INTRODUCTION

The earthquake data shown on this map and listed in table 1 are a list of earthquakes that were originally used in preparing the Seismic Risk Studies in the United States (Algermissen, 1969) which have been recompiled and updated through 1977. The data have been reexamined and intensities assigned where none had been assigned before, on the basis of available data. Other intensity values were updated from new and additional data sources that were not available at the time of original compilation. Some epicenters were relocated on the basis of new information. The data shown in table 1 are estimates of the most accurate hypocenter, magnitude, and intensity of each earthquake, on the basis of historical and current information. Known or suspected explosions are listed in table 1 but are not plotted on the seismicity map.

The data in table 1 were used to compile the seismicity map. The latitude and longitude were rounded to the nearest tenth of a degree and sorted so that all identical locations were grouped together and counted. A triangle represents the epicenter plotted to a tenth of a degree. The number of earthquakes at each location is shown on the map by the number to the right of the triangle. A Roman numeral to the left of a triangle is the maximum Modified Mercalli intensity (Wood and Neumann, 1931) of all earthquakes located at that geographic position. The absence of an intensity value indicates that no intensities have been assigned to earthquakes at that location. A year shown below a triangle is the latest year for which 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, hypocenter quality and referenced data sources, magnitude, and intensity (Modified Mercalli) and intensity source references. Table 1 has some basic limitations in terms of the size (magnitude or intensity) of the earthquakes listed. Prior to 1965 all recorded felt earthquakes are listed, after 1965 only published earthquakes having magnitudes above the 2.5-3.0 range are listed; the lower magnitude levels apply mostly to the eastern United States. The low magnitude events located in recent years with dense seismograph networks have not been included.

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

1. Leaders (..) indicate information not available.

Oxford and New York, Pergamon Press, p. 115-165.

- 2. Latitude and longitude are listed to a hundredth of a degree if they have been published with that degree of accuracy, or greater; however, most historical events have been published only to the nearest degree or tenth of a degree and are therefore listed at this accuracy in table 1. 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. An (x) to the right of the longitude indicates that the event is an explosion, a suspected explosion, or a nontectonic event; these have not been plotted on the map.
- 3. The letter code in the HYPOCENTER, QUAL column is defined below:
 a. Determination of instrumental hypocenters are estimated to be accurate within the ranges of latitude and longitude listed below; each range is letter coded as indicated:
 - A 0.0°-0.1° B 0.1°-0.2° C 0.2°-0.5°
 - D 0.5°-1.0°
 E 1.0° or larger
 - b. Determination of noninstrumental epicenters from felt data are estimated to be accurate within the ranges of latitude and longitude listed below; each range is letter coded as indicated:
 - F 0.0°-0.5° G 0.5°-1.0°
- H 1.0°-2.0°
 I 2.0° or larger

 4. The reference identification numbers in the HYPOCENTER, REF and INTENSITY, REF columns indicate the sources of the hypocenter and intensity. They are listed in numerical order in table 2.

 5. The magnitudes listed under "USGS" are mb values (Gutenberg and Richter, 1956) published in the

Preliminary Determination of Epicenters (PDE) by the National Earthquake Information Service, U. S. Geological Survey and predecessor organizations. Associated with the magnitude values listed

- under "OTHER" are the source code and type. Type is defined by 1 = ML (Richter, 1958), 2 = mbLg (Nuttli, 1973), and 3 = MS (Bath, 1966). The source codes are listed below:

 GS National Earthquake Information Service, U. S. Geological Survey, Golden, Co. SLM St. Louis University, St. Louis, Mo.
- 6. An asterisk (*) in the INTENSITY, MM column indicates that the intensity was assigned by the compiler on the basis of the available data at the time the catalog was compiled.

REFERENCES

- Algermissen, S. T., 1969, Seismic risk studies in the United States: Fourth World Conference on Earthquake Engineering, Santiago, Chile, January 13-18, 1969, Proceedings, v. 1, p.14-27.

 Bath, Markus, 1966, Earthquake energy and magnitude, in v. 7 of Physics and chemistry of the Earth:
- Gutenberg, B. and Richter, C. F., 1956, Magnitude and energy of earthquakes: Annali di Geofisica, v. 9, no. 1, p. 1-15.
- Nuttli, O. W., 1973, Seismic wave attenuation and magnitude relations for eastern North America: Journal of Geophysical Research, v. 78, no. 5, p. 876-885. Richter, C. F.,1958, Elementary Seismology: San Francisco, Calif., W. H. Freeman and Co., Inc.,
- Wood, H. O., and Neumann, F., 1931, Modified Mercalli Intensity Scale of 1931: Seismological Society of America Bulletin, v. 21, no. 4, p. 277-283.

Table 1.--Chronological listing of Earthquakes for the State of Alabama

E		OF	RIGI	N I	rime(u	TC) LAT.	LONG.	DEPTH	HYPOCENTER		MAGNITUDE		INTENSITY		
	DAY		Н	M	S		(N.)	(W.)	(KM)	QUAL	REF	USGS	OTHER	MM	REE
	05		01	••			32.8	88.0		G	38	••		. V	38
	13		• •				32.8	88.0	• •	H	38			• • •	
	27						34.0	86.0		G	38			VII	38
	28		• •				34.0	86.0		H	38	• •			• 1
	28						34.0	86.0		H	84			• • •	
	18		21	04			33.5	86.2		G	38			VII	38
	19		01	52	·		33.5	86.2	• •	G	67				
	22						33.5	86.2		G	67			• • •	
	04		11	15			33.5	86.2	• •	H	86			III	8
	04						33.5	86.2		Н	86			III	8
	04						33.5	86.2		H	86			• • •	
	30		01	23			32.7	87.5		G	38			V	38
	30			••			32.7	87.5		Н	84			IV	84
	30						32.7	87.5	••	Н	84	,		IV	84
	30				• •		32.7	87.5	• •	Н	84	• • •		IV	8
	30				• • •		32 • 7	87.5	••	H	84			IV	8
	30						32.7	87.5	•	Н	84			IV	8
	30				••		32.7	87.5		Н	84			IV	8
	30		••				32.7	87.5	• • •	Н	84			IV	8
	30		••	••			32.7	87.5	• • •	H	84	• • • •		IV	8
	30		••	••			32.7	87.5		H	84	••	••••	IV	8
	30		٠,	• •			32.7	87.5	••	Н	84		•• ••	IV	8
	30		••	••	• •		32.7	87.5	• •	H	84	• •	•• ••	IV	8
	30		• •	••	••		32.7	87.5	• •	н Н	84	••	••••	IV	8
	30		••	••	• •		32.7	87.5	• • •	Н		••	•• ••		
	28		16	15	• •				• •		84	••	•• ••	V	8
					• •		34.9	88.1	••	Н	84			III	8
	16			00	• •		34.7	86.0	• •	G	38	• •	•• ••	V	38
	13			44	• •		30.7	88.0	• •	G	02	• •	•• ••	III*	•
	01		14		• •		33.4	87.0 2		G	03	. • •	•• ••	• • •	•
	05		12		• •		33.7	86.6	• •	G	38	• •	• • • •	VI	3
	05			45	• •		33.7	85.8	• •	G	38	• •	•• ••	V	3
	24			• •	• •		34.8	86.6		H	12	• •	•• ••	III*	•
	24			27	• •		34.8	86.6		H	12	• •		IV	1.
	24			45	• •		34.8	86.6		H	12		• • • •	III*	•
	06			12	• •		33.5	86.9		H	25	• •		IV	2
	27		14		• •		31.9	88.5	• •	G	105	• •	• • • •	IV	10.
	23		09		39		34.5	86.7	• •	C	30			VI	3
	12			06			35.0	87.0	• •	\mathbf{G}	32	• •		VI	3
	14				51.5		33.13	87.91	001	Α	44	• •	3.9SLM 1	III*	
	10		06	01	32.7		31.35	87.47	010	C	47	• •	3.0SLM 1	V	4
	01				00.2		33.55	87.98	018	Α	87	• •	3.2SLM 2	II	8
	24				36.0		33.72	87.84	010	C	88	4.5	3.8GS 2	IV	8
	29				51.9		33.82	86.60	005	Α	89	3.5	4.4SLM 2	VI	8
	07		23	39	32.7		33.55	87.36	005	C	90		3.5SLM 2	II	90
	04		02	00	22.9		31.98	88.42	005	C	94		3.6SLM 2	V	94

Table 2--List of data sources

- 2. Heck, N. H. and Bodle, R. R., 1931, United States Earthquakes 1929, U. S. Department of Commerce, Coast and Geodetic Survey, Serial No. 511, p. 1-55.
- 3. Neumann, F. and Bodle, R. R., 1932, United States Earthquakes 1930, U. S. Department of Commerce, Coast and Geodetic Survey, Serial No. 539, p. 1-25.

 12. Bodle, R. R., 1941, United States Earthquakes 1939, U. S. Department of Commerce,

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- Coast and Geodetic Survey, Serial No. 637, p. 1-69.

 25. Murphy, L. M. and Cloud, W. K., 1954, United States Earthquakes 1952, U. S. Department of Commerce, Coast and Geodetic Survey, Serial No. 773, p. 1-112.
- 30. Brazee, R. J. and Cloud, W. K., 1959, United States Earthquakes 1957, U. S. Department of Commerce, Coast and Geodetic Survey, p. 1-108.

 32. Eppley, R. A. and Cloud, W. K., 1961, United States Earthquakes 1959, U. S.
- Department of Commerce, Coast and Geodetic Survey, p. 1-115.

 38. Coffman, J. L. and von Hake, C. A., 1973, Earthquake History of the United States, U. S. Department of Commerce, National Oceanic and Atmospheric Administration, No. 41-1
- (through 1970), p. 1-208.

 44. Coffman, J. L. and von Hake, C. A., 1973, United States Earthquakes 1971, U. S. Department of Commerce, National Oceanic and Atmospheric Administration, p. 1-174.
- 47. Coffman, J. L. and Stover, C. W., 1976, United States Earthquakes 1974, U. S. Department of Commerce, National Oceanic and Atmospheric Administration and U. S. Department of Interior, Geological Survey, p. 1-125.

 67. Moneymaker, B. C., 1957, Earthquakes in Tennessee and nearby sections of neighboring
- based on unpublished data compiled by Harry Fielding Reid and unpublishe sources prior to 1930, Hawaii Institute of Geophysics, University of Hawaii, Data Report No. 10.

 86. Bollinger, G. A., 1975, A catalogue of southeastern United States earthquakes 1754

states 1901 to 1925, Tennessee Academy of Science Journal, v. 32, no. 2, p. 91-105. 84. Woollard, G. P., 1968, A catalogue of earthquakes in the United States prior to 1925,

- through 1974, Department of Geological Science, Virginia Polytechnic Institute and State University, Research Bulletin 101, p. 1-68.

 87. Simon, R. B., Stover, C. W., and Person, W. J., 1977, Earthquakes in the United
- States, January-March 1975, U. S. Department of Interior, Geological Survey Circular 749-A, p. 1-35.

 88. Person, W. J., Simon, R. B., and Stover, C. W., 1977, Earthquakes in the United

States, April-June 1975, U. S. Department of Interior, Geological Survey Circular

- 749-B, p. 1-27.

 89. Stover, C. W., Simon, R. B., and Person, W. J., 1977, Earthquakes in the United States, July-September 1975, U. S. Department of Interior, Geological Survey
- Circular 749-C, p. 1-29.
 90. Minsch, J. H., Stover, C. W., and Person, W. J., 1977, Earthquakes in the United States, October-December 1975, U. S. Department of Interior, Geological Survey
- Circular 749-D, p. 1-27.

 94. Minsch, J. H., Stover, C. W., and Simon, R. B., (in progress), Earthquakes in the United States, April-June 1977, U. S. Department of Interior, Geological Survey
- Circular 788-B.

 105. Docekal, J., 1970, Earthquakes of the stable interior, with emphasis on the midcontinent, volume 2, A dissertation presented the faculty of the graduate college in the University of Nebraska in partial fulfillment of requirements for the degree of Doctor of Philosophy, p. 1-332.

SEISMICITY MAP OF THE STATE OF ALABAMA

M E X I C O

SCALE 1:1 000 000

100 KILOMETERS

OF

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