS	DS					
9/24/71		X	***** STATION TERMINATED 71/					

DEVELOCORDER TRACE ASSIGNMENTS

The actual assignments of stations to each Develocorder trace is kept with each spool of microfilm, and is always available. As a supplement, the trace assignments are given in table 4 for selected dates, usually the first day of a quarter. In the table, T refers to the time trace, the output of a crystal chronometer which is a square wave with period 2 second. I-C refers to Irig-C time code, which has two pulses per second and includes day of year and time codes.

CHANNEL ASSIGNMENTS

Year	19-68	68	68	68	68	68	69	69	69	69	70	70	70	70	71	71	71	71
Month	JUL	AUG	SEP	OCT	NOV	DEC	JAN	APR	JUL	OCT	JAN	APR	JUL	OCT	JAN	MAR	APR	APR
Day	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1	15	1	26
Develocorder "A"																		
A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
B	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO
1	MLX	MLX	MLX	MLX	MLX	MLX	MLX	MLX	MLX	MLX	MLX	MLX	MLX	MLX	MLX	MLX	MLX	MLX
2	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU	PPL	PPL	PPL
3	AHN	AHN	AHN	AHN	AHN	AHN	AHN	AHN	AHN	HPU	HPU	HPU	HPU	HPU	HPU	DES	DES	DES
4	OTL	OTL	OTL	OTL	OTL	OTL	OTL	OTL	OTL	OTL	OTL	OTL	OTL	OTL	OTL	CPK	CPK	CPK
5	DES	DES	DES	DES	DES	DES	DES	DES	DES	DES	DES	DES	DES	DES	DES	UWE	UWE	UWE
6	NPT	NPT	NPT	NPT	NPT	NPT	NPT	NPT	NPT	NPT	NPT	NPT	NPT	NPT	NPT	NPT	NPT	NPT
7	WPT	WPT	WPT	WPT	WPT	WPT	WPT	WPT	WPT	WPT	WPT	WPT	WPT	WPT	WPT	WPT	WPT	WPT
8	MPH	MPH	MPH	MPH	MPH	MPH	MPH	ALO	EKO	EKO	EKO	EKO	EKO	EKO	EKO	OTL	OTL	OTL
9	KMO	KMO	KMO	KMO	KMO	KMO	KMO	-	ALO	ALO	ALO	ALO	PHH	PHH	PHH	AHU	AHU	AHU
10	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN	EKO	EKO	EKO
11	HVO	HVO	HVO	HVO	HVO	HVO	HVO	HVO	HVO	MPR	MPR	MPR	MPR	MPR	MPR	KPN	KPN	KPN
12	CPK	CPK	CPK	CPK	CPK	CPK	CPK	CPK	CPK	CPK	CPK	CPK	CPK	CPK	CPK	PHH	PHH	PHH
13	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	GLN	LOS	HLP	HLP	MPR	MPR	MPR
14	WAO	WAO	WAO	WAO	WAO	WAO	WAO	WAO	WAO	WAO	WAO	WAO	WAO	LOS	UWE	PHO	KKU	PHO
15	PAX	PAX	PAX	PAX	PAX	PAX	PAX	PAX	PAX	PAX	PAX	PAX	LAF	LAF	-	HLP	HLP	HLP
16	-	-	-	-	-	-	-	-	-	-	-	PHO	PHO	PHO	PHO	MTV	MTV	MTV
C	-	-	-	T	T	T	T	T	T	KHU	KHU	KHU	KHU	KHU	KHU	WHA	WHA	WHA
D	T	T	T							T	T	T	T	T	T	T	T	T
Develocorder "B"																		
A																		T
B																		MLO
1																		MOK
2																		KHU
3																		SPT
4																		HPU
5																		KKU
6																		-
7																		-
8																		-
9																		-
10																		-
11																		-
12																		T
13																		
14																		
15																		
16																		
C																		
D																		

CHANNEL ASSIGNMENTS

Year	19-71	71	72	72	72	72	73	73	73	73	74	74	74	74	74	75	75	75
Month	JUL	OCT	JAN	APR	JUL	OCT	JAN	APR	JUL	OCT	JAN	APR	JUL	SEP	OCT	JAN	APR	JUL
Day	1	1	1	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1
Develocorder "A"																		
A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
B	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO
1	MLX	MLX	MLX	MLX	MLX	MLX	MLX	MLX	MLX	MLX	MLX	MLX	MLX	MOK	MOK	MOK	MOK	MOK
2	PPL	PPL	PPL	PPL	PPL	PPL	PPL	PPL	PPL	PPL	PPL	PPL	PPL	SCA	SCA	SCA	SCA	SCA
3	DES	DES	DES	DES	DES	DES	DES	DES	DES	DES	DES	DES	DES	SWR	SWR	SWR	SWR	SWR
4	CPK	CPK	CPK	CPK	CPK	CPK	CPK	CPK	CPK	CPK	CPK	CPK	CPK	NPT	NPT	NPT	NPT	NPT
5	UWE	UWE	UWE	UWE	UWE	UWE	UWE	UWE	UWE	UWE	UWE	UWE	UWE	WLG	WLG	WLG	WLG	WLG
6	NPT	NPT	NPT	NPT	NPT	NPT	NPT	NPT	NPT	NPT	NPT	NPT	NPT	OTL	OTL	OTL	OTL	OTL
7	WPT	WLG	WLG	WLG	WLG	WLG	WLG	WLG	WLG	WLG	WLG	WLG	WLG	CPK	CPK	CPK	CPK	CPK
8	OTL	OTL	OTL	OTL	OTL	OTL	OTL	OTL	OTL	OTL	OTL	OTL	OTL	AHU	AHU	AHU	AHU	AHU
9	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU	ESR	ESR	ESR	ESR	ESR
10	EKO	ESR	ESR	ESR	ESR	ESR	ESR	ESR	ESR	ESR	ESR	ESR	ESR	PAU	PAU	PAU	PAU	PAU
11	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN	MPR	MPR	MPR	MPR	MPR
12	PHH	PHH	PHH	PHH	PHH	PHH	PHH	PHH	PHH	PHH	PHH	PAU	PAU	KPN	KPN	KPN	KPN	KPN
13	MPR	MPR	MPR	MPR	MPR	MPR	MPR	MPR	MPR	MPR	MPR	MPR	MPR	HLP	HLP	HLP	HLP	HLP
14	PHO	PHO	PHO	PHO	PHO	PHO	PHO	PHO	PHO	PHO	PHO	PHO	PHO	DES	DES	DES	DES	DES
15	HLP	HLP	HLP	HLP	HLP	HLP	HLP	HLP	HLP	HLP	HLP	HLP	HLP	PPL	PPL	PPL	PPL	PPL
16	MTV	MTV	MTV	MTV	MTV	MTV	MTV	MTV	KAE	KAE	KAE	KAE	KAE	PHO	PHO	PHO	PHO	PHO
C	WHA	WHA	WHA	WHA	WHA	WHA	WHA	WHA	WHA	WHA	WHA	WHA	WHA	CAC	CAC	CAC	CAC	CAC
D	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Develocorder "B"																		
A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
B	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO
1	MOK	MOK	MOK	MOK	MOK	MOK	MOK	MOK	MOK	MOK	MOK	MOK	MOK	MLX	MLX	MLX	MLX	MLX
2	KHU	KHU	KHU	KHU	KHU	KHU	KHU	KHU	KHU	KHU	KHU	KHU	KHU	RIM	RIM	RIM	RIM	RIM
3	SPT	SPT	SPT	SPT	SPT	SPT	SPT	SPT	SPT	SPT	SPT	SPT	SPT	UWE	UWE	UWE	UWE	UWE
4	HPU	HPU	HPU	HPU	HPU	HPU	HPU	HPU	HPU	HPU	HPU	HPU	HPU	POL	POL	POL	POL	POL
5	KKU	KKU	KKU	KKU	KKU	KKU	KKU	KKU	KKU	KKU	KKU	KKU	KKU	KAE	KAE	KAE	KAE	KAE
6	-	KOH	KOH	KOH	KOH	KOH	KOH	KOH	KOH	KOH	KOH	KOH	KOH	WHA	WHA	WHA	WHA	WHA
7	-	HUA	HUA	HUA	HUA	HUA	HUA	HUA	HUA	HUA	HUA	HUA	HUA	MTV	MTV	MTV	MTV	MTV
8	-	KPR	KPR	KPR	KPR	KPR	KPR	KPR	KPR	KPR	KPR	KPR	KPR	AIN	AIN	AIN	AIN	AIN
9	-	-	-	KAA	KAA	KAA	KAA	KAA	KAA	KAA	KAA	KAA	KAA	KPR	KPR	KPR	KPR	KPR
10	-	-	-	-	-	I-C	I-C	I-C	MTV	MTV	MTV	MTV	MTV	KHU	KHU	KHU	KHU	KHU
11	-	-	-	-	-	-	-	-	NOS	CAC	CAC	CAC	CAC	SPT	SPT	SPT	SPT	SPT
12	T	T	T	T	T	T	T	T	M12	M12	M12	-	-	KAA	KAA	KAA	KAA	KAA
13									AIN	AIN	AIN	AIN	AIN	HUA	HUA	HUA	HUA	HUA
14									POL	POL	POL	POL	POL	NAG	NAG	NAG	NAG	NAG
15									RIM	RIM	RIM	RIM	RIM	HPU	HPU	HPU	HPU	HPU
16									NAG	NAG	NAG	-	NAG	KKU	KKU	KKU	KKU	KKU
C									HVOH	HVOH	-	-	-	KOH	KOH	KOH	KOH	KOH
D									T	T	T	T	T	T	T	T	T	T

CHANNEL ASSIGNMENTS

Year 19-	67	67	67	67	67	67	67	67	67	67	67	67	68	68	68	68	68	68
Month	MAR	MAR	MAY	JUN	JUL	AUG	SEP	SEP	OCT	NOV	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
Day	27	30	1	1	2	1	1	21	1	2	8	1	1	1	2	2	1	2
Develocorder "A"																		
A	T	T	T	T	T	T	T	-	-	T	T	T	T	T	T	T	T	T
B	-	-	-	-	-	-	-	-	-	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO
1	MLO	MLO	MLO	MLO	MLO	MLO	MLO	T	T	MLX	MLX	MLX	MLX	MLX	MLX	MLX	MLX	MLX
2	MLX	MLX	MLX	MLX	MLX	MLX	MLX	-	-	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU
3	AHU	AHU	AHU	AHU	AHU	AHU	AHU	MLO	MLO	AHN	AHN	AHN	AHN	AHN	AHN	AHN	AHN	AHN
4	NPT	OTL	OTL	OTL	OTL	OTL	OTL	MLX	MLX	OTL	OTL	OTL	OTL	OTL	OTL	OTL	OTL	OTL
5	DES	DES	DES	DES	DES	DES	DES	AHU	AHU	DES	DES	DES	DES	DES	DES	DES	DES	DES
6	WPT	NPT	NPT	NPT	NPT	NPT	NPT	OTL	OTL	NPT	NPT	NPT	NPT	NPT	NPT	NPT	NPT	NPT
7	-	WPT	WPT	WPT	WPT	WPT	WPT	DES	DES	WPT	WPT	WPT	WPT	WPT	WPT	WPT	WPT	WPT
8	MPH	MPH	MPH	MPH	MPH	MPH	MPH	NPT	NPT	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH	MPH
9	KMO	KMO	KMO	KMO	KMO	KMO	KMO	WPT	WPT	KMO	KMO	KMO	KMO	KMO	KMO	KMO	KMO	KMO
10	-	-	HVO	HVO	HVO	HVO	HVO	MPH	MPH	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN
11	-	-	AHN	AHN	AHN	AHN	AHN	KMO	KMO	HVO	HVO	HVO	CPK	HVO	HVO	HVO	HVO	HVO
12	-	-	-	-	-	-	-	HVO	HVO	-	CPK	CPK	SHL	CPK	CPK	CPK	CPK	CPK
13	T	T	T	T	T	T	T	AHN	AHN	-	-	-	-	-	-	-	-	GLN
14								KPN	KPN	-	-	-	-	-	-	-	WAO	WAO
15								T	T	-	-	-	-	-	-	-	PAX	PAX
16									-	-	-	-	UWE	-	-	-	-	-
C									-	-	-	-	-	-	-	-	-	-
D										T	T	T	T	T	T	T	T	T
Develocorder "B"																		
A																		
B																		
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
C																		
D																		

CHANNEL ASSIGNMENTS

	Year	19-75	76	76	76	76	77	77	77	77	78	78	78	78	79	79	79
	Month	OCT	JAN	APR	JUN	OCT	JAN	APR	JUL	OCT	JAN	APR	JUL	OCT	JAN	APR	JUN
	Day	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Develocorder "A"	A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	I-C
	B	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO	MLO
	1	MOK	MOK	MOK	MOK	MOK	MOK	MOK	MOK	MOK	MOK	MOK	MOK	MOK	MOK	MOK	MOK
	2	SCA	SCA	SCA	SCA	SCA	WIL	WIL	WIL	WIL	WIL	WIL	WIL	WIL	WIL	WIL	WIL
	3	SWR	SWR	SWR	SWR	SWR	SWR	SWR	SWR	SWR	SWR	SWR	SWR	SWR	SWR	SWR	SWR
	4	NPT	NPT	NPT	NPT	NPT	NPT	NPT	PLA	PLA	PLA	PLA	PLA	PLA	PLA	PLA	PLA
	5	WLG	TAN	TAN	TAN	TAN	TAN	TAN	NPT	NPT	NPT	NPT	NPT	NPT	NPT	NPT	NPT
	6	OTL	OTL	OTL	OTL	OTL	OTL	OTL	HUL	HUL	HUL	HUL	HUL	HUL	HUL	HUL	HUL
	7	CPK	CPK	CPK	CPK	CPK	CPK	CPK	CPK	CPK	CPK	CPK	CPK	CPK	CPK	PUK	PUK
	8	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU	AHU
	9	ESR	ESR	ESR	ESR	ESR	ESR	ESR	ESR	ESR	ESR	ESR	ESR	ESR	ESR	ESR	ESR
	10	PAU	PAU	PAU	PAU	PAU	PAU	PAU	PAU	PAU	PAU	PAU	PAU	PAU	PAU	PAU	PAU
	11	MPR	MPR	MPR	MPR	MPR	MPR	MPR	MPR	MPR	MPR	MPR	MPR	MPR	MPR	MPR	MPR
	12	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN	KPN
	13	HLP	HLP	HLP	HLP	HLP	HLP	HLP	HLP	HLP	HLP	HLP	HLP	HLP	HLP	HLP	HLP
	14	DES	DES	DES	DES	DES	DES	DES	DES	DES	DES	DES	DES	DES	DES	DES	DES
	15	PPL	PPL	PPL	PPL	PPL	PPL	PPL	PPL	PPL	PPL	PPL	PPL	PPL	PPL	PPL	PPL
	16	PHO	PHO	PHO	PHO	PHO	PHO	PHO	PHO	PHO	PHO	PHO	PHO	PHO	PHO	PHO	PHO
	C	CAC	CAC	CAC	CAC	CAC	CAC	CAC	CAC	CAC	CAC	CAC	CAC	CAC	CAC	CAC	CAC
	D	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	I-C
Develocorder "B"	A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	I-C
	B	MLO	MLO	MLO	DAN	DAN	DAN	DAN	DAN	DAN	DAN	DAN	DAN	DAN	DAN	DAN	DAN
	1	RIM	LUA	LUA	LUA	LUA	LUA	LUA	LUA	LUA	LUA	LUA	LUA	LUA	LUA	LUA	LUA
	2	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS
	3	KII	KII	KII	KII	KII	KII	KII	KII	KII	KII	KII	KII	KII	KII	KII	KII
	4	POL	POL	POL	POL	POL	POL	POL	POL	POL	POL	POL	POL	POL	POL	POL	POL
	5	KAE	KAE	KAE	KAE	KAE	KAE	KAE	KAE	KAE	KAE	KAE	KAE	KAE	KAE	KAE	KAE
	6	WHA	WHA	WHA	WHA	WHA	WHA	WHA	WHA	WHA	WHA	WHA	WHA	WHA	WHA	WHA	WHA
	7	MTV	MTV	MTV	MTV	MTV	MTV	MTV	MTV	MTV	MTV	MTV	MTV	MTV	MTV	MTV	MTV
	8	AIN	AIN	AIN	AIN	AIN	AIN	AIN	AIN	AIN	AIN	AIN	AIN	AIN	AIN	AIN	AIN
	9	KPR	KPR	KPR	KPR	KPR	KPR	KPR	KPR	KLU	KLU	KLU	KLU	OTL	KLU	KLU	KLU
	10	KHU	KHU	KHU	KHU	KHU	KHU	KHU	KHU	KHU	KHU	KHU	KHU	KHU	KHU	KHU	KHU
	11	SPT	SPT	SPT	SPT	SPT	SPT	SPT	SPT	SPT	SPT	SPT	SPT	SPT	SPT	SPT	SPT
	12	KAA	KAA	KAA	KAA	KAA	KAA	KAA	KAA	KAA	KAA	KAA	KAA	KAA	KAA	KAA	KAA
	13	HUA	HUA	HUA	HUA	HUA	HUA	HUA	HUA	HUA	HUA	HUA	HUA	HUA	HUA	HUA	HUA
	14	NAG	NAG	NAG	NAG	NAG	NAG	NAG	NAG	NAG	NAG	NAG	NAG	NAG	NAG	NAG	NAG
	15	HSSH	HPU	HPU	HPU	HPU	HPU	HPU	HPU	HPU	HPU	HPU	HPU	HPU	HPU	HPU	HPU
	16	KKU	KKU	KKU	KKU	KKU	KKU	KKU	KKU	KKU	KKU	KKU	KKU	KKU	KKU	KKU	KKU
	C	KOH	KOH	KOH	KOH	KOH	KOH	KOH	KOH	KOH	KOH	KOH	KOH	KOH	KOH	KOH	KOH
	D	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	I-C