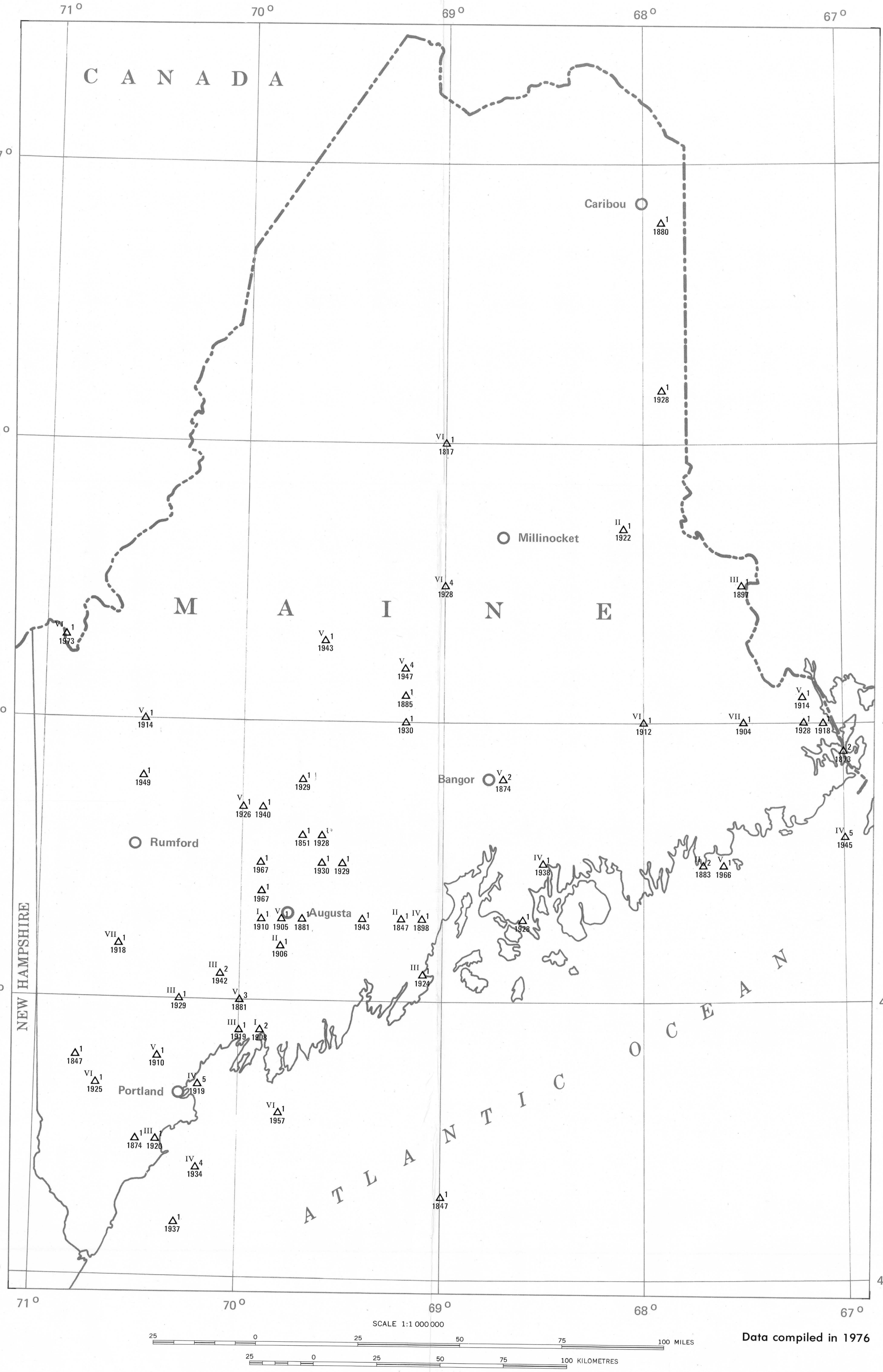
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

MISCELLANEOUS FIELD STUDIES
MAP MF-845

SEISMICITY MAP OF MAINE



Data compiled in 1976

SEISMICITY MAP OF THE STATE OF MAINE

By

Carl W. Stover, B. Glen Reagor and Barbara B. Poppe

1977

INTRODUCTION

The earthquake data for the state of Maine shown on this map and listed in table 1 was taken from the U.S. Geological Survey catalog of earthquakes (Hays, and others, 1975). This list of earthquakes was originally compiled for use in preparing the Seismic Risk Studies in the United States (Algermissen, 1969) and has been updated through 1974. The catalog is reasonably complete through 1974; possible discrepancies with existng publications may exist, however, because the file was compiled over a long period of time and by a number of compilers.

The data on table 1 was used to compile the seismicity map. The data are sorted according to latitude and longitude with all identical locations grouped together and counted. The number of earthquakes at each location is shown on the map by the number to the right of the triangle. The roman numeral to the left of the triangle is the maximum intensity rating for the earthquakes located at that position. The absence of an intensity value indicates that no intensities have been assigned to earthquakes at that location. The year shown below the triangle is the year that the maximum intensity was recorded.

EXPLANATION OF THE TABLES

The data are listed chronologically in table 1 in the following categories: date, origin time, N. latitude, W. longitude, depth, magnitude,intensity, felt area, epicenter quality, and reference identification number for epicenter and felt data.

Listed below is an explanation of the symbols and codes used in the tables:

1. Leaders (...) indicate information not available.
2. Latitude and longitude are listed to the nearest tenth of a degree, although this information may have been published elsewhere to within a thousandth of a degree. An asterisk (*) to the right of the longitude indicates that the latitude and longitude were not given in the source reference, but were assigned by the compilers of the data file.
3. Accuracy of the instrumental epicenter determination is indicated by the letter code:
   - A - good to 0.1°
   - B - good from 0.1° to 0.2°
   - C - good from 0.2° to 0.5°
   - D - good from 0.5° to 1.0°
   - E - not better than 1.0°

   Accuracy for non-instrumental epicenter determination from felt-data indicated by the letter code:
   - F - good to 0.5°
   - G - good from 0.5° to 1.0°
   - H - good from 1.0° to 2.0°
   - I - not better than 2.0°
4. The Modified Mercalli intensity with an asterisk (*) indicates it was assigned by the compiler on the basis of the available data at the time when the catalog was compiled.
5. The reference identification number to the right of the epicenter quality indicates the publication source of the epicenter, intensity, and felt area data. The sources are listed in table 2.

ACKNOWLEDGMENTS

The work of R. L. Rothman (now with AFTAC, Alexandria, Virginia) who compiled a large percentage of the data through 1970 contained in this catalog is gratefully acknowledged. Also, we are grateful to W. A. Rinehart (now with NOAA, Boulder, Colorado) for updating the data file through 1974.

REFERENCES

Algermissen, S. T., 1969, Seismic risk studies in the United States, in Proceedings 4th World Conference on Earthquake Engineering, Volume 1: Santiago, Chile, p. 14-27.

Hays, W. W., Algermissen, S. T., Espinosa, A. F., Perkins, D. M., and Rinehart, W. A., 1975, Guidelines for developing design earthquake response spectra: U.S. Army Construction Engr. Res. Lab., Tech. Report M-114, p. 155-314.

Table 1.--Chonological listing of Earthquakes for the State of Maine

DATE YEAR	MONTH	DAY	ORIGIN TIME(UTC) H	M	S	LAT. (N.)	LONG. (W.)	DEPTH (KM)	MAGNITUDE USGS	OTHER	INTENSITY MM	FELT AREA (SQ KM)	EPICENTER QUAL	REF
1817	MAY	22	20	00	..	46.0	69.0	..	..	..	VI	....	G	38
1847	FEB	19	..	..	..	43.3	69.0	..	..	..	...	....	H	58
1847	JAN	..	..	..	..	44.3	69.2	..	..	..	II *	....	H	58
1847	APR	01	..	..	..	43.8	70.8	..	..	..	...	....	H	58
1850	JUL	20	..	..	..	43.7	70.2	..	..	..	...	....	H	58
1851	JAN	03	..	..	..	44.6	69.7	..	..	..	...	....	H	58
1853	JUL	17	..	..	..	43.7	70.2	..	..	..	...	....	H	58
1873	JAN	11	10	..	..	44.0	70.0	..	..	..	...	....	H	58
1873	FEB	22	12	30	..	44.9	67.0	..	..	..	...	....	H	58
1873	NOV	13	..	..	..	44.8	68.7	..	..	..	...	....	H	58
1874	FEB	12	11	30	..	43.5	70.5	..	..	..	...	....	H	58
1874	FEB	28	03	40	..	44.8	68.7	..	..	..	V	15600	H	38
1876	NOV	20	18	00	..	44.9	67.0	..	..	..	...	....	H	58
1877	FEB	18	19	20	..	43.7	70.2	..	..	..	...	....	H	58
1880	APR	03	07	..	..	46.8	67.9	..	..	..	...	....	H	58
1881	JAN	21	02	40	..	44.0	70.0	..	..	..	V	5200	H	38
1881	FEB	27	03	55	..	44.3	69.7	..	..	..	...	....	H	58
1883	JAN	01	07	58	..	44.5	67.7	..	..	..	...	....	H	58
1883	JAN	01	13	28	..	44.5	67.7	..	..	..	II *	....	H	58
1885	MAY	03	14	..	..	45.1	69.2	..	..	..	...	....	H	58
1897	SEP	25	18	30	..	45.5	67.5	..	..	..	III*	7800	H	58
1898	SEP	17	15	54	..	44.3	69.1	..	..	..	IV *	....	H	38
1904	MAR	21	06	04	..	45.0	67.5	..	..	..	VII	390000	H	38
1905	JUL	15	10	10	..	44.3	69.8	..	..	..	V	52000	H	38
1906	MAR	04	05	57	..	43.7	70.2	..	..	..	II *	....	H	58
1906	MAR	19	02	50	..	44.2	69.8	..	..	..	II *	....	H	58
1908	JAN	15	..	..	..	43.9	69.9	..	..	..	I *	....	H	58
1910	JAN	23	01	15	..	43.8	70.4	..	..	..	V	390	H	38
1910	OCT	20	21	30	..	44.3	69.9	..	..	..	I *	....	H	58
1911	DEC	17	07	39	..	43.9	69.9	..	..	..	I *	....	H	58
1912	DEC	11	10	15	..	45.0	68.0	..	..	..	VI	52000	H	38
1914	JAN	13	08	00	..	45.1	67.2	..	..	..	V	....	H	38
1914	FEB	22	00	15	..	45.0	70.5	..	..	..	V	20800	H	38
1918	JAN	14	07	20	..	45.0	67.1	..	..	..	...	....	H	58
1918	AUG	21	05	12	..	44.2	70.6	..	..	..	VII	39000	H	38
1919	JUL	11	00	40	..	43.9	70.0	..	..	..	III*	....	H	58
1919	JUL	23	10	50	..	43.7	70.2	..	..	..	IV *	....	H	58
1920	JUN	07	08	..	..	43.5	70.4	..	..	..	III*	....	H	58
1922	JUL	02	21	26	..	45.7	68.1	..	..	..	II *	....	H	58
1924	SEP	30	08	50	..	44.1	69.1	..	..	..	III*	....	H	58
1925	OCT	09	13	56	..	43.7	70.7	..	..	..	VI	39000	G	38
1926	AUG	28	21	00	..	44.7	70.0	..	..	..	V	7800	H	38
1928	FEB	08	..	..	..	45.5	69.0	..	..	..	VI	....	H	1
1928	FEB	17	05	29	..	45.5	69.0	..	..	..	I *	....	H	1
1928	MAR	22	13	30	..	45.5	69.0	..	..	..	IV *	....	H	1
1928	MAR	28	..	..	..	45.5	69.0	..	..	..	...	....	H	1
1928	AUG	30	09	10	..	44.3	68.6	..	..	..	...	....	H	1
1928	NOV	20	02	30	..	45.0	67.2	..	..	..	...	....	H	1
1928	DEC	12	19	07	..	44.6	69.6	..	..	..	...	....	H	1
1928	DEC	25	02	00	..	46.2	67.9	..	..	..	...	....	H	1
1929	FEB	05	19	09	..	44.0	70.3	..	..	..	III*	5200	H	2
1929	OCT	09	00	30	..	44.5	69.5	..	..	..	...	....	H	2
1929	DEC	05	15	00	..	44.8	69.7	..	..	..	...	....	H	2
1930	MAR	11	23	30	..	44.0	70.0	..	..	..	...	....	H	3
1930	NOV	13	06	00	..	45.0	69.2	..	..	..	...	....	H	3
1930	DEC	25	..	..	..	44.5	69.6	..	..	..	...	....	H	3
1934	AUG	02	14	59	..	43.4	70.2	..	..	..	IV	....	H	7
1934	AUG	02	17	50	..	43.4	70.2	..	..	..	III	....	H	7
1934	AUG	03	02	30	..	43.4	70.2	..	..	..	IV	....	H	7
1934	AUG	26	11	36	..	44.6	67.0	..	..	..	III	....	H	7
1935	JAN	15	01	15	..	44.1	70.1	..	..	..	...	....	H	8
1935	MAR	04	02	40	..	44.6	67.0	..	..	..	...	....	H	8
1937	OCT	12	11	..	..	43.2	70.3	..	..	..	...	....	H	10
1938	AUG	22	12	48	..	44.5	68.5	..	..	..	IV	....	H	11
1940	MAR	28	11	43	..	44.7	69.9	..	..	..	...	....	E	13
1942	MAR	08	23	37	59.0	44.1	70.1	..	..	..	III*	....	H	15
1943	JAN	14	21	32	36.0	45.3	69.6	..	..	..	V	130000	E	16
1943	FEB	10	09	45	..	43.4	70.2	..	..	..	...	....	H	16
1943	DEC	19	08	10	..	44.3	69.4	..	..	..	...	....	H	16
1945	JUL	15	10	45	..	44.6	67.0	..	..	..	IV *	....	H	18
1945	AUG	28	01	37	..	44.6	67.0	..	..	..	...	....	H	18
1947	DEC	28	19	58	20.0	45.2	69.2	..	..	..	V	156000	E	20
1948	JAN	07	20	47	..	45.2	69.2	..	..	..	...	....	H	21
1948	JAN	07	21	20	..	45.2	69.2	..	..	..	...	....	H	21
1948	NOV	21	15	41	..	44.6	67.0	..	..	..	...	....	H	21
1948	NOV	28	09	57	..	45.2	69.2	..	..	..	...	....	H	21
1949	OCT	05	02	33	47.5	44.8	70.5	..	..	..	...	....	D	22
1957	APR	26	11	40	06.0	43.6	69.8	..	..	..	VI	80600	D	30
1966	JUL	24	01	59	58.4	44.5	67.6	..	..	..	V	....	C	81
1967	JUL	01	16	05	41.1	44.4	69.9	033	..	..	...	....	A	74
1967	JUL	01	16	19	33.9	44.5	69.9	036	..	..	...	....	A	74
1973	JUN	15	01	09	04.2	45.3	70.9	012	4.8	..	VI	....	A	74

Table 2.--List of Earthquake data sources

1. United States Earthquakes 1928, N. H. Heck and R. R. Bodle, U. S. Dept. of Commerce, Coast and Geodetic Survey, Serial No. 483, p. 1-28, 1930.
2. United States Earthquakes 1929, N. H. Heck and R. R. Bodle, U. S. Dept. of Commerce, Coast and Geodetic Survey, Serial No. 511, p. 1-55, 1931.
3. United States Earthquakes 1930, Frank Neumann and R. R. Bodle, U. S. Dept. of Commerce, Coast and Geodetic Survey, Serial No. 539, p. 1-25, 1932.
7. United States Earthquakes 1934, Frank Neumann, U. S. Dept. of Commerce, Coast and Geodetic Survey, Serial No.593, p. 1-99, 1936.
8. United States Earthquakes 1935, Frank Neumann, U. S. Dept. of Commerce, Coast and Geodetic Survey, Serial No. 600, p. 1-90, 1937.
10. United States Earthquakes 1937, Frank Neumann, U. S. Dept. of Commerce, Coast and Geodetic Survey, Serial No. 619, p. 1-55, 1940.
11. United States Earthquakes 1938, Frank Neumann, U. S. Dept. of Commerce, Coast and Geodetic Survey, Serial No. 629, p. 1-59, 1940.
13. United States Earthquakes 1940, Frank Neumann, U. S. Dept. of Commerce, Coast and Geodetic Survey, Serial No. 647, p. 1-74, 1942.
15. United States Earthquakes 1942, R. R. Bodle, U. S. Dept. of Commerce, Coast and Geodetic Survey, Serial No. 662, p. 1-44, 1944.
16. United States Earthquakes 1943, R. R. Bodle, U. S. Dept. of Commerce, Coast and Geodetic Survey, Serial No. 672, p. 1-47, 1945.
18. United States Earthquakes 1945, R. R. Bodle and L. M. Murphy, U. S. Dept. of Commerce, Coast and Geodetic Survey, Serial No. 699, p. 1-38, 1947.
20. United States Earthquakes 1947, L. M. Murphy, U. S. Dept. of Commerce, Coast and Geodetic Survey, Serial No. 730, p. 1-62, 1950.
21. United States Earthquakes 1948, L. M. Murphy and F. P. Ulrich, U. S. Dept. of Commerce, Coast and Geodetic Survey, Serial No. 746, p. 1-50, 1951.
22. United States Earthquakes 1949, L. M. Murphy and F. P. Ulrich, U. S. Dept. of Commerce, Coast and Geodetic Survey, Serial No. 748, p. 1-64, 1951.
30. United States Earthquakes 1957, R. J. Brazee and W. K. Cloud, U. S. Dept. of Commerce, Coast and Geodetic Survey, p. 1-108, 1959.
38. Earthquake History of the United States, Part 1, R. A. Eppley, U. S. Dept. of Commerce, Coast and Geodetic Survey, No. 41-1 (through 1963), p. 1-80, 1965.
58. Unpublished earthquake catalog, H. F. Reid, includes card index, newspaper clippings, personal letters, John Hopkins University, Baltimore, MD.
74. Preliminary Determination of Epicenters, Monthly listing, U.S. Geological Survey (formerly by U.S. Coast and Geodetic Survey, Environmental Science Services Administration, and National Oceanic and Atmospheric Administration), April 1966 to December 1974.
81. United States Earthquakes 1966, C. A. von Hake and W. K. Cloud, U. S. Dept. of Commerce, Coast and Geodetic Survey, p. 1-110, 1968.

Interior—Geological Survey, Reston, Va.—1977
For sale by Branch of Distribution, U.S. Geological Survey, 1200 South Eads Street Arlington, VA 22202