

# AASR

## Anchorage Alaska Site Response Experiment

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**PASSCAL Data Report 00-005**



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## Experiment Information Form

Experiment Name: Determination of Site Response in Anchorage, Alaska

PI: Niren N. Biswas

Date of Start of Field Work: July 15, 1994

End Date of Field Work: October 10, 1994

### Short Description of Experiment:

The investigation of site response constituted an important task for the seismic hazard assessment for Anchorage, Alaska. In order to achieve this goal, we deployed a 19 station IRIS-PASSCAL short-period (4.5 Hz) 3-component stations for three months in Anchorage. During this period, we recorded with good signal-to-noise ratio the data for 15 local earthquakes to determine site response for the above area.

Number of Stations: 19

Station Locations (latitude, longitude)  
(Coordinates of line for refraction surveys)

See Table 1

Recording Parameters: Time series for local earthquakes

Approximate Amount of Data: 100 MB

Known Problems in the Data: None

Expected Date of Submission to DMC: N/A

Format Data will be in?: SAC format

Note for broadband experiments:

Would you be willing to assist the DMS if they want to put your data into SEED format? **No** - Not familiar with SEED format

Station locations for the 1994 IRIS-PASSCAL experiment in Anchorage

No.	Station No.	Station Site	Longitude (W)	Latitude (N)	Elevation (m)
1	7090	Elmendorf Air Force Base-USGS	149°46.10'	61°14.07'	61.3
2	7063	Elmendorf Air Force Base - GI	149°52.09'	61°14.07'	44
3	7359	Fire Station No. 3	149°49.35'	61°12.79'	35
4	7044	Fire Station No. 6	149°44.74'	61°12.57'	78
5	7361	Scenic Park High School	149°44.64'	61°11.13'	96
6	7060	Alaska Pacific University	149°48.20'	61°11.38'	60
7	7345	Municipality of Anchorage Dept of P.W	149°48.69'	61°10.80'	60
8	7331	Fire Station No. 5	149°55.30'	61°11.20'	25
9	7360	Weather Station (NOAA)	150°00.67'	61°10.39'	30
10	7324	Fire Station No. 7	149°57.11'	61°08.86'	30
11	7072	Fire Station Head Quarter	149°51.39'	61°08.89'	35
12	7335	Bureau of Land Management	149°47.49'	61°09.42'	70
13	7098	South Anchorage Baptist Church	149°55.08'	61°07.83'	15
14	7070	Fire Station No. 9	149°51.37'	61°06.52'	45
15	7365	Fire Station No. 8	149°45.92'	61°07.44'	140
16	7363	Fire Station No. 10	149°45.00'	61°05.20'	280
17	7109	Federal Common. Commission	150°00.13'	61°09.64'	35
18	7097	School District Warehouse	149°55.11'	61°10.60'	27
19	7092	Radio Station	149°49.99'	61°08.23'	65

Catalog of earthquakes, recorded during the 1994 IRIS-PASSCAL experiment in Anchorage

No.	Date yr:mo:dy	Julian Date	Origin time hr:min:sec	Lat (°N)	Long. (°W)	Depth (Km)	Mag (ML)
1	94:08:23	235	14:33:52.83	59.06	152.40	87.72	4.7
2	94:08:23	235(II)	15:09:44.37	61.90	150.31	00.00 (?)	3.0
3	94:08:25	237	02:56:25.14	59.98	152.59	81.76	4.3
4	94:08:30	242	05:56:03.99	61.53	149.85	44.15	3.4
5	94:08:31	243	19:26:08.38	62.81	150.81	90.28	3.0
6	94:09:01	244	21:38:55.34	61.91	149.82	06.39	3.1
7	94:09:03	246	06:56:14.75	62.46	151.14	89.74	3.1
8	94:09:03	246(II)	22:59:35.61	60.07	152.84	89.73	3.0
9	94:09:05	248	17:23:56.55	63.25	150.52	130.38	3.2
10	94:09:07	250	18:40:52.63	62.75	150.69	102.84	4.1
11	94:09:08	251	23:06:06.20	60.78	151.68	70.66	3.4
12	94:09:19	262	12:41:28.37	62.73	149.00	63.06	3.1
13	94:09:21	264	10:18:16.38	60.29	152.05	64.90	3.5
14	94:09:23	266	16:16:56.10	61.40	147.13	13.45	3.7
15	94:09:24	267	03:32:33.37	60.31	152.05	64.90	3.1

## Experiment Information Form

Experiment Name: Determination of Site Response in Anchorage, Alaska

PI: Niren N. Biswas

Date of Start of Field Work: June 1, 1996

End Date of Field Work: December 10, 1996

Short Description of Experiment:

The investigation of site response constituted an important task for the seismic hazard assessment for Anchorage, Alaska. In order to achieve this goal we deployed a 19-station network in the above area for three months in 1994 using IRIS-PASSCAL short period equipment. The data recorded was not adequate to obtain site response with reasonable uncertainties. We, therefore, repeated the measurement during 1996 and collected adequate amount of data to achieve the goal.

Number of Stations: 22

Station Locations (latitude, longitude)  
(Coordinates of line for refraction surveys)

See Table A1

Recording Parameters: Time series for local earthquakes

Approximate Amount of Data: 300 MB

Known Problems in the Data: None

Expected Date of Submission to DMC: N/A

Format Data will be in?: SAC format

Note for broadband experiments:

Would you be willing to assist the DMS if they want to put your data into SEED format? **No** - Not familiar with SEED format

Station locations for the 1996 IRIS-PASSCAL experiment in Anchorage

Station Code	Longitude ( $^{\circ}$ W)	Latitude ( $^{\circ}$ N)
An01	149.687	61.098
An02	149.807	61.075
An03	149.820	61.114
An04	149.862	61.110
An05	149.794	61.156
An06	150.052	61.155
An07	149.933	61.127
An08	149.987	61.157
An09	149.929	61.153
An10	150.015	61.189
An11	149.875	61.186
An12	149.824	61.191
An13	149.720	61.181
An14	149.909	61.210
An15	149.870	61.235
An16	149.818	61.249
An17	149.725	61.223
An18	149.787	61.206
An19	149.846	61.174
An20	149.849	61.217
An21	149.938	61.186
An22	149.890	61.137

## Catalog of earthquakes, recorded during the 1996 IRIS-PASSCAL experiment in Anchorage

#	Date	Time	Long.	Lat.	Depth (km)	ML
1	07/22/1996	13:23:51.6	60.9645	-151.519	70.7	2.7
2	07/24/1996	16:47:16.2	61.4918	-150.6767	57.8	4.3
3	07/25/1996	15:11:30.6	61.3482	-150.7283	36.2	3.2
4	07/25/1996	15:58:48.9	60.903	-151.5482	72.1	3.3
5	07/25/1996	20:54:38.6	61.3375	-150.6865	41.4	3.8
6	07/26/1996	18:02:29.0	60.7713	-147.2715	15.4	3
7	07/27/1996	08:48:01.7	61.7432	-151.6858	92.9	3.7
8	07/27/1996	11:17:57.3	61.4545	-149.9963	35.7	3.5
9	07/27/1996	19:33:01.0	61.0148	-150.141	34	2.8
10	07/28/1996	10:35:00.6	62.7353	-150.8002	102.1	2.8
11	07/28/1996	18:38:19.3	60.6512	-151.6292	65	3.3
12	07/28/1996	23:07:29.7	61.7923	-150.6453	45.6	3.2
13	07/29/1996	04:58:39.6	59.7752	-153.4762	127.4	3.7
14	07/29/1996	08:23:08.7	61.1378	-150.276	22.2	1.5
15	07/30/1996	06:50:21.0	61.5138	-147.8742	31.4	2.6
16	07/30/1996	13:05:43.2	62.4042	-151.3922	86.7	3
17	08/02/1996	05:38:15.5	60.9725	-149.6878	37.7	3
18	08/04/1996	19:10:32.2	62.4895	-151.2175	93.7	3.5
19	08/07/1996	01:30:47.2	62.0398	-151.3452	80.8	3.3
20	08/09/1996	21:54:32.8	61.7433	-150.369	45.4	3.1
21	08/10/1996	12:10:25.3	60.4912	-148.7247	25.7	2.4
22	08/12/1996	09:56:51.3	59.224	-151.9947	56.2	3.4
23	08/13/1996	15:58:16.3	59.7703	-153.6328	121.9	3.8
24	08/14/1996	07:28:46.4	59.747	-152.8648	86.7	4
25	08/15/1996	13:23:39.8	61.6968	-150.3305	47	2.5
26	08/18/1996	10:54:36.5	61.2847	-151.1472	54.9	2.6
27	08/18/1996	19:52:24.0	61.9728	-150.998	61.8	3.2
28	08/19/1996	14:00:09.1	60.612	-148.4808	30.3	3.6
29	08/20/1996	04:46:14.5	60.0213	-153.5082	135.9	3.7
30	08/23/1996	11:59:30.8	59.6745	-151.9977	68.4	2.2
31	08/23/1996	19:53:47.5	61.8188	-151.8782	104.1	3.3
32	08/24/1996	10:07:57.5	59.3278	-151.7038	50.5	3.5
33	08/27/1996	21:25:59.1	61.5015	-146.3783	26.4	3.7
34	08/28/1996	00:03:02.5	59.9862	-153.013	124.3	3.6
35	08/28/1996	01:12:56.7	62.911	-149.3797	86.9	4.1
36	08/29/1996	11:56:00.8	61.548	-150.0112	38.6	2.5
37	09/01/1996	06:02:19.7	60.9023	-149.0948	33	2.8
38	09/01/1996	06:07:23.6	61.9325	-149.5707	38.9	3
39	09/01/1996	18:30:11.1	61.2437	-148.5975	34.3	3.3
40	09/03/1996	10:01:58.5	60.7148	-150.2858	41.6	2.3
41	09/07/1996	12:13:29.2	61.092	-151.0552	51.3	2.5
42	09/10/1996	19:53:49.5	60.0262	-153.0267	108.8	3.5
43	09/11/1996	14:11:00.2	61.6313	-150.005	31.6	2.8
44	09/12/1996	06:19:42.9	60.424	-147.7495	11.8	3
45	09/12/1996	22:57:24.3	61.7497	-151.6247	80.6	3
46	09/17/1996	05:32:48.9	61.7858	-151.857	107.2	3.3
47	09/18/1996	06:00:05.9	61.6262	-149.8472	44.1	2.4
48	09/18/1996	10:49:36.5	61.7257	-150.8788	55.2	2.5
49	09/20/1996	12:24:31.2	61.7572	-150.0473	41.4	2.1
50	09/22/1996	17:57:31.1	60.3918	-153.3182	141.4	3.3
51	09/23/1996	15:55:25.0	60.0582	-152.6525	107.8	3.6
52	09/24/1996	00:30:50.4	62.35	-152.7338	157.7	3.8
53	09/27/1996	13:40:51.5	61.434	-149.9158	35.6	2.3
54	09/28/1996	07:21:29.4	60.3568	-150.762	34.3	3
55	10/01/1996	10:07:19.5	60.0873	-152.6283	97.1	3.1

56	10/05/1996	11:56:38.5	61.4195	-150.7767	57.7	2
57	10/06/1996	05:34:39.6	61.364	-147.647	35.1	2.2
58	10/06/1996	07:58:06.0	61.6303	-146.4383	30.9	2.7
59	10/07/1996	07:58:13.2	60.9668	-150.9043	44.7	2.7
60	10/09/1996	16:14:06.1	62.2008	-149.9665	57.4	3.2
61	10/12/1996	05:45:58.2	61.6782	-150.8197	58.1	3
62	10/16/1996	06:36:14.4	62.9637	-149.8403	88.9	4
63	10/16/1996	12:54:09.3	60.8003	-149.7985	34.3	3.6
64	10/17/1996	15:38:20.9	60.1132	-152.9525	117	5.3
65	10/17/1996	17:01:58.5	60.1255	-152.9155	116.9	4.9
66	10/18/1996	23:49:13.5	61.6108	-146.3785	39.8	4.6
67	10/20/1996	13:27:05.0	62.1568	-151.1898	77.3	2.9
68	10/21/1996	02:27:07.3	61.389	-151.5047	80.3	3.1
69	10/21/1996	16:42:18.5	61.3698	-149.949	41.3	2.6
70	10/22/1996	22:15:02.5	63.347	-145.3588	3.9	5.5
71	10/23/1996	21:27:42.2	60.9658	-150.941	15	2.5
72	10/24/1996	16:15:07.1	61.5977	-150.0083	38.1	2.7
73	10/26/1996	12:55:16.3	61.3918	-151.7178	92.3	2.8
74	10/27/1996	17:11:02.7	61.39	-151.52	87.2	2.6
75	10/28/1996	03:19:08.6	61.716	-150.7938	50.8	3.8
76	10/28/1996	11:59:16.0	61.0033	-152.1572	111.7	3.3
77	10/29/1996	04:37:13.2	63.0578	-149.975	103.7	3.5
78	10/30/1996	21:18:48.3	61.7513	-150.9812	64.3	3
79	11/01/1996	19:07:27.0	60.9052	-150.4542	10	2
80	11/03/1996	06:16:06.5	60.2943	-151.1287	42.6	3.8
81	11/03/1996	21:22:42.6	60.013	-153.5535	150.8	4.3
82	11/04/1996	11:11:23.4	61.4883	-150.0102	37.9	2.2
83	11/05/1996	02:10:44.1	61.1063	-150.2952	44.6	2.3
84	11/06/1996	18:06:58.5	60.9998	-150.085	35.2	3
85	11/06/1996	20:37:02.1	61.2585	-150.6947	47.2	3.4
86	11/06/1996	21:03:53.0	61.2545	-150.6958	47	2.5
87	11/07/1996	19:40:11.7	61.2243	-149.7145	39.5	2.5
88	11/07/1996	20:06:40.0	61.0798	-149.8485	34.2	2.6
89	11/08/1996	17:51:07.1	59.9938	-152.826	111.9	4.4
90	11/11/1996	10:52:16.6	61.8225	-148.8522	17.5	4.6
91	11/12/1996	09:14:25.6	61.715	-151.6407	92	3
92	11/17/1996	14:02:47.2	59.1582	-152.4995	81.3	4.2
93	11/18/1996	00:04:51.0	59.912	-151.0842	40.9	3.8
94	11/18/1996	05:12:17.8	60.7758	-147.2972	28.1	3.3
95	11/19/1996	11:17:47.9	60.0278	-153.0993	113.9	3.5
96	11/21/1996	14:01:26.7	61.2975	-150.4387	36.5	2.6
97	11/23/1996	02:03:43.8	61.0007	-149.6188	32.8	2.2
98	11/23/1996	03:28:19.4	61.044	-150.9037	13	2.7
99	11/23/1996	09:34:18.1	61.2885	-150.6772	47	2.2
100	11/24/1996	05:52:37.3	60.3407	-152.1937	72.6	2.9
101	11/25/1996	13:53:17.9	61.603	-149.7008	38	3.2
102	11/25/1996	14:21:27.3	61.5983	-149.7118	34.6	2.7
103	11/27/1996	19:57:45.0	60.901	-149.2517	30.7	2.9
104	11/28/1996	13:19:15.9	61.0042	-150.7052	0.2	2.6
105	12/01/1996	01:59:59.0	58.6918	-155.188	135.3	4.3
106	12/01/1996	07:26:20.8	59.8638	-153.0848	106.1	2.9
107	12/01/1996	12:16:54.3	61.448	-150.7118	66.4	3.7
108	12/02/1996	00:00:44.1	61.0842	-150.076	43.9	2.3
109	12/04/1996	09:11:47.8	60.2292	-153.3303	144.4	3.8
110	12/05/1996	15:38:57.4	60.5537	-152.0533	95.3	3.5
111	12/05/1996	21:21:09.9	60.1598	-152.3577	87.9	3.4
112	12/08/1996	01:35:12.1	61.651	-149.9772	34.5	2.4
113	12/08/1996	11:21:49.3	61.2887	-149.973	38.3	2.4
114	12/08/1996	23:23:41.3	59.8423	-153.2842	123.9	3.9