Data Report No. 98-004

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1995 Hawaii Site Response Experiment

Three IRIS PASSCAL seismic instruments (6-channel RefTeks) were deployed at existing USGS strong motion sites in Hawaii (Figure 1), from mid-August to late November 1995. The goal was to obtain weak-motion recordings to use for site response studies. Sensors used were USGS 1 Hz L-4's (3-component). For purposes of converting input voltage to ground motion, the sensitivity of the L-4 is 166.54 v/m/s and it is a critically damped 1 Hz geophone. The instruments were deployed indoors, and were powered by 12-volt car batteries with trickle chargers attached. This report documents the triggered data recorded on the stations.

Data Collection

Data were recorded in triggered mode for all stations. Table 1 presents the station coordinates and Table 2 documents the station installation and removal history. Table 3 contains the parameter settings used for the instruments. A preliminary HVO event list is shown in Table 4 for events above M 2.5.

The data have been assembled in the form of SEGY day volumes (Stream 1 for triggered data). Ratefiles (as well as log and error files) are provided for determining clock corrections; they have not been incorporated into the SEGY data.

Known Problems

One site (USDA) was down for 17 days at the end of the deployment period due to a filled disk.

Tapes Provided

The data archive includes one tape with miscellaneous information (log and error files, event catalogs and processing scripts) and a set of day-volume tapes (compilation of all triggered data; 2 tapes, about 2 Gbytes).

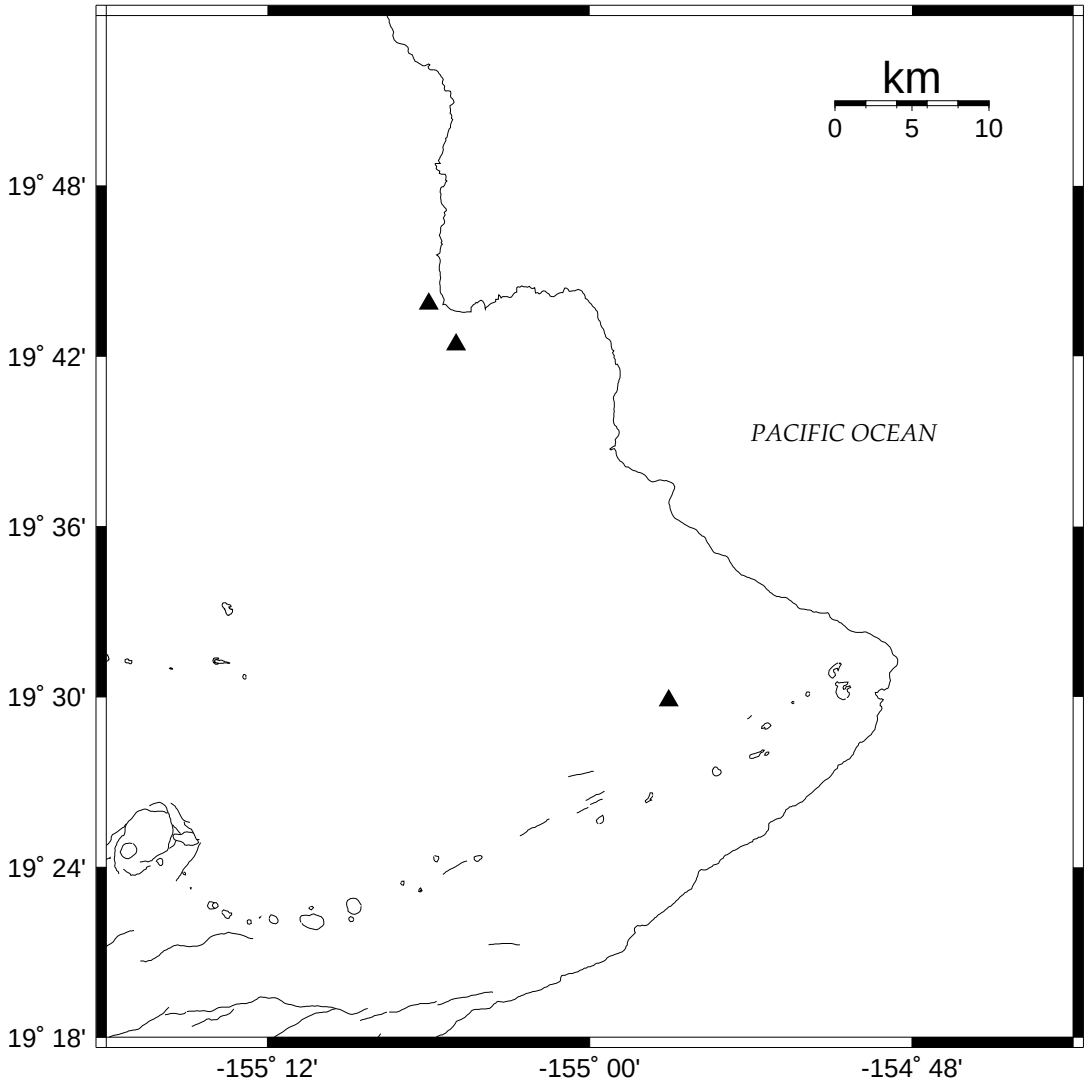

Figure 1. Location map for the Hawaii site response deployment.

Table 1. Hawaii Site Locations (source: USGS site information - elevation not provided)

STA #	NAME	LAT	LON
1	UHH2	19.7070	-155.0830
2	PAF	19.4980	-154.9510
3	HIL5	19.7310	-155.1000

Table 2. Station equipment and history

#	SIN	DAS#	DAY STRT	DAY END
1	UHH2	0373	224	310
2	PAF	0363	226	310
3	HIL5	0369	224	293

Table 3. Parameter information

Menu	Sub Menu	Setting
Channel	select ch	1-3
Channel	preamp	32
Stream	No.	1
Stream	name	E250SP e
Stream	Chan No.	1-3
Stream	Samp rate	250
Stream	Data Form	CO
Stream	Trig type	EVT
EVT (only)	TRIG CHLS	1
EVT (only)	Pretr Len	15
EVT (only)	Record Len	60
EVT (only)	STA Len	0.2
EVT (only)	LTA Len	20
EVT (only)	Trig Ratio	5

Table 4. HVO event list for M ≥ 2.5, with time given in local time (HST)

CUSP-ID	YEAR	MON	DA	HRMN	SEC	LATITUDE	LONGITUDE	DEPTH	NPH	RMS	Q	MT	MAG
1074436	1995	AUG	8	2133	48.84	20 6.80	−155 45.38	−27.04	71	0.19	B	MD	2.6
1074530	1995	AUG	9	2102	16.70	19 19.33	−155 13.23	−7.65	71	0.14	A	MD	2.8
1075899	1995	AUG	21	152	37.25	19 21.74	−155 4.82	−7.84	61	0.13	A	MD	2.6
1076410	1995	AUG	24	1923	8.76	19 23.04	−155 14.35	−3.01	65	0.14	A	MD	2.6
1076857	1995	AUG	28	753	8.49	19 20.74	−155 11.90	−6.45	56	0.14	A	MD	2.7
1077270	1995	SEP	2	642	48.39	19 23.25	−155 14.58	−2.51	59	0.18	A	MD	2.7
1077996	1995	SEP	6	2245	33.73	19 23.47	−155 16.60	−2.69	61	0.16	A	MD	2.8
1078478	1995	SEP	9	243	58.84	19 11.74	−155 29.43	−34.24	70	0.17	A	MD	2.6
1079625	1995	SEP	17	1020	35.41	19 21.91	−155 4.92	−7.63	49	0.13	A	MD	2.8
1080737	1995	SEP	25	2213	25.82	19 7.83	−155 32.65	−13.07	16	0.10	B	MD	2.7
1081484	1995	SEP	30	1828	20.85	19 19.66	−155 3.41	−0.56	12	0.08	A	MD	2.7
1081756	1995	OCT	2	1541	38.43	19 36.24	−156 26.22	−50.95	70	0.15	C	MD	2.7
1083740	1995	OCT	12	1456	40.09	19 20.29	−155 6.95	−5.00	67	0.14	A	MD	2.6
1085116	1995	OCT	24	952	48.93	18 49.82	−156 32.79	−2.00	26	0.15	D	MD	2.5
1085315	1995	OCT	26	1159	48.86	19 0.44	−155 34.76	−0.46	311.76	A	MD	2.6
1086392	1995	NOV	2	1113	45.04	19 23.18	−155 14.47	−2.58	43	0.14	A	MD	2.5
1086899	1995	NOV	7	1724	0.90	19 48.76	−156 48.75	−30.00	32	0.09	D	MD	3.0
1087879	1995	NOV	15	634	38.38	19 26.20	−155 28.35	−11.81	13	0.10	B	MD	2.7
1087995	1995	NOV	16	803	58.31	19 29.71	−155 28.78	−3.19	7	0.18	A	MD	2.7
1088963	1995	NOV	25	529	1.02	19 21.15	−155 17.04	−1.79	40	0.08	A	MD	3.2
1089212	1995	NOV	25	529	11.78	19 20.80	−155 17.17	−2.69	37	0.07	A	MD	2.8
1088971	1995	NOV	25	600	11.66	19 20.84	−155 17.33	−2.39	39	0.11	A	MD	2.5
1089380	1995	NOV	28	1931	10.78	19 20.62	−155 7.02	−5.00	63	0.13	A	MD	2.8
1089514	1995	NOV	30	1134	51.90	19 20.60	−155 8.29	−5.98	12	0.11	A	MD	2.6