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GEOLOGICAL SURVEY

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

OCTOBER-DECEMBER 1979

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Menlo Park, California

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CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA
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INTRODUCTION

The National Center for Earthquake Research of the U.S. Geological Survey (USGS) began a program of telemetered seismic recording in south-central Alaska in 1971. The principal objectives of this program have been to use data recorded by this network to precisely locate earthquakes in the active seismic zones of southern Alaska, delineate seismically active faults, assess seismic risk, document potential premonitory earthquake phenomena, investigate current tectonic deformation, and study the structure and physical properties of the crust and upper mantle. A task fundamental to all of these goals is the routine cataloging of earthquake parameters for earthquakes located within and adjacent to the seismograph network.

The initial network of 10 stations, 7 around Cook Inlet and 3 near Valdez, was installed in 1971. Each summer since then additions or modifications to the network have been made. By the Fall of 1973, 26 stations extended from western Cook Inlet to eastern Prince William Sound, and 4 stations were located between Cordova and Yakutat. A year later 20 additional stations were installed. Thirteen of these were placed along the eastern Gulf of Alaska with support from the National Oceanic and Atmospheric Administration (NOAA) under the Outer Continental Shelf Environmental Program to investigate the seismicity of the outer continental shelf, a region of interest for oil exploration. During the subsequent years the region covered by the network has remained relatively fixed while effort has been made to improve the instrumentation and installation of the stations in order to make them more reliable.

The locations of the stations of the USGS seismograph network are plotted in Figure 1 and listed in Table 1 along with the additional stations from which readings were obtained. Each USGS station has a single, vertical-component seismometer. The stations GLB, PNL, RDT, SKN, and VLZ also have north-south- and east-west-oriented horizontal seismometers.

This earthquake catalog presents origin times, focal coordinates and magnitudes for 1330 shocks occurring in the fourth quarter of 1979. Readings from a total of 68 stations were used to locate the shocks, including 10 stations operated by the NOAA Alaska Tsunami Warning Center (formerly Palmer Observatory), 4 stations operated by the Geophysical Institute of the University of Alaska (U. of A.), and 5 stations operated in southwest Yukon Territory by the Department of Energy, Mines and Resources, Canada.

Earthquakes in south-central Alaska as small as magnitude 3.0 have been routinely located by the National Earthquake Information Service of the USGS and its predecessor since the great Alaska earthquake of 1964 and are published in the reports "Preliminary Determination of Epicenters" (PDE). In contrast, the shocks included in this catalog are as small as magnitude 1.0 and most are smaller than magnitude 3.0. Data for the larger historic earthquakes that occurred in south-central Alaska through 1975 have been tabulated by Meyers (1976).

INSTRUMENTATION

The instrumentation in the USGS seismograph network is illustrated in the block diagram in Figure 2. Data from each seismometer are telemetered to the NOAA Alaska Tsunami Warning Center in Palmer. The standard equipment at each field station includes a vertical seismometer with a natural frequency of

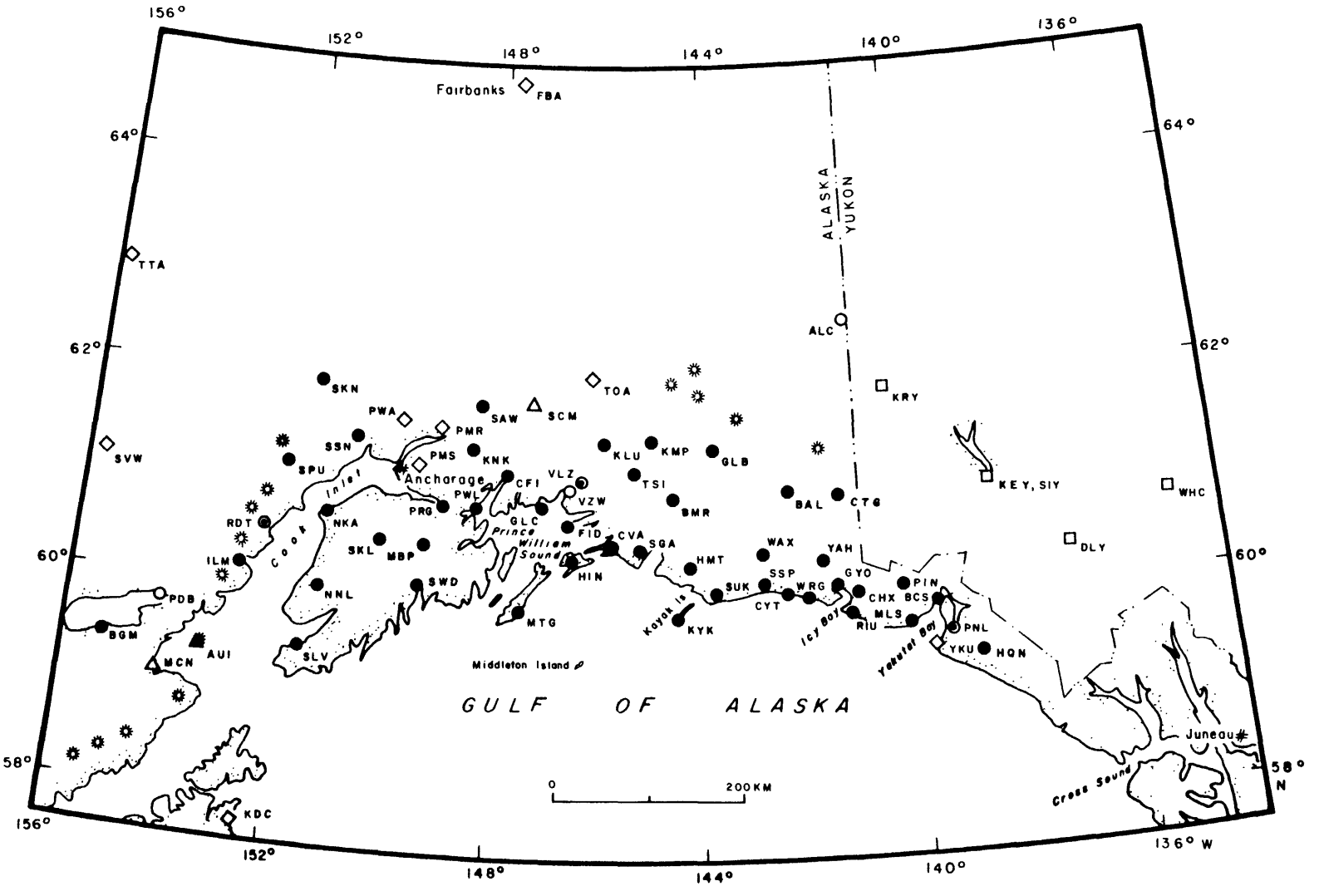

Figure 1. Map showing the locations of all USGS seismograph stations in southern Alaska and other stations used in the preparation of this catalog. The symbols are as follows: solid circles, vertical component USGS seismograph; circles with dots, three component USGS seismographs; open circles, USGS stations not reporting during this quarter; diamonds, NOAA stations; triangles, Univ. of Alaska stations; squares, Dept. Energy, Mines and Resources, Canada. Quaternary volcanoes (after King, 1969) are indicated by stars.

Table 1. Station Data

STA CODE	STATION NAME	LATITUDE N	LONGITUDE W	ELEV M	P MOD	D KM	DLY1 SEC	DLY2 SEC	DLY3 SEC	TDLY SEC	MAG AT 1 HZ	INST
ALC	ALCAN	62 37.35	141 0.50	582	3	0.01	0.00	0.00	0.00	0.00		USGS
AUI	AUGUSTINE IS	59 20.05	153 25.62	282	1	0.01	0.00	0.00	0.00	0.00		UOFA
AUM	AUGUSTINE MOUND	59 22.26	153 21.17	106	1	0.01	0.00	0.00	0.00	0.00		UOFA
BAL	BALDY	61 2.17	142 20.67	1300	3	0.01	0.00	0.00	-.19	0.00	88000	USGS
BCP	BANCAS POINT	59 57.20	139 38.10	396	3	0.01	0.00	0.00	-.80	-.30	44400	USGS
BGM	BIG MOUNTAIN	59 23.56	155 13.76	625	1	0.01	0.00	0.00	0.00	0.00	44400	USGS
BMR	BREMNER	60 57.50	144 34.98	1265	2	0.01	0.00	0.00	1.92	-.30	22200	USGS
CFI	COLLEGE FIORD	61 10.96	147 45.99	3	2	0.01	0.00	0.00	0.00	0.00	44400	USGS
CHX	CHAIX HILLS	60 3.75	141 7.10	1067	3	0.01	0.00	0.00	-.05	-.30	22200	USGS
CTG	CHITNA GLACIER	60 57.90	141 20.00	1554	3	0.01	0.00	0.00	-.53	0.00	22200	USGS
CVA	CORDOVA	60 32.79	145 44.96	90	2	0.01	0.00	0.00	0.00	-.30	22200	USGS
CYT	CAPE YAKATAGA	60 4.47	142 24.68	323	3	0.01	0.00	0.00	0.57	-.30	5520	USGS
DLY	DEZADEASH LAKE	60 22.20	137 3.90	738	3	0.01	0.00	0.00	2.37	0.00		EMRC
FBA	FAIRBANKS	64 54.00	147 47.60	320	2	0.01	0.00	0.00	0.00	0.00		NOAA
FID	FIDALGO	60 43.73	146 35.79	488	2	0.01	0.00	0.00	0.00	-.30	22200	USGS
GLB	GILAHINA BUTTE	61 26.51	143 48.63	845	3	0.01	0.00	0.00	1.60	0.00	44400	USGS
GLC	GLACIER IS	60 53.44	147 4.38	3	2	0.01	0.00	0.00	0.00	-.30	44400	USGS
GYO	GUYOT HILLS	60 8.78	141 28.29	183	3	0.01	0.00	0.00	-.06	-.30	22200	USGS
HIN	HINCHINBROOK IS	60 23.81	146 30.10	611	2	0.01	0.00	0.00	0.00	-.30	22200	USGS
HMT	MT. HAMILTON	60 20.19	144 15.64	620	3	0.01	0.00	0.00	2.09	-.30	120000	USGS
HQN	HARLEQUIN LAKE	59 27.10	138 52.62	372	3	0.01	0.00	0.00	-.55	-.30	44400	USGS
ILM	ILIAMNA	60 10.92	152 48.97	550	1	0.01	0.44	0.00	0.00	0.00	44400	USGS
KDC	KODIAK	57 44.87	152 29.50	13	1	0.01	0.00	0.00	0.00	0.00		NOAA
KEY	KLUANE LAKE	61 3.00	138 30.10	785	3	0.01	0.00	0.00	1.71	0.00		EMRC
KLU	KLUTINA	61 29.57	145 55.21	1021	2	0.01	0.00	0.00	0.00	0.00	176000	USGS
KMP	KIMBALL PASS	61 30.78	145 1.09	1143	2	0.01	0.00	0.00	0.00	-.30	88000	USGS
KNK	KNIK	61 24.75	148 27.34	595	2	0.01	0.00	0.00	0.00	0.00	44400	USGS
KRV	KOIDERN RIVER	61 58.20	140 24.50	686	3	0.01	0.00	0.00	3.09	0.00		EMRC
KYK	KAYAK IS	59 52.10	144 31.39	375	2	0.01	0.00	0.00	1.97	-.30	11100	USGS
MCN	MCNEIL RIVER	59 6.06	154 11.99	273	1	0.01	0.00	0.00	0.00	0.00		UOFA
MLS	MALASPINA	59 46.00	140 9.00	1	3	0.01	0.00	0.00	0.09	-.30	11100	USGS
MSP	MOOSE PASS	60 29.35	149 21.64	150	1	0.01	0.00	0.00	0.00	0.00	44400	USGS
MTG	MONTEGUE IS	59 54.71	147 29.82	31	2	0.01	0.00	0.00	0.00	-.30	11100	USGS
NKA	NIKISHKA	60 44.58	151 14.28	100	1	4.00	1.36	0.00	0.00	0.00	9000	USGS
NNL	NINILCHIK	60 2.53	151 17.78	366	1	4.00	0.67	0.00	0.00	0.00	30000	USGS
PIN	PINNACLE	60 5.80	140 15.40	975	3	0.01	0.00	0.00	-.01	-.30	44400	USGS
PMR	PALMER OBSERVATORY	61 35.53	149 7.85	100	1	0.01	0.00	0.00	0.00	0.00		NOAA
PMS	ARCTIC VALLEY	61 14.68	149 33.63	716	1	0.01	0.00	0.00	0.00	0.00		NOAA
PNL	PENINSULA	59 40.06	139 23.82	585	3	0.01	0.00	0.00	-1.10	-.30	44400	USGS
PRG	PORTAGE	60 51.87	149 1.21	55	1	0.01	0.00	0.00	0.00	0.00	22200	USGS
PWA	HOUSTON	61 39.05	149 52.72	137	1	0.01	0.70	0.00	0.00	0.00		NOAA
PWL	PORT WELLS	60 51.56	148 20.09	549	2	0.01	0.00	0.00	0.00	0.00	88000	USGS
RDT	REDOUBT	60 34.43	152 24.37	930	1	0.01	0.36	0.00	0.00	0.00	44400	USGS
RIU	RIOU	59 52.65	141 13.80	15	3	0.01	0.00	0.00	1.09	-.30	2760	USGS
SAW	SAWMILL	61 48.49	148 19.98	740	2	0.01	0.00	0.00	0.00	0.00	44400	USGS
SCM	SHEEP MOUNTAIN	61 50.00	147 19.66	1020	2	0.01	0.00	0.00	0.00	0.00		UOFA
SGA	SHERMAN GLACIER	60 32.04	145 12.42	424	2	0.01	0.00	0.00	2.17	-.30	44400	USGS
SIT	SITKA	57 3.42	135 19.47	19	3	0.01	0.00	0.00	0.00	-.30		NOAA
SIV	SILVER CITY	61 1.90	138 24.38	785	3	0.01	0.00	0.00	1.71	0.00		EMRC
SKL	SKILAK	60 30.86	150 12.96	690	1	0.01	0.10	0.00	0.00	0.00	44400	USGS
SKN	SKWENTNA	61 58.82	151 31.78	564	1	0.01	0.00	0.00	0.00	0.00	88800	USGS
SLV	SELDOVIA	59 28.28	151 34.83	91	1	0.01	0.00	0.00	0.00	0.00	44400	USGS
SPU	SPURR	61 10.90	152 3.26	800	1	0.01	0.39	0.00	0.00	0.00	88800	USGS
SSN	SUSITNA	61 27.83	150 44.60	1297	1	0.01	0.67	0.00	0.00	0.00	44400	USGS
SSP	SUNSHINE POINT	60 12.30	142 49.80	305	3	0.01	0.00	0.00	0.79	-.30	22200	USGS
SUK	SUCKLING HILLS	60 3.32	143 47.31	299	3	0.01	0.00	0.00	2.14	-.30	44400	USGS
SVW	SPARREVOHN	61 6.49	155 37.30	762	1	0.01	0.00	0.00	0.00	0.00		NOAA
SWD	SEWARD	60 6.22	149 26.96	91	1	0.01	0.00	0.00	0.00	0.00	22200	USGS
TOA	TOLSONA	62 6.29	146 10.34	909	2	0.01	0.00	0.00	0.00	0.00		NOAA
TSI	TSINA	61 13.57	145 20.24	1113	2	0.01	0.00	0.00	0.00	-.30	120000	USGS
TTA	TATALINA	62 55.80	156 1.32	914	1	0.01	0.00	0.00	0.00	0.00		NOAA
VLZ	VALDEZ	61 7.89	146 19.92	10	2	0.01	0.00	0.10	0.00	-.30	60000	USGS
VZW	VALDEZ WEST	61 3.54	146 33.24	796	2	0.01	0.00	0.00	0.00	-.30	44400	USGS
WAX	WAXELL RIDGE	60 26.90	142 51.10	975	3	0.01	0.00	0.00	0.61	-.30	22200	USGS
WHC	WHITEHORSE	60 44.20	135 5.90	732	3	0.01	0.00	0.00	2.55	0.00		EMRC
WRG	WHITE RIVER GLCR	60 2.27	142 1.90	550	3	0.01	0.00	0.00	0.66	-.30	22200	USGS
YAH	YAHTSE	60 21.51	141 44.70	2135	3	0.01	0.00	0.00	0.17	-.30	88800	USGS
YKU	YAKUTAT	59 32.72	139 43.73	15	3	0.01	0.00	0.00	0.35	-.30		NOAA

This table lists geographic coordinates and other pertinent information for stations used in the preparation of this catalog. P-MOD is the number of the P-wave velocity model assigned to the station (see text), where the numbers 1, 2, and 3 correspond to the western, central, and eastern models. D is the thickness of the low-velocity surficial sedimentary layer in kilometers assigned in the calculation of travel-times to a given station. DLY1-3 are the station P-phase travel-time delays in seconds. TDLY is the telephone line delay in seconds. The magnification (MAG) of the vertical seismograph component is given at 1 Hz. The institutions (INST) operating the stations other than the USGS are the NOAA Alaska Tsunami Warning Center, the Geophysical Institute of the University of Alaska (UOFA) and the Department of Energy, Mines and Resources, Canada (EMRC).

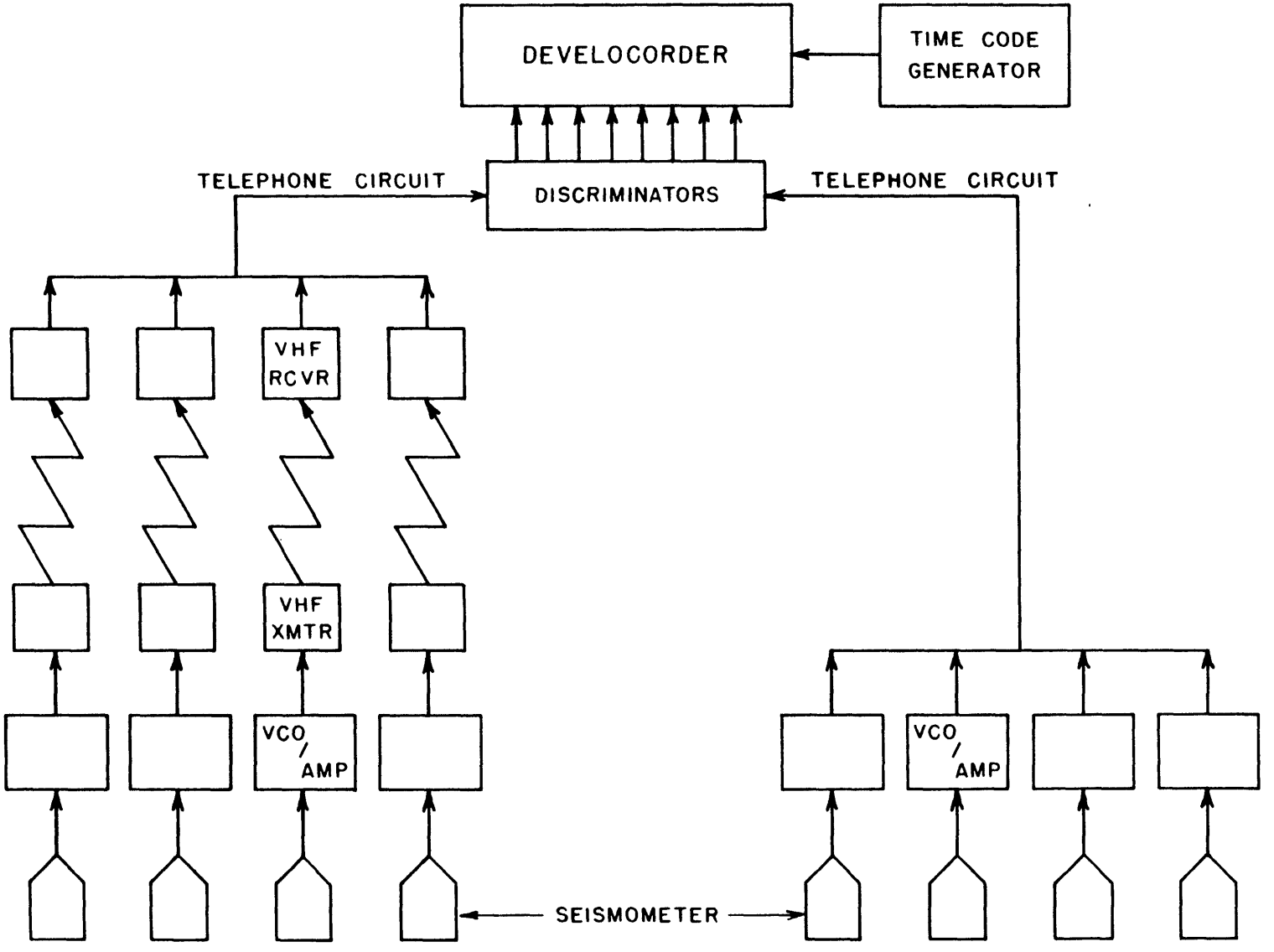

Figure 2. Block diagram of telemetered seismograph system in the USGS Alaska seismic network.

1.0 Hz (Mark Products, Model L-4), a package consisting of a pre-amplifier and a voltage-controlled oscillator (VCO model NCER 202, or AlVCO) and "air-cell" storage batteries (McGraw-Edison, Model ST-2-1000). The recently developed AlVCO units (Rogers and others, 1980) have been installed at nearly all of the USGS stations in southern Alaska. These crystal-referenced units have an automatic gain-ranging capability and provide daily information on the gain setting, geophone response, battery voltage, station identification and temperature. Data are telemetered via a combination of leased telephone circuits and VHF (162-174 MHz) radio links. The radio equipment consists of low-power transmitters (100 mW) and receivers adapted from HT-200 Motorola handie-talkie transceivers. Yagi antennae with 9 db directional gain (Scala, Model CAS-150) are used. At some sites where AC power is available, base-station radio receivers (G.E. Model R46AP66B) with greater sensitivity and reliability are used. The central recording facility incorporates a bank of discriminators (NCER J101 or Develco Model 6203), four 16 mm-film multi-channel oscillographs (Teledyne Geotech Develocorder, Model 4000D), a 14 channel analog tape recorder (Bell and Howell Model VR3700B), and a time-code generator (Datum, Model 9100).

The principle of operation is as follows: The seismometer translates movement of the ground into an electrical voltage that is fed into the amplifier/VCO unit where the amplified voltage causes the frequency of an audio-band oscillator to fluctuate about its center frequency. The frequency-modulated (FM) tone from the amplifier/VCO unit is carried directly by voice-grade telephone circuit to the recording site or alternately is fed through a VHF radio link onto a telephone circuit. At the recording site the FM seismic signal is demodulated by a discriminator. The demodulated signal, which is simply an amplified form of the initial signal from the seismometer, is recorded photographically on a multichannel oscillograph, together with time marks from a crystal-controlled chronometer. Twenty-four hours of data for 18 stations can be recorded on a single 43 m-long roll of 16 mm film.

Signals from more than one seismograph can be transmitted on a single telephone circuit by employing VCO units with different center frequencies. In the standard configuration there is a 340 Hz separation between center frequencies and a fixed bandwidth of 250 Hz. Eight seismic channels with center frequencies ranging from 680 to 3060 Hz may be placed on a single voice-grade telephone circuit.

Figure 3 illustrates the response characteristics of the entire seismic system from seismometer to film viewer. The response level at each station is adjusted in steps of 6 decibels so that the ambient seismic noise produces a small deflection of the trace on the film. As a result, the actual response for an individual station may differ from that of the typical station by a factor of 2, 4, 8, etc. The magnification of the typical station is about 6×10^4 at 1 Hz and 10^6 at 10 Hz. The gain of a station that has an AlVCO unit is automatically reduced by a factor of 10 when the fluctuations of the FM signal exceed a preset threshold.

The installation of a typical radio-linked station is shown in Figure 4. Degradation or interruption of data transmission due to inclement weather conditions is a major problem during the winter months.

DATA PROCESSING

The 16 mm films (four per day) are mailed weekly to Menlo Park where the

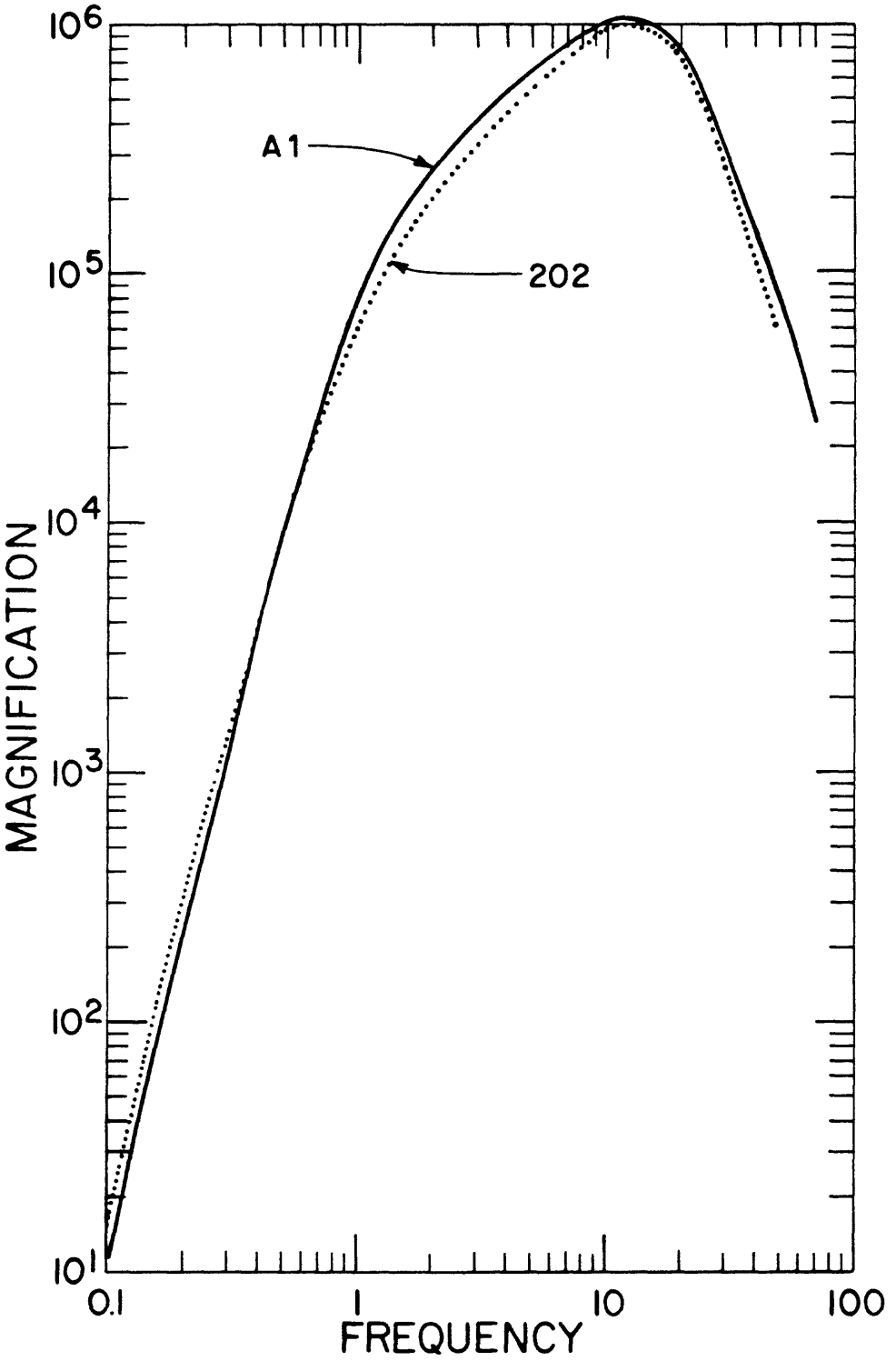

Figure 3. System response curves for typical USGS Alaska seismographs that incorporate the A1VCO unit (solid curve) and the older VCO model NCER 202 unit (dotted curve).

Figure 4. Installation of a typical seismograph station (SPU). VCO/amplifier unit, radio transmitter, and batteries are housed in a 30-inch diameter culvert partially set in the ground at the base of the antenna. Seismometer is buried in the ground about 30 meters from the culvert. Photo by J. Rogers.

seismic data are processed by the following multi-step routine:

1. Scanning. The scan film, which has 18 stations distributed throughout the network is scanned to identify and note times of all seismic events whether of local, regional, or teleseismic origin.

2. Timing. For the "well-recorded" local earthquakes identified in the scanning process, the following data are read from each station: P- and S-wave arrival times, direction of first motion, duration of signal in excess of a given threshold amplitude, and period and amplitude of maximum recorded signal. The criterion for choosing earthquakes to be timed is the duration of the signal, which is related to the magnitude. The network is divided into three regions--western, central and eastern--bounded approximately by 156° to 150° W, 150° to 145° W and 145° to 138° W, respectively. In the western and central regions, only events with signal durations longer than 80 s and 20 s, respectively, are timed. In the eastern region, all earthquakes which are recorded by at least three stations and for which at least four clear arrivals can be read are timed. This criterion was established to facilitate processing the large number of earthquakes which are recorded by the network.

Timing is done by projecting the seismic traces onto a table and digitizing the onsets of the P- and S-phases. The output from the digitizer, in the form of x-y data pairs on punched computer cards, is converted into phase data by computer using the program DIGIT3 (written by P. Ward and W. Ellsworth for use within the U.S. Geological Survey).

3. Initial computer processing. The phase data from the films is batch processed by computer using the program HYPOELLIPSE (Lahr, 1980) to obtain origin times, hypocenters, magnitudes and, if desired, first-motion plots for fault-plane solutions.

4. Analysis of initial computer results. Each hypocentral solution is checked for large travel-time residuals and for a poor spatial distribution of stations. Arrival times that produce large residuals are re-read. For shocks with a poor distribution of stations, readings from additional stations outside the USGS network are sought.

5. Final computer processing. The poor hypocentral solutions are rerun with corrections and the new solutions are checked for large residuals that might be due to remaining errors. Corrections are made as required before the final computer run is made.

The earthquake locations are based on P and S arrivals. S arrivals are important for determining depths of events in the Benioff zone beneath Cook Inlet. Unfortunately for some large events, S cannot be read at any station because the traces on the film overlap each other or are too faint to follow.

The HYPOELLIPSE computer program determines hypocenters by minimizing differences between observed and computed travel-times through an iterative least-squares scheme. In many respects the program is similar to HYP071 (Lee and Lahr, 1972), which has been used in the preparation of catalogs of central California earthquakes since January 1969. An important feature available in HYPOELLIPSE is the calculation of confidence ellipsoids for each hypocenter. The ellipsoids provide valuable insight into the effect of network geometry on possible hypocentral errors.

VELOCITY MODELS

Our experience with locating earthquakes in southern Alaska suggests that significant lateral variations are present in the velocity structure across the network. Such variations might be expected by considering the complicated geology and tectonics of the region (eg., Plafker, 1967). Very little information in the form of direct measurement is available for the velocity structure in southern Alaska. In previous catalogs, only two P-wave velocity models consisting of horizontal layers of constant velocity were used to locate the earthquakes (eg. Stephens, and others, 1979). These velocity models were derived by minimizing the travel-time residuals for selected sets of earthquakes in the Cook Inlet region (Model A of Matumoto and Page, 1969) and near Valdez. The models proved adequate for locating earthquakes as far east as Kayak Island, but earthquakes located farther to the east often had large travel-time residuals at nearby stations. An improved velocity model for the region east of Kayak Island was developed by minimizing the travel-time residuals for a selected set of aftershocks from the 1979 St. Elias earthquake that occurred north of Icy Bay (Stephens, and others, 1980). A significant difference between this model and the earlier ones is that it consists of a single layer of linearly increasing velocity over a half-space of constant velocity.

In the preparation of this catalog, a change was made in the method of assigning velocity models to calculate theoretical travel-times to various stations. Previously, the velocity model used was determined by the region in which the earthquake occurred and would then be the same for all stations for that event. In the revised procedure, each station always uses the same velocity model, and the model used is determined by the region in which the station is located. Thus, a station in the eastern region will use the eastern velocity model to calculate travel times from events that occur in the western, central and eastern parts of the network.

West of 148° 45' W the velocity model used is specified as follows:

Layer	Depth (km)	P velocity (km/s)
1	0 - D	2.75
2	D - 4	5.3
3	4 - 10	5.6
4	10 - 15	6.2
5	15 - 20	6.9
6	20 - 25	7.4
7	25 - 33	7.7
8	33 - 47	7.9
9	47 - 65	8.1
10	below 65	8.3

The thickness of the first layer is allowed to vary between stations to account for the presence of thick sections of low-velocity sediments beneath the stations NKA and NNL, which are located in the Cook Inlet basin. For these stations D is 4 km. For all other stations D is 0.01 km. It is recognized that a model comprised of uniform horizontal layers may be a poor representation of the actual velocity structure, particularly in the vicinity of a subduction zone (Mitronovas and Isacks, 1971; Jacob, 1972), although such

a model does have the advantage of simplifying the computation of travel-times. In order to determine any bias that might result from this approximation, a set of events in the Benioff zone below Cook Inlet was relocated using a ray-tracing program of E. R. Engdahl that incorporates a more realistic, three-dimensional velocity model (Lahr, 1975). Hypocenter shifts, apparently due to the oversimplified flat-layer model, ranged from near zero at a depth of 60 km to as great as 25 km at the 160 km depth. The offsets were oriented in such a way that the dip of the Benioff zone would appear to be too great for locations based on a flat-layered model.

For earthquakes that occur between 148° 45' W and 144° 30' W, the velocity model used to locate the events is specified by:

Layer	Depth (km)	P velocity (km/s)
1	0.0	2.75
2	0.01	6.4
3	below 39	8.0

East of 144° 30' the P-wave velocity of the layer increases linearly from 5.0 km/s at the surface to 7.8 km/s at 32 km depth, while the half-space has a velocity of 8.2 km/s.

P-phase travel-time delays are applied to stations in the network that have consistent and large residuals for the locations of large groups of earthquakes. Each station has three delays (DLY1, DLY2 and DLY3 of Table 1) assigned to it that correspond to the western, central, and eastern parts of the network. The particular delay that is used to locate an earthquake is determined by the region in which the earthquake occurs. For example, a station near Icy Bay that is used to locate an earthquake beneath Cook Inlet will be assigned a delay DLY1, but the same station will use DLY3 to locate an earthquake that occurs beneath Icy Bay. Additional delays are applied at several stations to correct for a satellite link in the relay of the signal. S-phase delays are determined by multiplying the P-delay by 1.78, the P-to-S velocity ratio.

The initial trial depths for earthquakes which occur in the western, central and eastern parts of the network are 75, 30 and 15 km, respectively, and reflect a progressive decrease in the range of depths of earthquakes from west to east.

MAGNITUDE

Magnitudes are determined from either the signal duration or the maximum trace amplitude. Eaton and others (1970) approximate the Richter local magnitude, whose definition is tied to maximum trace amplitudes recorded on standard horizontal Wood-Anderson torsion seismographs, by an amplitude magnitude based on maximum trace amplitudes recorded on high-gain, high-frequency vertical seismographs such as those operated in the Alaskan network. The amplitude magnitude XMAG used in this catalog is based on the work of Eaton and his co-workers and is given by the expression (Lee and Lahr, 1972)

$$XMAG = \log_{10} A - B_1 + B_2 \log_{10} D^2 \qquad (1)$$

where A is the equivalent maximum trace amplitude in millimeters on a standard Wood-Anderson seismograph, D is the hypocentral distance in kilometers, and B_1 and B_2 are constants. Differences in the frequency response of the two seismograph systems are accounted for in A. It is assumed, however, that there is no systematic difference between the maximum horizontal ground motion and the maximum vertical motion. The terms $-B_1 + B_2 \log_{10} D^2$ approximate Richter's $-\log_{10} A_o$ function (Richter, 1958, p. 342), which expresses the trace amplitude for an earthquake of magnitude zero as a function of epicentral distance.

For small, shallow earthquakes in central California, Lee and others (1972) express the duration magnitude FMAG at a given station by the relation

$$FMAG = -0.87 + 2.00 \log_{10} T + 0.0035\ DEL \qquad (2)$$

where T is the signal duration in seconds from the P-wave onset to the point where the peak-to-peak trace amplitude on the Geotech Model 6585 film viewer falls below 1 cm and DEL is the epicentral distance in kilometers.

Comparison of XMAG and FMAG estimates from equations (1) and (2) for 77 Alaskan shocks in the depth range 0 to 150 km and in the magnitude range 1.5 to 3.5 reveals a systematic linear decrease of FMAG relative to XMAG with increasing focal depth. To remove this discrepancy, a linear dependence on depth is added to the expression for FMAG as follows:

$$FMAG = -1.15 + 2.00 \log_{10} T + 0.007\ Z + 0.0035\ DEL \qquad (3)$$

where Z is the focal depth in kilometers.

The magnitude preferentially assigned to each earthquake in this catalog is the FMAG estimate. The XMAG value is used only where no FMAG can be determined.

ANALYSIS OF QUALITY

Two types of errors enter into the determination of hypocenters: systematic errors limiting the accuracy of hypocenters and random errors limiting the precision. Systematic errors arise from an incorrect velocity model, misidentification of phases, or systematic timing errors and can be evaluated through controlled experiments such as locating the coordinates of a known explosion. Random errors result from random timing errors and are estimated for each earthquake through the use of standard statistical techniques.

For each earthquake, HYPOELLIPSE calculates the lengths and orientations of the principal axes of the joint confidence ellipsoid. The one-standard-deviation confidence ellipsoid describes the region of space within which one is 68 percent confident that the hypocenter lies, assuming that the only source of error is random reading error. The ellipsoid is a function of the station geometry for each individual event, the velocity model assumed and the standard deviation of the random reading error. The standard deviation determined from repeated readings of the same phases by four seismologists is as small as 0.01 to 0.02 s for the most impulsive arrivals and as large as 0.10 to 0.20 s for emergent arrivals. The confidence ellipsoids are computed for a standard deviation of 0.16 s and therefore likely overestimate the 68% confidence regions. The standard deviation of the residuals for an individual solution is not used to calculate the confidence ellipsoid because it contains information not only about random reading errors but also about the incompatibility of the velocity model to the data. Thus, the confidence ellipsoid is a measure of the precision of the hypocentral solution. In a few extreme cases the value calculated for one of the ellipsoid axes becomes very large corresponding to a spatial direction with very great uncertainty. In these cases an upperbound length of 25 km is tabulated.

To fully evaluate the quality of a hypocenter one must consider both the confidence ellipsoid and the root mean square (RMS) residual for the solution. The RMS residual reflects both systematic and random errors, but the random errors are typically much smaller. Hence the RMS residual is primarily a measure of the incompatibility of the velocity model, misinterpretation of phases and systematic timing errors. Interpretation of the RMS residual may depend upon the location of the earthquake. In areas where the velocity model is incompatible with the real earth, RMS residuals could be large and betray the incompatibility; alternatively, the RMS residuals could be small and not reflect the error in a bad hypocenter. Where the velocity model is compatible, however, a large RMS residual would indicate probable misreadings of phases.

Other parameters provided by HYPOELLIPSE that are useful in evaluating the quality of a hypocentral solution are: GAP, the largest azimuthal separation between stations measured from the epicenter; D3, the epicentral distance of the third closest station; NP, the number of P arrivals used in the solution; and NS, the number of S arrivals used in the solution. If GAP exceeds 180°, the earthquake lies outside the network of available stations and the solution is generally less reliable than for events occurring inside the network.

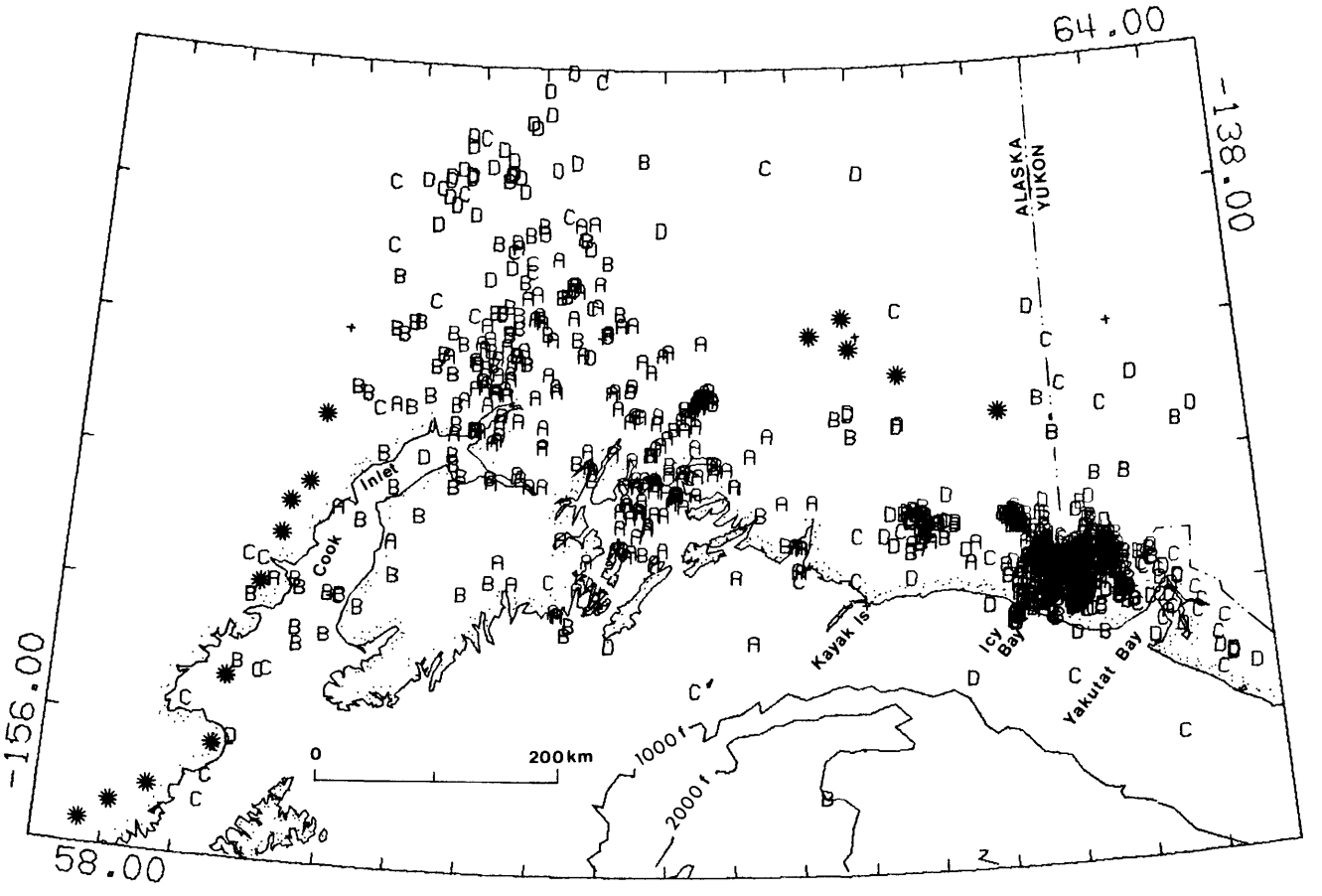

Figure 5. Map of earthquake epicenters for the period October - December 1979. Earthquakes are plotted with a symbol that represents the quality of the location (see Appendix), with A and B representing better quality. Quaternary volcanoes are indicated by stars.

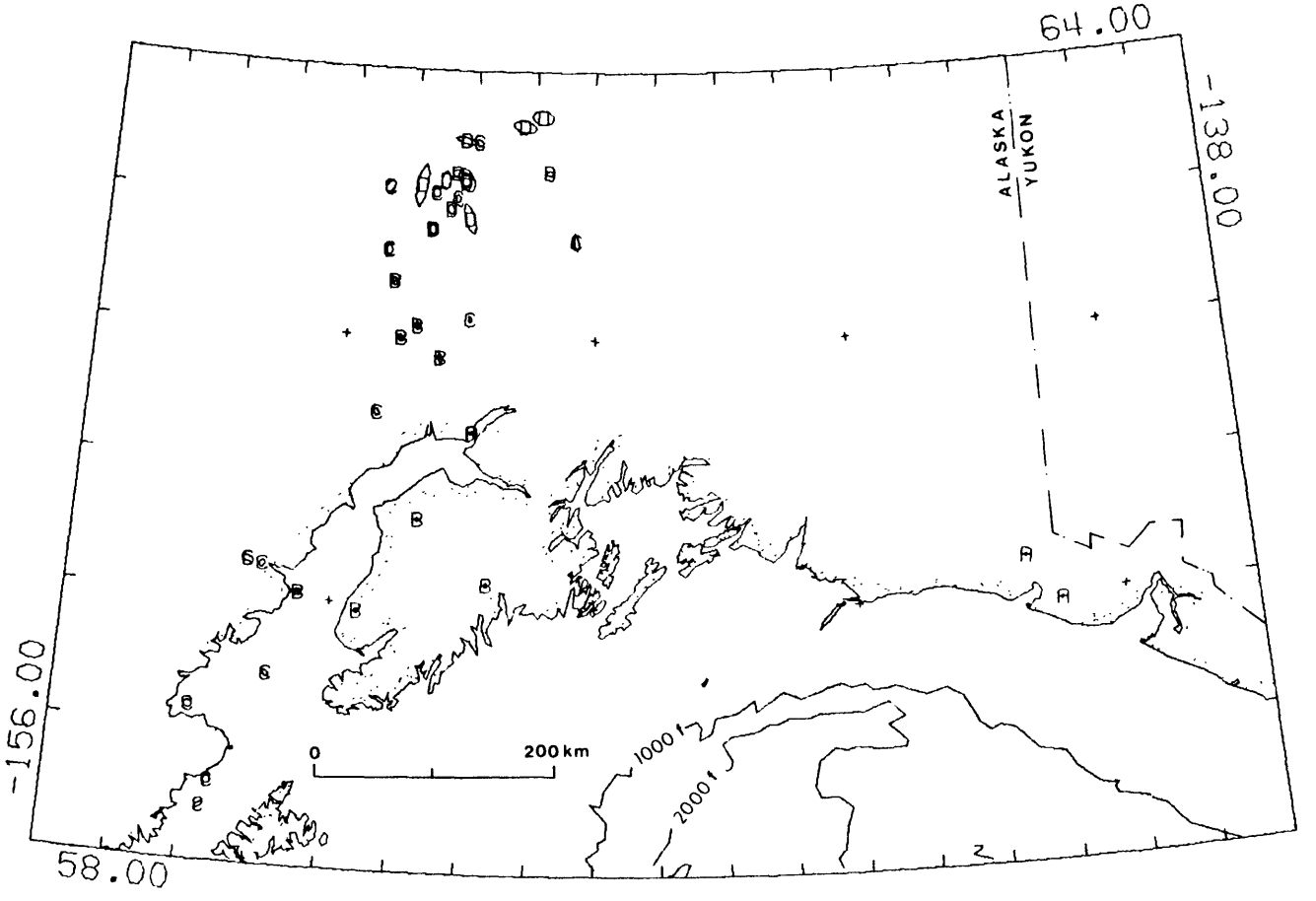

Figure 6. Map showing the epicenters of earthquakes from Figure 5 that have magnitudes of 3.5 and larger. The corresponding projections of the one-standard-deviation error ellipsoids onto the surface are also plotted.

DISCUSSION OF CATALOG

Origin times, focal coordinates, magnitudes and related parameters for 1330 earthquakes from October-December 1979 are listed in the Appendix. Epicenters for these shocks are plotted in Figure 5. In Figure 6, only the earthquakes with magnitudes greater than 3.5 are plotted. Vertical sections showing the depth distribution of all of the shocks are presented in Figures 7 and 8.

We estimate that this catalog is reasonably complete for shocks larger than magnitude 3.5 in the western, 2.5 in the central, and 2.0 in the eastern regions of the area covered by the network. The minimum magnitude of the listed earthquakes ranges from 0.6 for shallow shocks to 2.6 for the deeper shocks.

The precision of the hypocenters or the relative accuracy of the locations of neighboring events is represented by the confidence ellipsoids. The precision of epicenters, expressed in terms of the maximum axes of the projected one-standard-deviation confidence ellipsoids (ERH), averages 4.5, 2.2, and 3.5 km, respectively, in the eastern, central, and western parts of the network. Similarly, the precision of focal depth (ERZ) averages about 4.8, 3.4, and 7.2 km, respectively. The variation in the precision of hypocenter determination across the network is strongly influenced by differences in the station coverage in the different regions.

The absolute accuracy of the earthquake locations is difficult to evaluate in the absence of known explosions. Hypocenter biases equal to and larger than the dimensions of the confidence ellipsoids are not unlikely from the oversimplified velocity model assumed in the preparation of this catalog.

The dominant feature in the distribution of epicenters is the large number of aftershocks from the 1979 St. Elias earthquake in southeastern Alaska. All but one of the aftershocks were located at depths less than 30 km, which is consistent with the depths found for aftershocks in the early part of the sequence (Stephens and others, 1980). It is interesting to note that the aftershocks plotted here appear to form spatial clusters similar to those observed in the early part of the sequence. All but two of the aftershocks have magnitudes below 3.5, as is apparent by comparing Figures 5 and 6. However, the coda magnitudes for the aftershocks reported here are probably systematically low relative to other magnitude scales, as discussed by Stephens and others (1980).

The seismicity throughout the remainder of the network does not vary significantly from that described for previous quarters (Stephens and others, 1979; Fogleman, and others, 1978; Lahr, and others, 1974). A well-defined Benioff zone dips to the northwest beneath the Cook Inlet region (Figure 8, sections G-J). The depth to the top of this zone varies from about 50 km beneath the western Kenai peninsula to about 115 beneath the active volcanoes west of Cook Inlet. The dip of the Benioff zone appears to increase from northeast to southwest, but the depth to the seismic zone beneath the active volcanoes--Augustine, Iliamna, Redoubt and Spurr--is nearly constant at about 115 km.

All of the seismic activity in the southern part of the network east of

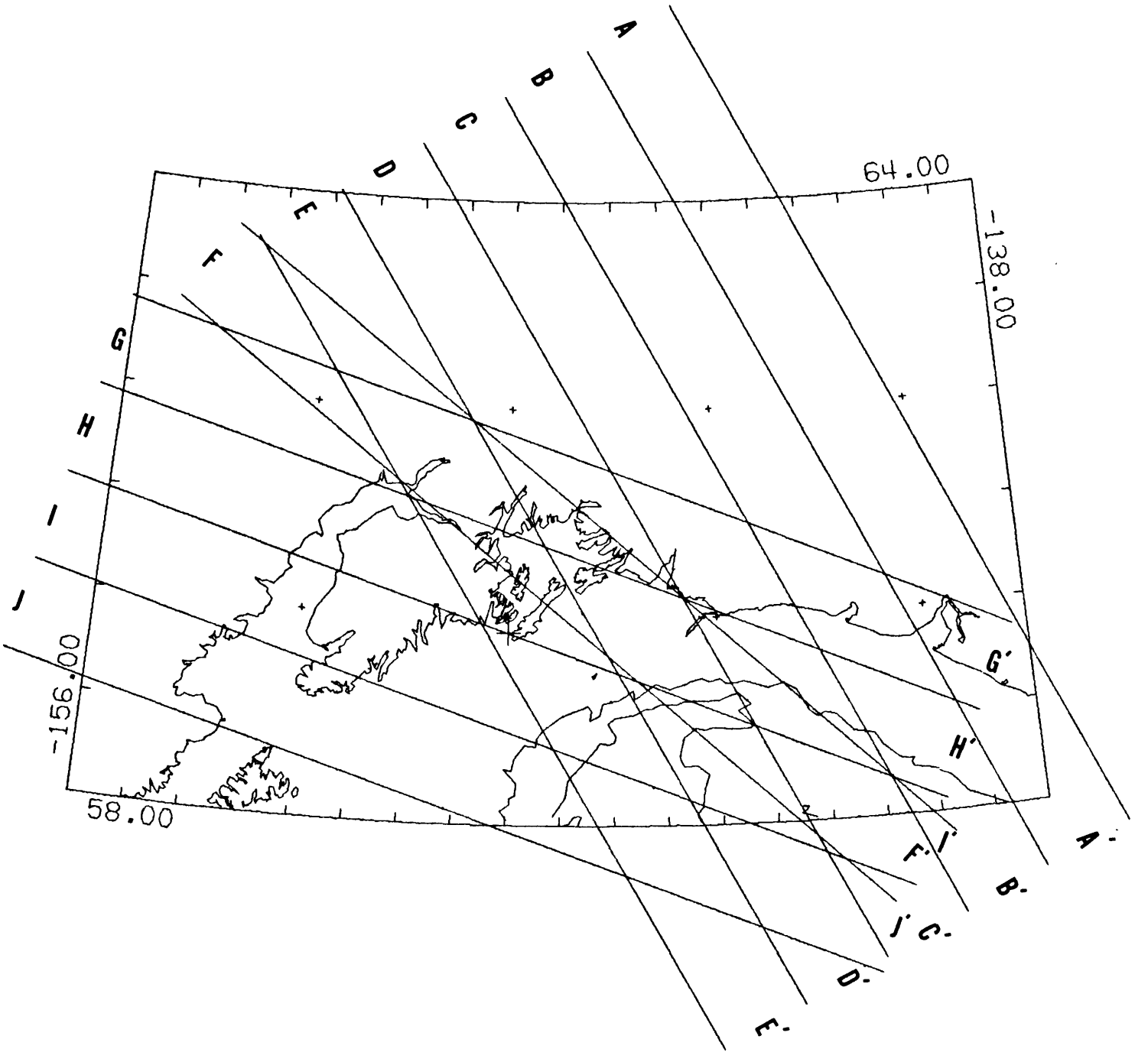

Figure 7. Reference map showing the location of the sections in Figure 8. Direction of view for sections A - E is N 60° E, for section F is N 40° E, and for sections G - J is N 20° E.

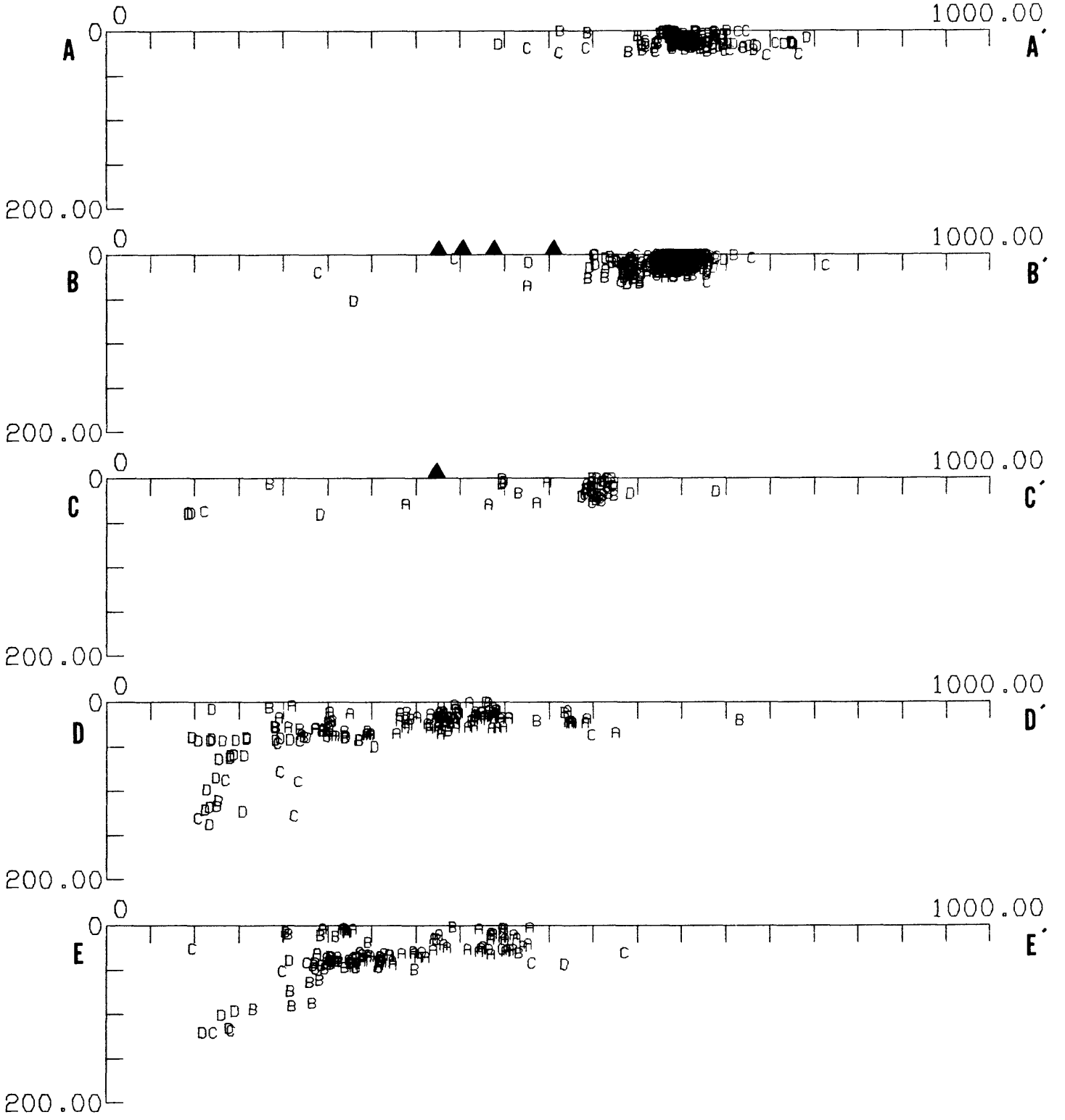

Figure 8. Vertical sections of hypocenters for the areas indicated in Figure 7. Quaternary volcanoes are plotted as triangles at zero depth. All distances in kilometers. No vertical exaggeration.

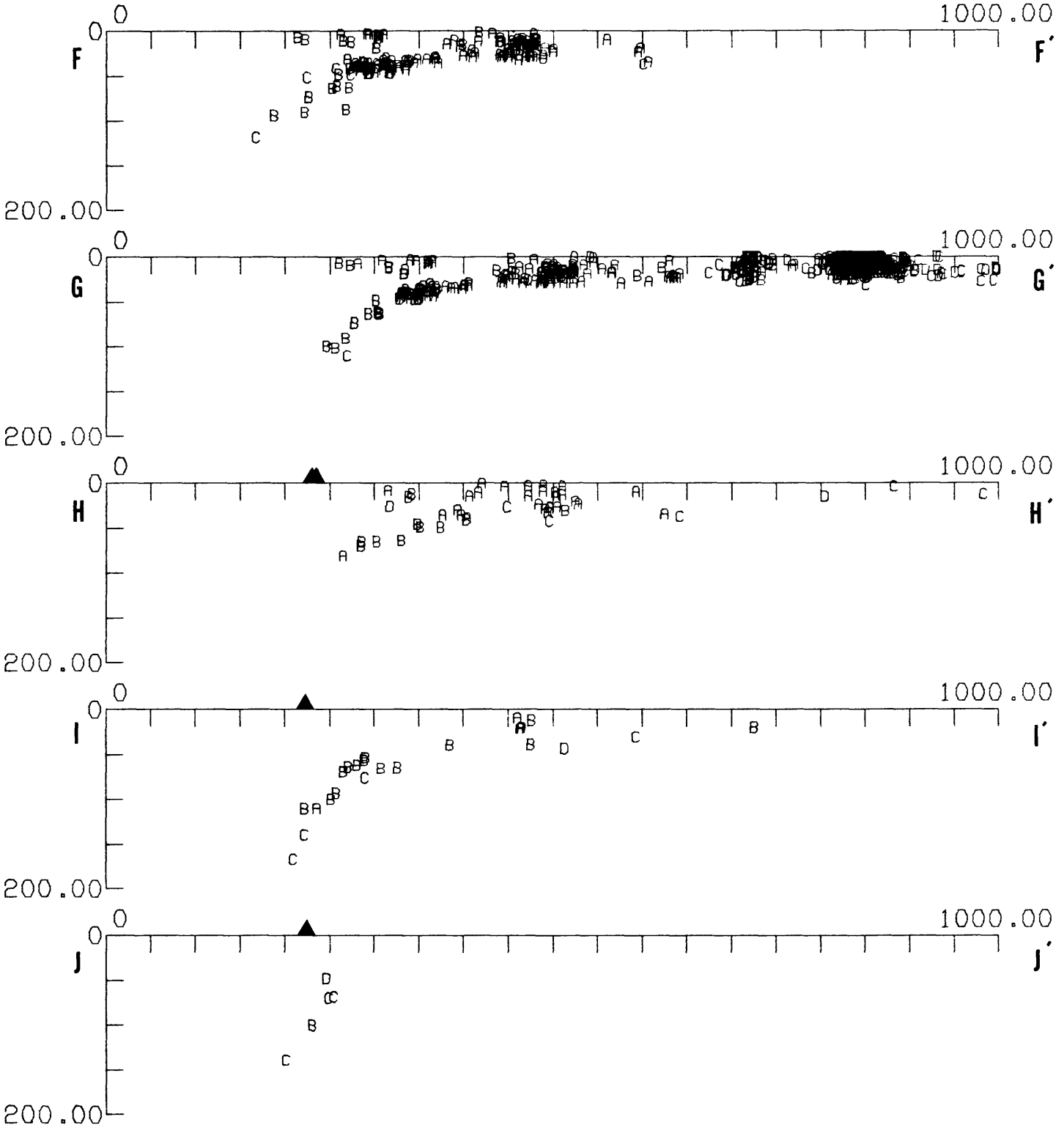

Figure 8 (continued).

146° W occurs at depths less than about 35 km. The number of larger magnitude earthquakes which occur in the east is considerably smaller than that in the western part of the network (Figure 6). Most of the seismic activity in the eastern part of the network appears to be concentrated beneath Icy Bay and northeast of Kayak Island.

The contents of the Appendix may be obtained in forms amenable to computer input (punched cards or magnetic tape) by contacting the authors.

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APPENDIX

Catalog of Earthquakes

Earthquakes from southern Alaska are listed in chronological order. The following data are given for each event:

(1) Origin time in Universal Time (UT): date, hour (HR), minute (MN), and second (SEC). To convert to Alaska Standard Time (AST) subtract ten hours.

(2) Epicenter in degrees and minutes of north latitude (LAT N) and west longitude (LONG W).

(3) DEPTH, depth of focus in kilometers.

(4) MAG, duration magnitude (FMAG) of the earthquake, if available, otherwise amplitude magnitude (XMAG, indicated by "a").

(5) NP, number of P arrivals used in locating earthquake.

(6) NS, number of S arrivals used in locating earthquake.

(7) GAP, largest azimuthal separation in degrees between stations.

(8) D3, epicentral distance in kilometers to the third closest station to the epicenter.

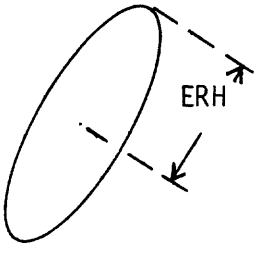
(9) RMS, root-mean-square error in seconds of the traveltime residuals:

$$RMS = \sqrt{\sum_i (R_{P_i}^2 + R_{S_i}^2) \;/\; (NP + NS)}$$

where R_{P_i} and R_{S_i} are the observed minus the computed arrival times of P- and S-waves respectively at the i-th station.

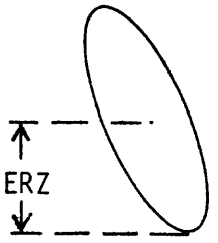
(10) ERH, largest horizontal deviation in kilometers from the hypocenter within the one-standard-deviation confidence ellipsoid. This quantity is a measure of the epicentral precision for an event. Values of ERH that exceed 25 km are tabulated as 25 km.

Projection of ellipsoid
onto horizontal plane:



(11) ERZ, largest vertical deviation in kilometers from the hypocenter within the one-standard-deviation confidence ellipsoid. This quantity is a measure of the depth precision for an event. Values of ERZ that exceed 25 km are tabluated as 25 km.

Projection of ellipsoid onto vertical plane:



(12) Q, quality of the hypocenter. This index is a measure of the precision of the hypocenter (see section Analysis of Quality) and is calculated from ERH and ERZ as follows:

Q	ERH	ERZ
A	$\leq$ 2.5	$\leq$ 2.5
B	$\leq$ 5.0	$\leq$ 5.0
C	$\leq$ 10.0	$\leq$ 10.0
D	> 10.0	> 10.0

(13) AZ1, DIP1, and SE1 are the azimuth in degrees (clockwise from north), dip in degrees, and standard error in kilometers of the most nearly horizontal of the three principal axes of the one-standard-deviation error ellipsoid. Values of SE1 that exceed 25 km are tabulated as 25 km.

(14) AZ2, DIP2, and SE2 are defined as above, but correspond to the principal axis of intermediate dip.

(15) AZ3, DIP3, and SE3 are defined as above, but correspond to the most nearly vertical principal axis.

Other information listed below an event was obtained from the Preliminary Determination of Epicenters of the USGS National Earthquake Information Service (NEIS), or the Department of Energy, Mines and Resources, Canada (EMRC). The body-wave (mb) and surface wave (Ms) magnitudes are those determined by the NEIS.

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979		ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
OCT	1	2	6	3.4	60	23.7	140	24.0	1.3	2.0	10	4	195	74	0.54	2.4	2.4	A	302	15	0.8	46	42	2.2	197	44	2.6
	1	17	58	27.0	60	12.5	141	3.7	4.9	1.3	4	2	143	116	0.33	3.0	3.9	B	67	20	1.5	326	29	1.1	187	54	4.8
	1	18	16	51.0	60	17.8	141	0.1	1.1	0.9	4	3	160	110	0.06	1.4	4.5	B	278	2	1.4	9	11	0.9	178	79	4.5
	1	20	8	50.1	60	43.5	147	41.7	23.8	2.0	21	10	134	51	0.41	1.3	1.6	A	263	9	0.6	168	30	1.1	8	58	1.7
	1	20	57	9.2	60	8.9	141	9.8	1.4	2.0	10	3	130	51	0.21	2.1	2.7	B	295	15	0.6	35	32	1.2	184	54	3.2
	2	13	56	57.0	60	0.6	141	40.6	3.1	1.0	5	1	168	120	0.21	3.5	4.0	B	99	17	0.8	358	31	2.7	213	54	4.7
	2	14	8	9.5	60	23.8	140	47.1	10.5	1.2	3	1	185	150	0.13	24.9	5.4	D	222	5	25.0	314	19	1.1	118	70	5.2
	2	15	59	41.2	61	27.8	151	11.7	7.9	3.0	21	1	107	60	0.57	1.1	1.6	A	149	4	1.1	240	19	0.8	48	71	1.7
	2	18	57	18.9	60	12.5	140	59.8	10.9	1.3	5	2	159	106	0.34	4.1	3.4	B	297	10	0.9	203	24	4.3	48	64	3.3
	2	21	49	3.0	60	12.2	141	3.0	10.3	1.1	4	3	185	83	0.05	22.3	11.8	D	293	5	1.2	200	27	25.0	33	62	3.5
	3	0	56	42.7	60	18.8	140	46.2	2.8	1.6	8	4	145	54	0.40	1.1	1.6	A	310	11	0.5	44	18	1.0	190	69	1.6
	3	1	2	44.2	62	21.0	148	23.0	29.5	2.4	22	13	208	105	0.95	1.2	0.8	A	356	11	1.3	92	28	0.7	247	60	0.8
	3	7	6	56.8	62	9.2	148	27.9	32.0	2.1	21	12	189	83	0.72	1.1	0.9	A	83	32	0.7	198	33	1.1	321	40	0.9
	3	20	43	22.8	60	12.9	141	3.2	7.7	1.6	12	5	117	58	0.26	1.0	1.3	A	307	1	0.5	37	31	0.8	215	59	1.5
	3	21	5	52.9	60	16.9	140	47.0	4.4	1.4	5	3	165	74	0.13	2.0	3.8	B	55	11	0.9	321	20	1.3	172	67	4.1
	3	23	5	38.3	60	17.4	141	14.5	7.1	1.3	8	2	147	59	0.25	2.0	2.7	B	110	6	0.7	17	33	1.3	209	56	3.1
	4	1	10	2.1	62	50.4	148	22.7	28.0	2.3	10	6	246	154	0.74	2.2	1.8	A	325	9	1.9	229	35	2.5	67	54	1.3
	4	1	26	43.5	63	18.4	148	28.1	40.8	2.8	18	8	264	194	0.83	2.9	25.0	D	91	2	2.1	1	2	2.7	226	87	25.0
	4	2	48	48.9	62	57.8	150	24.8	115.4	4.2	29	1	122	167	0.44	3.6	11.0	D	345	0	3.6	75	6	2.5	255	84	11.1
			3.6	MB																							
	4	4	15	32.2	60	17.1	140	46.1	13.1	0.9	6	4	166	73	0.16	2.0	2.7	B	88	6	0.8	354	33	1.1	187	56	3.1
	4	5	19	52.6	60	18.5	140	45.2	0.2	0.9	6	4	169	74	0.25	1.3	3.5	B	88	1	0.7	358	12	1.1	183	78	3.6
	4	6	46	16.9	60	36.3	141	48.3	8.9	0.9	7	4	153	60	0.78	2.1	3.2	B	333	6	0.6	66	29	1.3	232	60	3.6
	4	8	23	26.4	60	22.3	140	55.2	0.3	1.4	7	3	170	85	0.35	1.0	2.1	A	118	4	0.7	27	11	0.9	228	78	2.1
	4	9	24	25.7	60	13.8	141	13.7	8.9	1.3	9	3	109	56	0.24	1.1	2.2	A	288	5	0.5	20	20	0.8	185	69	2.4
	4	9	33	23.7	60	16.3	141	12.4	15.0	0.7	4	3	156	94	0.30	11.6	16.8	D	73	17	2.3	333	29	1.1	189	55	20.4
	4	9	51	53.1	60	17.5	140	47.5	8.4	1.5	9	4	142	74	0.23	1.5	2.0	A	304	9	0.5	39	30	1.1	199	58	2.2
	4	10	24	31.8	60	26.9	143	16.9	5.8	2.0	22	7	96	64	0.96	0.9	1.0	A	102	15	0.4	6	20	0.9	226	65	1.1
	4	11	40	54.8	60	22.0	140	20.6	9.4	1.2	5	2	226	61	0.48	4.1	5.1	C	325	21	1.1	67	29	2.1	204	53	6.3
	4	12	22	2.0	60	13.1	141	2.5	8.9	1.5	7	4	118	84	0.26	2.3	2.6	B	302	15	0.6	43	37	1.2	194	49	3.3
	4	13	40	47.1	62	10.9	143	21.4	4.8	3.0	23	1	234	149	0.66	7.0	4.4	C	231	30	7.9	343	34	3.2	110	42	1.5
									3.7	ML	EMRC																
	4	15	26	2.0	60	22.6	140	38.5	0.0	1.6	9	2	160	73	0.67	1.4	2.7	B	130	1	0.6	39	14	1.3	224	76	2.8
	4	15	50	9.5	60	52.6	147	10.8	12.0	2.0	16	7	120	40	0.69	1.1	1.1	A	263	15	0.5	5	39	1.2	156	47	1.0
	4	17	10	45.0	62	8.3	149	5.4	22.1	1.7	9	5	189	68	0.50	1.5	1.9	A	293	11	1.0	29	29	1.2	184	59	2.2
	4	18	10	29.9	60	0.7	140	40.5	1.7	2.0	8	2	150	76	0.28	2.1	3.2	B	280	11	0.8	187	19	1.9	39	68	3.3
	4	18	23	20.8	59	59.2	140	39.2	7.6	1.7	4	1	201	116	0.43	12.3	11.6	D	284	24	1.6	174	37	2.0	39	43	16.8
	5	0	14	39.8	60	39.4	143	2.2	11.4	0.9	3	2	155	143	0.42	7.2	24.0	D	114	4	1.6	23	16	1.0	218	73	25.0
	5	0	20	16.1	60	36.5	143	6.0	21.4	1.6	7	4	102	71	0.70	1.7	2.5	B	276	16	1.0	13	24	1.1	155	61	2.8
	5	1	20	51.2	63	39.7	148	54.6	98.4	3.9	16	3	171	222	0.43	8.8	24.9	D	278	0	8.8	188	6	2.2	8	84	25.0
	5	5	53	25.4	60	22.7	143	17.5	19.3	1.1	6	5	193	90	0.65	3.3	2.7	B	250	1	0.8	159	38	4.0	341	52	1.5
	5	8	50	45.0	60	37.2	140	45.3	15.0	1.4	3	2	194	98	0.11	19.6	16.0	D	320	5	1.1	54	39	25.0	224	51	4.1
	5	13	5	7.9	61	11.7	147	9.3	7.8	2.1	18	4	106	36	0.27	1.1	1.3	A	282	16	0.6	187	17	1.1	53	66	1.3
	5	13	30	0.4	60	14.5	141	1.6	11.8	2.2	14	3	122	79	0.12	1.4	2.1	A	291	8	0.7	25	22	1.2	182	66	2.3
	5	14	30	9.3	60	36.2	143	0.8	22.4	1.2	5	1	116	75	0.63	2.4	3.6	B	258	16	1.5	356	25	1.4	139	60	4.0
	5	14	54	58.3	60	9.1	141	1.4	14.9	0.9	3	2	134	122	0.02	19.2	16.1	D	83	17	1.7	188	40	25.0	335	45	1.5
	5	15	20	43.4	60	32.9	141	38.4	17.4	2.5	16	3	101	61	0.46	0.9	2.7	B	227	0	0.9	137	1	0.8	317	89	2.7

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979		ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
OCT	5	15	24	54.5	60	32.9	141	33.9	18.5	1.5	4	3	163	88	0.26	2.1	3.9	B	277	5	1.0	185	16	1.9	24	73	4.1
	5	22	16	9.0	60	50.6	151	9.4	64.9	3.0	20	2	63	63	0.54	1.3	3.4	B	160	3	1.3	70	9	1.0	268	81	3.5
	6	0	19	31.4	61	36.2	139	43.0	28.9	2.5	10	3	226	171	0.84	6.4	15.6	D	109	5	1.8	19	6	6.2	239	82	15.7
									2.4 ML	EMRC																	
	6	1	2	5.3	60	12.1	141	2.2	13.5	1.1	7	4	143	45	0.23	2.4	2.0	A	120	4	0.8	213	39	3.0	25	51	1.0
	6	3	5	58.8	60	19.2	141	2.2	15.8	1.0	4	4	162	50	0.19	4.4	7.9	C	289	5	1.1	22	28	1.0	190	61	9.0
	6	7	7	28.4	62	38.0	149	27.1	78.1	3.0	19	7	102	117	0.39	3.2	6.6	C	88	7	1.3	356	15	2.7	202	73	6.8
	6	7	12	28.1	59	54.8	140	0.4	15.0	0.8	3	2	197	82	0.17	17.5	17.9	D	290	4	1.2	196	44	1.6	24	46	25.0
	6	8	51	26.5	59	56.8	140	12.7	5.3	1.3	5	3	190	55	0.47	4.6	4.3	B	139	8	1.0	41	43	6.0	237	46	1.9
	6	9	33	17.4	60	9.2	140	60.0	13.0	1.5	8	2	135	79	0.18	2.8	2.0	B	290	7	0.9	196	31	3.1	31	58	1.3
	6	9	33	49.5	60	9.9	140	58.9	12.4	1.5	9	1	113	41	0.16	1.9	1.9	A	109	6	0.8	13	44	1.1	205	45	2.5
	6	9	40	36.3	60	26.9	143	8.2	0.	1.0	4	3	155	79	0.32	2.3	3.3	B	257	5	1.0	349	19	2.1	153	70	3.4
	6	10	33	4.5	60	24.3	140	59.6	16.9	1.5	8	6	140	53	0.30	1.6	2.6	B	325	9	0.9	58	22	1.3	214	66	2.8
	6	15	12	30.0	60	6.7	140	57.8	9.4	0.9	6	3	129	39	0.10	2.7	2.0	B	99	15	0.7	199	32	3.1	348	54	1.5
	6	15	21	38.7	60	14.4	140	59.0	6.1	1.0	7	4	152	43	0.17	1.7	3.0	B	326	16	1.0	62	21	0.8	201	63	3.4
	6	15	44	37.3	60	17.6	141	11.1	10.1	1.0	7	2	151	55	0.22	2.4	3.4	B	297	6	1.0	30	32	1.2	198	57	4.0
	6	17	8	17.3	60	18.3	141	11.6	7.2	1.6	13	3	120	55	0.16	1.2	2.2	A	328	8	0.7	61	21	0.9	218	67	2.3
	6	20	39	35.0	60	6.6	140	52.6	2.1	0.9	5	1	199	96	0.21	7.0	5.4	C	302	7	1.3	37	36	8.4	203	53	2.5
	6	20	51	38.4	60	32.6	140	36.3	15.0	1.6	11	5	181	62	0.28	1.5	3.0	B	318	2	0.9	48	5	1.5	206	85	3.0
	6	21	45	44.8	59	59.6	141	11.8	0.1	0.6	4	2	241	54	0.21	3.9	3.3	B	288	1	1.0	19	37	4.6	197	53	2.3
	6	22	49	54.7	58	24.4	153	41.4	69.6	3.6	11	0	185	105	0.46	3.9	8.8	C	328	2	1.7	59	14	3.3	230	76	9.1
			3.9	MB																							
	6	23	21	0.3	60	7.6	141	14.8	4.8	1.7	13	4	122	45	0.26	1.4	1.3	A	290	8	0.7	194	35	1.6	31	54	1.0
	6	23	32	45.8	60	1.4	141	12.5	9.0	0.8	4	2	232	54	0.14	10.7	1.8	D	22	5	10.7	113	9	0.9	263	80	1.6
	7	1	51	41.5	60	11.4	141	26.0	0.0	0.5	4	1	330	128	0.16	5.0	3.9	B	53	5	5.0	321	20	1.5	156	69	4.1
	7	2	33	46.4	60	16.9	141	17.0	8.1	0.9	7	1	145	61	0.30	2.2	3.3	B	308	8	0.9	43	31	0.8	205	58	3.9
	7	3	12	21.1	60	13.0	140	58.0	5.8	0.6	7	3	148	42	0.37	1.7	2.9	B	84	10	0.5	349	25	1.0	194	63	3.3
	7	5	0	14.9	60	19.4	140	34.1	4.5	0.7	5	2	262	66	0.13	3.4	3.8	B	88	4	1.1	355	39	2.4	183	51	4.6
	7	5	59	23.4	61	15.8	150	16.8	14.1	2.8	23	1	66	48	0.46	1.1	1.7	A	264	10	0.7	171	17	1.0	23	70	1.8
						3.1	ML	PMR			FELT	AT	ANCHORAGE														
	7	8	19	57.6	60	16.6	141	0.3	6.0	0.7	6	1	157	46	0.15	2.0	3.7	B	83	16	1.0	348	20	1.2	209	64	4.1
	7	8	55	35.2	63	9.3	149	34.4	58.8	2.8	14	4	167	168	0.74	5.7	24.5	D	92	2	1.9	1	11	3.2	192	79	25.0
	7	9	45	15.1	60	16.0	141	15.9	15.0	0.6	4	3	143	59	0.28	9.5	11.1	D	296	4	1.2	30	40	1.0	201	50	14.6
	7	10	19	11.1	60	19.1	141	13.7	0.8	1.1	8	1	152	54	0.08	1.5	3.2	B	88	5	0.9	356	17	1.2	194	72	3.3
	7	10	30	25.5	60	17.5	140	59.3	7.1	0.8	5	3	160	111	0.19	1.6	3.4	B	110	2	1.3	19	22	0.9	205	68	3.7
	7	11	44	54.8	60	15.6	141	8.7	6.1	0.8	7	2	147	53	0.29	1.7	3.3	B	326	13	0.9	61	22	0.8	208	64	3.6
	7	12	46	13.0	60	16.6	140	59.1	8.0	1.1	11	1	130	45	0.18	1.4	2.2	A	107	4	0.6	15	25	1.0	205	65	2.3
	7	15	2	13.6	60	23.6	140	32.2	5.9	1.5a	5	2	273	70	0.02	9.4	6.4	C	83	13	1.6	182	32	10.9	334	55	3.4
	7	17	45	53.3	59	20.7	138	47.9	26.2	1.9	6	0	322	83	0.40	8.3	3.0	C	146	12	8.5	53	13	7.5	277	72	1.7
	7	20	21	41.4	60	17.9	140	58.3	9.0	0.9	7	4	160	66	0.14	2.2	3.4	B	94	5	1.1	1	29	1.2	193	60	3.9
	7	22	13	19.1	60	39.3	143	3.0	0.0	1.1	9	2	97	57	0.62	2.0	2.3	A	211	12	1.1	311	38	0.7	107	49	3.0
	7	23	33	5.5	60	13.5	140	10.6	10.1	1.2	7	4	215	51	0.40	3.6	2.8	B	295	2	1.0	203	35	4.2	28	55	1.6
	8	1	21	39.0	60	16.5	140	54.0	12.6	1.3	13	6	134	41	0.44	1.0	1.3	A	277	4	0.6	10	32	0.8	181	58	1.5
	8	1	34	4.3	60	14.8	141	7.4	6.0	0.5	8	3	147	37	0.27	1.9	3.1	B	123	2	0.8	32	28	1.1	217	62	3.4
	8	1	43	10.7	60	16.1	140	16.1	6.9	1.5	12	6	172	52	0.51	1.9	1.9	A	295	15	0.6	37	39	1.4	188	47	2.3
	8	2	0	16.3	60	9.4	140	25.3	16.9	0.9	5	1	317	49	0.16	6.5	2.2	C	51	1	3.5	320	11	6.6	146	79	1.9
	8	2	28	36.3	59	42.5	140	53 5	6.4	0 5	4	0	223	87	0.	9.0	17.6	D	125	4	1.4	217	26	2.8	27	64	19.6
	8	2	55	58 5	60	13.4	141	20.6	8.3	0.6	6	2	134	27	0 22	1.9	2.6	B	312	10	0.7	49	33	0.8	207	55	3.1

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979		ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
OCT	8	3	6	19.8	60	4.0	140	28.8	11.8	1.7	11	1	119	38	0.35	2.0	1.6	A	289	11	0.7	24	24	2.0	176	63	1.5
	8	4	8	16.7	60	34.1	141	37.0	6.8	1.7	19	6	159	63	0.60	0.9	1.3	A	109	2	0.6	19	8	0.9	213	82	1.3
	8	4	14	26.3	63	23.3	149	40.5	41.3	2.9	13	2	277	194	0.74	12.3	20.7	D	87	3	4.0	177	3	12.2	312	86	20.7
	8	4	18	3.7	60	13.5	141	8.6	1.7	0.6	7	3	142	51	0.16	1.4	3.4	B	85	10	0.7	352	16	0.9	206	71	3.6
	8	4	19	51.5	60	7.8	140	58.7	7.0	0.8	5	2	132	102	0.22	2.5	2.4	A	73	31	0.9	322	31	1.5	198	43	3.2
	8	5	28	37.4	61	34.1	149	39.7	39.5	1.6	10	4	137	67	0.59	1.4	1.7	A	290	7	0.8	23	17	1.4	179	71	1.7
	8	5	39	42.3	59	49.7	141	12.1	31.6	1.0	4	2	229	61	0.36	5.2	3.9	C	25	30	5.4	272	34	4.8	146	41	1.3
	8	6	8	32.6	60	22.7	140	23.7	15.0	0.6	5	1	194	63	0.52	4.4	5.5	C	321	19	1.3	63	30	2.3	204	53	6.7
	8	7	26	5.7	60	12.9	141	1.9	4.2	0.7	8	2	145	43	0.24	1.6	2.7	B	91	19	0.6	354	19	0.8	223	63	3.1
	8	8	23	46.9	60	32.5	141	38.3	11.1	1.4	15	5	101	50	0.49	0.6	1.5	A	284	0	0.6	14	1	0.5	194	89	1.5
	8	9	9	42.6	62	24.5	149	15.6	38.6	3.0	20	1	214	119	0.46	3.4	3.3	B	336	24	3.0	84	34	1.1	218	46	4.1
	8	9	43	30.7	62	45.5	149	11.5	28.0	2.5	16	3	241	130	0.67	3.6	2.6	B	172	12	3.6	77	21	1.5	290	65	2.6
	8	10	36	7.9	60	3.0	140	55.4	7.3	0.9	5	2	157	95	0.42	2.4	1.6	A	0	10	2.4	94	21	0.6	246	67	1.6
	8	13	52	17.1	60	26.1	142	18.2	9.8	0.7	6	4	107	39	0.13	1.0	2.5	A	102	3	0.6	12	10	0.9	209	80	2.5
	8	14	36	40.8	60	9.3	140	52.2	8.1	0.9	4	1	196	127	0.04	5.5	5.9	C	291	18	1.0	187	37	2.9	42	47	7.6
	8	15	8	34.7	60	18.5	141	12.1	3.2	0.9	7	1	120	57	0.09	2.5	4.3	B	311	4	1.1	43	28	1.3	214	62	4.8
	8	15	21	19.7	60	15.2	141	15.0	15.0	0.7	4	2	142	58	0.21	13.4	14.9	D	107	2	1.4	16	42	1.2	199	48	20.0
	8	16	23	2.8	60	16.4	140	45.7	11.6	1.5	7	2	142	72	0.17	2.3	3.0	B	304	7	1.2	38	32	1.5	203	57	3.5
	8	22	26	21.5	60	10.0	141	0.5	13.4	1.4	7	1	138	43	0.04	2.9	2.2	B	301	10	0.8	204	36	3.5	44	52	1.0
	8	22	34	6.8	59	42.9	147	50.9	43.5	2.6	12	2	244	144	0.44	3.9	14.3	D	74	3	1.2	344	3	3.8	209	86	14.4
	9	0	44	52.0	60	14.3	140	58.9	5.6	0.9	4	2	152	81	0.20	4.6	6.6	C	93	5	0.9	359	33	1.8	191	56	7.8
	9	4	16	14.4	60	13.1	140	56.8	5.0	1.4	5	3	149	79	0.25	2.4	2.7	B	97	3	0.7	4	40	1.1	191	50	3.5
	9	5	13	27.2	60	12.3	140	58.9	10.3	1.3	5	2	146	42	0.19	6.1	6.9	C	296	14	1.1	37	38	1.2	190	49	9.1
	9	10	59	0.3	60	15.0	140	52.6	12.6	1.8	11	1	133	38	0.14	1.4	2.4	A	299	5	0.8	31	25	1.0	198	64	2.6
	9	11	31	4.2	60	13.8	141	18.1	16.1	0.7	4	2	137	60	0.03	5.8	4.9	C	106	16	1.3	209	40	7.4	359	46	1.5
	9	11	59	57.9	60	7.2	140	36.2	2.1	1.7	6	2	165	57	0.22	4.3	4.2	B	284	10	0.8	24	44	3.3	184	44	5.0
	9	15	10	55.8	60	46.3	144	45.6	4.7	2.2	28	2	93	59	0.80	1.2	1.9	A	28	16	0.9	125	22	0.6	265	62	2.1
	9	15	21	40.3	59	57.5	141	40.6	8.6	1.7	14	3	182	33	0.44	1.9	1.5	A	278	7	0.7	12	31	2.0	177	58	1.2
	9	18	21	49.6	60	14.5	140	49.9	13.6	1.9	14	1	135	37	0.11	1.4	2.1	A	289	4	0.8	21	25	1.1	191	65	2.3
	9	22	29	34.2	60	18.5	140	46.2	2.7	1.9	8	1	175	54	0.28	2.5	2.7	B	293	15	0.9	35	39	1.6	186	47	3.3
	9	23	21	7.7	60	16.1	140	54.7	12.5	1.8	6	1	194	47	0.06	4.0	4.3	B	106	5	1.2	12	42	1.8	201	48	5.6
	10	0	39	24.9	60	17.6	140	45.9	6.0	1.7	10	4	167	55	0.32	1.9	3.2	B	94	11	0.8	359	23	1.3	208	64	3.5
	10	1	58	28.2	62	18.2	148	40.0	37.9	2.9	25	1	112	87	0.41	2.6	1.7	B	182	12	2.6	84	34	0.9	289	53	2.0
	10	2	42	22.1	59	36.0	138	49.1	14.3	1.6	6	1	241	60	0.53	7.0	3.5	C	234	18	7.3	337	35	1.2	122	49	3.4
	10	5	4	18.7	60	12.2	141	6.0	2.3	1.3	10	4	140	48	0.23	1.6	1.9	A	107	9	0.6	11	36	1.0	209	53	2.3
	10	7	11	30.7	60	15.5	141	17.3	10.6	0.6	6	2	141	28	0.06	1.9	2.8	B	124	2	0.8	33	31	1.1	217	59	3.2
	10	7	50	32.7	60	18.3	140	47.0	11.7	1.1	7	3	168	53	0.25	2.2	3.3	B	110	2	1.0	19	30	1.4	203	60	3.8
	10	7	59	36.1	60	14.1	141	18.9	11.2	1.7	11	2	105	27	0.14	1.6	1.9	A	311	21	0.8	54	30	1.2	192	52	2.3
	10	8	18	48.4	60	14.8	141	19.0	9.4	1.2	11	3	107	27	0.26	1.2	1.6	A	318	18	0.7	56	24	0.9	195	59	1.8
	10	13	36	15.8	60	14.4	140	58.0	15.0	1.0	3	2	185	45	0.06	11.1	22.5	D	287	0	1.3	17	26	2.2	197	64	25.0
	10	14	15	18.6	59	28.0	138	37.7	12.8	0.9	4	1	309	78	0.06	14.6	6.3	D	145	21	6.8	244	21	15.6	15	59	1.8
	10	19	10	59.4	60	16.2	140	42.1	1.9	0.7	5	2	175	99	0.48	2.5	3.5	B	285	0	1.1	15	31	1.7	195	59	3.9
	10	23	1	29.4	61	36.6	149	31.4	37.5	1.8	16	6	139	61	0.68	1.0	1.2	A	98	7	0.6	189	7	1.0	324	80	1.3
	10	23	5	29.1	61	19.3	143	25.6	8.9	0.8	3	3	175	88	0.93	5.2	16.5	D	209	7	3.8	117	14	0.5	325	74	17.1
	10	23	36	49.4	56	29.9	135	17.2	10.4	4.4	13	1	312	428	0.40	24.1	17.9	D	336	25	25.0	224	38	4.8	90	41	21.1

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
OCT 10	23	46	9.2	61	34.3	151	49.2	99.3	3.1	23	1	74	59	0.58	2.3	4.0	B	63	4	1.4	154	17	2.1	320	73	4.2
11	5	48	58.2	60	1.9	141	17.0	6.5	2.2	18	4	101	17	0.35	1.2	1.0	A	289	16	0.5	194	19	1.2	57	65	1.0
11	6	20	12.5	60	11.9	140	59.4	12.4	1.2	6	1	144	80	0.12	2.8	2.5	B	315	24	0.9	66	39	1.3	202	42	3.6
11	7	12	2.6	60	1.9	141	16.8	6.1	1.6	13	6	100	17	0.44	0.8	0.9	A	113	9	0.4	15	40	0.8	213	49	0.9
11	9	48	10.4	62	29.3	149	8.9	43.0	2.2	13	6	263	101	0.46	3.0	8.0	C	313	3	2.9	43	14	2.0	211	76	8.2
11	13	4	55.6	61	23.7	147	33.3	28.6	1.6	13	6	125	62	0.46	1.1	1.8	A	13	2	1.1	283	7	0.5	119	83	1.8
11	14	35	50.7	60	3.3	141	15.2	5.0	1.4	14	6	91	20	0.48	1.0	1.0	A	100	8	0.4	195	27	1.0	355	62	1.0
11	20	5	34.4	60	15.1	141	0.4	10.2	1.2	7	2	153	43	0.12	2.7	3.5	B	109	2	0.6	18	36	1.4	202	54	4.2
11	20	7	52.5	62	2.8	147	54.6	35.3	2.3	16	6	178	91	0.60	1.2	1.0	A	347	13	1.2	85	31	0.8	237	56	1.1
11	23	7	40.6	60	11.7	140	59.7	9.1	1.4	10	3	143	43	0.26	2.0	2.2	A	106	2	0.8	14	39	1.3	198	51	2.7
12	5	28	37.1	60	12.2	140	18.5	13.0	0.9	5	3	177	48	0.34	2.9	1.5	B	206	12	3.0	113	14	1.0	335	71	1.4
12	5	46	26.3	60	8.4	140	10.3	19.9	0.8	4	1	261	68	0.12	11.2	1.9	D	22	2	11.2	113	33	1.4	289	57	2.0
12	11	18	3.3	60	19.0	140	45.9	9.5	0.8	7	1	170	54	0.25	2.1	3.4	B	111	2	1.0	20	27	1.4	205	63	3.8
12	14	46	3.2	60	18.5	140	12.9	14.5	1.2	4	1	315	85	0.15	7.6	3.5	C	174	3	7.6	266	32	5.8	79	58	1.9
12	17	38	9.1	60	22.3	140	41.5	7.8	1.4	5	2	274	75	0.14	4.8	3.8	B	66	9	1.0	160	25	5.0	318	63	3.6
12	19	49	41.1	60	34.7	141	37.8	14.2	0.9	7	2	105	49	0.24	1.4	2.5	A	97	5	1.3	5	13	0.8	207	76	2.5
12	23	47	43.0	60	2.0	141	17.9	4.3	0.5	4	2	239	44	0.09	6.0	3.5	C	291	2	0.8	22	25	6.6	197	65	2.3
13	1	45	18.1	61	25.2	144	10.6	4.3	1.4	5	1	160	56	0.15	21.2	13.5	D	100	13	1.1	1	32	25.0	209	55	2.5
13	2	48	47.8	61	7.6	145	42.1	9.4	1.4	14	1	121	43	0.56	1.0	1.9	A	357	0	1.0	87	3	0.6	267	87	1.9
13	3	24	58.0	61	37.0	147	33.3	18.6	1.8	12	3	158	84	0.40	1.3	2.7	B	204	2	1.3	294	5	0.8	92	85	2.7
13	7	40	15.3	60	11.6	140	18.4	9.1	1.5	6	1	159	47	0.20	2.7	2.5	B	280	8	0.8	183	42	3.3	19	47	1.6
13	9	29	31.5	61	48.9	149	25.6	38.4	1.6	15	9	160	58	0.42	1.3	1.0	A	169	1	1.4	259	12	0.8	74	78	1.0
13	10	14	18.1	60	16.5	140	14.3	7.0	1.2	7	1	191	54	0.27	2.1	2.9	B	282	6	0.8	15	32	1.4	183	57	3.3
13	11	12	53.3	61	29.3	147	44.6	16.9	1.5	21	5	92	75	0.58	1.0	1.7	A	171	11	0.9	264	16	0.6	48	70	1.8
13	13	58	20.8	62	44.2	148	19.3	88.6	4.4	27	0	253	134	0.40	6.9	8.6	C	262	2	1.8	172	25	6.4	356	65	9.0
			4.0 MB																							
13	14	33	59.7	62	13.3	149	29.5	44.3	2.4	21	7	198	76	0.50	1.8	4.0	B	93	3	0.8	2	9	1.7	201	80	4.0
13	16	22	12.8	60	0.3	140	25.3	13.8	0.6	3	1	277	107	0.	20.0	15.2	D	259	28	2.0	13	37	25.0	142	40	1.5
13	17	8	15.5	60	14.3	140	58.8	2.5	1.0	6	1	152	43	0.18	1.9	4.1	B	311	10	1.2	44	18	1.1	193	69	4.4
13	17	37	13.5	59	50.6	141	9.1	22.3	1.2	5	1	250	57	0.35	3.8	3.1	B	99	9	1.2	3	32	4.3	203	56	2.5
13	17	56	11.3	62	46.3	148	57.9	40.3	2.6	18	4	241	134	0.55	3.4	16.9	D	79	4	1.3	349	5	3.0	208	84	17.0
13	18	14	9.2	59	22.9	140	59.2	3.8	0.9	4	1	252	90	0.36	5.8	9.8	C	45	3	5.8	135	10	2.0	298	80	9.9
13	20	21	21.9	59	38.2	139	45.0	21.6	0.6	3	2	251	59	0.	13.7	21.0	D	206	20	2.2	306	25	1.2	82	57	25.0
13	20	49	27.6	61	27.0	150	57.8	63.2	3.0	28	1	96	66	0.46	1.6	3.0	B	67	2	1.0	158	17	1.3	330	73	3.1
13	20	54	9.6	63	4.8	149	18.6	39.2	2.8	22	4	215	166	0.80	2.9	21.8	D	354	3	2.3	84	4	2.1	227	85	21.9
14	0	34	47.7	60	5.8	140	42.4	3.6	1.4	12	5	130	43	0.39	1.5	1.4	A	293	2	0.4	201	35	1.7	26	55	1.2
14	2	3	6.3	60	0.9	140	33.6	6.1	1.6	12	3	133	36	0.50	1.5	1.5	A	24	2	1.5	293	11	0.6	124	79	1.5
14	3	16	43.0	60	16.7	141	12.0	10.7	0.8	8	3	148	56	0.27	1.8	2.3	A	83	16	0.7	342	32	0.9	195	53	2.8
14	4	3	49.3	60	10.9	140	52.4	8.4	0.7	4	1	195	101	0.09	6.4	6.4	C	295	16	1.0	191	40	3.9	42	46	8.3
14	5	43	56.4	60	7.2	141	10.8	0.1	0.6	5	1	128	51	0.07	2.9	3.6	B	112	2	0.8	20	36	1.5	205	54	4.4
14	7	44	6.4	60	16.5	141	13.3	11.4	1.9a	12	1	115	30	0.27	1.3	2.1	A	296	2	0.7	27	22	1.1	201	68	2.2
14	7	44	16.2	60	14.9	141	17.9	12.6	2.6	14	0	111	80	0.43	1.5	2.1	A	104	15	0.9	6	27	1.1	220	58	2.4
14	7	48	49.3	60	24.9	140	20.6	3.9	1.1	4	1	200	99	0.04	6.2	5.0	C	317	2	1.1	225	37	7.5	50	53	2.8
14	7	53	17.3	60	16.7	141	13.0	8.8	1.0	10	4	147	31	0.19	1.5	2.1	A	104	14	0.5	6	29	0.8	217	57	2.5
14	8	9	2.6	60	17.1	141	11.5	5.4	0.9	9	4	149	32	0.14	1.3	2.3	A	96	13	0.5	1	20	0.9	217	66	2.5
14	8	21	50.7	60	15.2	140	58.3	1.5	0.8	6	4	154	43	0.29	1.1	3.6	B	96	3	0.5	5	11	0.8	201	79	3.7

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
OCT 14	9	13	44.3	60	26.0	140	24.4	1.0	0.9	4	2	199	68	0.14	1.4	3.6	B	14	3	1.4	283	7	1.1	127	82	3.6
14	9	58	28.9	60	16.0	141	13.9	8.8	1.2	11	4	113	51	0.28	1.3	1.9	A	112	4	0.6	19	30	0.9	209	60	2.2
14	12	42	55.0	60	14.0	140	45.0	11.7	1.0	6	1	161	69	0.06	2.9	2.9	B	107	1	1.2	16	45	1.7	198	45	3.7
14	12	56	18.3	60	12.9	141	4.2	13.0	1.1	7	3	144	47	0.21	3.1	2.9	B	103	4	0.8	197	42	4.1	9	48	1.2
14	14	47	1.0	60	8.3	141	4.8	14.9	1.0	10	4	130	46	0.38	2.7	1.3	B	100	16	0.6	195	17	2.8	329	66	1.1
14	16	2	18.5	60	12.7	140	34.2	9.5	1.0	4	2	181	89	0.10	10.2	3.2	D	39	1	10.2	309	23	1.0	131	67	3.4
14	16	15	24.4	58	47.6	136	58.3	7.3	2.0	6	6	306	176	0.92	19.2	16.3	D	269	23	3.5	158	40	25.0	21	41	3.1
14	16	49	3.7	60	20.3	141	10.1	12.9	1.0	8	5	158	57	0.20	1.6	2.7	B	257	0	0.9	347	28	0.8	167	62	3.0
14	16	52	49.3	60	14.7	140	57.7	15.9	2.8	21	2	127	42	0.38	1.3	1.6	A	293	2	0.7	24	32	1.0	200	58	1.8
14	18	7	18.7	59	59.3	141	18.4	4.9	0.9	4	2	191	93	0.07	4.4	2.8	B	120	24	0.8	16	28	4.9	244	52	2.1
14	18	16	52.9	60	16.1	141	15.0	13.3	2.7	12	2	115	78	0.44	1.6	2.1	A	301	4	0.9	33	32	1.2	205	58	2.3
14	18	21	38.9	60	16.3	141	13.9	9.7	1.7	10	2	116	77	0.14	1.4	1.9	A	292	8	0.9	26	25	1.3	186	64	2.1
14	22	10	48.0	60	23.6	141	14.5	11.9	1.0	4	0	217	38	0.	9.3	24.3	D	128	6	1.8	37	13	7.5	242	76	25.0
15	1	20	14.2	60	17.7	141	12.2	5.4	0.9	9	4	150	54	0.16	2.0	3.3	B	95	12	0.8	359	25	1.1	208	62	3.7
15	1	40	12.8	59	59.6	140	9.3	2.7	0.5	3	2	154	29	0.10	3.7	24.7	D	50	2	1.4	140	8	1.0	306	82	25.0
15	3	12	22.9	60	12.0	141	3.2	14.1	1.4	13	5	115	46	0.19	1.7	1.6	A	292	2	0.6	199	43	2.2	24	47	0.9
15	3	30	57.5	60	7.5	140	58.1	9.9	1.2	11	4	131	40	0.22	2.0	1.7	A	102	11	0.5	200	36	2.3	358	52	1.3
15	6	36	42.0	60	14.7	140	58.6	10.7	1.5	15	4	126	43	0.11	1.2	1.5	A	114	8	0.6	20	29	0.9	218	60	1.7
15	9	14	2.1	60	16.4	140	4.9	12.3	1.6	9	3	199	57	0.28	2.7	2.2	B	308	5	0.7	215	36	3.1	45	54	1.6
15	9	52	19.4	60	16.8	140	5.9	14.0	1.5	6	2	199	57	0.22	4.1	3.6	B	316	12	1.3	216	40	5.2	59	48	1.8
15	10	0	15.8	60	10.2	140	22.0	14.8	0.9	5	1	169	47	0.17	3.7	1.8	B	68	6	3.7	336	18	1.1	176	71	1.8
15	10	22	3.7	60	16.0	140	29.2	16.1	1.0	5	1	176	59	0.16	3.6	2.9	B	55	9	3.6	322	18	1.3	170	70	3.0
15	10	56	42.3	60	6.8	141	23.3	7.9	1.5	17	7	119	28	0.40	1.3	0.8	A	19	1	1.4	289	5	0.5	120	85	0.8
15	12	21	11.3	60	13.6	140	24.6	5.8	0.8	4	1	175	53	0.23	3.7	3.6	B	314	17	1.2	60	40	2.7	206	45	4.5
15	12	24	47.9	60	7.7	140	29.8	17.1	0.9	5	0	150	45	0.26	2.5	2.1	B	205	6	2.5	296	11	1.2	87	77	2.1
15	13	9	51.0	60	2.3	141	33.5	8.0	2.3	22	2	136	26	0.49	1.2	1.2	A	108	1	0.6	198	5	1.2	7	85	1.2
15	13	29	29.4	61	34.1	149	28.9	32.9	1.6	21	9	133	36	0.57	0.8	0.8	A	102	14	0.5	2	34	0.9	211	52	0.7
15	13	31	47.2	59	59.5	141	17.2	1.1	0.8	7	2	219	48	0.22	3.9	3.7	B	124	7	0.8	27	43	5.1	221	46	1.8
15	13	34	55.1	60	4.3	140	48.5	11.7	1.4	11	5	134	38	0.33	1.9	1.3	A	110	9	0.5	203	20	2.0	357	68	1.2
15	13	51	9.9	60	14.9	140	48.2	15.0	1.0	4	2	163	54	0.35	6.3	8.9	C	297	13	1.1	35	32	1.9	188	55	10.8
16	0	35	20.8	60	17.9	140	56.4	6.0	0.8	4	3	164	44	0.02	3.9	9.8	C	285	4	1.0	17	20	1.4	184	70	10.4
16	1	14	37.5	60	17.4	140	56.7	9.9	0.9	5	3	160	82	0.10	1.9	3.4	B	306	8	1.2	40	26	0.9	200	63	3.8
16	2	6	20.8	59	54.6	140	7.6	9.9	1.9	6	2	161	49	0.74	2.9	2.8	B	127	11	0.7	228	44	1.6	26	44	3.7
16	2	49	50.2	60	52.6	139	58.0	5.3	1.6	9	3	158	88	0.81	1.9	3.2	B	296	3	0.8	26	8	1.9	186	81	3.2
								1.8 ML	EMRC																	
16	2	57	1.8	60	1.3	141	32.2	8.9	0.6	3	2	255	121	0.33	3.8	2.9	B	272	25	1.7	22	36	4.7	156	44	1.1
16	3	42	39.8	60	10.5	141	30.3	8.1	0.8	4	2	177	70	0.06	7.8	3.2	C	219	21	8.3	321	29	1.0	98	53	1.4
16	6	2	48.2	59	60.0	141	17.7	4.1	0.9	6	3	220	59	0.20	2.5	2.5	B	118	8	0.7	20	44	3.4	216	45	1.0
16	6	6	18.9	60	0.2	141	17.2	3.4	0.9	5	1	218	58	0.09	4.4	3.3	B	126	10	0.7	29	35	5.2	230	53	1.7
16	8	24	57.5	59	59.1	141	17.3	1.5	0.8	7	1	220	49	0.19	4.2	4.0	B	123	6	0.9	27	44	5.5	219	45	1.8
16	9	35	31.5	60	14.5	141	2.1	8.4	1.0	6	2	150	46	0.21	2.5	3.5	B	76	20	0.9	336	26	1.2	199	56	4.1
16	11	12	23.0	60	16.6	140	44.7	2.4	1.0	6	4	166	43	0.14	1.3	3.2	B	279	1	0.8	9	15	1.0	185	75	3.3
16	12	14	33.1	59	52.9	141	43.1	3.8	2.7	19	0	183	33	0.56	1.6	1.7	A	106	4	0.7	199	39	1.4	11	51	1.9
								3.4 ML	PMR																	
16	12	17	52.3	60	2.7	141	17.8	10.9	0.7	4	1	235	58	0.07	22.6	1.8	D	203	2	22.6	293	3	1.2	79	86	1.7
16	12	20	4.6	59	53.9	141	43.3	9.8	1.9	14	1	182	38	0.30	2.3	1.8	A	107	16	0.7	6	33	2.6	219	52	1.4
16	13	23	16.9	59	54.2	141	44.0	11.1	2.1	16	2	182	39	0.64	2.2	1.8	A	103	9	0.8	7	33	2.4	206	55	1.4

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
OCT 16	13	57	59.2	60	37.2	140	45.1	11.2	0.9	4	1	180	97	0 04	8.6	9.1	C	143	1	0.9	234	42	5.8	52	48	11.0
16	15	4	39.7	59	52.3	141	43.6	8.6	1.5	10	2	216	40	0.49	1.7	2.4	A	96	1	1.0	187	29	1.2	4	61	2.7
16	15	40	26.3	59	53.9	141	47.4	11.4	1.0	7	2	200	42	0.21	2.2	2.5	A	256	6	0.9	161	39	1.5	353	50	3.0
16	16	52	0.2	59	49.8	141	48.9	1.1	1.8	8	2	209	90	0.37	2.9	2.7	B	95	5	1.2	1	39	3.2	191	51	2.3
16	17	29	49.1	59	52.6	141	41.0	1.0	1.1	3	2	287	134	0.29	3.1	5.7	C	348	1	2.7	258	24	2.0	80	66	6.2
16	18	32	55.5	60	22.8	141	15.7	20.3	1.0	5	2	123	64	0.20	2.3	4.3	B	78	14	1.9	344	17	1.0	206	68	4.6
16	19	21	28.5	60	37.8	141	18.7	28.3	3.0	23	3	75	64	0.60	1.2	2.1	A	132	1	0.9	222	10	1.1	36	80	2.2
								3.5 ML	EMRC																	
16	20	40	42.6	60	4.6	140	38.5	3.8	0.8	6	1	125	44	0.08	2.2	2.7	B	94	2	0.6	4	16	2.2	191	74	2.8
16	21	59	4.9	61	45.4	147	13.3	11.0	1.8	20	7	185	75	0.37	1.4	1.3	A	281	6	0.6	16	37	1.4	183	52	1.2
16	22	23	44.2	60	2.4	141	16.7	4.7	1.4	12	4	154	42	0.35	1.7	1.3	A	113	11	0.6	17	27	1.8	223	60	1.2
17	5	7	59.1	61	22.1	149	35.1	41.1	1.7	12	11	72	35	0.38	0.8	1.3	A	218	1	0.6	128	9	0.8	314	81	1.3
17	7	15	41.2	60	10.4	140	57.9	10.5	1.0	10	8	140	40	0.28	1.2	1.1	A	104	12	0.4	205	43	1.5	2	45	0.7
17	7	30	33.7	60	17.6	141	15.7	11.3	0.8	7	6	147	28	0.36	1.7	2.5	B	311	6	0.5	44	32	0.7	212	57	2.9
17	8	56	15.3	60	2.6	141	17.2	4.1	0.7	6	5	202	58	0.19	2.8	1.4	B	21	17	2.9	117	19	0.5	252	64	1.3
17	9	58	26.9	60	40.5	147	32.1	32.3	1.7	21	18	120	52	0.57	0.7	0.6	A	264	9	0.3	171	24	0.8	13	64	0.6
17	10	15	40.8	59	58.3	141	17.1	3.5	0.8	4	3	256	59	0.21	2.8	1.4	B	114	3	0.7	23	10	2.8	220	80	1.3
17	11	23	33.2	60	20.5	147	10.3	20.6	1.5	21	19	168	61	0.70	0.7	0.9	A	265	14	0.4	170	21	0.6	26	64	1.0
17	13	4	27.3	60	15.9	140	57.4	7.8	0.9	5	5	157	81	0.07	1.3	1.8	A	296	4	0.6	29	33	0.8	200	57	2.1
17	13	45	40.1	60	26.0	147	2.3	23.3	1.5	19	15	157	51	0.56	0.7	1.0	A	172	11	0.7	266	17	0.4	51	69	1.0
17	16	50	16.6	60	8.6	141	12.0	14.4	0.5	5	5	128	53	0.30	2.1	1.2	A	206	26	2.3	102	27	0.6	333	51	0.7
17	20	31	33.5	62	40.0	149	23.0	17.5	2.3	11	9	235	135	0.84	1.6	1.6	A	259	6	1.0	163	44	1.6	355	45	1.5
17	23	34	8.9	59	56.7	140	57.5	11.6	4.0	24	2	121	36	0.57	1.3	1.2	A	107	4	0.6	199	28	1.4	10	62	1.2
		4.5	MB		4.9	ML	PMR	3.5	ML	EMRC																
18	0	7	56.4	60	10.6	140	58.4	11.9	1.6	12	6	115	41	0.36	1.0	1.3	A	98	8	0.5	2	34	0.6	199	55	1.5
18	1	2	23.1	61	54.3	149	51.5	39.1	1.3	7	6	203	88	0.31	2.4	2.3	A	116	2	0.8	208	43	2.9	24	47	1.6
18	1	3	50.7	59	53.8	140	56.3	1.1	0.7	6	3	216	73	0.21	1.5	3.3	B	212	8	1.4	121	9	0.6	343	78	3.4
18	1	43	25.5	59	55.1	140	52.8	0.7	0.9	6	5	206	70	0.20	1.3	1.4	A	117	9	0.5	213	35	1.1	15	54	1.5
18	1	50	16.6	59	54.7	140	53.5	0.9	0.9	6	5	209	70	0.12	1.5	3.0	B	204	7	1.5	113	10	0.6	329	78	3.1
18	2	12	23.5	60	29.6	140	39.6	11.8	0.7	3	2	193	110	0.02	5.3	5.3	C	319	17	0.7	215	36	4.6	69	49	6.1
18	2	24	44.4	59	57.7	140	56.0	10.4	1.7	18	7	124	36	0.36	1.0	0.8	A	290	1	0.4	200	23	1.0	22	67	0.8
18	2	30	44.4	60	13.2	140	48.8	14.2	0.9	6	5	157	72	0.09	1.5	1.6	A	287	1	0.6	18	43	0.8	196	47	2.0
18	3	21	58.2	60	13.2	141	2.5	11.3	1.1	9	6	146	46	0.43	1.7	1.8	A	102	1	0.4	11	44	0.6	193	46	2.4
18	3	56	53.8	60	16.6	140	56.4	9.9	1.5	14	11	132	43	0.40	0.6	1.0	A	106	1	0.4	16	23	0.5	198	67	1.0
18	4	0	27.8	60	20.5	140	15.4	14.7	0.8	4	2	197	89	0.30	4.9	5.4	C	330	19	1.1	75	35	1.6	217	48	7.2
18	4	16	44.9	60	3.9	140	38.7	8.6	1.7	12	5	127	43	0.36	1.0	1.1	A	291	4	0.5	24	33	0.9	195	57	1.2
18	5	50	14.0	60	2.1	141	16.2	7.7	1.4	11	6	98	18	0.39	0.8	0.8	A	104	2	0.4	13	45	0.7	196	45	1.0
18	6	57	9.0	60	1.2	141	15.6	5.8	1.0	9	7	157	43	0.54	1.2	1.0	A	110	14	0.4	11	33	1.3	220	53	0.9
18	7	35	16.7	60	1.1	141	14.8	3.0	0.9	5	3	208	56	0.30	2.5	1.9	A	114	10	0.6	18	31	2.7	220	57	1.6
18	10	7	3.5	60	14.0	141	32.8	4.1	0.8	12	7	94	35	0.63	0.7	1.2	A	289	5	0.4	21	22	0.6	187	67	1.3
18	10	39	23.1	60	12.7	141	0.9	11.4	1.1	6	5	145	44	0.31	1.4	1.3	A	94	17	0.6	200	42	1.8	347	43	0.7
18	11	39	41.8	60	26.4	151	9.2	8.5	2.7	27	1	78	52	0.51	1.0	2.4	A	354	3	1.0	264	5	0.8	115	84	2.4
18	11	45	57.4	60	30.4	148	35.7	3.7	1.4	12	8	149	46	0.63	0.9	1.2	A	349	13	0.7	252	29	0.5	100	58	1.4
18	11	51	59.5	62	8.6	150	2.2	41.5	3.5	31	1	94	80	0.48	2.6	5.0	C	355	4	2.5	86	6	1.1	232	83	5.1
					3.8	ML	PMR																			
18	12	28	58.5	59	54.6	140	54.0	0.0	0.9	4	4	217	89	0 35	1.4	1.6	A	118	7	0.5	213	32	1 3	17	57	1.7
18	12	52	45.7	60	17.9	140	16.3	5.7	0.8	3	2	320	86	0 01	3.8	3.3	B	0	27	3.5	113	37	1.5	244	41	4 2
18	12	59	44 9	60	18.4	140	16.1	5.7	0.7	3	1	320	86	0	6 4	7 3	C	105	26	1.8	0	28	3.5	231	50	9.2

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979	ORIGIN HR	TIME MN	SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
OCT 18	13	51	41.6	60	15.0	140	59.8	6.6	1.1	9	8	153	44	0.49	1.0	1.3	A	97	2	0.4	6	36	0.6	190	54	1.5
18	14	36	48.4	60	41.6	143	13.7	11.3	1.5	14	8	77	61	1.13	0.7	1.7	A	18	6	0.6	110	18	0.4	270	71	1.8
18	14	50	0.8	61	36.0	147	50.7	28.5	1.5	19	14	105	68	0.64	0.7	0.8	A	94	3	0.4	3	5	0.6	215	84	0.8
18	15	15	42.5	60	55.2	147	38.3	26.4	1.7	11	9	131	75	0.37	0.7	2.1	A	166	2	0.7	257	14	0.5	68	76	2.2
18	15	26	9.1	60	13.2	140	46.7	10.6	0.8	5	4	158	70	0.46	1.5	1.8	A	101	8	0.6	5	37	0.9	201	52	2.2
18	15	48	0.8	59	52.9	140	52.1	1.4	1.0	6	4	219	42	0.42	2.1	1.5	A	120	8	0.5	27	21	2.1	230	67	1.5
18	15	56	56.7	62	30.7	149	28.7	42.0	2.8	24	11	136	104	0.60	1.8	10.9	D	349	2	1.8	79	4	0.8	232	86	11.0
18	17	32	48.8	60	16.6	140	58.0	12.1	0.7	6	4	158	82	0.09	1.9	2.7	B	82	16	0.8	343	28	1.0	198	57	3.2
18	17	45	53.6	61	29.3	146	42.4	16.9	2.1	30	16	66	48	0.70	0.6	1.0	A	20	4	0.6	289	12	0.4	128	77	1.0
18	20	54	19.8	60	14.5	140	29.1	15.8	1.1	5	4	173	57	0.25	1.6	1.8	A	292	2	0.6	23	40	1.1	200	50	2.2
18	22	26	39.8	60	16.9	141	0.4	9.9	1.6	19	9	129	42	0.39	0.7	1.1	A	293	0	0.4	23	19	0.7	203	71	1.1
18	22	53	48.0	60	34.2	142	36.3	9.0	0.8	4	3	150	53	0.30	1.2	4.4	B	18	6	0.6	109	10	0.9	257	78	4.5
19	3	32	41.0	60	15.9	140	47.8	9.0	0.9	5	1	163	73	0.39	3.9	5.0	B	309	25	0.8	52	26	1.5	182	53	6.2
19	5	22	37.0	60	18.8	141	19.0	12.4	1.3	12	7	113	50	0.37	1.0	1.9	A	39	10	0.7	305	20	0.6	154	67	2.0
19	5	40	33.5	60	19.8	141	17.4	9.8	1.1	10	5	116	53	0.23	0.7	2.0	A	259	3	0.6	349	13	0.6	156	77	2.0
19	7	23	41.5	60	15.2	141	1.4	13.0	1.9	18	6	152	43	0.30	1.5	1.7	A	289	16	0.5	30	35	1.0	179	51	2.0
19	7	46	34.3	62	17.3	149	12.9	30.1	2.1	11	10	251	79	0.74	2.1	1.6	A	320	14	2.1	59	32	0.8	210	54	1.8
19	9	35	4.3	60	19.7	141	18.4	14.2	0.9	8	6	150	52	0.42	1.2	2.1	A	110	2	0.6	19	26	0.8	204	64	2.3
19	12	30	42.5	60	2.5	141	15.5	0.0	1.1	7	2	170	56	0.70	1.9	1.4	A	295	3	0.6	26	9	2.0	187	80	1.4
19	13	46	30.2	60	17.2	140	41.8	13.9	0.9	6	3	169	70	0.20	2.3	3.3	B	305	19	0.8	45	27	0.9	184	56	3.9
20	3	23	41.6	59	54.3	140	55.2	2.2	1.2	7	3	174	72	0.28	1.6	2.2	A	105	10	0.7	202	31	1.1	359	57	2.5
20	5	14	50.9	60	12.3	140	38.5	17.9	0.4	4	3	165	92	0.03	3.2	2.4	B	292	21	0.9	189	32	3.5	50	50	2.0
20	8	18	50.8	62	24.2	148	27.1	30.8	2.1	16	10	212	112	0.73	1.8	1.6	A	198	28	1.4	84	36	0.9	315	41	2.1
20	9	42	19.7	60	48.2	147	21.9	15.6	1.3	20	17	102	52	0.51	0.6	1.4	A	176	3	0.6	267	17	0.3	76	73	1.5
20	10	38	56.8	62	10.0	149	1.2	11.1	1.7	15	9	192	73	0.90	1.2	1.4	A	151	9	1.2	246	26	0.6	44	62	1.5
20	10	59	39.0	60	13.0	141	3.7	4.5	0.4	6	4	144	47	0.71	1.2	1.9	A	87	15	0.5	350	22	0.9	208	63	2.1
20	12	58	38.7	60	15.7	140	47.6	11.8	0.8	4	4	166	102	0.21	1.4	1.8	A	296	8	0.6	31	36	0.9	195	53	2.1
20	13	29	39.6	60	40.1	143	20.5	16.7	1.1	8	5	82	63	1.11	0.7	2.1	A	25	3	0.7	115	4	0.5	258	85	2.1
20	16	14	47.1	59	52.4	141	43.6	8.4	0.7	10	6	190	40	0.51	1.2	1.3	A	109	14	0.6	210	38	1.0	3	49	1.5
20	17	12	20.4	61	8.6	147	12.4	11.7	1.5	16	5	100	47	0.46	0.8	1.5	A	6	0	0.8	275	21	0.4	96	69	1.6
20	17	24	11.7	60	28.2	141	12.1	8.9	1.3	11	5	131	56	0.70	1.1	1.7	A	102	1	0.6	12	4	1.0	206	86	1.7
20	17	24	26.6	61	34.4	146	29.4	12.8	1.7	20	14	170	57	0.74	0.8	1.1	A	23	15	0.7	287	21	0.4	146	64	1.2
20	17	59	55.8	60	3.5	141	14.2	6.8	0.7	8	8	150	44	0.29	1.2	0.7	A	105	7	0.4	14	10	1.2	230	78	0.6
20	18	17	40.1	59	41.6	140	29.0	0.6	1.2a	4	3	283	56	0.49	2.5	5.0	B	245	2	2.5	335	10	1.1	144	80	5.1
20	18	34	48.9	60	15.3	141	52.1	2.2	1.3	19	12	82	36	0.69	0.6	1.0	A	108	3	0.3	17	17	0.6	208	73	1.1
20	20	28	28.6	60	26.2	144	55.9	22.7	1.6	22	12	107	47	0.73	0.9	0.8	A	104	17	0.4	210	42	1.0	357	43	0.7
20	21	20	7.5	61	4.0	146	13.7	0.9	1.4	20	7	52	43	0.58	0.7	1.0	A	339	7	0.7	248	8	0.5	110	79	1.0
20	21	57	53.7	60	26.5	144	56.0	23.4	1.6	25	16	106	46	0.63	0.8	0.7	A	106	20	0.4	214	41	0.8	357	42	0.7
20	22	48	2.9	60	17.1	140	56.1	15.8	1.5	12	9	133	43	0.36	0.8	1.5	A	313	9	0.5	47	22	0.6	202	66	1.6
20	22	49	15.9	60	9.0	140	55.4	4.8	0.7	4	2	137	101	0.14	1.8	1.8	A	96	12	0.8	355	43	1.6	198	45	1.9
21	0	4	55.3	60	28.8	142	46.9	6.7	0.1	3	3	164	66	0.26	21.7	12.5	D	277	30	25.0	30	35	0.6	157	41	2.2
21	0	9	9.8	60	12.5	141	7.1	1.8	0.5	5	5	144	87	0.23	1.6	3.6	B	92	7	1.3	359	19	0.8	201	70	3.8
21	0	42	23.5	60	9.3	140	19.5	13.3	0.7	6	2	169	45	0.16	3.6	1.9	B	294	14	1.1	200	16	3.7	63	69	1.7
21	5	23	35.9	60	26.3	147	45.7	28.9	1.9	22	12	154	70	0.47	0.9	1.1	A	267	6	0.4	174	20	0.9	13	69	1.1
21	5	59	1.1	60	10.7	141	9.3	8.9	1.2	18	10	107	34	0.34	0.9	1.1	A	291	4	0.4	23	35	0.5	195	55	1.3

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
OCT 21	7	35	13.6	60	4.5	147	55.5	42.1	2.2	23	15	175	90	0.65	1.2	7.8	C	359	2	1.2	89	3	0.6	235	86	7.8
21	8	34	4.6	60	16.2	141	22.4	7.7	1.1	8	7	106	65	0.35	0.8	1.7	A	297	7	0.5	29	17	0.7	185	72	1.8
21	8	54	9.8	60	12.8	139	41.9	3.3	1.4	5	1	209	63	0.43	4.8	7.3	C	119	8	1.3	24	30	2.3	222	59	8.5
21	9	30	2.7	59	55.2	140	52.7	0.9	0.9	5	3	211	70	0.13	3.2	3.4	B	122	7	0.7	218	41	2.5	24	48	4.0
21	9	47	56.8	60	4.6	140	56.0	10.9	1.1	6	2	141	74	0.03	3.2	2.0	B	100	22	1.1	200	23	3.4	331	57	1.7
21	9	52	35.8	60	26.9	145	0.2	23.5	1.7	23	11	103	61	0.57	0.9	0.8	A	93	23	0.5	203	39	0.8	340	42	0.9
21	11	25	55.8	60	27.3	145	2.6	22.1	1.8	26	8	109	62	0.50	0.9	0.8	A	78	21	0.7	337	27	1.0	201	55	0.8
21	11	39	26.8	60	13.6	145	55.9	9.9	1.5	21	11	212	53	0.50	1.2	1.3	A	77	4	0.6	171	40	0.9	342	50	1.6
21	13	12	46.7	60	26.7	147	39.4	27.6	1.9	18	13	154	66	0.49	0.8	0.9	A	82	3	0.4	174	36	0.8	348	54	0.9
21	16	42	30.3	60	13.6	140	46.4	8.6	0.7	7	3	159	70	0.28	2.1	1.5	A	290	6	0.7	197	23	2.2	34	66	1.4
21	20	33	18.8	59	41.9	139	19.3	17.5	0.2	3	2	187	69	0.25	24.2	6.8	D	313	7	0.9	222	15	25.0	67	73	2.3
22	0	23	42.0	61	48.5	149	17.7	4.0	1.5	12	3	159	51	0.82	1.8	1.8	A	147	26	1.1	257	35	0.7	29	44	2.4
22	0	35	24.2	60	9.4	141	10.3	8.8	1.8	13	6	103	51	0.25	1.6	1.8	A	304	20	0.6	48	32	1.1	188	51	2.2
22	3	17	57.3	60	22.3	141	16.5	12.7	1.3	10	6	155	56	0.28	1.1	2.3	A	320	14	0.7	53	15	0.8	188	69	2.5
22	3	32	30.9	60	10.0	141	7.8	7.6	1.3	10	2	106	49	0.29	2.5	2.3	A	102	4	0.8	196	42	3.2	8	48	1.1
22	4	36	17.8	60	17.0	141	4.6	6.4	1.3	11	3	125	50	0.20	1.6	2.5	A	100	8	0.6	5	29	0.8	204	60	2.8
22	5	5	7.0	60	39.7	143	10.3	3.9	1.3	8	1	79	61	1.01	1.2	2.4	A	157	3	0.7	67	6	1.2	274	83	2.5
22	5	5	55.8	60	19.1	140	20.5	6.6	1.2	5	1	190	57	0.19	4.2	4.9	B	315	23	0.8	60	31	1.8	195	50	6.2
22	6	31	13.6	60	14.0	140	49.3	11.6	1.3	6	2	134	73	0.05	4.4	5.3	C	302	19	1.1	44	33	1.5	187	51	6.7
22	7	4	40.2	60	11.8	141	4.2	15.0	0.7	3	1	168	47	0.19	14.9	20.1	D	89	16	1.4	349	32	1.2	202	53	25.0
22	7	46	54.3	59	59.9	140	25.1	18.7	0.9	3	1	250	44	0.	9.7	13.0	D	51	18	4.3	152	30	2.3	294	54	16.0
22	8	38	49.8	60	30.4	143	41.4	20.1	1.1	3	2	188	133	0.30	12.9	21.5	D	161	18	2.8	63	24	1.4	284	59	25.0
22	13	57	24.7	60	3.9	141	11.9	17.0	0.9	4	1	208	53	0.01	24.2	6.6	D	199	15	25.0	97	39	2.0	306	47	1.5
22	15	29	50.6	60	17.4	141	12.2	9.7	1.4	16	5	118	31	0.33	1.0	1.7	A	314	11	0.7	47	19	0.9	195	68	1.8
23	4	44	10.5	59	52.6	141	48.8	10.6	1.7	7	6	191	122	0.28	1.7	1.8	A	275	23	0.9	170	30	1.4	36	50	2.1
23	5	5	17.6	60	46.5	147	35.0	25.6	1.9	26	7	61	46	0.54	0.8	1.4	A	18	0	0.8	288	5	0.5	108	85	1.4
23	6	6	20.7	60	40.3	143	35.0	20.6	1.4	3	1	179	122	0.05	7.6	23.9	D	359	2	6.7	90	17	1.3	262	73	25.0
23	7	3	6.8	60	16.1	153	16.1	167.1	3.6	20	1	201	104	0.42	4.9	7.7	C	29	10	2.1	124	24	3.7	278	64	8.4
23	8	6	4.5	60	12.1	141	1.4	15.0	0.8	3	2	143	118	0.15	16.8	18.6	D	300	19	1.3	44	36	1.5	188	48	25.0
23	8	6	44.3	60	8.0	140	54.9	4.0	1.2	6	3	134	37	0.14	2.5	2.7	B	97	9	0.6	359	40	1.7	197	49	3.3
23	8	27	23.2	60	5.2	140	33.2	5.8	1.7	10	2	118	42	0.26	1.5	1.9	A	290	11	0.6	25	23	1.4	176	64	2.0
23	17	10	2.6	63	6.7	151	26.0	25.9	3.8	18	0	137	187	0.70	5.2	7.9	C	339	15	3.3	77	26	2.6	222	59	9.0
23	18	44	45.6	59	43.3	138	41.6	27.5	2.3	9	2	147	97	1.01	6.5	8.8	C	291	22	1.8	33	27	1.5	167	54	10.8
23	21	17	11.5	60	15.7	140	57.0	1.6	0.8	5	4	157	43	0.20	1.3	4.7	B	87	3	0.6	357	10	1.0	194	80	4.7
23	23	38	27.4	60	18.0	140	46.2	12.4	1.1	6	6	144	74	0.26	3.4	3.3	B	312	20	0.8	57	36	3.2	199	47	3.8
24	4	58	54.5	60	13.6	141	10.0	11.6	1.8	11	4	112	52	0.20	1.2	1.9	A	296	3	0.7	27	23	1.0	199	67	2.0
24	6	6	3.6	63	33.6	149	8.8	43.2	3.4	17	2	169	214	0.59	6.7	23.2	D	202	7	1.7	293	13	3.0	84	75	24.0
24	6	13	44.0	62	38.7	151	23.8	118.3	4.1	28	2	118	136	0.43	4.3	6.4	C	179	2	4.3	89	6	2.3	287	84	6.4
24	7	18	38.7	60	14.6	141	9.4	10.1	1.6	7	3	144	91	0.29	2.3	1.8	A	279	0	0.7	189	30	2.5	9	60	1.6
24	8	13	16.9	61	47.4	149	57.9	42.4	1.9	13	6	155	64	0.36	1.2	2.3	A	180	2	1.2	270	6	0.8	72	84	2.3
24	14	17	32.3	60	20.3	141	18.2	9.9	2.0	11	1	151	52	0.43	1.7	2.3	A	54	19	1.3	315	23	0.9	179	59	2.6
24	15	7	31.5	61	35.3	149	39.5	32.5	2.0	17	7	130	39	0.51	1.3	1.1	A	89	11	0.6	354	27	1.4	199	61	1.0
25	5	9	9.4	63	54.8	148	4.5	36.8	3.4	9	3	167	235	0.57	9.2	4.3	C	4	9	1.1	272	11	9.4	132	76	4.1
25	7	3	5.9	60	13.5	140	41.4	12.2	1.5	10	2	140	66	0.30	1.5	2.3	A	107	9	0.6	13	22	1.2	218	66	2.5
25	8	45	48.3	60	24.4	147	41.2	27.1	1.8	15	6	169	87	0.32	1.3	1.2	A	259	4	0.5	353	39	1.4	164	51	1.2

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	G	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
OCT 25	9	11	50.2	60	3.5	148	4.3	2.4	2.0	22	6	206	90	0.73	1.3	1.7	A	347	8	1.3	252	28	0.6	91	61	1.9
25	12	14	47.1	61	33.0	146	20.7	21.5	2.7	32	1	87	56	0.74	0.8	1.4	A	304	3	0.6	34	3	0.8	169	86	1.4
25	12	22	54.9	61	32.9	146	15.9	22.4	1.8	19	7	91	57	0.91	0.8	1.2	A	277	6	0.5	9	16	0.8	167	73	1.2
25	13	26	20.4	59	24.4	152	59.3	69.7	3.1	18	1	102	127	0.28	2.7	7.6	C	48	3	1.6	139	10	2.3	302	80	7.7
25	15	37	55.2	60	33.4	141	35.7	11.8	1.4	13	7	159	63	0.56	0.9	1.4	A	112	1	0.5	22	11	0.9	207	79	1.5
25	16	34	58.5	61	13.3	139	5.7	16.1	2.4	7	3	201	170	0.60	3.3	5.0	B	299	5	1.7	207	25	2.7	40	64	5.4
								2.4 ML EMRC																		
25	16	42	5.0	60	35.0	142	50.8	17.2	2.1	7	5	150	57	0.67	1.1	1.5	A	73	16	1.0	336	21	0.6	197	63	1.6
25	17	1	1.6	63	10.5	150	30.9	137.6	4.7	22	1	277	189	0.40	7.8	10.7	D	275	2	3.4	7	32	5.1	182	58	12.2
		4.1	MB																							
25	17	24	52.1	62	24.5	148	3.4	37.7	2.3	17	7	214	103	0.61	1.6	0.9	A	195	3	1.6	286	23	1.1	98	67	0.9
25	19	13	10.1	60	12.4	140	40.6	2.2	1.3	5	1	185	93	0.29	6.2	2.8	C	32	0	6.2	302	5	1.0	122	85	2.8
25	20	6	35.1	61	9.9	148	12.6	27.4	1.8	16	8	101	69	0.66	0.8	1.1	A	274	4	0.4	184	8	0.8	30	81	1.1
25	21	34	7.3	60	15.2	140	58.5	6.8	0.7	6	2	154	82	0.54	2.7	3.3	B	305	18	0.7	47	33	1.3	191	51	4.1
26	0	38	30.6	60	16.2	140	56.8	10.2	0.9	8	2	158	43	0.34	1.9	2.8	B	76	17	0.7	337	26	1.0	195	58	3.3
26	2	47	29.0	59	51.6	141	44.0	11.4	1.1	3	3	317	135	0.22	2.6	1.5	B	197	4	2.7	289	28	2.1	100	62	1.3
26	3	35	40.5	60	26.6	144	57.1	21.5	1.9	28	5	107	45	0.74	1.0	1.0	A	105	21	0.5	355	41	0.9	215	41	1.1
26	5	59	12.8	60	3.2	141	15.4	6.0	1.3	9	3	151	43	0.30	1.4	1.0	A	100	3	0.5	190	10	1.4	353	80	1.0
26	9	4	1.1	60	12.7	141	1.7	12.2	0.9	8	2	145	45	0.11	1.7	1.5	A	92	12	0.6	189	31	1.9	343	56	1.4
26	13	9	9.0	60	0.7	141	31.5	6.2	0.7	6	2	182	28	0.22	1.4	2.0	A	85	3	0.6	177	31	1.0	350	59	2.3
26	15	14	47.2	60	28.1	140	19.5	3.4	1.7	11	2	189	69	0.23	1.1	2.7	B	309	0	0.7	39	1	1.0	219	89	2.8
26	15	19	20.0	60	15.5	140	58.8	3.6	0.9	7	2	155	44	0.19	1.4	2.8	B	76	11	0.8	342	22	0.7	191	65	3.0
26	18	52	29.5	60	32.4	143	25.9	11.9	1.4	4	1	163	51	0.48	2.8	6.2	C	45	13	0.9	311	17	1.5	171	68	6.7
26	21	28	44.4	60	17.7	140	38.6	14.3	1.7	14	2	151	49	0.24	1.2	2.0	A	282	5	0.6	14	18	1.1	177	71	2.1
26	23	26	29.9	61	25.6	147	26.0	25.4	1.6	8	2	177	63	0.31	1.8	5.7	C	90	5	0.7	181	7	1.6	325	81	5.7
27	1	9	26.3	60	18.8	141	11.0	15.0	0.9	5	1	153	56	0.18	4.2	6.3	C	58	22	1.4	318	23	1.2	187	57	7.4
27	3	32	36.8	60	50.0	146	49.5	15.2	1.8	24	6	81	29	0.56	0.8	0.9	A	277	6	0.5	184	22	0.8	21	67	0.9
27	3	33	35.5	61	6.3	147	31.4	2.9	2.3	28	4	79	53	0.71	0.8	0.8	A	277	19	0.5	174	34	0.8	31	50	0.9
27	4	49	19.9	62	51.3	148	9.6	4.2	2.1	13	9	276	132	0.60	1.7	1.7	A	20	4	1.4	286	44	1.0	114	46	2.2
27	6	32	2.7	61	43.2	149	26.9	43.0	3.2	30	4	151	53	0.43	1.4	1.4	A	85	3	0.7	177	44	1.4	352	46	1.5
										FELT (I) AT PALMER																
27	6	53	32.2	60	1.5	141	10.0	7.4	1.4	12	4	80	22	0.38	0.7	0.9	A	321	17	0.6	60	25	0.6	201	59	1.0
27	7	26	8.9	60	43.0	147	22.3	9.0	1.3	22	11	112	55	0.82	0.8	1.0	A	264	17	0.4	165	28	0.6	22	57	1.1
27	10	4	1.2	60	48.6	146	52.2	13.8	1.4	19	9	120	33	0.71	0.9	0.9	A	258	15	0.4	154	43	0.7	3	43	1.1
27	12	57	28.5	60	35.3	141	39.1	22.4	1.7	10	3	100	63	0.29	0.8	2.6	B	280	3	0.8	190	5	0.7	41	84	2.6
27	13	9	37.8	63	11.6	150	10.8	84.9	3.2	14	6	127	181	0.73	3.0	13.1	D	242	2	2.9	332	7	2.0	136	83	13.2
27	14	37	0.3	62	0.6	150	21.4	63.7	3.3	25	3	180	64	0.43	2.1	2.6	B	262	1	1.0	352	3	2.1	154	87	2.6
						3.2 ML PMR																				
27	15	14	15.3	60	18.1	141	13.9	10.6	0.9	9	3	117	53	0.13	1.4	2.5	B	333	14	0.9	68	18	1.0	207	67	2.7
27	16	37	23.0	60	36.1	141	42.2	12.4	1.6	11	6	96	60	0.63	0.8	1.8	A	138	2	0.5	228	7	0.8	32	83	1.8
27	17	11	28.7	60	14.8	140	47.6	17.5	1.0	6	1	161	39	0.19	3.0	3.0	B	304	15	0.9	48	42	1.3	199	44	4.1
27	17	47	34.8	60	2.2	140	48.1	6.9	0.8	4	1	181	66	0.07	9.8	4.6	C	269	0	0.8	179	22	10.5	359	68	2.5
27	17	51	29.0	58	1.5	135	43.0	15.1	3.2	4	1	357	311	0.40	25.0	19.7	D	41	1	25.0	311	40	7.2	132	50	25.0
27	18	27	23.5	60	12.3	140	46.7	14.2	0.9	5	3	155	69	0.09	2.5	2.1	B	298	14	0.6	196	38	3.1	44	48	1.3
27	20	11	32.2	60	16.8	141	6.2	6.2	0.8	7	1	152	51	0.21	2.5	3.4	B	317	16	0.7	56	31	1.1	203	54	4.1
27	22	17	2.1	59	25.6	152	52.4	68.6	3.8	18	0	105	134	0.21	3.2	8.6	C	45	3	1.7	136	14	2.4	303	76	8.9
		4.1	MB							FELT IN HOMER AREA																
27	22	44	11.4	63	1.3	150	32.0	100.5	3.1	11	5	271	175	0.40	6.3	11.0	D	286	8	2.3	20	26	3.2	180	63	12.3
28	0	33	36.4	60	14.8	141	0.7	9.8	1.2	5	1	151	83	0 01	3.7	4.2	B	307	16	1.4	48	34	2.5	196	51	5.1
28	0	42	2.6	60	17.1	140	49.4	7.1	1.5	7	5	139	76	0.32	1.1	2.1	A	326	14	0.6	61	17	0.8	199	68	2.2

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
OCT 28	1	4	4.2	60	18.4	140	38.5	14.1	1.6	11	4	152	49	0.22	1.1	2.4	A	294	10	0.7	25	10	1.1	160	76	2.5
28	1	14	3.5	60	10.2	141	12.9	0.6	1.3	7	3	131	48	0.21	2.0	3.4	B	96	2	0.7	5	26	1.3	190	64	3.7
28	2	22	57.3	60	16.5	140	41.5	16.1	1.6	12	6	146	46	0.29	1.0	1.5	A	109	2	0.6	18	24	0.9	203	66	1.6
28	2	28	18.2	63	12.0	149	32.6	60.3	2.9	19	3	120	173	0.84	4.0	19.2	D	343	0	4.0	73	1	2.8	253	89	19.2
28	6	24	12.6	59	56.1	151	35.8	65.3	3.6	24	1	101	84	0.47	2.0	3.0	B	341	4	2.0	71	6	1.1	217	83	3.0
										FELT IN HOMER AREA																
28	7	22	31.8	60	9.8	141	6.4	4.0	1.0	7	4	134	48	0.28	2.6	4.0	B	94	9	0.6	359	31	1.0	198	58	4.6
28	7	48	27.1	60	3.5	141	11.3	5.0	1.3	7	3	113	20	0.34	2.2	1.3	A	17	3	2.2	107	5	0.6	256	84	1.3
28	14	41	11.7	62	43.9	148	16.9	29.9	2.7	17	2	239	134	0.55	4.6	2.9	B	190	24	4.9	83	33	1.5	309	47	2.7
28	15	34	20.9	59	55.2	140	42.1	9.2	1.6	9	4	163	50	0.24	2.4	2.1	A	104	4	0.8	11	36	2.7	199	54	1.7
28	15	53	38.3	60	7.6	141	13.4	4.2	0.9	5	1	175	54	0.11	9.0	9.1	C	103	10	1.0	4	43	2.2	203	45	12.6
28	19	9	32.0	60	12.8	140	57.5	13.0	1.2	8	4	148	41	0.20	4.2	4.9	B	278	4	0.9	12	40	1.1	183	50	6.3
28	19	37	45.7	60	17.4	140	41.1	11.5	1.3	9	6	148	46	0.24	1.2	2.5	A	93	3	0.6	2	20	0.9	191	70	2.6
28	21	55	20.9	60	26.2	141	27.9	10.9	1.3	11	5	111	54	0.32	1.3	2.0	A	342	7	0.6	76	26	1.0	238	63	2.2
28	22	26	32.0	60	15.5	141	3.3	11.6	1.1	7	2	151	48	0.22	3.4	5.6	C	320	19	1.0	58	23	0.9	194	60	6.5
28	23	14	39.1	60	20.1	141	11.7	7.0	0.8	8	4	155	57	0.30	1.7	3.6	B	307	5	1.0	39	21	1.0	204	68	3.8
29	0	53	59.0	62	40.3	148	12.5	39.3	3.0	21	1	235	130	0.54	4.6	14.9	D	177	1	4.6	87	2	1.6	294	88	14.9
29	1	37	9.5	60	12.9	140	18.6	13.1	1.7	13	1	162	48	0.26	1.8	1.9	A	304	14	0.7	47	39	1.4	198	47	2.2
29	1	50	24.4	60	24.9	140	22.5	8.4	2.2	18	2	182	66	0.29	1.6	2.9	B	312	9	0.8	44	15	1.5	192	72	3.0
29	2	5	40.6	60	19.3	141	22.5	20.5	1.5	9	4	110	48	0.21	1.8	2.6	B	90	6	1.3	356	32	0.8	189	57	3.1
29	2	32	25.3	60	16.5	141	12.2	9.1	1.4	9	3	116	56	0.31	2.1	2.9	B	328	10	0.9	65	32	1.0	223	56	3.4
29	4	31	22.4	60	13.1	141	7.6	25.0	0.9	6	2	142	50	0.15	4.1	3.8	B	298	21	1.4	46	40	1.4	187	43	5.4
29	4	51	22.8	60	8.7	140	13.4	16.0	1.0	4	1	284	70	0.01	25.0	3.7	D	13	1	25.0	282	42	5.0	104	48	1.8
29	9	32	47.0	60	25.6	140	22.5	7.5	2.3	16	4	183	67	0.31	1.7	3.0	B	311	8	0.8	43	15	1.5	194	73	3.1
29	9	39	41.5	60	25.3	140	22.5	9.0	1.8	13	2	183	66	0.24	2.3	4.1	B	295	9	0.9	28	22	1.7	184	66	4.4
29	14	37	55.5	60	13.9	140	57.2	13.2	1.2	8	2	152	41	0.13	3.2	4.0	B	104	4	1.1	11	37	1.5	199	53	4.9
29	14	48	1.4	60	11.8	141	1.5	14.0	1.1	7	4	142	44	0.28	9.1	10.2	D	315	27	1.3	62	29	1.1	190	48	13.6
29	16	48	38.9	59	58.8	140	53.9	10.4	2.0	13	4	119	37	0.33	1.4	1.4	A	105	5	0.7	10	44	1.1	200	46	1.6
29	23	33	26.3	60	8.4	140	58.8	10.1	1.1	7	4	134	41	0.21	2.9	2.7	B	84	20	0.7	335	41	1.0	193	42	3.8
30	0	18	3.0	61	36.3	148	42.7	31.6	1.5	6	2	206	86	0.46	2.4	1.5	A	282	23	2.5	30	37	1.0	167	44	1.3
30	2	4	11.6	60	9.6	141	20.1	6.6	0.7	4	3	126	60	0.05	18.5	15.0	D	104	13	0.9	205	39	23.8	359	48	1.4
30	3	53	34.6	62	18.7	148	35.0	22.6	2.0	8	6	219	100	0.31	2.8	3.0	B	275	12	1.2	15	40	1.8	172	48	3.8
30	4	1	24.3	60	37.1	141	30.5	19.7	1.4	11	3	112	65	0.44	1.2	3.6	B	272	4	1.2	182	9	0.7	26	80	3.7
30	5	41	29.6	60	9.0	141	0.7	12.5	1.5	6	2	109	58	0.15	2.7	2.4	B	94	9	0.9	192	41	3.3	354	48	1.4
30	5	51	13.2	60	8.7	140	58.0	10.6	0.9	7	2	135	40	0.21	2.8	2.4	B	95	13	0.7	195	37	3.4	349	50	1.5
30	5	52	49.2	60	9.2	140	57.9	10.8	1.4	10	3	112	34	0.21	2.6	2.2	B	96	12	0.6	196	39	3.2	352	48	1.2
30	6	19	42.4	60	13.1	141	1.2	9.0	0.7	3	2	270	82	0.02	5.7	6.7	C	319	4	5.7	51	25	0.9	221	65	7.4
30	7	16	38.9	59	55.4	139	46.0	15.0	0.3	3	2	169	73	0.25	21.9	12.3	D	287	25	1.4	32	29	25.0	163	50	2.2
30	8	3	4.7	60	37.1	140	45.7	18.1	1.2	4	2	179	97	0.03	7.8	5.1	C	142	3	0.9	50	24	8.3	239	66	4.2
30	8	34	42.8	59	52.5	139	58.2	3.8	0.8	4	2	187	78	0.35	4.5	5.3	C	132	9	1.0	229	38	1.9	31	51	6.7
30	9	0	24.4	60	53.6	148	54.1	10.6	1.5	12	2	102	52	0.40	1.2	1.5	A	228	11	0.8	322	21	1.1	112	66	1.6
30	9	49	28.8	59	55.6	140	51.8	0.3	0.8	5	1	202	87	0.10	4.2	4.0	B	112	8	1.1	14	43	5.3	210	46	2 5
30	11	23	2.2	60	10.2	140	19.4	10.2	1.6	12	4	154	46	0.37	1.4	1.5	A	301	10	0.6	36	29	1.3	194	59	1.6
30	12	12	45.1	60	17.0	140	45.3	11.8	1.4	8	3	143	72	0 18	1.3	1.7	A	293	1	0.7	24	33	0.8	201	57	2.0
30	13	48	6 3	61	4.5	148	22.5	15.2	1.5	6	2	173	42	0.27	2.2	2.8	B	207	11	0.9	303	30	1.8	99	58	3.1
30	16	20	59.1	60	21.2	140	39.2	16.3	0.8	3	2	193	120	0.09	5.8	13.0	D	47	13	2.0	312	19	1.0	169	67	14.1

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
OCT 30	17	27	5.1	60	20.0	140	26.9	7.7	0.8	3	1	186	130	0	5.0	8.0	C	329	19	1.0	66	19	3.8	198	63	8.9
30	18	26	33.0	60	3.0	141	15.4	7.0	1.0	7	3	152	43	0.16	2.5	1.4	A	279	11	0.8	12	14	2.5	152	72	1.3
30	20	37	12.1	60	57.0	148	8.1	1.7	1.6	9	4	163	84	0.45	1.9	2.6	B	133	20	1.4	233	25	0.6	9	57	3.0
30	20	44	25.5	60	16.5	140	55.8	8.3	1.0	6	4	159	42	0.17	2.7	4.5	B	84	10	1.1	349	27	1.2	193	61	5.1
30	22	34	8.8	60	14.9	140	59.9	0.1	0.4	4	3	226	45	0.11	4.7	7.1	C	79	5	1.0	347	22	4.0	181	67	7.5
30	22	35	14.5	59	58.5	141	25.4	3.4	2.8	16	3	146	20	0.48	1.3	1.5	A	289	1	0.6	19	4	1.3	185	86	1.5
30	22	45	10.5	60	11.4	141	2.6	15.0	0.7	3	2	141	118	0.18	17.3	18.1	D	301	20	1.3	47	37	1.5	189	46	25.0
31	1	32	40.2	61	39.2	147	32.0	24.6	2.3	22	2	96	84	0.59	1.1	1.5	A	272	10	0.7	178	21	1.0	26	67	1.6
31	1	46	43.3	59	58.9	140	46.0	0.1	0.8	4	1	175	122	0.13	3.4	3.4	B	102	6	1.1	197	44	2.3	6	45	4.2
31	5	58	48.3	60	7.4	140	33.2	1.2	0.9	3	1	206	141	0.	22.1	13.0	D	296	21	1.3	38	29	25.0	175	53	6.1
31	6	52	16.1	60	0.9	141	15.2	2.3	1.2	7	1	145	19	0.30	1.2	1.8	A	136	4	1.0	45	5	1.2	264	84	1.8
31	7	5	8.7	61	14.1	149	37.5	40.0	2.2	22	4	50	48	0.36	1.1	2.4	A	172	3	1.1	81	4	0.8	298	85	2.4
31	7	14	56.7	61	41.1	149	26.1	30.2	1.7	14	7	148	50	0.53	1.2	1.2	A	89	8	0.9	186	39	1.0	349	50	1.3
31	7	50	44.5	59	58.9	141	17.0	1.1	0.8	5	2	217	59	0.30	2.9	3.6	B	110	2	1.1	202	37	1.5	17	53	4.4
31	9	33	45.7	61	2.3	150	16.1	11.9	1.7	12	3	81	58	0.51	1.4	3.0	B	168	1	0.9	258	22	0.7	76	68	3.2
31	12	34	56.2	60	12.5	140	59.8	11.7	1.5	8	3	123	39	0.27	1.9	2.7	B	335	5	1.1	68	32	1.0	237	58	3.1
31	14	1	2.4	60	41.7	147	1.5	17.4	2.0	25	5	105	44	0.50	1.0	1.5	A	175	15	1.0	269	16	0.6	44	68	1.6
31	14	35	59.2	60	22.1	141	15.7	16.8	1.6	13	3	120	56	0.31	1.0	2.2	A	317	3	0.8	48	13	0.9	214	77	2.3
31	16	55	33.3	60	20.0	140	23.2	10.8	1.8	11	2	172	60	0.13	2.2	3.4	B	302	15	0.9	38	21	1.8	179	64	3.7
31	17	43	29.4	60	11.9	140	42.1	7.9	1.4	7	2	137	65	0.19	2.6	3.6	B	285	2	1.0	16	33	1.6	192	57	4.1
31	20	13	52.6	60	15.9	140	53.1	8.5	0.9	4	2	188	117	0.18	24.9	6.5	D	214	5	25.0	305	15	1.3	106	74	6.3
31	20	30	6.8	61	25.7	147	23.5	13.4	1.9	27	6	55	61	0.49	0.9	1.4	A	192	10	0.9	285	15	0.6	70	72	1.5
31	22	2	7.5	60	6.8	140	53.6	7.3	0.8	6	2	131	35	0.13	4.1	3.5	B	95	7	0.7	191	39	5.1	357	50	1.8
NOV 1	2	31	39.5	60	19.3	149	31.6	39.0	3.3	26	2	95	44	0.41	1.5	1.3	A	326	29	1.4	81	37	0.7	209	39	1.7
1	2	42	39.1	60	1.5	141	16.5	5.7	1.2	9	3	101	17	0.30	1.2	1.2	A	110	6	0.7	203	29	1.2	9	60	1.3
1	7	28	24.0	61	32.3	150	40.3	62.7	2.5	21	2	116	68	0.43	1.8	4.1	B	79	4	1.0	170	14	1.5	333	75	4.2
1	7	34	5.8	60	0.5	141	16.7	3.4	0.9	8	3	155	19	0.19	1.3	1.5	A	45	8	1.3	137	9	0.9	274	78	1.5
1	9	45	9.4	60	21.9	140	50.7	9.4	1.3	7	4	172	44	0.35	2.4	3.0	B	311	18	0.8	52	31	1.2	195	53	3.7
1	9	54	56.7	60	15.3	140	59.3	10.6	0.9	8	2	154	44	0.17	2.3	2.8	B	87	15	0.9	346	34	1.1	197	52	3.4
1	9	55	17.5	60	13.4	141	1.8	16.1	1.1	7	3	147	45	0.33	2.5	2.4	B	85	23	0.9	335	38	1.2	198	43	3.3
1	11	12	57.5	60	18.9	140	43.3	14.2	1.7	15	4	84	46	0.36	1.1	2.1	A	75	14	0.7	340	18	0.8	201	67	2.3
								2.2 ML	EMRC																	
1	15	45	0.8	63	8.3	150	54.4	120.6	3.5	11	3	281	195	0.31	18.2	16.8	D	97	4	4.3	190	41	21.8	2	49	11.9
1	16	39	45.8	60	3.4	141	29.9	9.5	1.3	12	5	123	25	0.39	1.3	1.0	A	279	0	0.5	9	10	1.4	189	80	1.0
1	19	10	11.4	60	12.2	141	21.2	0.9	1.5	7	3	106	61	0.35	2.3	4.3	B	73	5	2.3	342	13	0.9	184	76	4.4
1	19	11	45.3	60	9.0	141	27.2	3.6	1.3	4	2	127	91	0.21	16.7	9.7	D	131	6	1.3	224	30	19.3	31	59	1.2
1	21	33	0.3	60	10.7	141	2.5	16.3	1.0	3	3	206	82	0.09	19.2	16.2	D	91	26	1.9	338	39	2.4	205	40	25.0
1	23	3	51.4	61	1.4	148	7.8	24.6	1.8	10	6	83	51	0.24	1.2	1.8	A	275	2	0.8	6	23	1.1	180	67	1.9
2	0	35	2.8	62	10.5	149	42.9	87.2	3.4	17	1	209	83	0.80	3.6	4.9	B	90	5	1.5	183	24	3.2	349	65	5.2
2	0	59	8.5	60	11.9	141	11.7	7.8	1.2	11	3	107	50	0.19	2.3	2.2	A	100	7	0.8	197	42	2.9	2	47	1.2
2	1	6	6.0	60	19.6	141	16.9	6.2	1.1	9	3	117	53	0.28	1.4	2.9	B	346	12	0.9	79	14	1.0	217	71	3.1
2	1	7	1.7	60	7.0	140	58.0	6.5	1.2	7	6	130	40	0.15	2.2	2.2	A	88	21	0.6	341	38	1.1	200	45	3.0
2	2	56	0.6	60	4.0	140	45.0	8.0	1.6	10	5	132	41	0.41	1.7	1.3	A	102	1	0.6	192	7	1.7	4	83	1.3
2	6	25	58.2	61	20.0	146	52.5	23.3	1.7	10	1	126	50	0.38	1.4	2.9	B	4	7	1.3	273	9	0.8	131	79	2.9
2	8	2	23.4	60	0.4	151	53.6	75.8	3.2	15	1	205	69	0.42	4.0	5.7	C	97	16	1.5	359	27	2.6	214	58	6.6
2	8	5	12.9	60	8.0	140	56.6	10.8	1.7	14	5	77	33	0.19	1.3	1.7	A	97	9	0.7	1	32	0.9	201	56	1.9
								2.2 ML	EMRC																	

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979		ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
NOV	2	8	37	20.6	60	6.9	140	52.8	5.5	0.9	7	1	131	35	0.63	2.3	2.4	A	91	16	0.8	348	39	1.7	199	47	2.9
	2	11	0	28.2	60	35.0	151	38.1	65.2	3.1	22	1	73	63	0.53	1.6	3.7	B	340	2	1.4	71	17	1.1	243	73	3.9
	2	11	51	47.3	60	35.4	147	16.5	3.6	2.4	21	1	166	79	0.40	2.4	1.7	A	351	28	2.6	242	31	0.7	114	46	1.5
	2	15	50	12.9	60	10.3	140	19.7	11.4	0.9	6	1	171	46	0.28	3.1	1.8	B	215	16	3.2	313	27	1.3	98	58	1.7
	2	16	5	27.5	60	52.2	146	59.5	19.2	2.0	15	4	182	46	0.35	2.0	1.3	A	340	4	2.0	247	26	0.7	78	64	1.4
	2	17	55	55.3	60	15.9	141	11.2	14.4	0.9	5	3	146	53	0.14	3.9	4.9	B	82	13	1.1	342	35	1.2	189	52	6.2
	2	18	34	11.9	60	3.5	140	51.1	14.5	1.3	9	4	138	36	0.63	2.1	1.4	A	9	4	2.1	100	6	0.6	246	83	1.4
	2	18	38	42.6	60	22.9	140	23.1	13.3	1.5	8	5	195	63	0.42	2.8	3.5	B	295	3	1.0	27	36	1.8	201	54	4.1
	2	19	12	5.8	60	14.9	140	17.7	11.2	1.1	7	2	184	50	0.21	2.9	2.7	B	290	2	0.9	198	42	3.6	22	48	1.6
	2	22	46	10.1	60	2.2	141	0.2	23.3	1.3	6	2	172	56	0.44	4.8	3.3	B	230	23	3.2	335	33	5.5	112	48	1.1
	3	0	16	47.6	60	2.0	141	16.5	5.1	0.7	6	2	175	42	0.21	2.3	1.8	A	277	9	0.8	12	31	2.5	173	58	1.6
	3	0	35	33.8	60	13.4	140	18.8	11.7	1.3	11	4	163	48	0.27	2.3	2.0	A	301	10	0.6	202	39	2.7	43	49	1.4
	3	0	59	54.5	60	17.2	141	30.4	3.7	1.0	12	3	100	40	0.26	1.1	2.4	A	308	8	0.6	40	14	0.9	189	74	2.5
	3	1	41	11.5	60	17.0	139	43.2	0.	1.6	12	4	87	62	0.53	1.6	4.0	B	330	6	0.8	62	13	1.4	216	76	4.1
									2.0 ML EMRC																		
	3	5	22	57.3	60	16.8	141	3.6	0.0	0.4	6	3	154	49	0.06	1.1	3.7	B	67	6	0.8	336	8	0.9	193	80	3.8
	3	7	25	45.5	60	2.4	140	9.7	13.3	0.5	4	3	148	31	0.32	2.6	4.3	B	227	8	2.0	133	27	1.2	332	62	4.8
	3	8	45	48.7	60	42.4	141	14.8	15.0	1.1	4	1	160	87	0.76	12.1	19.7	D	159	19	1.0	258	24	2.3	35	59	23.1
	3	9	0	3.2	60	36.2	141	45.0	25.8	2.1	25	6	63	58	0.62	1.0	1.8	A	38	1	1.0	308	5	0.7	139	85	1.8
									2.4 ML EMRC																		
	3	9	1	50.8	60	33.5	143	8.2	25.4	1.0	5	1	120	69	0.54	14.7	17.4	D	51	2	2.1	319	40	0.9	143	50	22.7
	3	10	11	24.3	61	20.2	143	24.1	35.1	2.1	14	3	182	76	0.74	2.5	1.3	A	24	13	2.5	282	42	1.0	127	45	1.4
	3	10	13	48.8	60	0.4	141	15.8	3.5	0.8	8	3	160	43	0.30	1.8	2.0	A	276	4	0.7	183	40	0.9	11	50	2.5
	3	10	24	53.6	60	15.8	140	56.4	12.5	1.2a	5	4	158	42	0.16	4.0	6.2	C	282	7	1.2	16	31	1.3	181	58	7.3
	3	10	26	29.2	60	13.6	140	43.2	13.2	1.1	7	2	161	43	0.09	2.8	2.6	B	102	7	0.9	197	41	3.4	4	48	1.7
	3	15	37	1.6	60	6.2	140	40.1	10.8	2.3	22	3	89	40	0.43	1.3	1.5	A	281	2	0.6	13	34	1.0	188	56	1.7
									3.0 ML EMRC																		
	3	15	47	29.9	61	19.9	146	42.4	19.1	1.8	24	9	49	46	0.53	0.6	1.3	A	202	6	0.6	293	7	0.5	72	81	1.3
	3	16	46	53.4	60	9.3	140	59.0	9.3	0.7	6	2	136	78	0.25	2.6	2.3	B	87	19	1.1	194	41	3.2	338	43	1.4
	3	18	31	46.3	60	4.2	140	12.0	12.7	1.3	6	3	160	34	0.52	1.7	1.4	A	228	11	1.8	133	24	1.0	341	63	1.5
	3	23	47	35.2	60	18.0	140	55.2	10.1	1.1	8	5	162	43	0.40	1.6	2.5	B	80	11	0.7	344	27	0.9	190	60	2.9
	3	23	59	33.0	59	30.3	138	48.9	15.0		3	2	253	173	0.08	17.6	18.1	D	324	22	6.0	71	36	2.1	209	46	25.0
	4	0	24	17.0	60	16.5	140	58.8	13.2	2.0	13	3	81	73	0.14	1.9	2.6	B	325	11	0.9	61	31	1.3	218	57	2.9
									2.3 ML EMRC																		
	4	1	5	20.2	61	0.0	146	16.2	6.3	2.2	25	3	68	35	0.44	1.0	1.1	A	255	16	0.6	156	27	0.9	12	58	1.1
	4	4	51	15.8	61	24.6	149	33.5	38.5	2.0	23	6	81	32	0.49	1.0	1.1	A	4	8	1.0	97	24	0.6	257	65	1.1
	4	5	3	40.5	60	40.6	143	6.8	12.5	3.0	29	1	70	74	1.05	1.1	2.4	A	18	7	0.9	110	19	0.6	269	70	2.5
							4.2 ML PMR		3.7 ML EMRC																		
	4	7	30	38.8	60	14.0	141	37.8	4.6	0.8	9	1	125	34	0.16	2.3	4.1	B	296	12	0.8	31	23	1.3	180	64	4.6
	4	10	44	38.1	60	25.1	147	31.1	26.7	2.3	27	3	142	61	0.47	1.2	1.1	A	87	5	0.6	179	23	1.2	345	66	1.1
	4	11	54	2.7	61	17.7	149	53.0	39.9	1.8	16	4	50	50	0.31	1.0	2.2	A	227	3	0.8	136	4	1.0	353	85	2.2
	4	12	12	15.8	60	16.5	140	48.9	8.1	0.9	5	4	163	75	0.26	1.9	3.4	B	70	14	0.9	335	21	1.2	191	64	3.7
	4	12	48	14.1	60	14.4	140	59.4	8.3	0.9	7	4	151	44	0.12	2.3	3.1	B	92	6	0.8	358	35	1.0	190	54	3.8
	4	13	1	25.9	60	18.5	141	16.1	11.8	0.7	6	2	149	52	0.12	3.1	5.4	C	92	6	1.2	359	28	1.1	193	61	6.2
	4	14	7	4.4	60	0.7	140	5.2	9.7	1.5	11	1	150	28	0.42	1.4	1.5	A	304	9	0.7	212	15	1.4	64	72	1.5
	4	16	47	30.7	60	5.5	141	39.3	14.3	2.2	25	2	119	30	0.53	1.3	1.2	A	282	0	0.6	191	36	1.4	12	54	1.0
									2.5 ML EMRC																		
	4	17	3	43.7	60	39.9	151	59.4	81.1	2.9	24	1	72	58	0.52	1.6	2.4	A	160	1	1.6	69	27	1.1	252	63	2.6
	4	18	25	44.0	61	32.6	146	24.7	13.4	1.7	19	5	85	64	0.57	0.8	2.0	A	22	3	0.8	291	6	0.7	138	83	2.0
	4	19	22	43.6	60	13.1	141	38.3	3.5	1.2	12	1	97	34	0.27	1.3	2.2	A	278	0	0.7	8	24	1.0	188	66	2.4
	4	20	24	11.5	60	5.7	141	39.2	15.1	2.2	23	3	118	30	0.61	1.3	1.2	A	284	3	0.6	192	34	1.4	18	56	1.0
									2.6 ML EMRC																		

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
NOV 4	22	6	41.7	60	14.6	140	57.8	10.4	1.1	7	4	153	42	0.20	2.2	2.7	B	101	5	0.7	7	38	1.0	197	52	3.3
5	0	12	1.5	61	48.7	149	59.6	40.4	1.9	17	7	203	67	0.42	1.9	2.2	A	254	4	1.1	345	21	1.9	154	69	2.3
5	1	5	8.1	60	10.2	140	47.8	8.0	0.8	3	2	229	69	0.03	12.3	17.1	D	78	7	1.1	346	16	11.7	191	72	17.6
5	1	6	39.6	61	47.1	149	57.5	40.2	2.0	10	2	201	130	0.33	3.9	3.2	B	84	5	1.2	351	31	4.2	182	59	2.8
5	2	1	4.8	60	15.3	141	13.1	9.5	0.6	4	2	144	56	0.13	7.7	12.3	D	333	22	1.1	72	22	1.4	203	58	14.4
5	2	17	45.8	60	54.3	145	57.1	18.3	1.8	27	5	76	40	0.60	0.8	1.2	A	200	1	0.8	110	10	0.6	296	80	1.3
5	2	31	31.0	62	1.8	149	29.3	34.7	2.4	16	2	212	66	0.45	3.2	1.4	B	167	5	3.2	75	25	1.0	268	64	1.5
5	2	37	21.2	60	54.3	145	56.1	17.1	1.9	29	7	43	41	0.63	0.7	1.1	A	9	1	0.7	99	10	0.6	273	80	1.1
5	5	32	27.3	62	10.0	149	20.5	44.8	2.5	17	3	220	96	0.39	3.3	4.3	B	247	2	1.1	157	21	3.1	342	69	4.5
5	5	53	59.3	58	36.1	137	20.6	15.0	2.1	3	1	358	235	0.90	25.0	20.4	D	227	1	25.0	318	40	11.1	136	50	25.0
5	7	19	19.6	60	8.7	140	58.0	13.9	0.9	4	1	135	77	0.10	16.3	14.2	D	90	8	1.5	187	41	21.6	351	48	1.6
5	7	31	39.0	60	12.5	140	32.4	7.1	0.9	4	1	346	88	0.14	12.1	2.5	D	200	1	12.1	110	11	2.2	295	79	2.5
5	7	50	37.6	61	28.3	141	12.4	0.	1.8	8	2	250	139	1.05	2.7	2.5	B	338	13	1.2	75	28	2.8	226	59	2.5
5	8	44	47.4	60	15.8	140	56.9	10.1	1.4	10	5	130	43	0.15	1.2	2.1	A	295	4	0.7	27	22	0.9	195	68	2.3
5	12	30	6.6	60	10.4	141	12.0	1.1	1.2	8	3	132	49	0.28	1.6	2.2	A	290	2	0.6	21	34	0.9	197	56	2.6
5	13	19	54.0	59	59.9	141	7.9	7.0	1.4	15	2	87	25	0.27	1.2	1.0	A	23	8	1.2	115	15	0.6	266	73	1.1
5	13	22	57.6	60	38.1	143	4.9	24.3	1.6	7	2	107	60	0.84	1.6	3.2	B	251	10	1.3	344	19	1.0	135	68	3.4
5	15	18	5.5	60	22.1	141	17.2	13.4	1.2	12	5	119	55	0.32	1.2	2.5	A	318	5	0.8	49	16	1.0	211	73	2.6
5	16	31	21.6	58	1.8	136	5.8	15.0	3.7	4	0	202	264	0.07	25.0	25.0	D	326	0	2.5	236	0	25.0	0	90	25.0
5	17	37	6.6	60	36.8	141	14.6	0.5	1.5	5	1	171	79	0.64	2.3	5.6	C	248	1	2.3	158	4	0.8	352	86	5.6
5	17	52	36.2	60	15.9	140	49.1	12.1	0.9	5	2	162	74	0.02	3.8	4.1	B	303	13	1.3	44	39	2.5	198	48	5.0
5	21	20	13.0	63	18.5	149	30.5	43.3	2.9	12	1	176	192	0.86	6.6	19.6	D	198	3	3.6	289	10	5.6	92	80	19.9
5	22	1	1.5	59	54.8	141	31.3	0.1	0.8	5	2	222	32	0.59	1.9	3.2	B	94	2	1.0	184	12	1.8	355	78	3.3
5	22	26	51.4	60	32.0	141	31.9	16.8	1.2	10	4	109	57	0.53	0.9	2.7	B	49	3	0.9	319	6	0.9	166	83	2.8
6	1	15	16.3	60	17.7	140	57.7	9.0	0.8	6	3	213	45	0.30	2.8	3.6	B	82	12	0.8	344	32	1.9	190	55	4.2
6	1	20	5.0	60	6.9	140	46.4	8.9	1.3	9	6	134	39	0.25	2.0	1.8	A	96	11	0.5	196	42	2.4	354	46	1.3
6	3	22	14.7	60	14.7	140	44.8	11.9	0.9	4	1	252	70	0.04	7.2	3.7	C	279	10	1.6	186	18	7.5	37	69	3.1
6	4	4	23.7	60	12.3	141	5.2	0.0	0.6	6	2	212	48	0.03	2.8	4.5	B	85	11	1.0	351	20	2.4	202	67	4.8
6	4	57	2.0	60	15.5	141	0.2	5.2	0.8	7	2	154	45	0.15	1.6	3.4	B	327	9	1.0	60	20	0.8	214	68	3.6
6	5	47	31.6	60	12.1	141	15.4	10.2	0.9	9	1	134	57	0.19	3.4	2.8	B	107	3	1.1	200	38	4.3	13	52	1.2
6	6	29	22.9	60	6.5	140	53.0	11.5	0.8	6	3	175	35	0.15	3.4	2.2	B	187	6	3.4	95	20	0.7	293	69	2.3
6	9	1	34.2	60	13.1	141	2.9	5.2	0.8	7	2	145	46	0.29	1.8	3.1	B	319	13	1.0	55	24	0.8	203	62	3.5
6	9	49	38.8	60	8.6	141	23.7	7.7	0.8	6	1	143	37	0.19	2.2	1.6	A	282	23	1.0	179	26	2.3	47	54	1.4
6	10	51	56.1	61	55.8	150	11.7	10.8	2.3	16	3	215	84	0.73	2.8	2.3	B	256	26	1.0	150	31	3.0	19	48	2.3
6	11	12	38.8	60	13.0	140	59.1	5.2	0.7	4	1	147	43	0.	5.9	9.5	C	85	5	0.8	352	31	1.4	183	59	11.1
6	11	16	0.8	60	16.7	140	41.4	13.6	0.8	6	1	169	46	0.09	3.6	3.9	B	291	4	1.0	24	42	2.0	197	48	5.0
6	11	29	42.7	60	4.4	140	55.7	12.6	0.8	6	3	161	37	0.38	3.1	1.8	B	95	17	0.6	0	17	3.2	228	66	1.7
6	12	27	26.4	60	4.8	140	47.7	12.2	3.0	28	3	92	33	0.49	1.2	1.4	A	103	1	0.6	12	36	1.0	194	54	1.6
								3.4 ML	EMRC																	
6	12	34	11.2	60	4.5	140	48.7	8.4	1.4	12	3	133	38	0.26	1.9	1.5	A	106	5	0.6	197	17	1.9	0	72	1.4
6	12	40	35.5	60	7.0	140	47.3	7.3	1.0	9	1	134	53	0.27	2.2	2.0	A	99	4	0.8	193	41	2.6	4	49	1.5
6	13	37	31.3	60	19.1	141	17.6	13.3	1.5	13	5	115	52	0.31	1.0	2.0	A	295	8	0.7	27	15	0.8	178	73	2.1
6	13	44	2.6	60	5.1	140	47.8	10.9	2.8	22	2	92	33	0.43	1.7	1.6	A	280	1	0.6	189	42	2.0	11	48	1.2
								3.1 ML	EMRC																	
6	14	13	40.1	60	5.2	140	46.4	9.0	1.8	11	2	127	50	0 16	2.0	1.8	A	278	4	0.6	187	16	2.0	22	73	1.7
6	14	22	33.5	62	13 9	148	10.4	39.6	2.5	20	5	129	92	0.46	3.1	9.3	C	171	4	3.0	81	7	1.4	291	82	9.4
6	14	43	33.0	60	14.5	140	59.0	8.2	0.7	5	2	223	43	0.18	4.2	3.3	B	85	16	0.9	185	30	4.6	331	55	2.8

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
NOV	6 15	7	58.1	60	10.4	140	49.5	14.4	0.9	5	1	232	71	0.09	16.6	3.9	D	350	10	16.8	85	25	1.3	240	63	2.7
	6 18	27	38.2	60	33.4	141	39.8	26.3	2.1	22	3	56	61	0.56	1.0	1.9	A	30	2	1.0	299	3	0.8	153	86	1.9
								2.5 ML	EMRC																	
	6 18	32	47.7	60	6.0	140	46.3	9.0	1.2	7	1	130	51	0.21	2.1	2.0	A	93	16	0.6	348	42	1.7	199	44	2.4
	6 18	42	46.7	60	7.8	140	15.6	11.4	0.8	3	1	303	71	0.	16.9	6.0	D	0	12	17.3	260	37	7.6	105	50	1.7
	6 19	25	25.5	60	33.3	141	35.4	22.2	1.1	10	3	105	61	0.28	1.1	3.8	B	178	1	0.9	268	4	1.0	74	86	3.8
	6 20	8	5.8	60	8.8	140	55.1	10.8	1.2	5	2	324	75	0.07	5.7	4.5	C	135	27	5.9	246	36	2.3	17	42	5.0
	6 20	12	16.3	60	14.4	141	11.9	5.7	0.6	6	1	142	55	0.03	2.9	4.1	B	98	13	1.0	0	31	1.2	208	56	4.8
	6 20	31	28.8	60	4.6	140	45.5	8.7	0.9	6	1	130	49	0.19	2.1	2.0	A	98	14	0.7	201	42	2.3	354	45	1.8
	6 22	19	57.9	60	11.8	140	54.9	6.6	1.0	6	2	147	76	0.19	2.3	3.4	B	65	18	0.7	326	26	1.3	186	58	3.9
	6 22	38	49.4	62	11.3	147	43.8	42.1	2.3	20	7	214	82	0.59	1.9	3.8	B	352	0	1.9	82	2	1.1	262	88	3.8
	6 23	52	52.1	59	31.8	137	14.6	20.9	1.4	3	1	334	181	0.02	15.2	20.9	D	346	14	10.4	248	31	4.8	97	55	25.0
	7 0	8	37.7	60	17.7	140	47.1	12.2	1.4	13	1	143	42	0.14	2.0	2.5	A	303	13	0.7	42	33	1.1	195	54	3.0
	7 0	18	30.7	60	31.3	140	20.5	2.0	1.1	4	0	331	109	0.09	19.8	16.5	D	285	27	9.1	39	39	3.5	170	39	25.0
	7 1	46	55.3	59	59.3	140	6.9	7.8	1.7	12	1	131	27	0.53	1.5	1.6	A	302	9	0.7	205	39	1.4	43	50	1.7
	7 2	2	31.5	61	58.3	146	26.4	29.1	2.0	12	6	144	60	0.51	1.6	2.1	A	137	12	1.2	234	31	1.0	28	56	2.4
	7 3	5	27.6	60	18.7	141	9.0	7.5	1.0	6	4	155	55	0.54	2.2	4.8	B	287	6	1.0	19	22	0.9	183	67	5.1
	7 3	8	2.2	60	15.1	140	58.9	10.4	1.0	6	3	154	44	0.08	3.8	5.0	C	92	9	1.1	356	35	1.4	194	54	6.1
	7 3	14	37.9	60	38.3	150	44.8	63.6	3.5	26	1	72	73	0.52	1.5	3.2	B	74	7	0.9	343	8	1.4	205	79	3.3
										FELT	(III)	NAPTOWN,	(II)	SOLDOTNA	AND	STERLING										
	7 4	37	57.4	60	7.4	140	56.4	9.1	0.8	4	1	179	38	0.02	4.7	4.3	B	90	14	1.0	192	41	5.6	345	46	3.2
	7 9	41	28.4	60	12.9	141	2.7	2.9	1.0	6	1	145	46	0.18	2.2	3.8	B	90	6	0.9	357	26	1.3	192	63	4.2
	7 10	1	33.1	60	11.9	140	17.6	12.5	1.1	8	1	177	48	0.22	3.8	2.2	B	294	13	0.9	198	25	4.2	49	61	1.5
	7 16	39	39.8	60	23.3	147	35.5	10.1	2.2	23	3	161	67	0.39	1.8	2.5	A	260	20	0.6	160	25	1.2	24	57	2.9
	7 17	6	14.3	62	33.9	147	56.3	32.1	2.5	12	2	228	125	0.49	4.3	1.9	B	354	1	4.3	264	3	1.5	102	87	1.9
	7 17	14	55.0	60	1.2	151	52.4	53.4	3.3	21	1	102	68	0.43	1.7	3.4	B	334	2	1.7	64	7	1.2	228	83	3.4
	7 19	12	14.8	60	20.3	141	12.8	15.6	1.7	14	5	121	56	0.28	1.1	2.0	A	288	6	0.7	19	16	1.0	178	73	2.0
	7 20	33	2.4	60	12.8	139	21.2	11.7	0.8	4	2	267	61	0.07	3.0	5.6	C	104	10	1.4	10	22	1.8	217	66	6.1
	7 22	54	9.0	60	11.3	140	50.1	2.5	1.0	4	2	246	91	0.05	3.8	7.9	C	27	15	1.6	292	15	2.8	160	68	8.4
	8 0	34	58.5	60	17.8	140	58.6	11.3	1.2	7	2	132	77	0.09	2.4	3.3	B	322	21	1.0	63	24	1.7	196	57	3.8
	8 0	46	34.0	62	0.6	149	28.7	35.5	2.0	11	5	178	64	0.39	2.5	1.5	B	11	2	2.5	102	13	1.1	272	77	1.5
	8 1	13	58.4	60	14.7	141	15.4	11.2	1.1	7	3	110	49	0.14	1.6	2.2	A	288	9	1.0	24	33	0.8	185	55	2.6
	8 2	36	24.3	60	7.1	140	46.0	12.3	1.0	4	1	203	52	0.01	5.7	4.8	C	87	19	0.8	342	39	7.0	197	45	2.9
	8 2	46	44.0	60	15.5	140	42.3	14.8	1.0	6	2	150	86	0.16	3.2	3.0	B	308	20	0.9	57	41	2.7	199	42	3.7
	8 2	50	26.9	59	59.7	141	15.3	2.7	0.8	6	1	210	57	0.21	4.2	3.6	B	125	14	1.0	23	40	5.3	230	47	1.6
	8 5	39	43.0	62	48.6	150	42.0	96.4	4.3	25	1	119	158	0.52	4.1	12.8	D	256	0	2.6	346	6	3.9	166	84	12.8
		4.7	MB																							
	8 5	52	57.6	59	57.6	140	14.5	1.1	1.1	5	2	190	58	0.63	2.8	4.4	B	138	7	0.9	232	28	1.8	35	61	4.9
	8 6	59	55.0	61	51.7	149	22.0	7.7	1.7	15	2	164	55	0.70	1.4	1.3	A	263	30	0.8	152	32	1.1	26	43	1.6
	8 7	24	11.9	60	50.8	146	49.0	17.1	1.9	24	5	93	28	0.52	0.9	1.1	A	277	9	0.6	185	11	0.9	45	76	1.2
	8 8	18	18.1	60	11.2	140	47.8	14.5	0.9	4	1	150	97	0.06	4.5	4.4	B	292	18	1.0	38	40	2.7	183	44	5.8
	8 11	31	4.1	60	13.1	140	57.7	4.3	0.9	8	2	123	41	0.21	2.0	3.5	B	92	6	0.7	358	26	1.2	194	63	3.9
	8 11	32	29.6	60	18.8	141	16.9	7.1	1.3	9	2	115	52	0.22	1.3	2.8	B	87	13	1.1	354	14	0.6	218	71	3.0
	8 12	9	7.0	57	15.3	137	49.9	15.0	2.4	4	1	238	284	0.22	21.9	17.9	D	319	11	2.6	222	35	25.0	64	53	13.4
	8 13	19	28.1	60	3.3	139	36.1	17.5	0.2	4	1	232	45	0.17	12.6	4.3	D	220	18	13.2	117	35	1.4	332	49	1.4
	8 15	1	45.6	63	14.9	148	47.0	59.9	3.7	21	1	150	185	0.65	2.9	25.0	D	10	0	2.1	280	0	2.9	0	90	25.0
	8 18	6	31.7	60	13.1	141	0.5	10.4	1.1	8	2	120	44	0.10	1.6	2.2	A	98	13	0.9	0	28	1.1	210	58	2.5
	8 19	4	11.4	60	12.3	141	1.6	15.0	0.8	3	2	211	44	0.18	14.1	20.7	D	86	13	1.0	348	31	1.6	196	56	25.0

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
NOV	8	19	17 23.8	60	18.7	141	11.4	15.0	0.8	5	1	153	56	0.22	3.3	5.7	C	72	14	1.4	335	25	1.0	188	61	6.4
	8	21	47 26.0	60	16.4	141	45.4	5.6	0.6	3	2	195	63	0.	10.8	8.6	D	299	12	0.8	201	33	12.1	46	54	6.7
	9	0	23 31.9	58	25.8	137	6.5	15.5	2.2	3	1	358	258	1.01	25.0	21.7	D	46	1	25.0	315	39	15.5	137	51	25.0
	9	0	49 28.2	60	2.8	152	29.1	93.2	3.6	21	1	129	66	0.47	3.1	3.8	B	0	8	2.4	95	34	2.0	258	55	4.5
	9	5	15 15.1	61	32.6	146	30.6	5.6	1.9	8	4	272	122	0.42	1.9	1.8	A	286	28	1.6	39	36	0.9	168	41	2.3
	9	15	41 2.5	60	37.4	141	50.5	13.3	1.8	12	5	85	59	0.65	0.8	2.3	A	77	1	0.7	167	4	0.8	333	86	2.3
								2.4 ML	EMRC																	
	9	20	24 58.2	60	16.3	140	47.7	11.9	1.6	10	4	144	67	0.15	1.2	2.1	A	305	3	0.8	37	25	0.8	209	65	2.3
	9	22	33 37.4	60	5.1	140	45.6	13.1	1.0	5	2	185	49	0.05	3.9	3.4	B	96	18	1.9	351	37	4.6	207	47	2.5
	10	2	17 32.4	60	11.2	141	25.9	7.1	1.7	17	7	95	37	0.37	0.9	1.5	A	283	9	0.5	16	19	0.8	169	69	1.6
	10	3	4 17.4	60	9.4	140	18.5	14.1	1.2	4	2	183	112	0.27	24.8	3.4	D	223	7	25.0	130	25	1.7	328	64	1.5
	10	8	2 44.3	60	51.7	146	49.7	29.2	1.6	10	3	132	69	0.43	1.4	1.6	A	264	17	0.7	165	27	1.2	22	57	1.8
	10	8	26 29.2	62	33.2	149	9.1	127.7	3.3	8	3	225	107	1.12	7.2	7.2	C	310	24	3.0	58	35	2.2	193	45	9.9
	10	8	53 6.9	60	3.6	139	20.4	3.8	0.7	4	2	244	51	0.02	14.6	18.4	D	125	8	1.3	29	37	3.1	225	52	23.3
	10	9	13 30.1	60	0.5	140	5.6	11.1	1.3	7	4	146	27	0.54	1.4	1.8	A	134	8	0.9	42	11	1.4	259	76	1.9
	10	11	6 49.2	60	56.5	149	41.8	49.2	3.0	24	2	71	54	0.34	1.1	2.7	B	63	2	0.8	333	2	1.1	198	87	2.7
	10	11	15 56.2	60	16.9	141	26.9	12.1	3.6	30	4	57	42	0.45	1.1	1.5	A	297	1	0.6	28	30	0.8	205	60	1.7
			4.7 MB	3.9 MS				4.2 ML	EMRC																	
	10	11	35 32.7	60	17.6	141	23.0	8.1	0.8	5	2	142	66	0.16	5.7	9.9	C	82	19	1.4	344	22	1.0	209	60	11.3
	10	12	59 14.3	60	13.9	140	59.8	7.8	1.0	6	2	150	44	0.13	3.1	3.8	B	93	10	1.1	356	36	1.4	196	52	4.7
	10	13	42 52.4	60	21.5	141	15.6	19.1	1.2	9	5	121	56	0.17	1.8	3.8	B	81	6	1.4	349	22	0.9	185	67	4.1
	10	14	9 7.5	60	1.5	141	15.1	5.1	1.1	8	2	102	18	0.31	1.2	1.7	A	287	2	0.9	196	9	1.1	29	81	1.7
	10	14	24 55.3	63	28.9	150	11.4	39.2	3.6	20	0	196	210	0.78	8.9	24.7	D	12	0	2.5	282	10	7.9	102	80	25.0
	10	16	38 29.4	60	12.3	141	2.7	1.4	2.6	23	4	66	38	0.41	1.0	2.0	A	101	1	0.6	11	19	0.8	194	71	2.1
								3.3 ML	EMRC																	
	10	16	50 16.7	60	15.2	140	51.0	10.6	1.1	4	2	188	120	0.06	24.0	7.8	D	307	16	1.3	42	16	25.0	175	67	3.8
	10	17	12 38.9	60	14.2	140	37.2	14.1	1.1	4	1	180	130	0.17	24.9	3.5	D	43	5	25.0	311	23	1.3	145	66	2.9
	10	20	20 29.5	60	12.0	141	2.3	15.0	3.0	23	4	93	37	0.47	1.7	1.7	A	98	5	0.6	3	45	0.9	193	45	2.2
					3.8 ML	PMR		3.2 ML	EMRC																	
	10	20	25 52.5	60	15.6	140	59.6	2.7	0.7	5	2	154	111	0.03	1.9	4.4	B	93	2	1.4	2	19	1.2	189	71	4.7
	10	20	42 54.6	60	45.8	146	43.8	27.8	1.4	11	2	144	46	0.66	1.5	1.9	A	348	4	1.5	257	9	0.9	102	80	2.0
	10	20	46 42.1	60	14.5	140	59.4	5.5	1.0	7	3	152	44	0.16	2.7	4.0	B	90	10	1.0	354	30	1.4	196	58	4.6
	10	21	38 7.2	60	14.4	141	0.0	5.8	1.0	6	2	151	44	0.19	2.8	4.0	B	91	10	1.1	355	31	1.3	197	57	4.7
	10	22	56 34.1	60	13.9	141	0.8	8.0	0.9	7	1	149	45	0.22	2.6	3.4	B	91	8	1.0	356	35	1.3	192	54	4.1
	11	0	26 30.0	59	57.1	140	56.2	7.5	1.5	13	3	128	37	0.28	1.3	1.4	A	113	13	0.5	17	23	1.3	230	63	1.5
	11	1	15 7.2	60	32.3	141	37.5	26.8	1.2	8	4	105	60	0.36	1.0	3.8	B	207	1	1.0	117	6	0.9	306	84	3.8
	11	1	27 3.3	60	4.2	140	3.8	3.0	0.9	5	1	185	58	0.42	3.4	3.7	B	127	13	1.0	26	39	2.0	232	48	4.7
	11	3	2 44.3	60	0.9	141	10.1	4.5	0.8	7	1	118	22	0.10	1.2	1.4	A	42	6	1.2	134	20	1.0	296	69	1.5
	11	5	2 38.0	60	15.4	141	1.1	12.0	0.7	5	2	226	46	0.05	5.1	4.3	C	91	6	1.0	185	37	6.1	353	52	2.7
	11	5	22 11.6	59	48.1	139	31.8	18.5	1.1	6	3	156	35	0.46	1.9	1.3	A	321	0	0.6	50	23	2.0	231	67	1.2
	11	5	54 23.2	61	45.4	150	35.8	48.3	3.0	26	2	144	55	0.45	1.8	2.9	B	80	3	0.9	171	19	1.6	341	71	3.1
	11	6	27 27.7	60	17.1	140	55.8	6.6	0.9	5	1	162	106	0.17	3.1	6.2	C	75	5	1.4	343	25	1.2	176	64	6.8
	11	6	47 3.6	60	15.1	141	5.6	15.0	0.8	3	2	229	49	0.07	12.0	22.0	D	328	17	1.9	66	22	1.3	204	61	25.0
	11	7	44 27.0	60	57.8	147	19.3	20.2	1.9	27	7	86	47	0.51	0.9	1.6	A	15	2	0.9	285	13	0.5	114	77	1.6
	11	7	53 48.0	60	35.2	141	42.7	27.9	3.0	23	4	61	61	0.56	0.9	1.8	A	300	2	0.7	31	7	0.9	194	83	1.9
					3.7 ML	PMR		3.4 ML	EMRC																	
	11	8	2 6.9	61	11.6	148	55.1	28.9	2.4	17	3	55	46	0.39	1.0	1.3	A	10	6	1.0	103	25	0.7	267	64	1.4
	11	8	43 7.7	62	41.3	149	42.1	6.4	2.8	22	1	106	123	0.77	4.5	2.9	B	358	1	4.5	268	37	1.2	89	53	3.5
					3.2 ML	PMR																				
	11	9	34 22.2	60	15.5	141	14.1	15.0	0 6	4	1	242	57	0.16	13.7	21.0	D	328	16	1.8	67	28	1.5	212	57	25.0
	11	10	3 58.3	63	12.9	143	52.0	51.7	3.1	11	2	225	199	0.51	8.1	25.0	D	242	1	8.1	332	2	4.0	125	88	25.0
								3.3 ML	EMRC																	

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
NOV 11	10	59	40.1	60	16.9	140	59.1	8.1	1.2	5	1	212	103	0.18	10.2	4.5	D	276	1	1.1	185	6	10.3	15	84	4.4
11	12	6	38.8	59	55.9	140	46.7	2.2	1.5	6	3	185	45	0.31	2.4	2.3	A	114	6	0.8	19	41	2.6	211	48	2.0
11	12	42	40.8	60	11.1	141	5.1	0.2	0.5	6	2	138	47	0.19	2.0	3.8	B	92	6	0.5	359	22	1.3	196	67	4.1
11	15	24	33.7	59	51.3	139	0.8	16.9	1.7	4	1	239	46	0.07	7.1	6.9	C	323	5	1.3	229	44	9.2	58	46	3.6
11	15	55	35.6	60	5.2	140	55.8	9.4	1.2	6	3	134	37	0.18	2.1	1.6	A	189	2	2.2	98	11	0.6	289	79	1.6
11	16	22	54.5	60	5.7	152	52.0	109.9	3.3	19	1	106	88	0.29	2.2	2.4	A	35	0	1.6	125	37	2.0	305	53	2.7
11	17	40	30.4	60	42.7	147	24.8	15.6	1.9	25	5	132	53	0.37	1.1	1.8	A	176	12	1.0	269	14	0.5	47	71	1.9
11	17	45	49.8	60	25.4	141	13.9	16.4	1.0	5	1	129	61	0.07	3.5	8.0	C	335	13	1.1	69	16	2.0	208	69	8.6
11	19	18	18.5	59	27.9	153	17.7	100.1	3.3	18	1	118	129	0.33	3.5	4.1	B	16	1	1.7	107	32	3.1	284	58	4.4
11	19	26	19.3	59	53.9	140	30.4	5.2	0.8	5	2	172	39	0.32	1.7	2.7	B	305	2	0.9	214	16	1.6	42	74	2.8
11	20	23	7.2	60	31.9	142	58.3	0.9	0.7	3	1	247	158	0.50	9.1	4.1	C	267	11	9.2	0	18	1.1	147	69	4.0
11	20	48	48.9	60	41.0	137	22.0	0.6	3.2	14	2	169	149	0.59	3.0	13.6	D	40	3	2.9	310	8	1.4	150	81	13.8
								3.4 ML	EMRC																	
11	22	17	20.1	60	14.5	140	15.6	12.5	1.7	11	4	185	52	0.23	2.1	2.1	A	289	9	0.7	28	44	1.3	190	45	2.7
11	23	4	51.3	59	25.3	142	28.6	15.0	1.8	4	0	272	183	0.56	22.8	25.0	D	302	0	3.8	32	0	22.8	0	90	25.0
11	23	5	14.1	59	55.8	139	37.6	22.0	1.1	4	3	152	40	0.12	8.0	3.6	C	44	2	8.0	135	6	1.3	296	84	3.6
12	0	37	20.5	60	17.3	140	43.7	12.1	1.3	6	3	168	71	0.18	2.3	2.9	B	316	22	0.9	58	28	1.2	193	53	3.5
12	2	44	12.4	60	34.4	141	14.3	32.0	1.2	4	3	141	76	0.12	3.1	4.6	B	159	15	0.9	257	26	1.9	42	59	5.2
12	2	52	37.9	59	52.7	140	30.5	2.4	0.8	5	1	184	67	0.08	2.9	5.3	C	139	11	1.5	233	22	1.8	24	65	5.8
12	6	7	30.3	60	6.4	140	42.1	5.2	1.7	12	4	113	39	0.27	1.1	1.3	A	101	4	0.6	9	19	1.0	202	70	1.3
12	7	22	29.6	62	14.8	150	39.7	51.6	3.3	22	0	100	126	0.35	4.2	8.1	C	252	2	1.6	342	10	4.0	151	80	8.1
						3.2 ML	PMR																			
12	8	11	39.5	60	26.0	141	1.3	23.5	1.4	6	4	148	57	0.35	2.2	5.4	C	71	4	1.8	340	19	1.2	172	71	5.8
12	10	16	41.6	60	5.2	141	1.3	21.6	1.0	4	3	154	109	0.27	6.1	3.4	C	87	28	1.6	193	28	6.9	320	49	1.0
12	11	3	6.5	60	6.5	140	41.8	6.3	1.0	6	2	134	43	0.17	2.6	2.3	B	89	6	0.7	183	35	2.9	351	54	1.9
12	11	40	43.2	60	16.4	140	52.5	15.0	0.7	3	2	163	117	0.30	9.4	15.3	D	299	16	1.2	38	26	1.4	181	59	17.9
12	12	28	50.4	60	10.3	139	51.9	20.6	0.8	4	1	256	48	0.22	5.1	2.8	C	193	2	5.1	102	32	1.4	286	58	3.2
12	13	11	48.0	60	33.6	143	5.0	4.0	1.0	5	2	155	67	0.51	1.9	3.0	B	4	11	0.7	99	24	1.4	251	63	3.3
12	14	4	37.5	60	25.5	140	17.0	20.3	0.9	2	3	237	132	0.13	11.3	22.3	D	242	9	3.0	336	25	1.2	134	63	25.0
12	14	5	41.9	60	25.3	140	31.0	2.5	1.2	5	1	176	121	0.34	5.2	4.6	C	326	10	1.0	230	31	5.5	72	57	4.4
12	15	12	50.8	60	2.6	140	40.3	8.3	0.9	5	2	160	42	0.21	2.8	3.2	B	101	10	0.9	199	36	2.0	358	52	3.8
12	15	13	32.7	60	0.9	140	42.1	9.6	2.9	25	4	111	33	0.53	1.4	1.4	A	281	0	0.6	11	44	1.2	191	46	1.6
						3.7 ML	PMR																			
12	17	57	27.4	60	1.6	140	41.4	6.6	1.0	6	1	146	42	0.21	2.0	2.2	A	106	6	0.8	198	16	2.0	356	73	2.2
12	20	6	24.0	60	11.2	141	7.0	9.2	0.9	5	2	137	49	0.05	4.4	4.7	B	87	17	0.8	343	38	1.3	196	47	6.3
12	20	10	5.1	63	15.4	149	50.3	63.9	3.4	17	2	125	179	0.39	3.3	10.2	D	131	2	3.3	41	5	1.8	243	85	10.3
12	22	25	30.7	60	28.5	142	46.5	8.3	0.9	4	3	127	146	1.18	3.2	2.9	B	146	23	1.6	36	39	0.8	259	42	4.2
12	23	2	12.9	61	50.2	150	24.9	4.0	1.7	11	3	166	61	0.75	1.8	1.9	A	267	21	0.6	162	34	1.2	23	48	2.3
12	23	35	52.5	59	51.7	141	13.5	16.4	0.9	4	2	271	60	0.25	3.8	2.9	B	103	16	1.1	1	36	4.5	213	50	1.6
13	5	38	44.6	60	12.1	141	6.4	7.8	1.5	9	3	130	37	0.23	1.8	1.9	A	322	19	0.9	67	36	1.0	210	48	2.4
13	10	14	7.6	60	20.1	140	42.1	8.0	1.6	11	5	160	59	0.50	1.4	2.4	A	132	8	0.7	39	25	1.0	239	64	2.6
13	11	41	57.2	60	18.8	141	24.7	9.0	1.3	12	4	119	46	0.27	1.2	2.5	A	267	13	0.8	1	17	0.6	141	68	2.7
13	12	47	52.3	61	16.2	146	58.4	18.9	1.9	22	4	83	43	0.48	0.9	1.5	A	184	5	0.9	275	15	0.5	76	74	1.5
13	14	41	13.1	60	11.6	140	46.1	10.4	1.6	9	2	147	72	0.26	2.4	2.5	A	119	2	0.9	28	44	1.1	211	46	3.3
13	18	12	35.7	59	57.9	148	40.8	9.7	2.0	15	7	236	101	0.52	1.7	1.8	A	161	11	1.7	258	30	0.7	53	58	2.1
13	18	20	59.0	59	56.1	148	37.1	20.1	2.0	16	4	225	104	0.70	2.4	1.7	A	82	1	0.9	352	9	2.4	178	81	1.7
13	21	0	7.8	59	56.5	148	38.7	21.3	2.1	17	5	225	104	0.68	2.4	1.8	A	270	1	0.9	180	3	2.4	18	87	1.8
14	0	26	21.7	60	20.1	141	18.2	7.5	1.9	19	1	116	51	0.36	1.1	2.3	A	310	3	0.7	40	18	0.9	211	72	2.4

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
NOV 14	0	42	57.7	60	9.1	140	58.1	11.8	1.5	8	2	136	60	0.11	2.3	2.2	A	300	17	0.8	46	41	1.1	193	44	3.0
14	0	51	20.0	61	50.2	147	22.0	35.4	1.5	9	5	158	69	0.71	1.9	1.0	A	245	4	0.6	337	21	2.0	145	69	0.8
14	2	5	32.0	60	20.8	141	20.6	6.0	1.4	13	5	114	51	0.37	0.8	1.4	A	339	9	0.6	71	9	0.7	205	77	1.4
14	4	24	38.3	61	26.1	146	40.4	20.7	2.3	30	5	61	42	0.57	0.7	1.5	A	25	4	0.7	294	11	0.6	135	78	1.5
14	6	37	21.9	60	12.4	141	0.6	10.6	1.3	11	2	118	44	0.10	1.6	2.0	A	288	2	0.8	20	36	1.0	195	54	2.3
14	7	12	53.1	60	29.7	141	14.8	19.8	1.3	12	3	129	53	0.38	1.1	2.3	A	53	2	1.1	323	3	0.6	177	86	2.3
14	9	30	49.1	60	15.4	141	11.4	13.1	1.3	9	3	115	53	0.15	2.1	2.5	B	289	2	0.8	21	39	1.0	197	51	3.2
14	9	41	10.2	60	36.0	147	41.6	9.5	2.1	26	5	131	62	0.64	1.3	1.6	A	268	24	0.4	166	25	0.9	36	54	1.9
14	9	43	25.3	59	45.2	139	37.0	0.4	1.2	5	1	165	52	0.31	4.2	7.4	C	313	11	0.9	218	25	2.0	65	62	8.3
14	12	45	59.8	60	11.2	141	15.7	10.7	1.4	12	4	103	35	0.29	1.1	1.4	A	299	21	0.6	41	29	0.7	178	53	1.6
14	14	5	51.1	60	14.0	141	16.1	12.2	1.1	9	2	108	48	0.22	1.6	2.4	A	84	3	1.1	352	30	0.9	179	60	2.8
14	20	6	59.7	60	15.9	141	10.6	11.5	1.3	11	4	117	54	0.21	1.3	2.0	A	300	6	0.7	33	27	0.9	198	62	2.2
14	20	43	3.7	60	14.0	140	40.9	12.6	1.7	11	2	142	66	0.11	1.4	2.0	A	302	7	0.7	36	23	1.3	196	66	2.1
14	20	56	31.2	60	18.2	140	41.5	12.4	1.7	14	6	68	47	0.35	1.4	1.9	A	302	4	0.7	34	29	1.0	205	61	2.2
								2.1 ML EMRC																		
14	23	0	43.8	61	17.9	149	56.9	45.1	4.4	28	0	53	46	0.39	1.1	2.4	A	67	1	0.8	157	10	1.0	331	80	2.4
		5.1 MB								FELT (IV) ANCHORAGE; (III) PALMER, WASILLA, BIG LAKE AREA																
15	0	31	45.7	60	13.2	141	8.6	9.7	1.3	8	2	142	51	0.20	2.8	2.6	B	103	6	1.0	198	42	3.6	6	47	1.2
15	1	53	10.9	61	10.8	148	55.1	31.3	1.7	15	3	68	48	0.30	1.2	1.3	A	190	14	1.2	96	15	0.9	321	69	1.3
15	2	8	35.4	61	18.0	149	58.1	46.6	3.5	26	2	54	45	0.35	1.1	2.1	A	253	4	0.8	162	14	1.0	359	75	2.2
15	3	38	12.0	62	6.0	147	42.2	35.7	3.0	22	2	93	86	0.55	2.5	1.6	A	345	24	2.7	90	30	0.8	223	50	1.4
15	7	15	13.9	60	9.8	149	39.2	40.5	3.6	26	2	108	86	0.30	2.0	3.6	B	92	5	1.0	183	7	1.9	327	81	3.6
15	7	30	54.7	59	57.6	140	42.6	0.1	1.0	5	1	178	81	0.07	13.5	21.1	D	285	18	1.8	186	26	2.2	46	58	25.0
15	7	37	59.3	59	59.5	141	8.6	6.4	1.7	8	3	112	25	0.26	1.3	1.5	A	129	16	0.9	33	19	1.2	256	65	1.6
15	7	45	26.0	60	10.2	141	0.2	6.2	1.0	6	1	138	42	0.12	2.8	3.2	B	90	14	1.0	349	37	1.4	197	50	4.1
15	9	49	6.4	63	24.4	150	11.4	43.0	3.3	17	1	192	202	0.69	5.5	22.4	D	308	0	5.5	38	1	3.8	218	89	22.4
15	10	4	9.3	60	12.7	140	41.8	11.5	0.8	4	1	162	95	0.01	21.6	11.3	D	40	10	21.8	305	26	1.4	149	62	12.0
15	11	50	5.4	60	17.2	140	48.5	8.1	1.6	7	5	140	81	0.19	1.9	2.3	A	320	8	0.8	55	34	1.3	218	55	2.7
15	13	59	37.0	60	16.0	140	54.2	12.2	1.4	7	4	133	41	0.08	3.0	3.9	B	68	19	1.3	327	30	0.9	186	53	4.8
15	15	39	34.9	60	40.9	141	40.8	30.5	1.4	6	2	99	61	0.08	3.2	5.9	C	55	4	3.2	146	12	1.3	307	77	6.0
15	18	16	38.8	60	0.5	141	7.7	3.0	1.5	6	1	107	25	0.15	1.2	1.9	A	9	0	1.1	99	5	1.2	279	85	2.0
15	19	15	34.0	60	12.5	141	25.1	6.6	1.2	7	3	130	39	0.13	2.6	3.0	B	290	4	0.9	23	40	1.0	195	50	3.8
16	1	11	47.3	60	6.6	152	33.5	100.0	3.3	17	2	119	99	0.61	3.1	4.1	B	164	15	2.5	65	29	1.8	278	57	4.8
16	1	44	43.2	60	14.4	140	59.9	6.8	0.9	7	4	151	44	0.19	2.8	3.9	B	88	12	1.0	350	31	1.3	196	56	4.6
16	2	29	14.3	60	51.9	150	14.8	45.7	2.5	19	2	64	56	0.42	1.2	3.6	B	75	3	0.8	345	7	1.1	188	82	3.6
16	2	57	46.1	60	5.3	140	45.5	6.5	1.3	6	3	138	64	0.25	2.3	2.0	A	92	14	0.6	191	31	2.4	341	55	1.9
16	4	2	27.4	61	29.3	146	34.4	16.6	2.9	22	4	65	55	0.56	0.9	1.5	A	208	5	0.9	299	10	0.7	92	79	1.5
16	5	2	52.0	60	14.9	140	37.6	11.3	2.0	15	5	79	48	0.22	1.4	2.0	A	296	9	0.6	30	26	1.0	188	62	2.2
								2.3 ML EMRC																		
16	6	7	12.0	60	21.4	141	19.7	11.8	1.5	10	2	116	53	0.41	1.2	2.8	B	80	9	1.0	348	12	0.9	206	75	2.9
16	12	55	48.1	60	19.4	140	22.1	15.0	1.7	10	7	69	58	0.66	3.1	3.9	B	70	12	1.0	331	35	1.2	176	52	4.9
								2.2 ML EMRC																		
16	14	18	15.6	60	13.2	140	18.1	13.4	1.7	13	2	163	49	0.26	1.7	1.9	A	301	13	0.7	40	36	1.3	194	51	2.2
16	14	34	7.8	59	57.3	139	5.4	0.7	1.1	4	2	224	57	0.37	3.8	6.8	C	127	1	1.2	37	23	2.8	219	67	7.3
16	14	41	26.5	60	14.8	141	18.0	2.9	1.4	7	2	139	60	0.11	2.9	4.5	B	315	11	1.1	51	29	1.2	206	59	5.2
16	15	40	1.0	60	24.9	141	33.1	1.7	1.7	17	5	64	61	0.62	0.9	2.2	A	330	0	0.7	60	11	0.8	240	79	2.2
								2.2 ML EMRC																		
16	16	2	19.7	61	30.4	146	31.8	21.8	2.3	12	3	74	50	0.59	1.0	3.2	B	198	5	1.0	289	9	0.8	79	80	3.2
16	17	51	55.0	60	37.2	143	7.5	0.1	1.4	6	2	135	63	0.63	2.8	4.4	B	154	5	1.1	61	27	1.8	254	62	4.9
16	18	3	45.1	61	17.9	149	57.3	46.6	1.8	10	7	150	70	0.23	1.5	2.6	B	226	6	0.9	135	7	1.5	356	81	2.7

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
NOV 16	20	33	11.2	59	23.1	146	33.5	30.7	2.9	9	1	296	150	0.42	7.5	2.8	C	350	10	7.6	257	16	3.5	111	71	2.4
16	22	42	32.4	61	31.6	146	15.7	32.0	1.6	6	3	263	60	0.29	4.8	1.6	B	313	5	4.8	49	44	1.4	218	45	1.7
16	23	22	15.9	63	8.7	150	31.7	7.9	2.8	9	0	129	218	0.46	7.0	24.4	D	185	7	3.0	277	10	5.0	61	78	25.0
17	2	53	34.0	60	16.8	140	56.2	10.6	1.0	9	6	133	43	0.17	1.3	2.2	A	101	14	0.7	5	22	0.9	221	63	2.4
17	7	41	25.5	60	12.9	139	40.7	10.2	0.4	3	2	264	96	0.10	3.6	4.7	B	103	8	1.0	8	33	2.5	205	56	5.4
17	11	58	51.9	60	13.3	141	3.6	8.2	1.2	9	5	118	47	0.20	2.4	2.8	B	89	15	0.7	347	36	1.0	198	50	3.5
17	12	15	6.2	60	12.8	140	18.1	12.9	1.0	6	2	179	48	0.24	2.5	2.1	A	280	1	0.8	190	36	2.8	11	54	1.5
17	12	51	2.1	61	35.0	146	23.6	35.6	1.7	16	6	85	57	0.47	0.9	0.9	A	297	17	0.8	193	39	0.6	46	46	1.1
17	13	2	52.5	60	17.4	140	55.0	7.2	1.3	10	5	137	42	0.24	1.3	2.2	A	114	7	0.7	22	23	0.9	220	66	2.3
17	14	34	54.7	60	41.2	143	20.0	12.4	1.5	12	1	80	64	1.01	1.2	2.7	B	32	8	1.1	124	12	0.7	269	75	2.7
17	15	0	31.9	60	59.2	146	30.2	9.5	2.2	30	4	49	29	0.49	0.7	1.0	A	172	12	0.7	265	17	0.6	48	69	1.0
17	15	13	37.7	60	21.3	140	45.7	11.3	1.0	8	3	150	46	0.20	1.9	3.5	B	293	2	0.9	24	23	1.2	198	67	3.8
17	16	23	35.0	61	45.4	149	49.6	3.4	1.4	8	1	160	59	0.63	1.8	1.9	A	272	17	0.8	15	36	1.4	161	49	2.2
17	18	2	47.5	60	18.1	139	41.2	15.7	1.2	4	2	280	73	0.23	11.0	6.8	D	98	27	1.8	205	29	12.4	333	48	4.0
17	18	16	9.5	60	12.6	140	16.1	19.0	1.0	4	1	312	78	0.23	11.6	2.7	D	200	7	11.7	294	29	3.3	98	60	1.8
17	22	16	18.4	59	56.9	141	37.6	12.9	2.0	22	4	177	25	0.64	1.5	1.3	A	284	2	0.6	15	9	1.5	182	81	1.3
18	0	11	3.8	60	20.9	140	40.0	1.6	1.6	17	8	62	50	0.51	0.9	1.3	A	27	2	0.9	297	5	0.5	139	85	1.3
								2.1 ML	EMRC																	
18	0	41	58.3	60	14.7	140	52.0	16.1	2.5	27	4	63	38	0.49	1.6	2.0	A	285	3	0.7	18	37	1.0	191	53	2.4
								3.0 ML	EMRC																	
18	2	6	7.8	60	11.3	141	1.1	14.4	2.5	25	3	65	37	0.48	1.3	1.5	A	102	3	0.6	9	38	0.9	196	52	1.8
								3.1 ML	EMRC																	
18	2	21	6.0	60	21.9	141	13.1	3.5	0.9	6	2	159	58	0.33	1.6	4.7	B	76	9	1.1	344	12	1.0	202	75	4.9
18	2	48	13.2	60	17.1	141	5.8	0.2	0.7	7	2	153	51	0.15	1.1	3.8	B	64	7	0.8	333	8	0.9	195	79	3.9
18	2	51	30.9	60	11.5	151	5.8	64.8	2.8	29	3	100	62	0.53	1.6	3.0	B	75	6	1.0	344	10	1.5	196	78	3.0
18	3	46	58.2	61	59.3	151	8.2	90.6	4.1	28	1	155	76	0.43	3.0	4.0	B	77	6	1.4	171	29	2.3	336	60	4.5
		4.4	MB																							
18	4	22	47.6	60	14.1	141	4.8	7.3	0.5	4	1	223	86	0.19	13.9	6.9	D	352	7	13.9	84	14	0.9	236	74	6.9
18	5	19	48.8	60	16.8	140	49.0	12.2	1.3	12	3	139	39	0.13	1.5	2.8	B	98	6	0.9	6	20	1.1	204	69	3.0
18	5	38	41.7	59	56.7	140	54.0	6.0	1.4	10	3	132	39	0.29	1.4	1.4	A	108	18	0.6	205	23	1.4	343	60	1.5
18	6	1	4.7	59	57.1	140	53.0	5.3	1.1	9	4	131	39	0.31	1.5	1.8	A	199	12	1.5	106	15	0.7	326	71	1.8
18	14	8	47.7	60	3.7	141	28.7	8.3	0.7	6	3	150	31	0.70	1.9	1.5	A	273	1	0.8	3	29	2.0	181	61	1.4
18	15	2	13.6	60	16.1	141	4.5	10.1	0.5	5	3	152	49	0.12	5.9	8.8	C	77	14	1.1	339	30	1.3	189	56	10.5
18	17	36	3.5	60	16.5	141	4.5	8.6	1.5	11	4	124	50	0.26	1.2	2.0	A	308	5	0.7	40	25	0.8	207	64	2.2
18	17	57	58.3	61	20.0	148	55.0	31.4	2.1	25	6	52	36	0.54	0.9	1.0	A	103	11	0.6	197	18	0.9	343	69	1.0
18	19	25	42.8	59	59.9	141	11.7	6.4	1.0	4	2	239	53	0.02	8.6	2.9	C	106	1	1.2	15	15	8.9	200	75	1.8
18	20	13	29.4	60	7.1	140	47.3	0.0	1.3	8	2	134	38	0.38	2.3	3.5	B	280	2	0.7	10	25	1.9	186	65	3.8
18	20	44	4.2	60	13.7	140	45.6	11.9	1.3	10	4	137	40	0.49	1.8	1.7	A	108	11	0.7	7	44	1.3	209	44	2.1
18	22	20	58.2	60	8.0	140	55.6	6.4	0.7	4	2	184	38	0.06	4.1	4.7	B	94	5	0.8	0	39	2.7	190	51	5.7
18	23	13	34.8	60	15.9	140	17.5	7.6	1.0	4	1	186	51	0.05	4.4	7.3	C	283	19	1.2	21	23	1.6	157	60	8.4
19	9	3	21.4	60	14.7	140	56.1	10.7	1.7	12	5	129	41	0.10	1.2	2.3	A	63	15	0.9	329	16	0.7	194	68	2.4
19	9	47	40.9	60	14.9	140	56.1	10.0	1.7	11	4	129	41	0.12	1.6	2.5	B	291	5	0.8	23	28	1.1	192	62	2.8
19	11	24	48.0	60	2.5	141	16.9	5.2	1.4	9	2	154	42	0.19	2.3	1.7	A	280	3	0.9	11	20	2.4	182	70	1.5
19	12	46	27.2	62	42.2	149	24.3	42.5	2.4	17	2	144	125	0.42	3.5	23.0	D	357	3	3.0	87	5	1.8	236	84	23.1
19	15	21	2.1	63	10.0	150	11.1	110.7	3.5	17	6	126	179	0.47	3.8	18.7	D	125	3	3.6	35	4	2.9	252	85	18.7
20	5	26	42.0	60	24.9	140	17.6	7.7	2.0	6	5	188	63	0.29	2.9	3.4	B	317	9	1.2	54	35	2.3	215	53	3.8
20	6	32	13.5	62	5.1	150	52.8	73.5	3.7	25	2	160	71	0.44	3.0	3.6	B	82	8	1.3	178	32	2.5	340	57	4.1
		3.3	MB																							
20	6	34	47.9	61	18.0	149	56.8	40.5	2.8	24	3	53	54	0.34	1.1	3.4	B	77	4	0.8	168	7	1.0	318	82	3.4
20	6	45	18.4	60	31.8	140	32.0	14.3	1.8	15	4	184	65	0.33	1.4	2.9	B	321	4	0.8	51	6	1.4	197	83	2.9

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
NOV	20	7	47 4.0	60	18.0	140	45.6	5.8	1 5	7	2	145	43	0.27	1.9	5.6	C	61	5	1.2	330	15	1.1	169	74	5.8
	20	23	48 25.3	60	16.5	140	57.5	14.1	2 3	15	5	118	65	0.19	2 4	2.7	B	15	17	0.9	275	29	2 1	131	55	3.0
								2.4 ML EMRC																		
	21	7	15 40 7	60	40.2	143	7.1	0.1	2 2	14	4	98	59	0.94	1.8	3.4	B	132	16	0.6	36	20	0.9	258	64	3 8
								2.6 ML EMRC																		
	21	7	34 25.4	60	17.2	140	51.7	17.0	1.7	4	2	264	110	0.26	7 3	6.1	C	18	33	1.2	263	33	2.7	141	40	9.3
	21	8	2 9.5	60	12.2	141	39.3	14.1	1.5	6	3	110	65	0.16	9.4	12.1	D	262	16	1.2	3	33	1.0	150	52	15.3
	21	8	8 42.7	60	41.9	143	14.9	6.7	2.1	14	5	102	62	0.83	1.4	2.5	A	130	16	0.6	35	19	1.0	258	65	2 7
								2.6 ML EMRC																		
	21	9	24 58.7	60	16.4	140	48.3	13.6	1.9	10	6	162	82	0.18	2.4	3.5	B	310	12	2.3	45	21	0.9	192	65	3.8
								2.3 ML EMRC																		
	21	15	18 1.8	63	12.9	149	30.0	62.9	3.2	11	2	167	205	0.33	3.6	16.8	D	27	0	2.3	297	0	3.6	0	90	16.8
	21	16	48 57.5	61	4.8	146	16.8	0.1	1.2	10	2	100	48	0.53	1.0	25.0	D	236	0	0.8	326	0	1.0	0	90	25.0
	21	22	21 6.3	60	13.9	141	3.0	12.6	2 0	9	7	137	59	0.26	1.6	2.3	A	299	8	1.5	33	26	0.9	193	63	2.6
								2.0 ML EMRC																		
	21	22	26 12.6	60	17.3	141	26.3	12.3	1 9	9	6	104	47	0.35	1.2	2.1	A	265	8	1.0	359	26	0.6	159	63	2.4
								2.1 ML EMRC																		
	22	1	14 45.1	61	24.3	146	45.4	17.5	2.0	17	8	139	46	0.62	1.1	1.5	A	281	11	0.6	16	23	1.0	167	64	1.7
	22	2	3 49.1	61	34.0	140	50.1	24.6	1.9	4	3	210	138	0.20	5.7	9.5	C	351	10	2.8	256	24	3.9	102	64	10.4
								1.8 ML EMRC																		
	22	4	13 50.3	62	1.7	147	55.8	35.8	2.0	12	7	176	80	0.39	2.4	1.4	A	79	17	0.8	342	21	2.6	205	62	1 1
	22	5	58 8.8	60	8.5	140	49.9	3.6	2.2	4	2	288	117	0.32	6.0	6.0	C	56	24	1.7	309	34	4.8	174	46	7.3
	22	6	12 22.4	62	35.2	148	44.0	36.1	2.3	16	6	125	113	0.47	2 0	2.3	A	328	4	2.0	60	33	1.1	232	57	2.7
	22	8	13 38.9	62	21.6	148	28.7	30.7	2.1	11	6	240	106	0.39	3.6	2.5	B	178	24	3.8	69	36	1.1	294	44	2.6
	22	8	28 59.0	60	22.9	142	27.3	3.7	1.6	5	1	284	133	0.51	24.7	5.6	D	328	10	25.0	63	30	1.7	221	58	4 3
	22	8	38 31.4	60	20.2	141	16.8	10.9	1.8	4	1	209	88	0.25	16.3	19.5	D	5	21	1.1	262	32	5.8	123	50	25.0
	22	12	21 10.6	60	18.9	141	26.8	10.3	1.6	4	2	179	79	0.35	12.4	21.7	D	9	20	0.9	271	21	1.5	139	60	25.0
	22	12	26 16.2	60	17.1	142	23 5	8.7	3 0	19	2	67	31	0.48	1.4	2.4	A	309	0	0.7	39	26	0.9	219	64	2.7
		3.4	MB			3.6	ML PMR	3.6 ML EMRC																		
	22	15	23 10.3	60	16.8	140	42.1	14.1	2 2	7	5	195	84	0.35	2.7	3.8	B	134	3	2.7	43	19	1.2	233	71	4.0
								2.3 ML EMRC																		
	22	17	8 25.4	60	30 8	144	5.8	18.0	2.0	6	2	176	104	0.30	2.9	5.7	C	5	7	2.7	98	17	1.0	254	71	5.9
	22	18	51 50.4	60	0.5	141	6.9	8.2	3.1	19	4	124	51	0.38	1.6	1.9	A	111	1	1.5	21	38	1.0	202	52	2.3
		3.5	MB			3.9	ML PMR	3.8 ML EMRC																		
	22	19	7 19.7	60	19.0	140	59.0	6.3	1.6	6	2	250	103	0.13	11.3	10.0	D	25	14	1.1	127	41	14.4	280	46	4.7
	22	19	9 47.4	59	59.8	141	8.7	7.7	2.2	14	7	149	50	0.30	1.5	1.7	A	269	8	1.3	6	38	0.8	169	51	2.1
								2.5 ML EMRC																		
	22	22	57 51.3	61	0.1	146	56.6	15.1	1.8	19	9	86	36	0.49	0.8	1.2	A	14	3	0.8	283	16	0.5	114	74	1.3
	23	2	52 3.7	63	50.3	148	57.0	38.8	3.2	11	2	177	238	0.50	13.8	8.9	D	6	2	1.9	275	23	14.6	101	67	7.4
	23	10	10 7.3	59	55.2	141	35.6	17.4	1.8	9	6	280	91	0.51	2.4	1.7	A	178	24	2.5	283	30	1.6	56	50	1.3
	23	15	26 6.3	60	26.3	140	41.3	1.1	1.3a	6	2	264	87	0.98	11.4	11.0	D	1	19	1.6	254	40	4.3	110	44	15.4
	23	15	45 38.7	59	59.7	140	58.5	4.4	1.4	7	3	260	59	0.40	2.1	2.4	A	271	13	1.7	11	36	1.3	164	51	2.9
	23	18	45 30.2	60	38.0	141	43.4	20.0	1.2	5	4	136	56	0.19	5.1	24.5	D	180	5	0.9	270	10	1.7	64	79	25.0
	23	20	1 53.2	60	19.9	141	12.8	4.2	1.6	8	5	220	71	0.34	6.9	7.2	C	15	12	0.8	274	41	2.1	118	46	9.8
	23	21	27 55.5	59	44.2	145	41.3	34.5	2.6	24	10	209	122	0.83	1.5	1.1	A	36	19	1.5	142	38	1.3	285	46	0.9
	24	0	45 1.1	62	9.9	149	36.3	48.3	2.3	11	6	222	78	0.45	3.5	7.7	C	257	2	1.3	347	12	3.2	158	78	7.8
	24	2	44 42.3	59	58.1	141	31.0	8.6	1.4	11	6	161	30	0.33	1.4	1.4	A	288	16	0.6	33	43	0.9	183	43	1.8
	24	7	14 16.0	60	28.5	140	38.8	3.6	1.6	8	5	266	91	0.37	4.7	3.9	B	10	1	1.1	101	37	5.7	279	53	2.4
	24	8	37 46.0	60	27.4	142	58.6	4.6	1.4	11	6	110	53	0.58	0.9	1.0	A	323	6	0.6	54	13	0.9	209	76	1.0
	24	9	49 14.2	60	40.0	143	23.1	12.1	1.5	10	4	83	61	1.07	1.2	2.9	B	30	6	1.2	121	10	0.7	269	78	3.0
	24	10	8 32.8	60	36.2	143	16.7	17.2	1.1	4	2	165	62	0.17	10.5	22.7	D	48	5	1.8	315	24	1.3	149	65	25.0
	24	12	37 5.4	61	17.7	149	57.0	45.4	3.0	24	3	53	46	0.39	1.4	2.2	A	246	4	0.7	155	19	1.2	347	71	2.3
						3.7	ML PMR																			
	24	12	57 43.7	60	37.3	141	46 2	14.4	1.1	6	2	131	56	0.06	3.0	17.3	D	185	4	0.9	276	7	1.8	66	82	17.5
	24	19	5 0.1	61	22.6	147	8.6	17.4	3.2	36	3	46	51	0.52	0.8	1.3	A	11	0	0.8	281	13	0.5	101	77	1.3
						4.0	ML PMR																			
	25	0	22 38.4	60	37.0	147	15.5	13.0	2.2	31	5	89	65	0.41	1.0	1.4	A	160	8	0.9	253	22	0.6	51	66	1.5
	25	0	28 1.2	60	36.4	142	45.6	4.3	0.7	4	3	189	53	0.32	6.3	7.1	C	17	7	0.7	113	40	2.5	279	49	9.1

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
NOV 25	2	13	10.6	60	20.1	141	20.3	7.4	1.5	8	6	199	70	0.17	4.2	5.2	C	3	19	0.7	261	32	1.6	119	52	6.6
25	2	50	11.5	60	37.6	143	18.0	27.6	1.0	5	2	92	62	0.62	1.9	6.7	C	325	1	1.9	55	4	0.9	221	86	6.7
25	5	43	54.4	60	47.8	142	42.5	15.0	0.7a	3	1	157	99	0.67	17.0	20.3	D	207	6	1.9	301	38	8.9	109	51	25.0
25	5	50	56.7	61	59.3	148	47.9	12.5	1.9	20	6	175	67	0.85	1.4	1.9	A	175	13	1.2	272	29	0.6	64	58	2.2
25	6	25	47.7	60	36.6	141	37.7	6.8	1.1	5	4	148	61	0.19	1.5	5.6	C	201	6	0.5	292	10	1.0	80	78	5.8
25	8	1	12.4	60	10.9	140	57.5	9.1	1.5	13	7	120	62	0.30	1.6	2.1	A	286	22	1.3	25	23	1.0	157	57	2.4
								2.2 ML	EMRC																	
25	8	51	21.4	60	16.4	140	47.3	14.3	1.5	9	3	230	74	0.10	3.7	3.2	B	6	18	1.0	109	34	4.0	253	50	2.9
25	11	52	48.3	60	37.8	141	36.8	32.9	1.1	5	3	150	60	0.31	2.1	18.3	D	335	0	0.9	245	4	1.7	65	86	18.4
25	12	6	47.5	61	23.4	144	22.6	0.6	1.3	7	2	160	55	0.67	2.5	3.3	B	0	10	1.1	97	35	0.7	256	53	4.1
25	13	53	50.6	61	12.2	146	32.8	0.3	1.5	12	4	138	45	0.43	1.2	1.5	A	254	14	0.6	348	14	1.1	121	70	1.5
25	14	20	34.9	60	14.6	153	2.8	139.9	4.2	23	1	72	100	0.45	2.8	5.2	C	352	10	2.6	84	11	2.1	221	75	5.3
		4.1	MB																							
25	14	49	23.7	60	28.9	141	24.0	11.6	0.6	6	2	182	60	0.12	4.6	7.8	C	353	10	1.1	258	26	2.4	102	62	8.8
25	15	30	3.8	60	17.2	141	14.8	25.7	1.7	11	4	182	52	0.40	1.9	2.3	A	24	11	0.7	285	36	1.1	128	52	2.8
25	18	36	33.1	60	38.1	141	42.2	17.5	1.0	5	2	166	66	0.03	4.3	24.8	D	171	4	1.3	262	7	2.6	52	82	25.0
25	18	49	39.0	60	7.5	141	35.2	24.1	0.8	7	2	180	27	0.37	5.1	3.1	C	42	26	1.9	148	30	5.8	279	48	0.9
25	22	2	50.9	61	52.7	148	18.5	35.3	2.3	19	6	91	52	0.63	1.5	0.9	A	346	17	1.6	87	33	0.7	233	52	0.8
26	7	24	53.1	60	32.7	142	58.6	0.1	1.0a	3	2	243	65	0.17	3.5	5.1	C	359	13	0.6	93	18	3.2	235	68	5.4
26	7	35	27.7	60	53.5	149	6.0	14.6	0.9	8	5	123	47	0.40	1.5	1.5	A	223	24	0.5	329	32	1.2	103	48	1.9
26	9	45	38.3	61	48.0	149	11.8	35.9	1.3	6	5	203	58	0.18	2.7	2.3	B	260	19	1.5	158	32	2.9	16	52	2.0
26	16	16	15.7	60	16.6	141	29.1	1.3	1.6	8	2	281	181	0.19	8.1	3.5	C	301	11	8.2	36	28	1.2	192	60	3.6
27	6	3	25.7	60	20.9	140	24.3	4.6	1.7	5	4	286	131	0.42	4.1	3.5	B	12	19	1.4	118	38	5.0	261	46	2.2
27	9	46	1.2	60	17.0	140	47.2	9.9	1.6	8	5	270	82	0.23	3.1	2.8	B	21	12	0.9	121	39	3.5	277	48	2.4
27	15	28	9.9	62	24.8	151	16.5	93.9	3.5	26	2	109	112	0.44	3.4	5.0	B	74	6	1.8	166	14	3.2	321	75	5.1
27	18	0	30.7	61	26.4	144	10.2	6.4	1.0	4	2	169	67	0.14	15.7	7.2	D	4	24	17.1	107	26	0.9	238	53	2.0
27	19	51	41.8	61	51.4	149	20.6	7.0	1.3	9	5	164	68	0.64	1.4	1.4	A	285	23	0.6	177	37	1.2	40	44	1.7
27	20	2	14.3	60	10.4	140	57.5	7.4	1.6	8	6	120	62	0.33	1.6	2.3	A	304	12	1.4	39	21	1.0	186	65	2.5
								2.3 ML	EMRC																	
27	20	44	13.9	60	15.8	140	49.9	10.3	1.9	4	2	269	111	0.09	15.5	6.5	D	24	4	1.7	115	14	16.0	278	75	5.3
27	23	4	48.8	60	16.6	140	56.0	9.6	1.2	3	2	260	114	0.01	12.3	7.0	D	21	28	1.4	127	28	13.8	254	49	3.6
27	23	42	39.2	63	35.6	149	12.8	121.1	3.8	16	0	177	219	0.39	9.4	24.9	D	99	2	9.4	190	5	2.3	347	85	25.0
28	3	54	57.5	60	10.9	140	54.6	13.6	1.4	4	2	278	107	0.09	4.3	2.9	B	135	26	4.7	21	39	1.4	249	40	2.8
28	5	47	36.6	61	13.2	147	4.6	29.1	1.9	21	4	71	37	0.71	0.9	1.1	A	90	2	0.5	359	9	0.9	192	81	1.1
28	6	22	53.3	60	51.7	146	50.5	15.3	2.2	27	5	102	27	0.61	1.0	1.0	A	266	5	0.5	172	38	0.9	2	52	1.0
28	16	55	12.9	61	9.4	147	49.1	11.4	1.6	14	3	121	45	0.51	1.1	1.4	A	277	12	0.5	180	31	0.9	26	56	1.5
28	17	50	4.9	58	54.1	153	17.6	47.9	3.2	9	1	136	170	0.18	2.6	25.0	D	5	1	1.6	95	3	2.2	257	87	25.0
28	19	0	32.0	60	21.2	141	24.0	14.3	0.9	3	2	187	81	0.05	12.0	21.9	D	21	11	0.9	285	26	1.2	132	61	25.0
28	21	27	44.8	60	46.4	145	13.2	27.5	2.1	17	5	144	72	0.60	1.2	1.1	A	100	17	0.6	2	23	1.2	223	61	1.1
28	22	30	35.0	60	58.5	146	44.2	16.0	2.3	12	4	97	60	0.61	1.2	1.2	A	261	12	0.5	1	41	1.3	158	47	1.1
28	23	3	41.5	61	0.5	146	45.6	18.4	1.7	10	6	95	58	0.62	1.1	1.4	A	272	8	0.5	178	26	1.0	18	63	1.5
29	1	44	27.6	61	38.3	148	44.3	35.2	1.1	7	4	153	29	0.44	1.8	1.2	A	108	7	1.8	204	40	0.9	10	49	1.4
29	4	11	55.8	60	18.7	141	33.8	0.4	1.3	9	7	155	71	0.41	1.0	2.2	A	19	9	0.6	286	13	0.9	142	74	2.2
29	23	1	25.3	60	9.6	141	3.1	6.0	0.6	4	3	276	105	0.19	12.6	8.9	D	280	21	3.0	174	35	15.3	35	47	1.2
29	23	8	28.9	60	12.9	141	0.4	5.5	0.7	4	2	265	105	0.28	16.5	13.2	D	279	31	2.7	35	36	1.0	160	39	21.0
29	23	34	24.1	63	4.9	150	39.9	120.7	4.0	27	3	128	180	0.50	3.6	5.9	C	322	4	3.5	54	21	2.0	222	69	6.3
		3.3	MB																							
30	0	33	37.3	60	9.9	141	50.8	14.2	1.6	13	10	120	33	0.53	1.4	1.7	A	274	18	0.7	16	34	0.5	161	50	2.1
30	0	41	57.0	60	10.3	141	51.6	7.8	1.3	8	6	115	54	0.29	3.0	5.1	C	289	17	0.6	27	24	0.6	167	60	5.9

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
NOV 30	1	0	18.9	60	16.8	140	37.2	6.9	1.4	9	5	278	86	0.42	2.6	2.5	B	26	12	0.9	284	44	1.8	128	43	3.1
30	1	44	59.2	60	7.9	141	0.6	17.7	1.0a	4	2	310	108	0.07	6.2	3.7	C	295	25	5.1	193	25	6.6	64	53	1.4
30	3	25	35.5	62	1.6	148	52.9	40.2	3.1	31	4	102	67	0.52	1.9	3.0	B	83	5	0.8	352	10	1.8	199	79	3.1
					2.4 ML PMR																					
30	5	59	3.6	60	17.5	141	29.3	7.6	1.0	7	2	170	75	0.38	2.8	3.3	B	15	17	0.7	273	35	1.2	126	50	4.2
30	8	28	26.4	60	54.1	147	27.1	20.5	2.8	35	5	50	48	0.51	0.6	1.3	A	183	1	0.6	273	8	0.5	86	82	1.3
					2.8 ML PMR																					
30	10	20	12.9	60	15.0	140	48.4	18.6	2.0	12	3	123	72	0.32	3.4	3.4	B	16	20	1.1	270	37	3.1	128	46	3.9
								2.4 ML EMRC																		
30	14	58	19.5	60	33.7	141	35.4	18.8	1.1a	6	5	155	67	0.31	1.7	3.6	B	223	14	1.2	317	15	0.8	92	69	3.8
30	15	56	29.3	60	15.0	141	6.1	11.7	1.0	7	4	250	81	0.12	3.2	2.1	B	125	23	3.4	23	27	0.7	250	53	2.0
DEC 1	0	50	13.1	61	31.9	151	39.0	101.3	3.3	19	5	73	95	0.54	1.8	2.7	B	51	2	1.1	142	26	1.4	317	64	2.9
1	0	59	27.9	60	50.5	146	50.7	15.5	1.8	17	7	112	42	0.72	0.8	1.0	A	271	10	0.5	178	15	0.8	33	72	1.0
1	3	22	8.7	60	23.5	141	20.4	12.2	1.3	6	4	232	84	0.25	3.6	4.4	B	358	17	0.8	256	33	1.4	111	52	5.5
1	4	46	41.5	60	26.5	140	29.5	2.9	1.9	7	4	277	121	0.65	5.4	3.4	C	355	29	1.4	103	30	6.1	230	46	1.7
1	9	24	39.9	60	18.4	141	18.4	14.1	0.7	5	4	208	73	0.29	6.6	5.4	C	13	18	0.8	118	39	8.4	264	46	1.5
1	14	58	11.9	60	19.6	141	9.8	6.1	0.9	6	5	228	72	0.33	10.2	11.5	D	12	16	0.7	269	37	1.9	121	48	15.2
1	15	15	58.2	60	11.1	140	58.3	4.2	1.1	6	5	267	89	0.37	2.4	3.2	B	303	11	2.3	38	20	0.8	186	67	3.4
1	15	29	18.2	60	13.9	141	28.5	3.8	1.1	7	4	173	75	0.37	6.3	10.0	D	232	3	1.0	324	32	0.8	137	58	11.8
1	16	58	50.6	60	39.7	143	12.7	13.8	1.0	5	3	94	63	0.38	1.4	4.6	B	101	5	1.3	10	10	0.9	217	79	4.7
1	21	54	39.0	61	52.9	147	2.7	12.6	3.0	32	4	149	74	0.70	1.1	1.2	A	283	16	0.6	21	27	0.9	166	58	1.3
1	21	58	9.7	61	54.6	146	57.6	20.8	2.3	26	12	150	72	0.95	0.8	0.9	A	275	3	0.5	184	27	0.8	11	63	0.9
2	5	5	34.3	60	12.0	140	6.7	1.9	1.7	6	3	299	108	0.35	3.6	3.3	B	241	19	1.5	134	41	4.4	350	43	2.1
2	6	35	30.1	61	36.9	147	47.6	20.0	3.0	33	6	98	48	0.79	0.9	1.3	A	184	16	0.8	280	18	0.5	55	65	1.4
2	22	11	23.8	60	16.2	145	0.5	23.1	2.7	17	6	181	101	0.52	1.3	1.8	A	200	5	1.3	107	25	0.6	301	64	2.0
								2.7 ML EMRC																		
3	0	54	53.3	60	9.1	141	2.6	1.6	1.7	11	6	209	56	0.31	1.5	1.7	A	21	23	0.8	276	32	1.1	140	49	2.0
3	1	7	2.6	60	42.2	147	10.2	28.6	1.8	18	5	109	50	0.38	1.0	1.3	A	353	7	1.0	260	18	0.6	103	71	1.3
3	1	13	48.9	60	35.7	143	1.0	6.7	1.2	5	3	118	83	0.30	4.3	11.3	D	9	4	0.8	100	20	1.2	268	70	12.1
3	2	24	12.8	60	6.3	141	18.0	7.6	0.9	5	1	200	41	0.27	2.6	1.6	B	144	3	1.1	235	17	2.6	44	73	1.5
3	5	12	6.6	61	26.2	147	7.0	17.4	1.8	16	3	58	52	0.52	0.9	1.9	A	202	6	0.8	294	15	0.7	91	74	2.0
3	8	5	25.6	60	20.5	140	40.6	18.1	1.5a	4	3	271	82	0.16	4.0	4.2	B	23	19	1.1	278	37	2.7	135	47	5.2
3	8	39	5.9	60	52.9	140	25.1	23.6	1.9	5	3	297	129	0.48	4.7	2.4	B	37	5	4.7	129	23	1.7	295	66	2.5
3	11	46	30.9	63	58.5	148	33.4	39.7	3.2	11	3	166	267	0.59	13.6	23.9	D	194	4	2.0	286	19	11.5	93	70	25.0
3	11	58	41.7	61	33.3	146	26.8	16.8	1.7	7	2	206	70	0.46	2.8	4.6	B	1	13	2.6	268	14	1.2	132	71	4.8
3	13	9	50.2	61	30.3	146	27.3	22.9	1.8	14	6	145	59	0.51	1.1	2.0	A	296	5	0.8	27	7	1.1	171	81	2.0
3	14	51	23.2	60	22.9	140	19.6	0.8	1.6a	3	4	309	139	0.18	10.6	10.8	D	199	2	4.7	291	44	6.4	107	46	13.7
4	2	8	21.9	60	2.1	141	15.2	24.5	1.8	11	6	178	65	0.33	2.8	2.6	B	86	2	1.4	177	43	3.7	354	47	1.1
4	2	20	28.6	60	31.3	143	2.4	9.6	1.0	6	1	95	61	0.31	1.7	3.1	B	99	5	1.7	7	19	0.8	203	70	3.2
4	3	53	50.8	59	58.5	140	34.8	18.8	1.7	9	5	274	118	0.33	5.0	5.2	C	279	22	3.2	26	35	1.3	164	47	6.9
4	4	40	55.6	60	15.8	140	47.0	13.7	2.2	15	1	130	74	0.33	3.3	3.2	B	16	19	1.1	271	38	3.1	127	46	3.6
								2.8 ML EMRC																		
4	5	11	2.5	60	16.3	140	49.5	14.3	2.1	16	3	120	72	0.16	2.0	3.0	B	113	3	2.0	22	20	1.1	211	70	3.2
								2.9 ML EMRC																		
5	3	49	24.2	60	13.2	140	41.8	11.7	1.5	6	3	278	90	0.20	3.9	4.2	B	28	22	1.4	130	26	3.6	263	55	4.7
5	7	42	55.8	59	42.9	152	4.4	56.3	2.8	16	1	117	97	0.39	1.9	4.8	B	210	4	1.2	120	9	1.8	324	80	4.9
5	8	26	48.5	60	42.9	147	24.0	11.4	1.9	16	5	113	53	0.60	1.1	1.7	A	180	19	0.9	277	20	0.6	50	62	1.9
5	10	16	9.7	60	18.3	142	6.3	13.5	1.5	7	3	97	44	0.27	2.2	5.1	C	305	9	1.2	38	20	0.9	192	68	5.5
5	17	22	55.1	60	27.7	145	10.9	11.7	1.5	7	3	257	86	0.46	2.1	2.9	B	74	7	1.0	168	29	1.7	332	60	3.2
5	19	27	49.3	60	20.6	141	21.3	1.6	1.9	12	8	157	52	0.46	1.1	1.5	A	266	9	1.1	359	16	0.6	148	71	1.5
								2.5 ML EMRC																		
5	20	20	20.3	60	23.0	140	49.3	20.3	1.9	4	2	283	112	0.05	10.5	13.2	D	188	10	1.5	285	35	5.6	84	53	16.0

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
DEC 6	8	45	27.6	60	15.1	140	43.8	14.8	1.7	8	3	274	86	0.06	5.0	3.5	C	14	26	1.3	120	30	5.6	251	48	2.6
6	8	56	33.8	60	12.3	140	37.0	10.9	1.9	6	4	282	93	0.26	4.6	3.1	B	132	8	4.7	41	11	1.5	258	76	3.1
6	9	46	37.8	60	18.9	141	26.1	3.6	1.6	15	8	98	60	0.33	1.4	2.5	B	16	13	0.7	280	21	1.0	135	65	2.7
								2.3 ML EMRC																		
6	11	4	37.5	60	9.7	149	18.9	0.9	1.8	14	2	173	63	0.73	1.6	1.7	A	248	12	0.8	349	42	1.1	145	46	2.1
6	12	54	40.8	59	57.5	142	9.3	15.0	1.7	2	2	294	100	0.14	16.9	18.7	D	32	23	4.5	286	33	1.7	150	48	25.0
6	15	28	15.1	60	9.2	140	37.8	17.6	0.8	4	2	313	136	0.03	6.1	5.3	C	69	30	1.8	313	37	5.6	186	38	6.5
6	15	42	23.2	60	15.8	144	57.3	18.9	1.6	15	8	197	80	0.52	1.7	1.8	A	109	26	0.5	213	28	1.4	343	50	2.2
6	17	50	21.5	60	15.8	141	13.8	9.0	1.7	14	7	93	51	0.35	1.6	1.9	A	270	21	1.4	11	26	0.8	146	55	2.2
								2.4 ML EMRC																		
6	22	19	13.9	61	34.1	146	19.5	17.9	2.2	24	4	87	58	0.81	0.9	1.3	A	187	2	0.9	277	13	0.6	88	77	1.3
7	2	41	58.7	60	11.1	148	45.6	26.4	2.1	12	1	277	122	0.50	6.5	2.7	C	285	3	1.6	16	15	6.7	184	75	2.2
7	4	33	34.8	60	14.1	141	19.2	12.7	1.1	4	2	252	105	0.11	14.5	8.2	D	121	28	16.4	6	38	1.3	237	39	3.9
7	9	37	22.1	59	37.7	152	27.8	64.0	3.2	20	1	168	80	0.37	1.9	3.3	B	51	6	1.3	143	14	1.8	298	75	3.4
7	11	49	29.8	60	7.2	141	7.8	11.1	1.8	7	2	198	102	0.07	6.5	9.5	C	255	21	2.9	355	25	1.1	130	56	11.3
7	12	32	52.1	61	5.7	151	20.7	69.8	2.6	24	4	82	82	0.50	1.2	3.5	B	42	5	0.7	133	12	1.0	290	77	3.6
7	18	23	55.8	60	16.0	140	59.7	12.4	1.9	12	6	110	80	0.21	2.4	2.7	B	10	16	0.8	269	35	1.5	120	51	3.3
								2.1 ML EMRC																		
7	18	49	48.8	60	16.8	141	16.2	12.5	1.6	8	4	180	76	0.10	2.0	2.8	B	6	17	0.8	269	24	1.5	128	60	3.2
7	22	29	22.4	58	35.8	153	36.1	82.5	3.6	11	1	168	129	0.22	3.2	8.9	C	4	5	2.7	94	5	3.2	229	83	9.0
7	23	3	5.9	60	13.6	141	23.6	8.2	1.3	8	5	164	41	0.27	1.6	1.9	A	89	14	1.5	352	27	0.7	204	59	2.1
8	6	18	38.9	60	16.8	140	36.0	7.9	1.3	4	2	279	86	0.03	5.8	6.3	C	33	10	1.5	299	24	5.6	144	64	6.5
8	7	4	30.1	60	14.1	140	50.9	11.5	0.5	4	1	294	110	0.06	5.1	4.7	C	304	26	4.9	51	30	1.4	181	48	5.5
8	8	11	21.7	60	20.9	140	45.4	19.4	1.7	6	4	265	79	0.25	3.0	2.9	B	18	12	0.8	117	38	3.1	274	50	2.9
8	10	51	39.3	59	52.6	140	38.5	3.9	1.4a	4	2	320	160	0.10	6.2	4.7	C	124	5	2.0	33	15	6.3	232	74	4.5
8	11	34	13.7	60	16.5	140	50.2	11.1	1.7	13	6	119	71	0.19	1.9	2.9	B	105	11	1.8	12	16	0.8	228	70	3.0
								2.3 ML EMRC																		
8	11	38	33.4	61	38.5	149	48.7	46.1	1.8	11	5	166	46	0.32	1.6	2.2	A	293	4	0.9	201	28	1.3	30	62	2.4
8	17	3	48.9	61	31.0	150	8.7	46.0	1.7	13	7	98	55	0.33	1.1	2.4	A	106	3	0.6	196	8	1.1	356	81	2.4
8	17	26	21.2	60	12.4	141	21.9	2.8	0.8	7	3	220	81	0.23	10.8	10.2	D	13	29	0.9	262	33	2.7	134	43	14.7
8	17	28	47.5	60	18.1	141	19.4	4.7	0.8	5	2	240	86	0.11	6.3	6.9	C	359	24	1.2	253	31	3.8	120	49	8.8
9	4	12	8.4	59	49.1	141	46.7	0.2	0.4	3	2	305	139	0.25	2.8	4.0	B	88	5	1.7	179	13	2.7	337	76	4.1
9	4	44	38.2	61	12.4	141	0.9	1.9	1.4	3	2	308	142	0.37	4.0	4.0	B	305	21	2.2	51	36	3.3	191	47	4.8
9	5	39	56.3	59	47.5	148	30.8	38.9	2.1	16	5	228	119	0.57	3.3	3.1	B	330	17	2.0	77	42	1.0	224	43	4.4
9	6	24	59.2	60	29.6	143	4.8	17.0	0.8	5	4	98	67	0.81	1.6	2.5	B	237	2	0.7	328	28	1.0	143	62	2.8
9	6	57	47.1	60	12.7	141	5.3	11.0	0.7	5	2	229	56	0.14	4.1	4.4	B	101	28	2.6	354	29	1.3	227	48	5.6
9	7	3	49.0	60	16.5	140	50.8	12.9	3.4	22	2	63	71	0.41	1.5	2.8	B	305	1	1.5	35	20	1.0	212	70	3.0
		4.9 MB	4.1 MS		5.0 ML PMR			4.5 ML EMRC																		
9	7	8	38.8	60	14.5	140	36.5	12.9	1.0	6	0	247	90	0.16	9.5	7.8	C	12	12	1.5	111	37	11.4	267	50	4.8
9	7	8	48.1	60	16.6	140	41.0	15.7	2.0	9	3	239	85	0.22	6.3	6.2	C	4	10	1.0	264	44	3.7	104	44	8.0
9	7	10	28.2	60	17.4	140	49.2	10.9	1.2	3	2	267	118	0.05	18.0	15.7	D	24	31	2.0	270	34	8.0	145	40	23.1
9	7	11	56.1	60	15.4	140	42.2	19.2	1.6	7	4	275	86	0.21	2.7	2.8	B	26	24	1.0	284	24	2.5	155	55	3.2
9	7	15	45.3	60	15.1	140	41.2	10.6	1.3	5	4	276	87	0.30	4.6	3.2	B	31	19	1.4	132	29	5.1	272	54	2.4
9	7	16	34.5	60	14.8	140	39.6	12.9	1.8	8	5	278	88	0.26	3.2	2.8	B	23	17	1.2	125	34	3.6	271	51	2.4
9	7	21	19.2	60	16.3	140	45.7	16.4	1.6	8	3	233	75	0.27	2.3	3.1	B	117	3	2.3	26	21	1.1	215	69	3.3
9	7	23	25.3	60	18.5	140	48.4	8.1	1.3	5	3	265	79	0.30	4.1	3.5	B	31	16	1.0	133	37	4.7	282	49	2.9
9	7	24	54.3	60	16.3	140	47.1	15.6	1.8	10	5	203	74	0.13	2.6	3.1	B	12	14	0.9	276	22	2.5	132	63	3.3
								2.2 ML EMRC																		
9	7	43	48.7	60	17.0	140	48.8	11.6	1.8	10	10	201	73	0.25	1.5	2.2	A	290	0	1.5	20	15	0.7	200	75	2.2
								2.3 ML EMRC																		
9	7	45	40.4	60	14.6	140	39.3	14.3	1.8	7	5	278	89	0.13	3.0	2.9	B	33	25	1.1	285	34	2.3	151	46	3.6
9	8	46	56.7	60	17.2	140	46.8	14.4	1.7	9	6	203	75	0.35	2.5	2.9	B	10	15	0.8	272	29	2.3	124	57	3.2
								2.3 ML EMRC																		

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
DEC 9	8	48	35.9	60	17.3	140	45.8	8.1	1.4	5	3	271	82	0.27	4.0	2.9	B	17	27	1.2	126	32	4.6	256	46	2.1
9	9	25	32.7	60	16.4	140	49.9	12.3	1.6	11	6	200	72	0.25	1.9	2.6	B	286	6	1.9	18	15	0.9	175	74	2.7
								2.3 ML	EMRC																	
9	11	14	3.1	61	23.7	140	14.4	19.2	3.0	15	5	113	120	0.84	1.8	6.8	C	69	2	1.6	160	9	1.4	327	81	6.9
								3.3 ML	EMRC																	
9	15	11	7.0	60	15.9	140	46.7	15.3	2.0	9	6	123	84	0.15	2.6	3.4	B	284	13	2.5	18	18	1.2	160	68	3.5
								2.8 ML	EMRC																	
9	15	14	50.5	60	17.1	140	50.7	12.8	1.9	8	6	118	80	0.21	1.8	3.0	B	118	2	1.8	27	19	1.0	214	71	3.1
								2.3 ML	EMRC																	
9	17	26	58.8	60	16.3	140	43.5	7.7	1.9	6	3	236	84	0.18	4.1	4.2	B	9	14	1.3	270	34	3.9	118	53	4.6
9	20	26	59.5	60	33.0	141	37.2	17.1	1.2	3	3	151	69	0.22	2.7	6.3	C	206	5	0.9	298	19	1.6	102	70	6.7
9	21	21	59.1	60	18.8	140	50.3	2.1	0.7	3	2	263	112	0.	8.8	8.4	C	35	4	1.0	129	43	11.3	301	47	4.5
10	2	6	6.3	60	16.4	140	40.7	16.0	1.4	7	4	276	85	0.20	2.4	2.5	A	25	14	0.8	284	36	2.1	133	50	2.8
10	2	47	24.6	60	24.2	143	10.7	11.4	0.6	4	4	130	60	0.31	2.0	2.4	A	353	21	0.8	253	24	1.7	119	57	2.8
10	3	12	36.5	64	25.5	147	28.3	39.0	3.7	8	1	175	289	0.06	25.0	25.0	D	348	0	3.2	258	3	25.0	78	87	25.0
						3.0 ML	PMR																			
10	3	35	12.1	60	18.5	141	10.2	14.5	0.9	5	2	261	93	0.28	13.1	11.1	D	25	20	1.4	133	40	17.1	275	43	2.1
10	7	6	51.5	60	17.1	140	48.4	7.7	0.9	5	3	268	81	0.24	3.5	4.8	B	299	8	3.4	32	17	1.0	185	71	5.0
10	8	34	27.0	60	16.5	140	45.8	14.0	1.3a	4	2	272	83	0.13	4.8	4.2	B	19	27	1.2	265	38	2.6	134	40	6.0
10	9	30	5.5	61	46.9	149	42.6	47.3	2.1	17	5	156	60	0.33	1.8	2.6	B	354	2	1.8	84	3	0.9	230	86	2.6
10	13	4	23.3	60	18.0	141	17.3	15.8	1.4	8	3	178	51	0.42	1.9	3.4	B	14	14	0.6	279	20	1.4	137	65	3.7
10	13	12	1.4	60	35.8	142	47.8	4.1	1.0	3	2	196	55	0.07	23.9	9.5	D	16	11	0.8	283	18	25.0	136	69	5.9
10	16	38	17.4	60	15.8	140	57.3	11.7	1.1	5	3	215	81	0.13	1.9	2.8	B	109	3	1.9	18	19	0.8	208	71	3.0
10	17	48	11.1	59	51.8	148	27.0	12.2	2.3	22	3	217	111	0.67	2.6	2.4	B	258	23	0.9	147	40	2.1	10	41	3.0
10	19	58	21.1	60	58.1	147	27.3	27.9	1.8	19	6	88	50	0.40	1.0	1.4	A	277	5	0.6	7	5	1.0	142	83	1.4
10	22	15	60.0	60	15.7	141	14.6	10.6	1.5	6	4	228	78	0.37	6.9	5.4	C	21	17	0.8	125	37	8.5	271	48	2.0
10	23	49	11.2	60	15.5	141	3.8	8.6	1.0	3	2	252	112	0.11	14.1	9.4	D	135	32	16.6	17	36	1.4	253	37	4.6
11	2	27	39.9	60	4.1	150	3.2	39.4	2.9	11	2	184	61	0.42	3.0	4.5	B	258	5	1.3	349	20	2.7	155	69	4.7
11	2	47	47.7	60	38.0	143	15.9	15.0	0.9	3	3	184	136	0.52	9.4	19.3	D	316	5	1.0	49	25	2.0	215	64	21.4
11	5	22	8.8	61	16.2	149	35.4	33.3	2.0	7	4	170	91	0.32	2.5	2.3	A	70	9	1.2	333	38	2.8	171	51	1.9
11	10	35	1.7	60	16.9	140	59.4	13.9	1.4	4	3	254	78	0.25	4.6	3.7	B	21	15	0.8	123	37	5.7	273	49	1.9
11	15	42	21.4	60	39.5	141	42.8	21.6	1.9	13	6	136	59	0.50	1.8	3.1	B	351	5	0.7	258	25	1.1	92	64	3.4
								2.5 ML	EMRC																	
11	17	10	38.1	60	15.9	141	8.7	15.4	1.2	4	3	241	79	0.10	7.2	3.7	C	121	8	7.2	26	33	1.0	223	56	4.3
11	17	19	58.8	60	1.6	152	3.5	62.1	3.0	9	3	154	103	0.46	2.4	4.0	B	37	3	1.0	129	27	1.5	301	63	4.4
11	18	59	22.8	60	37.7	141	45.9	11.4	1.2	4	2	161	67	0.05	2.8	10.9	D	193	6	1.2	283	9	2.1	69	79	11.1
11	19	21	19.2	60	12.7	141	0.6	10.3	1.6	5	5	210	60	0.15	2.0	2.5	A	16	21	0.7	276	26	1.5	140	56	2.9
11	22	2	36.3	59	58.6	140	13.0	8.1	1.5	7	2	104	33	0.29	1.5	2.1	A	300	16	1.0	204	18	1.3	69	65	2.3
11	22	59	16.6	61	29.3	146	41.6	15.4	2.1	12	8	183	78	0.72	1.1	1.3	A	79	7	0.7	343	39	0.8	177	50	1.5
12	0	11	15.7	60	14.0	140	59.1	11.2	1.5	5	2	126	42	0.31	2.2	5.4	C	311	0	1.3	41	20	1.0	221	70	5.7
12	0	53	43.3	60	15.6	141	17.9	18.8	1.6	3	3	157	79	0.16	10.9	14.7	D	95	21	1.6	353	28	1.3	217	54	18.3
12	2	3	2.2	60	17.3	140	43.7	12.9	1.2	4	3	153	82	0.06	2.9	6.8	C	277	8	1.2	10	20	0.9	166	68	7.3
12	4	25	56.0	60	17.6	140	43.8	11.7	1.0	5	2	146	72	0.05	2.7	5.4	C	294	9	1.1	28	23	1.3	184	65	5.9
12	5	15	1.1	60	16.1	140	46.2	17.0	1.1	5	4	146	41	0.11	3.6	6.9	C	50	17	1.3	314	20	1.1	178	63	7.7
12	6	5	21.4	59	58.2	141	7.9	0.5	0.9	5	1	135	27	0.26	1.1	2.8	B	322	3	0.8	52	5	1.0	201	84	2.8
12	6	23	14.4	60	15.9	139	53.7	0.2	1.6	11	4	94	57	0.20	1.6	3.0	B	296	14	0.8	31	17	1.2	169	68	3.2
								2.0 ML	EMRC																	
12	6	39	44 1	60	12.6	140	48.1	15.0	1.0	4	1	155	38	0.13	16.2	19 1	D	281	8	1.3	18	39	1 8	181	50	25.0
12	6	39	44.6	61	17 3	149	56.3	44.1	3.1	27	4	52	55	0.36	1.0	2.3	A	254	0	0.8	164	8	1.0	344	82	2.3
12	6	45	15.1	61	17 8	149	58.4	46.6	1.6	7	5	150	70	0.12	2.6	3.6	B	262	3	1.4	171	6	2.6	18	83	3.7
12	8	5	25.8	60	7 9	148	20.5	14.5	1.8	18	6	195	81	0.69	1.6	1.9	A	355	18	1.4	256	27	0.8	115	57	2 2
12	11	7	35.2	60	15 8	140	45.7	16.7	1.1	6	2	145	41	0.22	3.5	5.5	C	289	16	1.3	27	26	1 4	171	59	6 3

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
DEC	12	21	26.8	60	32.3	147	26.6	15.4	2.1	24	3	76	54	0.47	0.9	1.6	A	352	1	0.9	262	14	0.6	86	76	1.6
	12	35	57.3	60	10.4	141	11.6	19.4	0.9	5	2	132	49	0.17	3.4	2.2	B	84	29	1.0	193	30	3.8	319	46	1.4
	12	9	12.3	61	51.8	149	21.6	4.8	1.3	7	2	227	55	0.49	3.0	2.0	B	252	8	1.0	345	16	3.1	136	72	1.9
	12	21	10.9	63	11.1	149	23.1	42.6	3.0	19	2	117	174	0.62	2.7	13.9	D	37	2	1.5	127	3	2.6	273	86	13.9
	12	37	48.1	60	15.9	140	56.0	8.8	1.5	6	2	132	42	0.14	1.9	4.6	B	267	0	1.1	357	21	0.8	177	69	5.0
	12	55	22.2	60	10.3	140	59.2	12.2	1.8	13	5	101	35	0.17	1.5	2.2	A	274	10	1.0	9	28	0.9	166	60	2.5
								2.2 ML	EMRC																	
	12	58	4.6	60	38.8	141	40.3	25.5	1.6	7	3	101	57	0.13	1.9	3.4	B	162	6	1.0	253	11	1.8	44	77	3.4
	13	2	57.0	61	36.3	146	23.9	26.7	2.3	13	4	160	55	0.68	1.3	1.7	A	109	2	0.8	17	29	1.0	203	61	1.9
	13	30	38.7	60	41.2	145	32.9	20.9	0.9	6	3	198	61	0.20	2.0	3.4	B	285	14	1.6	21	20	0.8	163	65	3.7
	13	21	52.1	60	56.2	147	16.0	11.2	1.4	8	2	183	59	0.52	2.1	2.0	A	261	18	0.6	8	42	2.2	154	43	1.9
	13	31	36.0	59	57.9	153	11.5	110.5	3.2	18	3	102	80	0.33	2.2	2.6	B	46	3	1.2	136	3	2.2	271	86	2.6
	13	55	16.3	60	13.7	140	31.9	6.2	1.6	4	2	269	93	0.04	6.3	7.8	C	34	15	1.2	294	33	3.6	145	53	9.5
	13	49	47.6	60	14.8	141	16.5	6.3	1.0	4	3	159	80	0.15	7.7	12.8	D	83	18	2.1	344	24	1.1	206	59	14.9
	13	57	3.0	62	50.0	148	58.8	27.6	2.5	13	3	140	161	0.71	3.0	3.4	B	310	12	2.7	49	35	1.9	204	52	4.0
	13	8	28.4	62	1.4	147	55.8	32.7	2.0	9	6	222	79	0.43	3.3	1.9	B	171	4	3.3	78	34	1.0	267	56	2.1
	13	54	49.3	60	13.9	140	56.7	10.9	0.9	4	3	217	42	0.13	3.4	6.0	C	345	17	1.8	80	18	2.4	214	65	6.5
	13	23	13.6	61	29.9	146	28.7	21.9	2.2	20	5	75	49	0.63	0.8	1.6	A	30	7	0.8	298	11	0.7	152	77	1.6
	14	16	27.7	60	15.6	139	49.8	10.3	1.8	8	6	84	89	0.34	2.1	5.5	C	46	5	1.7	315	18	0.8	151	71	5.8
								2.2 ML	EMRC																	
	14	2	18.7	62	10.5	149	36.3	41.6	2.3	11	5	210	78	0.56	1.7	4.6	B	3	0	1.7	93	3	1.0	273	87	4.6
	14	46	17.2	59	58.6	140	43.6	3.3	1.3	7	3	134	45	0.28	2.4	3.4	B	113	10	0.8	19	25	2.0	223	63	3.7
	14	56	40.6	60	18.7	141	20.0	13.9	1.5	8	4	113	49	0.28	1.3	2.5	A	95	11	1.1	2	17	0.8	217	70	2.6
	14	35	7.5	60	1.3	140	8.4	16.1	1.3a	4	2	180	57	0.35	5.2	4.4	C	300	18	1.4	44	37	6.2	189	47	3.1
	14	52	24.2	60	21.8	141	13.2	9.4	0.9	6	4	167	58	0.26	1.2	2.7	B	83	3	1.0	352	18	0.9	182	72	2.8
	14	45	15.9	60	18.6	140	46.8	1.5	0.9	4	3	168	105	0.21	2.1	4.5	B	2	14	1.4	96	16	1.1	233	69	4.8
	14	55	56.7	62	48.7	147	4.4	40.5	2.5	16	4	285	129	0.70	4.0	25.0	D	284	1	1.6	14	2	4.0	167	88	25.0
	14	2	30.8	60	10.1	141	2.2	2.7	2.2	22	7	75	34	0.38	1.4	2.2	A	98	12	0.6	2	25	0.8	211	62	2.5
								2.9 ML	EMRC																	
	14	14	10.7	60	5.9	141	43.0	20.4	0.4	5	3	151	34	0.23	2.3	1.4	A	84	13	0.8	179	23	2.4	327	63	1.2
	14	49	0.7	60	15.4	141	19.8	8.2	0.9	6	5	152	46	0.21	1.4	3.1	B	64	3	1.0	333	23	0.6	161	67	3.3
	14	3	44.5	60	18.0	140	44.5	12.4	0.9	8	5	146	73	0.28	2.1	3.2	B	96	11	0.9	0	29	0.8	205	59	3.8
	14	43	5.1	62	3.8	149	20.1	42.8	1.9	16	9	183	60	0.43	1.7	3.1	B	101	5	0.8	10	17	1.4	207	72	3.3
	15	16	57.8	60	12.2	141	12.5	18.9	1.3	7	7	112	36	0.13	1.2	1.5	A	91	16	1.1	353	27	0.8	208	58	1.7
	15	30	20.0	60	18.1	141	14.6	8.1	1.5	16	6	51	47	0.36	0.8	1.7	A	276	8	0.7	8	16	0.6	160	72	1.7
								2.2 ML	EMRC																	
	15	43	56.2	60	12.2	141	2.5	14.4	1.4	9	6	120	38	0.49	1.1	1.4	A	337	12	0.7	75	31	0.6	229	56	1.7
	15	0	2.4	60	51.2	146	51.7	15.4	2.1	23	7	106	28	0.65	0.9	1.0	A	273	5	0.4	4	7	0.9	148	81	1.0
	15	9	11.4	61	28.7	150	15.1	46.7	1.7	12	6	96	61	0.27	1.5	3.0	B	101	2	0.8	192	17	1.3	4	73	3.2
	15	14	19.5	60	15.2	140	44.1	10.3	0.8	7	5	141	70	0.13	3.0	7.1	C	149	2	1.3	59	22	0.9	244	68	7.6
	15	2	29.5	60	32.8	141	41.6	6.4	1.6	14	5	105	60	0.38	0.7	2.1	A	92	2	0.7	183	3	0.5	329	86	2.1
	15	59	46.0	60	43.2	143	4.8	26.8	1.6	6	4	107	90	0.61	1.3	3.0	B	241	4	1.0	150	15	1.1	346	74	3.1
	15	59	51.4	60	24.1	147	20.6	30.6	1.6	5	2	184	85	0.24	3.3	4.6	B	4	1	1.9	273	35	0.9	95	55	5.6
	15	16	51.5	60	11.6	141	20.5	6.0	0.8	5	3	140	42	0.12	1.5	2.5	B	294	14	0.7	29	20	1.1	171	65	2.7
	15	35	22.0	60	18.3	140	44.0	5.7	0.8	3	3	181	120	0.08	5.2	9.3	C	123	2	1.6	32	28	1.7	217	62	10.5
	15	27	40.5	63	13.9	150	19.5	118.2	3.9	21	4	130	193	0.56	4.0	19.4	D	22	0	3.0	292	6	3.4	112	84	19.5
	15	39	53.1	60	15.5	140	59.3	11.1	1.5	12	7	128	44	0.30	1.0	1.7	A	90	11	0.6	356	20	0.8	207	67	1.8
	15	45	59.9	60	12.1	140	54.2	6.4	0.7	5	3	213	65	0.11	5.3	5.4	C	95	18	1.1	349	38	2.2	205	46	7.3
	15	21	11.0	62	8.3	149	0.7	20.6	1.7	12	5	189	71	0.66	1.4	2.3	A	29	4	1.4	297	18	0.8	131	71	2.4

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
DEC	15	10	45 10.3	60	0.2	139	26.0	0.0	1.9a	6	4	103	69	0.48	7.8	11.2	D	332	14	1.6	71	31	1.2	221	55	13.6
	15	11	30 13.1	60	13.3	140	59.6	7.3	1.4	9	7	124	40	0.16	1.9	2.5	A	95	19	0.5	354	29	1.0	214	54	3.0
	15	11	44 7.2	60	17.6	140	60.0	2.0	0.7	5	3	142	77	0.05	1.4	4.5	B	116	1	1.1	26	14	0.9	210	76	4.7
	15	12	43 29.5	60	10.7	141	9.3	2.4	1.2	8	4	141	34	0.28	1.5	2.3	A	284	1	0.8	14	26	1.2	192	64	2.5
	15	18	5 45.3	60	32.5	141	45.1	18.0	1.2	6	5	134	58	0.14	1.7	3.9	B	347	0	0.7	77	7	1.6	257	83	4.0
	15	19	10 23.9	60	33.8	140	33.0	19.7	1.5	8	6	187	69	0.36	1.4	3.8	B	169	2	0.8	78	9	1.2	271	81	3.8
	15	19	25 1.8	60	32.8	140	33.7	23.5	1.0	5	4	203	67	0.15	5.1	5.5	C	343	18	1.6	242	29	4.7	100	55	6.2
	15	19	36 40.1	60	18.3	140	55.0	18.5	0.8	4	2	276	111	0.02	9.3	11.6	D	153	8	5.6	56	37	1.2	253	52	14.7
	16	0	53 25.2	60	58.9	149	17.3	30.0	1.9	20	8	92	54	0.53	1.1	1.0	A	89	12	0.7	350	37	1.2	194	50	0.9
	16	1	42 55.6	60	23.0	140	17.8	4.3	1.0	6	1	199	70	0.26	3.4	6.2	C	115	2	1.0	24	24	2.2	209	66	6.7
	16	2	23 42.5	60	8.6	140	57.4	10.2	1.0	6	4	143	77	0.22	4.7	4.0	B	99	23	0.8	210	40	6.0	347	41	1.6
	16	5	25 56.6	60	21.9	140	43.6	8.6	0.9	6	1	154	75	0.14	3.5	6.4	C	348	3	3.5	79	16	1.1	248	74	6.7
	16	5	31 34.7	60	20.8	140	43.5	5.8	0.9	7	2	152	75	0.15	1.6	4.4	B	131	2	1.0	40	15	1.1	228	75	4.6
	16	6	15 13.4	60	8.0	139	31.9	20.3	0.4	3	2	318	84	0.15	20.8	14.2	D	358	7	8.3	263	34	25.0	98	55	2.3
	16	6	16 52.3	60	21.2	140	29.3	15.4	1.2	3	2	352	127	0.12	25.0	10.4	D	40	3	25.0	310	14	2.6	142	76	10.6
	16	6	54 39.2	60	12.8	140	29.7	17.5	1.4	5	3	162	95	0.09	5.2	7.0	C	121	10	1.1	25	34	2.1	225	54	8.5
	16	10	21 55.6	62	4.6	150	59.1	9.5	2.9	20	0	200	112	0.74	3.9	2.5	B	264	13	1.0	0	25	4.2	149	61	2.0
					3.0 ML PMR																					
	16	11	19 23.2	62	14.4	148	5.5	38.0	2.4	24	7	102	91	0.57	2.1	1.4	A	359	5	2.1	92	33	0.8	261	57	1.6
	16	15	0 11.3	60	54.5	147	26.2	26.3	1.7	20	11	116	49	0.49	1.2	1.5	A	281	5	0.6	11	5	1.1	146	83	1.5
	16	15	29 13.4	60	17.3	140	10.5	13.9	1.8	8	2	181	74	0.33	1.7	3.8	B	300	5	0.9	31	13	1.5	189	76	3.9
	16	18	51 20.1	59	55.2	140	1.0	16.0	1.1	5	3	155	63	0.35	3.5	3.0	B	297	1	0.8	28	39	4.2	206	51	1.7
	16	23	49 22.9	60	10.7	141	1.8	12.0	1.4	8	3	145	58	0.19	3.0	2.6	B	93	25	0.9	340	40	1.2	206	40	3.8
	17	0	0 39.9	60	18.8	141	15.1	0.3	1.8	13	5	51	49	0.67	0.9	1.8	A	284	5	0.8	15	12	0.7	172	77	1.8
									2.5 ML EMRC																	
	17	1	13 46.3	60	17.6	141	16.0	11.5	1.3	7	2	115	51	0.21	1.6	2.8	B	354	17	0.6	90	18	1.1	224	65	3.0
	17	3	29 13.5	60	35.3	142	51.4	25.8	1.8	8	3	111	93	0.81	2.3	4.2	B	321	5	0.8	53	25	1.4	220	64	4.6
	17	4	31 4.7	61	59.5	148	24.1	42.2	2.9	19	2	99	59	0.47	2.6	3.2	B	90	6	0.9	183	23	2.4	346	66	3.3
	17	9	27 0.5	60	38.3	141	52.6	9.9	1.4	6	2	131	77	0.47	1.7	4.0	B	192	4	0.8	283	9	1.5	78	80	4.0
	17	9	29 19.5	60	38.4	141	45.4	21.7	1.8	6	1	124	73	0.42	4.9	8.2	C	345	3	0.9	254	29	1.9	80	61	9.4
	17	10	52 13.6	61	21.6	146	31.9	22.8	2.1	17	6	104	66	0.76	0.9	1.3	A	288	13	0.6	22	15	0.9	159	70	1.4
	17	18	58 57.7	61	43.7	148	51.0	34.2	3.3	25	2	150	55	0.51	1.4	1.0	A	343	19	1.4	86	33	0.7	228	51	1.1
	18	1	7 31.3	60	21.2	141	21.9	14.4	1.4	7	7	123	51	0.19	1.3	2.1	A	4	13	0.6	97	17	1.2	238	69	2.2
	18	4	27 12.9	60	20.8	148	11.7	3.4	1.8	23	5	125	73	0.68	1.4	1.9	A	199	19	1.0	298	23	0.7	74	59	2.2
	18	5	22 33.3	60	10.9	144	8.6	8.9	1.8	8	4	192	133	0.44	3.3	5.2	C	181	4	3.3	89	25	1.1	279	65	5.7
	18	8	30 37.6	60	14.7	140	50.8	13.1	1.6	9	4	134	70	0.18	1.6	2.0	A	111	13	0.7	14	30	1.1	222	57	2.3
	18	11	3 40.6	60	29.2	141	26.0	14.2	1.2	6	5	115	54	0.18	1.6	3.5	B	350	4	0.6	81	9	1.5	236	80	3.5
	18	11	26 59.5	63	28.1	149	58.5	130.7	3.7	14	5	188	203	0.53	3.4	7.8	C	292	0	3.4	22	8	2.0	202	82	7.9
	18	12	18 28.9	61	53.2	149	45.6	40.2	1.9	17	6	166	72	0.48	1.4	2.7	B	100	5	0.8	10	7	1.3	225	81	2.7
	18	14	7 46.0	62	54.5	148	34.8	46.0	2.7	14	3	134	149	0.50	2.7	8.8	C	355	6	2.4	264	8	2.0	121	80	8.9
	18	15	38 7.0	60	9.8	141	7.8	11.1	1.2	6	3	140	86	0.15	6.4	4.3	C	214	33	7.6	332	36	1.3	95	37	1.0
	18	18	7 12.0	60	15.7	141	11.4	6.6	2.1	21	6	48	43	0.59	1.0	1.6	A	283	1	0.6	13	25	0.8	191	65	1.7
									2.7 ML EMRC																	
	18	22	49 6.8	60	12.3	140	24.4	10.8	1.7	9	5	154	51	0.33	1.6	2.0	A	299	5	0.7	32	33	1.3	201	57	2.2
	19	2	21 32.8	61	29.3	149	46.7	35.5	1.6	13	4	81	36	0.47	1.0	1.2	A	230	20	0.9	132	23	0.7	357	59	1.3
	19	4	49 41.7	61	6.4	150	17.7	15.3	1.6	9	7	99	66	0.44	1.1	3.3	B	0	0	1.1	270	14	0.6	90	76	3.4
	19	5	5 47.8	60	33.1	141	35.8	17.5	1.4	9	6	104	61	0.47	1.1	2.6	B	180	2	0.6	90	3	1.1	304	86	2.6
	19	5	11 42.4	60	9.5	141	42.2	9.0	1.2	9	6	117	34	0.18	1.4	2.0	A	274	6	0.7	8	32	0.7	175	57	2.3

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
DEC 19	6	43	47.1	61	55.8	149	30.7	35.5	3.1	26	4	101	63	0.36	1.9	1.2	A	184	12	1.9	87	31	0.8	293	56	1.3
			2.9 ML PMR																							
19	7	32	35.4	61	25.6	146	37.1	17.0	2.0	25	5	61	41	0.49	0.7	1.4	A	290	6	0.5	200	8	0.6	57	80	1.4
19	7	46	3.9	60	18.4	141	12.3	12.3	1.3	7	4	119	55	0.27	1.3	2.4	A	289	0	0.9	19	24	0.7	199	66	2.6
19	10	34	59.4	60	8.7	140	5.5	16.0	1.0	6	3	229	58	0.66	4.2	1.4	B	25	4	4.2	116	18	0.7	283	72	1.4
19	10	36	30.3	60	5.6	140	7.1	13.0	1.2	5	4	208	56	0.71	6.1	2.5	C	19	18	6.4	118	24	0.8	256	59	1.7
19	11	30	44.4	61	33.3	149	2.9	34.3	1.6	14	8	99	44	0.43	1.0	1.1	A	340	6	1.0	248	17	0.7	89	72	1.1
19	14	37	58.5	60	1.9	141	43.3	8.1	1.6	13	7	141	32	0.38	1.0	1.2	A	272	8	0.5	180	14	1.0	31	74	1.2
19	15	26	59.8	61	34.5	146	29.5	18.2	2.2	25	4	79	53	0.60	0.6	1.4	A	183	4	0.6	273	11	0.6	73	78	1.4
19	17	39	2.2	60	7.1	141	7.2	0.2	1.0	7	5	174	48	0.25	1.9	2.1	A	285	1	0.7	16	40	1.0	194	50	2.7
19	17	58	49.9	60	15.6	140	58.4	9.9	1.0	7	4	156	44	0.29	1.9	2.7	B	89	10	0.7	353	32	0.9	194	56	3.2
19	18	35	19.6	60	14.6	140	57.5	5.6	0.7	8	4	154	42	0.42	1.6	2.9	B	65	17	0.8	329	19	1.0	194	64	3.3
19	19	1	50.6	60	17.7	141	32.3	4.5	0.8	6	5	108	40	0.32	2.0	4.3	B	325	13	0.7	59	17	1.2	199	68	4.6
19	19	3	26.0	60	13.5	141	4.0	7.1	1.3	9	6	118	47	0.15	1.2	1.9	A	84	6	0.7	351	24	0.9	187	65	2.0
19	21	43	44.0	60	11.7	141	6.3	0.4	0.8	4	2	139	49	0.01	2.4	5.3	C	91	6	0.6	358	21	1.3	196	68	5.7
19	22	38	19.9	60	14.4	141	10.9	10.7	0.7	6	3	143	54	0.22	3.0	3.6	B	91	19	1.2	348	33	0.9	206	51	4.5
20	1	11	20.8	61	40.0	149	52.4	40.7	2.3	14	3	144	50	0.34	1.7	2.4	A	89	3	0.9	180	11	1.6	344	79	2.5
20	1	33	33.6	61	15.5	144	8.7	16.5	1.1	5	2	111	55	0.72	3.9	4.0	B	102	29	0.9	211	30	1.0	337	46	5.5
20	3	0	14.9	60	13.4	140	59.5	5.6	1.1	8	5	124	61	0.15	2.1	3.6	B	331	16	0.9	68	23	0.8	209	61	4.1
20	5	15	29.9	60	5.2	140	56.2	12.3	0.5	4	4	166	38	0.15	3.4	1.8	B	180	5	3.4	88	21	0.6	283	68	1.9
20	7	9	20.5	61	49.8	149	39.1	4.0	1.3	10	5	161	65	0.59	1.4	1.5	A	288	22	0.5	185	29	1.1	49	52	1.8
20	7	12	23.1	60	14.9	141	11.9	10.7	1.6	14	5	113	41	0.37	1.0	1.5	A	89	7	0.5	356	22	0.8	196	67	1.6
20	9	32	31.2	61	8.8	147	14.1	10.9	1.6	11	5	79	38	0.34	1.1	1.7	A	193	12	1.0	286	15	0.6	66	71	1.8
20	12	19	13.4	61	53.6	140	58.7	19.3	2.4	9	3	183	167	0.55	5.8	7.1	C	245	25	1.5	141	27	2.3	11	52	8.9
								2.5 ML EMRC																		
20	13	3	46.7	61	58.9	149	47.0	36.5	2.3	21	7	176	79	0.43	1.8	1.3	A	357	3	1.8	88	29	0.8	262	61	1.5
20	16	6	12.5	60	22.5	140	32.3	15.0	1.3	9	5	167	58	0.70	1.8	3.2	B	285	7	0.7	18	25	1.1	180	64	3.5
20	19	20	56.0	60	25.1	140	35.0	0.5	1.2	5	2	168	74	0.42	1.5	5.5	C	251	1	1.0	161	3	1.5	359	87	5.5
20	23	39	58.0	60	13.0	140	59.0	9.5	1.6	12	5	121	40	0.39	0.9	1.4	A	89	12	0.6	354	21	0.8	207	65	1.5
21	1	48	11.8	58	34.6	144	40.7	20.0	2.8	21	2	259	210	0.57	4.2	3.6	B	269	20	3.5	15	36	4.8	156	47	2.5
21	2	40	27.9	60	16.6	141	16.5	13.2	2.8	24	3	48	45	0.56	1.2	1.7	A	109	2	0.7	18	28	0.8	203	62	1.9
								3.4 ML PMR		3.7 ML EMRC																
21	7	22	5.2	60	11.8	141	16.3	11.4	1.3	10	2	103	46	0.20	2.5	1.9	A	98	10	0.8	195	35	3.0	354	53	1.1
21	10	9	38.8	60	15.3	141	10.9	10.9	1.2	9	4	115	53	0.22	1.5	2.0	A	109	9	0.7	13	34	0.9	212	55	2.3
21	11	10	49.5	60	14.4	141	5.2	9.8	1.6	11	6	119	41	0.12	1.3	2.2	A	91	15	0.8	355	22	0.9	213	63	2.4
21	11	18	50.8	60	14.7	141	3.4	10.1	0.8	4	3	149	47	0.26	3.9	6.8	C	77	14	0.8	340	25	1.0	193	61	7.8
21	13	28	58.0	61	36.5	149	58.9	42.7	1.8	13	7	112	46	0.47	1.0	1.6	A	181	5	1.0	271	7	0.8	56	81	1.6
21	16	35	3.9	63	19.6	147	21.6	5.8	3.3	20	2	156	176	0.62	3.0	2.5	B	171	13	1.5	75	24	3.1	287	62	2.3
					3.3 ML PMR																					
21	22	24	5.2	60	12.1	141	0.1	8.6	0.9	8	4	144	43	0.14	2.4	2.5	B	91	15	0.6	349	38	1.4	198	48	3.2
22	5	31	57.0	60	17.5	141	11.9	8.0	1.6	13	6	118	46	0.15	1.2	1.8	A	96	13	0.7	1	22	1.0	214	64	1.9
22	5	59	18.6	61	12.4	149	41.2	43.5	1.5	13	7	68	52	0.31	1.1	2.3	A	79	4	1.0	169	7	1.1	319	82	2.3
22	9	45	45.1	60	15.5	140	59.4	10.6	1.3	7	3	127	81	0.10	2.3	2.8	B	315	8	1.1	51	36	1.4	214	53	3.3
22	9	49	24.1	60	12.4	140	44.5	11.8	1.0	6	1	214	41	0.11	5.5	2.2	C	97	1	0.8	187	8	5.6	0	82	2.1
22	10	26	20.7	59	9.0	153	59.0	139.3	4.3	11	0	140	132	0.32	3.3	7.5	C	157	1	3.0	67	14	2.8	251	76	7.7
22	11	2	1.4	60	17.8	141	11.6	6.5	1.0	6	2	119	56	0.24	2.4	4.0	B	312	5	1.0	44	28	1.2	213	62	4.5
22	11	3	49.9	60	57.1	149	13.9	35.6	2.1	17	5	57	50	0.25	1.0	1.1	A	180	12	1.0	84	25	0.7	293	62	1.1
22	12	52	3.6	60	56.6	147	8.1	18.4	1.8	12	5	84	43	0.37	1.3	1.6	A	270	11	0.7	178	11	1.3	44	74	1.7
22	13	24	55.5	60	18.0	140	42.8	12.1	0.9	7	1	148	71	0.07	2.1	3.0	B	315	7	0.9	48	27	1.6	212	62	3.3

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	G	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
DEC 22	15	47	28.3	60	17.0	140	46.5	13.4	1.8	11	4	142	42	0.20	1.2	2.5	B	305	4	0.6	37	19	0.8	204	70	2.7
22	16	3	38.4	60	16.1	140	56.4	11.1	1.3	5	3	159	42	0.08	2.8	3.5	B	92	13	0.9	353	34	1.4	200	53	4.2
22	16	39	36.8	60	16.5	140	46.1	12.4	0.9	7	1	142	72	0.08	2.4	3.0	B	304	6	1.2	39	34	1.6	205	55	3.5
22	19	11	41.8	60	56.3	147	9.1	17.1	2.2	18	3	55	43	0.39	0.9	1.6	A	179	3	0.9	270	12	0.7	75	78	1.6
22	21	12	38.5	60	20.5	140	57.0	13.8	1.5	9	5	137	47	0.14	1.2	2.3	A	341	12	0.7	74	14	1.0	212	71	2.4
22	21	57	39.9	60	13.7	141	15.2	10.6	1.5	10	3	108	48	0.19	1.7	2.2	A	86	12	0.8	348	33	1.1	193	54	2.6
22	22	14	47.5	60	3.3	140	11.6	23.3	0.9	5	2	147	33	0.31	3.3	2.9	B	41	0	2.9	310	40	4.3	131	50	1.1
22	23	2	4.2	60	13.1	141	17.4	12.9	1.9	14	2	105	38	0.17	1.3	1.5	A	290	2	0.8	21	35	0.9	197	55	1.8
22	23	49	4.5	61	4.4	146	56.4	21.0	2.1	13	5	119	72	0.46	1.2	2.7	B	287	5	0.6	197	5	1.2	62	83	2.7
23	0	59	13.6	59	44.9	152	29.8	69.1	2.9	15	1	116	75	0.37	2.4	4.0	B	145	1	2.4	55	4	1.2	249	86	4.0
23	1	19	30.4	61	22.5	149	18.1	32.7	1.6	13	6	65	44	0.38	0.8	1.1	A	189	8	0.8	280	10	0.7	61	77	1.2
23	1	47	45.3	60	16.7	140	55.9	12.4	1.3	8	4	133	43	0.09	1.1	2.4	A	73	12	0.9	340	14	0.7	202	71	2.6
23	1	51	10.1	60	16.8	140	54.9	11.1	1.3	8	4	134	42	0.20	1.3	2.6	B	90	14	0.7	355	18	0.9	216	67	2.8
23	2	11	16.4	60	11.6	141	13.4	0.7	1.3	5	2	111	35	0.09	2.4	5.8	C	351	13	1.0	85	16	1.1	224	69	6.2
23	2	17	25.7	60	5.1	140	36.4	15.0	1.5	5	3	127	49	0.67	4.2	5.8	C	108	1	0.8	17	35	1.6	199	55	7.0
23	2	50	28.5	60	1.0	140	50.0	12.4	1.2	4	2	164	47	0.12	24.6	5.7	D	209	11	25.0	116	18	0.9	329	69	3.5
23	8	7	3.8	60	15.8	141	6.8	15.0	0.7	3	2	236	89	0.24	9.9	14.1	D	102	12	1.7	4	32	1.9	210	55	17.1
23	9	47	42.6	62	7.0	148	58.3	37.7	2.5	13	2	202	70	0.54	2.0	1.8	A	78	35	1.1	197	35	2.2	318	36	1.8
23	10	20	41.8	60	57.5	147	10.6	14.2	1.9	11	5	111	64	0.47	0.9	1.5	A	298	11	0.5	205	16	0.8	61	70	1.5
23	11	11	36.8	61	1.8	146	3.7	13.5	1.6	14	5	59	52	0.60	1.1	1.7	A	184	9	1.0	276	11	0.6	56	76	1.8
23	16	15	41.6	60	47.3	146	54.4	8.6	1.6	11	1	167	78	0.51	1.6	2.2	A	265	12	0.7	171	17	1.6	28	69	2.3
23	17	42	57.7	60	17.0	140	45.5	3.7	0.8	3	2	231	72	0.01	5.5	6.1	C	96	11	1.2	0	29	5.2	205	59	6.5
23	18	2	59.9	61	54.1	149	14.6	5.8	1.8	10	1	180	49	0.64	1.7	2.0	A	354	14	1.6	259	18	0.9	120	67	2.1
23	18	25	50.2	60	8.9	141	18.1	7.7	1.2	9	3	126	30	0.18	1.6	1.5	A	96	13	0.7	197	40	1.9	352	47	1.1
23	19	21	5.7	61	19.2	138	50.0	9.6	1.9	3	1	296	191	0.05	21.4	20.4	D	320	5	5.5	55	42	25.0	225	48	15.9
23	19	27	39.6	60	3.8	140	41.5	13.5	1.1	5	2	159	45	0.24	3.3	3.1	B	108	4	0.9	15	42	4.1	202	48	2.1
23	19	38	42.2	60	2.9	139	20.1	22.8	0.7	4	1	243	52	0.30	9.8	4.7	C	132	14	1.3	226	19	10.2	7	66	3.6
23	20	18	26.6	60	11.8	144	59.4	36.9	0.7	3	1	285	172	0.	7.7	2.1	C	37	1	7.7	307	28	3.6	129	62	1.4
23	20	20	35.0	60	14.6	140	15.6	11.7	0.9	5	3	185	52	0.14	3.1	2.7	B	298	10	1.3	200	39	3.7	40	49	1.6
23	20	25	13.3	61	40.0	149	51.8	41.4	1.7	12	6	147	50	0.28	1.8	2.6	B	96	4	1.0	187	15	1.7	351	74	2.7
24	1	16	32.5	61	56.5	149	54.7	43.9	1.9	15	10	172	80	0.42	1.6	2.5	A	103	4	0.6	12	10	1.6	214	79	2.5
24	1	42	17.2	59	58.5	140	41.4	4.1	0.7	8	4	164	38	0.48	2.0	2.3	A	111	6	0.6	204	26	1.8	9	63	2.4
24	3	58	52.1	60	8.3	141	11.6	2.3	0.9	6	2	127	48	0.16	2.5	2.8	B	104	4	0.7	11	41	1.3	199	49	3.6
24	4	47	27.5	62	1.4	151	16.0	7.1	3.2	21	1	197	103	0.70	4.0	1.9	B	86	15	1.0	351	19	4.2	212	65	1.4
					3.5 ML	PMR																				
24	6	0	24.4	60	35.5	142	35.7	2.4	1.3	7	4	148	59	0.39	2.0	4.5	B	13	2	0.5	103	15	1.7	276	75	4.7
24	8	22	30.3	62	9.6	141	14.9	14.8	2.2	10	4	226	196	0.98	16.1	20.2	D	280	12	1.6	182	35	6.9	26	53	25.0
								2.2 ML	EMRC																	
24	9	29	18.2	58	58.8	137	43.0	15.0	3.0	10	3	156	154	0.82	4.0	8.4	C	342	6	3.2	74	20	2.4	236	69	9.0
24	10	23	25.8	60	28.6	141	19.9	19.0	0.7	5	3	127	54	0.30	1.9	4.8	B	357	6	0.6	88	10	1.7	236	78	4.9
24	14	11	25.2	58	54.0	139	27.9	12.5	1.6	5	3	295	118	0.45	6.1	6.4	C	223	9	2.4	322	42	1.9	123	46	8.6
24	14	53	5.1	60	6.9	139	36.8	15.5	0.8	4	2	244	51	0.14	7.4	2.9	C	221	13	7.6	125	24	1.1	337	62	2.6
24	15	12	43.5	60	16.8	141	3.0	5.9	2.3	22	6	50	46	0.44	0.9	1.7	A	276	0	0.6	6	20	0.8	186	70	1.8
								3.2 ML	EMRC																	
24	16	20	51.5	59	57.5	141	22.1	1.4	0.7	7	2	224	64	0.31	2.0	2.6	B	120	15	0.9	217	27	1.6	4	59	3.0
24	18	55	18.0	60	16.3	141	3.8	10.2	1.9	19	2	124	45	0.28	1.0	2.1	A	330	11	0.6	63	16	0.8	207	70	2.2
24	19	8	31.9	60	16.7	140	46.1	10.3	1.0	5	3	171	102	0.24	1.9	2.9	B	89	4	0.8	357	30	1.1	186	60	3.3
24	19	14	9.6	60	21.1	141	19.9	15.0	0.7	5	3	152	66	0.47	3.4	5.0	C	96	19	1.2	356	26	0.9	218	57	6.0

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
DEC 24	20	11	20.8	60	17.9	141	3.1	2.7	0.9	6	3	158	50	0.15	1.7	3.6	B	76	10	0.8	343	17	1.2	195	70	3.8
24	21	8	38.8	60	0.5	141	32.8	12.2	1.2	8	5	165	27	0.42	2.0	1.2	A	272	0	0.5	2	16	2.0	182	74	1.1
24	21	12	41.3	60	0.1	141	40.1	9.8	1.5	14	4	162	28	0.38	1.4	1.0	A	289	2	0.6	198	18	1.4	25	72	1.0
24	21	23	17.7	62	6.6	147	31.2	37.0	1.7	15	6	184	70	0.75	1.9	0.8	A	342	1	1.9	252	18	0.6	75	72	0.8
24	22	30	31.4	60	1.2	141	40.1	9.8	0.8	6	4	169	31	0.24	2.1	1.5	A	90	9	0.6	359	9	2.1	225	77	1.5
24	22	47	57.2	60	1.6	141	40.8	11.2	0.8	8	3	162	32	0.40	2.1	1.4	A	95	2	0.8	4	19	2.1	191	71	1.3
24	23	16	42.8	62	19.3	149	3.5	29.3	2.0	12	5	206	86	0.67	2.2	2.4	A	81	20	0.8	337	34	1.1	196	49	3.0
25	0	54	44.0	60	16.1	141	3.3	10.1	0.9	8	5	125	48	0.26	1.3	2.3	A	111	6	0.8	18	27	0.6	213	62	2.5
25	2	43	35.3	60	11.4	140	17.5	7.7	1.5	10	5	159	48	0.33	1.7	1.8	A	292	13	0.6	33	40	1.0	188	47	2.3
25	6	22	50.8	60	19.6	141	15.2	5.1	1.1	10	6	118	54	0.26	0.7	2.3	A	98	1	0.7	7	12	0.5	193	78	2.3
25	6	34	20.5	61	35.2	149	41.3	40.2	1.9	13	7	125	39	0.55	1.2	1.6	A	102	2	0.6	193	21	1.1	7	69	1.7
25	7	56	1.3	60	25.3	140	12.3	1.2	1.1	6	3	191	86	0.36	3.9	3.0	B	322	3	0.8	230	33	4.4	57	57	2.1
25	14	58	3.0	60	12.5	140	56.2	5.7	1.1	7	3	126	78	0.48	2.1	3.6	B	94	15	0.6	357	23	1.2	214	62	4.0
25	17	16	29.0	60	17.2	140	17.0	21.2	1.4	6	2	173	68	0.22	2.4	4.1	B	300	8	0.8	34	26	1.3	194	63	4.6
25	17	47	15.4	59	55.3	140	46.9	2.8	0.9	5	2	187	83	0.14	8.3	3.9	C	215	8	8.4	123	12	0.7	338	75	3.9
25	22	28	50.7	60	40.2	140	41.0	21.5	1.4a	6	3	191	72	0.33	3.6	4.0	B	143	1	1.0	52	30	3.3	235	60	4.2
								2.2 ML	EMRC																	
25	23	34	27.8	60	12.1	141	0.3	12.2	1.8	18	5	74	38	0.36	1.0	1.8	A	314	6	0.8	46	23	0.7	210	66	2.0
								2.4 ML	EMRC																	
26	4	6	25.0	63	2.7	150	18.1	87.7	3.8	22	3	123	171	0.64	3.2	7.6	C	71	10	1.7	339	11	2.7	202	75	7.8
		3.4	MB																							
26	6	11	22.7	60	16.1	140	53.7	9.8	1.2	8	4	134	40	0.32	1.2	2.8	B	295	4	0.6	27	20	0.7	194	70	3.0
26	7	1	28.3	60	20.2	140	13.7	7.7	1.1	3	3	249	72	0.32	3.3	6.3	C	284	4	0.7	192	20	2.5	25	70	6.7
26	10	51	3.5	60	17.1	141	16.0	0.3	1.6	9	3	115	68	0.32	1.1	2.4	A	88	3	1.1	357	19	0.6	187	71	2.5
26	13	12	18.0	61	25.7	151	27.2	110.1	3.9	19	1	128	103	0.48	3.1	6.0	C	235	1	1.8	145	2	3.1	352	88	6.0
		4.1	MB							FELT	(II)	AT	ANCHORAGE													
26	16	56	48.8	61	34.8	146	28.1	20.9	2.9	18	1	154	54	0.78	1.3	1.9	A	292	7	0.7	24	9	1.3	165	78	1.9
26	17	10	44.9	60	16.4	140	54.6	11.7	1.1	8	4	133	41	0.28	1.4	2.1	A	291	7	0.6	25	31	0.8	190	58	2.4
26	20	8	39.1	59	47.0	139	4.9	15.8	0.6	4	1	221	39	0.19	6.0	5.4	C	323	5	1.1	229	41	7.5	59	49	2.9
26	21	4	8.4	60	20.6	140	34.4	12.7	0.8	4	1	188	124	0.06	22.8	7.7	D	223	17	23.8	320	20	1.2	96	63	3.4
26	22	4	49.8	61	1.3	146	42.2	11.5	2.2	22	6	83	67	0.66	0.7	1.0	A	283	4	0.5	192	13	0.7	30	76	1.0
26	22	39	19.1	60	17.5	140	46.7	10.5	0.8	7	3	143	42	0.13	2.4	3.7	B	297	6	0.8	30	28	1.4	196	61	4.2
26	23	19	53.7	60	11.4	143	18.3	16.9	1.7a	3	3	241	174	0.06	13.6	4.3	D	198	13	13.9	294	23	1.7	81	63	3.1
27	0	45	0.5	61	20.1	150	15.2	19.0	2.2	13	3	130	66	0.41	1.4	2.8	B	150	2	1.4	240	16	0.8	53	74	3.0
27	1	48	23.1	60	20.5	140	45.5	10.7	0.8	5	2	272	76	0.12	3.4	3.9	B	87	6	1.1	352	39	2.1	184	50	4.8
27	7	3	19.5	60	33.1	143	2.8	3.4	1.4	6	2	126	98	0.77	2.9	5.9	C	8	5	0.7	101	24	1.1	267	65	6.5
27	7	21	36.2	63	11.2	150	10.1	117.2	3.7	15	6	127	186	0.47	10.6	23.9	D	251	3	5.6	342	15	8.7	150	75	24.7
27	10	28	12.5	60	22.2	141	22.6	10.5	0.6	5	2	133	66	0.15	6.7	13.3	D	336	15	1.1	72	21	1.9	213	64	14.8
27	11	43	26.0	60	20.3	140	10.6	12.0	1.5	4	2	187	64	0.14	8.7	24.1	D	289	2	1.4	198	16	5.5	26	74	25.0
27	13	54	42.1	60	31.2	141	24.2	23.1	0.9	4	2	179	53	0.02	12.6	17.7	D	1	1	0.8	92	34	5.3	270	56	21.1
27	14	10	31.8	61	16.5	145	26.1	29.5	1.4	10	4	125	51	0.49	1.4	1.4	A	81	22	0.7	335	35	1.2	197	47	1.6
27	14	31	49.5	60	17.4	141	2.1	4.6	0.7	3	2	239	86	0.01	2.4	12.9	D	322	1	1.6	52	2	2.4	205	88	12.9
27	18	11	29.9	61	8.8	147	15.0	11.4	1.8	7	5	150	67	0.35	2.0	4.5	B	265	0	0.9	355	5	1.9	175	85	4.5
27	18	55	44.5	60	15.8	140	52.3	13.0	1.1	6	4	160	39	0.08	2.2	3.2	B	74	17	0.9	335	27	1.1	192	57	3.7
27	19	27	35.7	61	52.0	148	12.0	49.8	2.4	5	0	209	110	0.45	18.5	17.1	D	84	30	2.4	195	33	3.0	322	43	25.0
27	20	1	3.1	62	3.9	149	19.3	40.1	2.7	19	3	213	59	0.32	3.2	5.3	C	160	3	3.2	69	9	1.2	268	80	5.3
27	21	15	7.3	61	2.9	148	11.0	21.5	2.1	14	5	90	43	0.54	1.1	1.8	A	314	2	1.1	223	7	0.8	60	83	1.8
27	21	15	31.3	60	13.4	141	16.2	11.1	1.1	6	3	137	47	0.15	2.4	2.6	B	301	13	0.8	42	39	1.0	196	48	3.4
27	23	31	31.6	61	34.2	146	24.2	31.0	2.1	16	8	87	61	0.81	0.9	1.1	A	270	19	0.6	171	24	0.8	34	59	1.3

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	Q	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
DEC 28	3	8	6.9	60	3.9	140	56.0	15.3	0.9	5	5	151	38	0.30	2.7	1.4	B	188	11	2.7	93	21	0.6	304	66	1.3
28	4	11	27.7	60	3.7	141	24.2	4.6	1.4	9	6	111	23	0.28	0.9	1.2	A	49	2	0.9	140	9	0.5	307	81	1.2
28	5	17	39.8	60	24.6	141	15.0	15.0	1.1	4	3	163	65	0.38	5.0	13.3	D	91	9	1.5	358	18	1.0	206	70	14.1
28	5	21	26.2	60	25.8	141	13.4	6.9	1.4	8	4	127	60	0.35	1.2	4.0	B	93	7	1.0	2	9	0.7	220	79	4.1
28	8	15	51.2	60	8.7	140	36.6	14.3	1.0	4	1	337	86	0.12	22.9	8.5	D	27	20	24.3	125	23	5.2	260	59	1.4
28	9	48	20.9	60	16.8	141	0.8	7.0	0.9	8	3	128	47	0.26	1.7	3.7	B	290	1	1.0	20	22	0.9	198	68	4.0
28	9	49	11.3	60	17.2	140	59.4	11.6	1.3	9	4	130	46	0.15	1.7	2.7	B	78	17	0.8	341	22	1.1	203	62	3.0
28	10	27	18.0	60	12.9	140	19.6	14.9	2.1	16	6	80	48	0.29	1.5	1.6	A	285	10	0.7	24	39	1.1	183	49	1.9
								2.5 ML	EMRC																	
28	11	39	50.5	61	42.3	150	20.8	11.9	1.9	7	5	206	66	0.53	2.7	3.2	B	253	25	1.0	149	28	1.5	18	51	4.0
28	12	36	31.2	60	3.4	140	11.0	19.0	0.6	4	3	154	33	0.10	3.4	3.0	B	241	30	1.8	127	34	0.9	1	41	4.4
28	13	2	18.9	60	15.1	140	33.6	11.8	0.6	5	2	226	52	0.09	5.3	3.5	C	287	9	0.9	192	28	5.9	33	60	2.5
28	13	19	57.6	60	12.3	140	50.0	15.0	0.9	5	2	152	36	0.46	16.4	19.0	D	282	7	0.8	17	40	1.7	184	49	25.0
28	13	20	8.8	60	16.1	141	1.4	14.3	2.2	15	2	127	45	0.31	1.4	2.1	A	301	3	0.8	33	27	1.0	205	63	2.3
								2.7 ML	EMRC																	
28	14	37	9.7	60	18.7	141	16.7	11.3	1.4	8	3	115	52	0.22	1.5	3.0	B	90	12	1.1	356	17	0.7	213	69	3.2
28	14	47	52.7	61	51.0	150	29.9	61.3	3.5	15	1	150	84	0.27	3.8	4.3	B	249	3	1.3	340	15	3.8	148	75	4.3
			3.2 MB																							
28	15	16	48.0	60	23.0	141	0.5	4.7	0.8	4	1	173	103	0.10	2.4	5.9	C	299	1	0.8	29	10	2.2	203	80	5.9
28	15	33	42.2	60	23.3	141	13.4	19.4	0.9	5	2	127	63	0.24	7.3	14.9	D	99	7	1.5	6	25	1.1	204	64	16.5
28	16	0	24.9	60	25.0	141	13.6	9.9	1.3	7	4	126	61	0.37	1.5	4.0	B	317	0	0.8	47	10	1.3	227	80	4.1
28	17	5	42.7	60	12.5	139	43.7	6.6	0.6	3	2	276	63	0.04	3.2	6.4	C	107	3	1.0	16	10	3.1	213	80	6.4
28	17	22	47.5	60	34.3	141	15.2	29.7	1.2	5	3	140	73	0.29	1.7	3.1	B	250	8	1.7	157	15	0.8	7	73	3.2
28	18	51	22.0	60	54.6	149	40.2	35.7	2.1	10	4	132	81	0.39	1.8	1.9	A	65	8	0.9	159	28	1.8	320	61	2.0
28	19	24	15.0	60	13.1	141	3.3	13.8	0.8	5	3	117	46	0.08	4.1	3.3	B	83	27	1.2	194	35	4.7	325	43	2.6
28	20	8	7.6	62	25.2	149	48.5	39.1	2.3	8	5	240	103	0.52	3.1	11.2	D	319	4	2.5	49	12	1.8	211	77	11.5
29	1	41	31.0	60	10.0	140	20.4	11.1	1.1	7	2	170	46	0.44	3.4	1.7	B	291	3	0.7	200	15	3.5	32	75	1.5
29	1	58	52.3	60	13.8	141	8.2	4.4	0.7	7	2	143	51	0.21	1.7	3.2	B	87	15	0.8	351	21	0.9	210	64	3.5
29	2	52	51.3	60	18.1	140	51.9	4.6	0.7	5	3	164	41	0.17	1.7	4.3	B	83	4	0.8	351	17	1.1	186	72	4.5
29	3	9	54.0	60	9.9	141	13.2	0.5	0.9	7	1	131	54	0.18	2.6	3.5	B	109	7	0.9	14	34	1.4	209	55	4.1
29	5	55	47.1	60	9.3	140	56.7	8.7	1.7	14	4	113	35	0.26	0.9	1.3	A	106	4	0.5	15	24	0.7	205	66	1.4
29	7	32	29.1	60	32.7	141	36.8	17.1	1.2	7	4	122	60	0.44	1.5	3.8	B	336	2	0.7	66	3	1.5	212	86	3.8
29	8	43	48.2	60	56.8	150	8.3	48.5	1.6	7	6	113	61	0.28	1.4	3.8	B	70	5	0.8	339	14	1.0	179	75	3.9
29	10	9	42.4	63	16.5	145	21.1	19.9	2.5	8	2	208	201	0.20	6.5	2.9	C	258	5	6.6	349	8	1.8	136	81	2.9
29	11	57	13.8	61	4.7	150	43.2	26.1	1.6	9	3	137	73	0.57	1.2	10.2	D	222	1	0.9	312	2	1.1	105	88	10.3
29	12	13	31.2	62	53.8	150	5.6	123.1	3.8	16	2	265	154	0.44	13.6	13.7	D	72	3	3.5	164	35	13.5	338	55	13.8
29	13	56	47.7	60	39.8	143	4.0	0.7	1.6	5	2	97	118	0.62	3.7	7.7	C	22	4	1.3	114	24	1.2	283	66	8.5
29	14	28	51.5	60	34.1	141	44.0	3.1	1.5	12	2	94	61	0.44	0.8	2.2	A	224	5	0.8	133	9	0.6	343	80	2.2
29	19	40	9.8	61	26.4	147	29.0	24.4	1.7	18	6	58	52	0.59	0.9	1.2	A	275	4	0.5	184	10	0.9	26	79	1.2
29	19	56	40.4	60	15.5	140	59.2	7.2	0.8	7	2	155	44	0.31	1.8	3.2	B	70	17	0.7	334	19	1.0	199	64	3.6
30	2	8	57.0	60	12.3	141	5.4	8.8	1.4	16	7	114	37	0.25	0.7	1.2	A	103	3	0.5	12	18	0.6	202	72	1.3
30	2	19	3.8	60	19.8	140	22.9	10.1	1.4	8	3	172	59	0.17	1.8	2.9	B	101	1	0.8	10	23	1.5	193	67	3.1
30	2	25	48.2	59	27.5	138	37.6	14.3	1.1	4	1	313	79	0.16	13.7	5.8	D	138	18	6.2	235	21	14.7	11	62	1.8
30	3	39	9.1	59	26.5	138	37.5	14.7	1.1	4	1	319	80	0.18	12.9	5.4	D	138	11	7.3	232	21	13.8	22	66	1.8
30	4	59	30.9	60	13.8	140	48.8	13.6	0.8	5	3	158	72	0.19	3.1	3.2	B	289	10	0.9	28	42	1.7	188	46	4.2
30	6	31	4.7	59	21.7	138	18.2	7.7	1.1	4	1	336	100	0.21	21.0	13.9	D	160	1	17.8	250	33	25.0	68	57	3.1
30	6	49	2.3	60	44.1	147	25.0	26.9	1.7	18	7	111	63	0.48	0.9	1.6	A	283	5	0.5	13	5	0.9	148	83	1.6
30	8	38	55.4	60	16.1	141	6.2	4.1	0.8	8	4	151	51	0.34	1.5	2.3	A	91	2	0.6	0	23	1.2	186	67	2.4

CATALOG OF EARTHQUAKES IN SOUTHERN ALASKA

1979	ORIGIN HR	MN	TIME SEC	LAT N DEG	MIN	LONG W DEG	MIN	DEPTH KM	MAG	NP	NS	GAP DEG	D3 KM	RMS SEC	ERH KM	ERZ KM	G	AZ1 DEG	DIP1 DEG	SE1 KM	AZ2 DEG	DIP2 DEG	SE2 KM	AZ3 DEG	DIP3 DEG	SE3 KM
DEC 30	9	8	26.0	59	49.5	139	27.9	19.4	0.4	4	1	175	53	0.01	5.4	2.8	C	322	0	1.1	232	2	5.4	52	88	2.8
30	9	50	13.2	61	42.8	149	38.1	36.7	2.2	19	6	191	52	0.55	1.6	1.1	A	332	11	1.6	66	23	0.6	218	64	1.1
30	12	43	19.5	60	13.2	141	0.6	9.6	0.9	8	2	147	44	0.15	2.4	2.6	B	87	16	0.7	344	38	1.4	195	48	3.3
30	13	11	13.1	60	18.2	140	47.0	15.9	1.5	8	4	144	42	0.16	1.1	1.7	A	314	4	0.6	46	26	0.8	216	64	1.8
30	15	9	31.6	60	17.1	140	47.7	10.7	0.9	4	2	170	104	0.21	3.1	4.3	B	302	13	1.3	40	31	1.6	192	56	5.0
30	16	22	29.3	60	12.9	140	18.6	14.7	1.6	9	3	162	48	0.25	1.5	1.9	A	303	15	0.7	43	32	1.1	192	54	2.2
30	16	40	25.4	62	4.6	149	50.3	31.6	1.9	11	5	219	85	0.35	2.4	1.8	A	257	0	1.0	167	30	2.7	347	60	1.4
31	0	16	34.2	59	53.6	141	21.9	5.8	1.4	10	5	184	29	0.24	1.6	1.2	A	30	1	1.6	120	2	0.9	273	88	1.2
31	0	36	59.1	60	42.5	140	32.8	16.2	1.3a	3	3	223	104	0.10	19.6	16.7	D	328	7	1.1	63	40	25.0	230	49	6.2
31	1	39	34.0	60	8.9	139	49.8	17.8	0.7	4	3	249	59	0.33	5.5	2.8	C	111	14	0.9	207	22	5.9	351	63	1.8
31	1	59	5.5	60	47.5	147	36.8	29.0	1.9	20	10	60	75	0.62	0.8	1.0	A	124	5	0.5	32	16	0.8	231	73	1.1
31	4	4	1.3	60	26.1	143	33.0	19.2	1.5	4	1	128	92	0.27	6.8	18.4	D	140	6	2.1	48	19	0.9	247	70	19.6
31	5	15	20.2	60	15.9	141	12.6	8.9	1.1a	4	3	229	52	0.02	5.0	5.3	C	77	13	0.9	337	40	2.3	181	47	6.9
31	7	6	46.3	59	52.3	140	42.4	15.0	0.8	2	2	268	100	0.05	8.0	24.3	D	258	0	1.2	168	14	5.3	348	76	25.0
31	8	51	11.9	60	15.9	141	0.7	7.8	1.2	9	3	127	62	0.28	1.3	2.2	A	106	7	0.9	12	26	0.6	210	63	2.5
31	10	27	42.0	60	2.1	140	43.2	9.8	1.5	6	2	145	61	0.46	3.0	2.7	B	103	15	0.6	206	41	3.6	357	45	2.0
31	15	29	52.0	60	7.9	140	52.5	0.8	1.1	6	4	184	35	0.59	1.7	2.1	A	90	3	0.4	357	37	1.0	184	53	2.5
31	16	15	42.4	60	50.8	146	31.8	18.6	1.6	20	6	81	54	0.64	0.8	1.1	A	266	12	0.5	173	18	0.8	28	68	1.1
31	16	56	55.1	59	55.2	139	29.6	15.0	0.5	3	2	211	63	0.36	20.5	14.5	D	144	26	1.3	254	35	25.0	26	44	3.3
31	20	50	3.9	60	17.4	140	19.4	3.4	0.8	4	1	196	86	0.88	2.2	4.0	B	278	8	1.0	11	21	1.6	168	67	4.3
31	21	45	11.6	62	23.9	148	29.7	30.4	2.4	23	12	114	96	0.70	1.7	1.1	A	86	17	0.7	181	18	1.8	315	65	1.1
31	22	55	14.0	60	13.1	141	19.7	0.7	1.2	8	4	103	44	0.42	1.1	2.0	A	275	9	0.6	9	22	0.7	164	66	2.2
31	22	58	3.5	61	37.5	146	20.0	28.5	2.9	26	3	90	55	0.78	0.9	1.0	A	106	1	0.6	16	6	0.9	205	84	1.0
			3.5 ML PMR																							
31	23	11	16.0	60	10.4	141	11.0	15.0	0.5	3	2	200	52	0.28	17.9	17.7	D	91	22	1.2	343	37	3.3	205	45	25.0
31	23	27	46.5	60	11.8	141	18.9	1.4	0.8	6	3	101	44	0.20	2.5	5.5	C	93	3	0.9	2	23	0.7	190	67	6.0