DEPARTMENT OF THE INTERIOR

U.S. GEOLOGICAL SURVEY

United States Earthquakes, 1974

By

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and

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Contents

LIST OF TABLES

LIST OF ILLUSTRATIONS

Introduction

United States Earthquakes, 1974 contains descriptions of all earthquakes that were felt or caused damage in the U.S. and nearby territories during the year. Each description includes pertinent instrumental data (date, origin time, geographic location, and depth, when available), a brief account of the area affected, and reported effects on people and inanimate objects. Earthquakes are listed chronologically in 11 regions, an arrangement selected principally to highlight natural seismic divisions. The regions are: 1) Northeastern, which includes New England and the State of New York; 2) Eastern, which includes the central Appalachian Mountains area and the region around Charleston, S.C.; 3) Central, which encompasses the area between the Eastern Region and the Rocky Mountains; 4) Western Mountain, which includes all remaining States except those on the West Coast; 5) California and Western Nevada; 6) Washington and Oregon; 7) Alaska; 8) Hawaii; 9) Panama Canal Zone; 10) Puerto Rico; and 11) Virgin Islands.

Instrumental data used by the U.S. Geological Survey to compute earthquake epicenters listed in the "Earthquake Descriptions" section and in tables 1, 2, and 4, have been obtained from NOAA, USGS, and cooperating seismograph observatories both domestic and foreign. Sources of noninstrumental data (macroseismic information) include questionnaire canvasses of U.S. Post Offices; reports from seismology collaborators; newspaper clippings; bulletins of the Seismological Society of America; special reports of other organizations; and felt data collected by NOAA's National Weather Service and seismology collaborators.

NATIONAL GEOPHYSICAL AND SOLAR-TERRESTRIAL DATA CENTER

The National Geophysical and Solar-Terrestrial Data Center (NGSDC) is one of the six major facilities of NOAA's Environmental Data Service. NGSDC's Solid Earth Data Services Division is responsible for data activities in the field of seismology. Its services include preparing local and regional seismic histories for engineers, actuaries, and other scientists, and answering direct inquiries from the public on all aspects of historical earthquakes. Additional services and products include publishing annual earthquake summaries and revised historical earthquake reports; and making available in several formats copies of seismograms, accelerograms, displacement meter records, digitized strong-motion seismograms, and epicenter lists. Many of these products and services are based on seismic records or other data that have originated with USGS recording networks or with USGS data-reduction facilities. Information concerning services and products of NGSDC may be obtained from the National Geophysical and Solar-Terrestrial Data Center, NOAA/EDS, Boulder, Colo. 80302. Some of these seismological services and products are described in the following paragraphs.

Earthquake Data File

The earthquake data file lists worldwide hypocenters geographically and chronologically from 1900-1974. (Additional noninstrumental data, intensity V and above, are available for the United States from June 1638.) The file is available on magnetic tape and 16-mm microfilm. Monthly updates on punched cards also may be purchased. The file gives date, origin time, geographic location, focal depth, magnitude, and intensity (Modified Mercalli) for each event when available. Computer searches for one, or combination, of the parameters above can be made. Additional information is available on request.

Strong-Motion Earthquake Data

All records in the strong-motion file, dating from the initial accelerograms recorded in 1932, are available. Records for the years 1932-1970 may be purchased on seven reels of 35-mm microfilm, as 70-mm film chips, or as full-size paper copies. Digitized accelerograms may be obtained on magnetic tape or punched cards. The same information (through 1971) is described in geographic arrangement in *Key to Geophysical Records Documentation No. 2, Catalog of Strong-Motion Seismograph Stations and Records*, also available from NGSDC.

Other Data

The USGS *Preliminary Determination of Epicenters Monthly Listing,* a chronological listing of earthquakes located throughout the world, may be purchased on 16-mm microfilm for the period 1965-1974. It contains for each earthquake the time of occurrence, geographic coordinates, region, felt and damage data, depth, magnitude, and other useful information.

The USGS *Earthquake Data Report,* a twice-weekly compilation of data used in the computation of the report described above, is now available on 16-mm microfilm for the years 1969-1974. It contains station arrival times, individual distances, azimuths, and traveltime residuals.

The *Reid Earthquake Catalog,* compiled by the late Professor Harry F. Reid, is a comprehensive collection of earthquake and volcano data recorded on cards (3×5 in.) and augmented by newspaper clippings of principal earthquakes. The catalog, which is in chronological sequence and cross-indexed by geographical regions, covers the time from before Christ to 1931. It is available on five reels of 16-mm microfilm.

Seismograms from Worldwide Network

Seismograms are available from all stations (124) in the Worldwide Network of Standard Seismograph Stations (WWNSS), which operates with identical instruments. Each station produces six seismograms daily. In addition, records from ten high-gain, long-period stations are available beginning in January 1971. Seismograms from other selected stations—foreign, Canadian, and U.S. Geological Survey networks—may also be obtained. Requests for these records should include time, date, station, components, and type of copies desired. Special seismogram packages are available (beginning in January 1974) for earthquakes of (1) magnitude 6.5-7.4, and (2) magnitude 7.5 and above for WWNSS and other stations that exchange records through World Data Centers. A list of available formats and prices will be supplied upon request.

Publications

NGSDC issued the following publications in 1974:

Key to Geophysical Records Documentation No. 3, Catalog of Earthquake Photographs. This catalog gives brief descriptions and some examples of photographs of earthquake damage and felt-area and seismicity maps available from NGSDC.

Seismological Publications and Services. This pamphlet describes earthquake data and services available from several sources within the Federal Government.

U.S. GEOLOGICAL SURVEY

The U.S. Geological Survey maintains an earthquake reporting system that provides accurate and rapid epicenter locations and magnitude values to the press and other interested groups. These results are available within 2-3 hours for earthquakes of magnitude 6½ or larger. Locations and magnitudes of smaller events are computed on request or on receipt of a press report.

USGS, NOAA, and cooperating seismic observatories throughout the world also furnish data for the epicenter program of USGS. Figure 1 shows locations of primary USGS and NOAA seismograph stations. Basic data from these and approximately 200 additional seismic stations are routinely telegraphed to USGS for use in epicenter computation. Some 250 other seismic stations are canvassed for data that are critical in the location of particular earthquakes.

During 1974, the locations of 4,921 epicenters were announced in the twice-weekly *Preliminary Determination of Epicenters* (PDE) list. Epicenters are published when sufficient information has accumulated to insure a reasonable degree of accuracy. The results are preliminary and do not always agree with later epicenters determined from additional seismic readings or from new data with critical azimuths and distances. For special studies, an inquiry should be made to the USGS (Denver Federal Center, Branch of Seismicity and Earth Structure, Stop 967, Box 25046, Denver, Colo. 80225) for possible recomputation of epicenters of interest.

USGS coordinates the collection of all types of earthquake information, with the special objective of correlating instrumentally determined earthquake locations with noninstrumental locations indicated by intensity data. This correlation is achieved through intensive regional investigations of earthquakes by local organizations and USGS. Primary data are gathered by a canvass of the epicentral area using questionnaire cards. Cities that receive questionnaire cards are selected by computer, based upon an analysis of the earthquake magnitude and projected felt area. When returned and analyzed, this information is used to map the seismic areas of the country in order to promote public safety through a better understanding of earthquake phenomena. Because the success of this data-collection program depends largely on the cooperation of local officials and citizens, all who receive earthquake questionnaire cards are urged to complete and return them to the office indicated.

USGS issued the following technical reports in 1974:

Preliminary Determination of Epicenters. These twice-weekly reports list the approximate hypocentral lo-

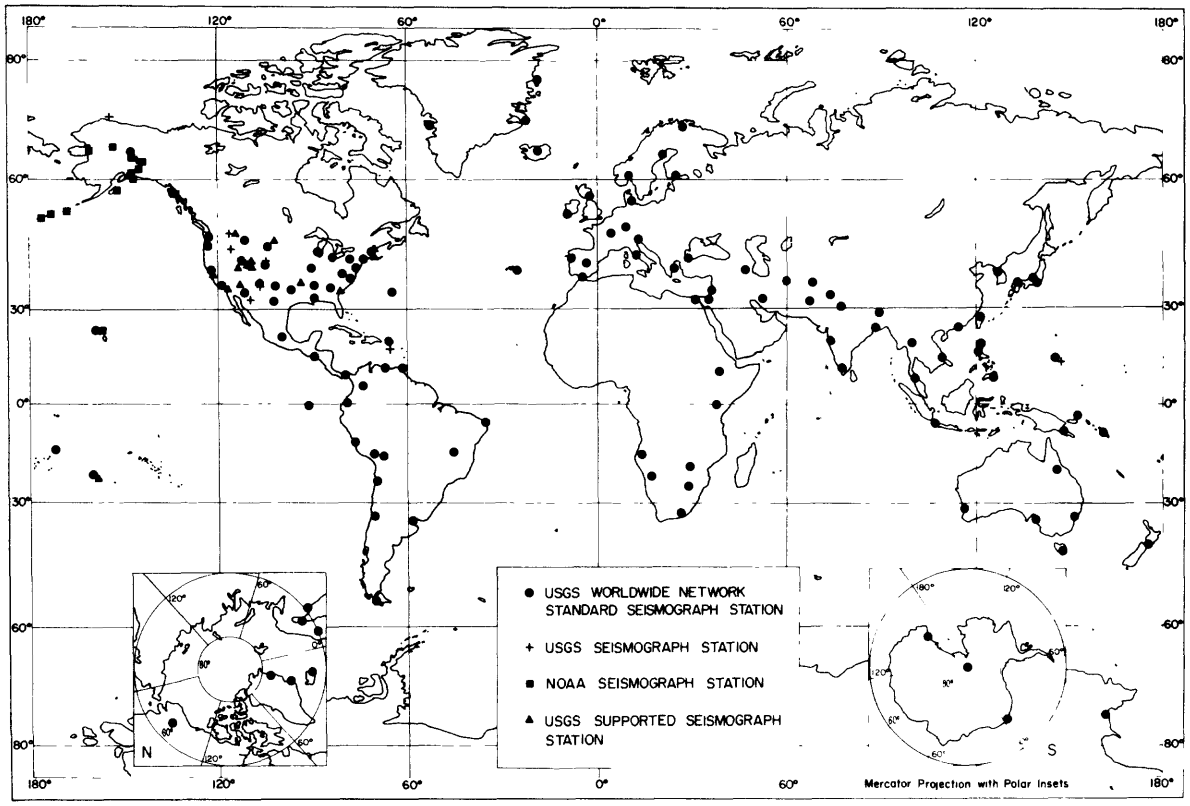

FIGURE 1.-Locations of primary USGS and NOAA seismograph stations.

cations of all earthquakes recorded throughout the world. They contain origin time, geographic coordinates, region of occurrence, felt and damage data, depth, magnitude, and other related information on each earthquake. The *Preliminary Determination of Epicenters Monthly Listing,* a chronological listing of the twice-weekly data, is available to the general public by subscription from the Government Printing Office.

Earthquake Data Report. This twice-weekly report contains data used in the computation of the report above. It lists station arrival times, individual distances, azimuths, and traveltime residuals.

In addition to these publications, the USGS publishes a bimonthly *Earthquake Information Bulletin,* which contains information on past and continuing studies in seismology and describes techniques used in the investigation of earthquakes and related phenomena. This two-color magazine has regular departments for new publications, meetings, and current earthquake descriptions.

SEISMOLOGY COLLABORATORS

Active cooperation in earthquake investigations in the Pacific Coast and Western Mountain States is provided by the University of California Seismographic Station at Berkeley and the California Institute of Technology Seismological Laboratory at Pasadena. Seismology collaborators throughout the U.S. assist in collecting earthquake data. The following served as collaborators to NOAA and USGS during 1974.

Alabama.—L.J. Eisele, S.J., Spring Hill College, Mobile.

Arizona.—Richard T. Moore, University of Arizona, Tucson.

California (at large).—Nina Scott, San Francisco.

California (northern).—Bruce A. Bolt, University of California, Berkeley.

California (southern).—Clarence R. Allen, California Institute of Technology, Pasadena.

Colorado.—Maurice W. Major, Colorado School of Mines, Golden.

Connecticut.—Edward F. Chiburis, University of Connecticut, Groton.

Delaware.—Robert R. Jordan, University of Delaware, Newark.

Florida and Georgia.—Leland T. Long, Georgia Institute of Technology, Atlanta, Ga.

Idaho.—Melvin W. Jackson, Morrison-Knudsen Co., Inc., Industrial Engineering Group, Boise.

Indiana.—Robert F. Blakely, Department of Natural Resources, Geological Survey, Bloomington.

Iowa.—J. P. Kopp, Loras College, Dubuque.

Kansas.—Robert J. Harris, Kansas State University, Manhattan.

Kentucky.—G. Randy Keller, University of Kentucky, Lexington.

Michigan.—James T. Wilson, University of Michigan, Ann Arbor.

Minnesota.—Harold Mooney, University of Minnesota, Minneapolis.

Mississippi, Louisiana area.—Fred Followill, University of Mississippi, University.

Missouri, Illinois, Arkansas area.—William J. Stauder, S.J., Saint Louis University, Saint Louis.

Montana.—Stephen W. Nile, Gallatin Gateway.

Nevada.—Allen Ryall, University of Nevada, Reno.

New England.—Francis J. Donohoe, S.J., Daniel J. Linehan, S.J., and James W. Skehan, S.J., Weston College, Weston, Mass.

New Mexico.—Allan R. Sanford, New Mexico Institute of Mining and Technology, Socorro.

New York.—Marc L. Sbar, Lamont-Doherty Geological Observatory, Palisades.

North Carolina.—David M. Stewart, University of North Carolina, Chapel Hill.

Ohio.—Edward J. Walter, John Carroll University, Cleveland.

Oklahoma.—James E. Lawson, Jr., University of Oklahoma, Leonard.

Oregon.—Richard W. Couch, Oregon State University, Corvallis.

Pennsylvania.—Benjamin F. Howell, Jr., Pennsylvania State University, University Park.

South Carolina.—Pradeep Talwani, University of South Carolina, Columbia.

Tennessee.—Berlen C. Moneymaker, Knoxville.

Texas.—James Dorman, University of Texas, Galveston.

Utah.—Kenneth Cook, University of Utah, Salt Lake City.

Virginia.—G. A. Bollinger, Virginia Polytechnic Institute and State University, Blacksburg.

Washington.—Norman Rasmussen, University of Washington, Seattle.

West Virginia.—R. W. Laird, West Virginia University, Morgantown.

Wisconsin.—David E. Willis, University of Wisconsin, Milwaukee.

EPICENTER MAPS

Figure 2 is a plot of all earthquake epicenters listed in table 1. Each earthquake is indicated by a small dot.

Figure 3 is a computer plot of 1974 earthquakes by intensity. Maximum intensities are plotted in Arabic numerals at the location that each occurred. Earthquakes of int. I-IV are represented by dots. Bulletins of the University of California Seismographic Station at Berkeley and the California Institute of Technology Seismological Laboratory at Pasadena should be consulted for additional details on epicenters in California.

The selection of intensity or "felt-area" maps (figs. 4-9) is governed largely by the size of the area affected, the minimum radius generally being about 80 km (50 miles). This means that sharp, localized shocks of intensity VI (which occur mostly in California) may not be shown on such maps, whereas others of intensity V and VI (which occur largely in the Eastern and Central States) often will be illustrated. Numerals on these computer-plotted maps represent the maximum Mercalli intensities at each town.

MAGNITUDE AND INTENSITY RATINGS

Magnitude is a measure of the "size" of an earthquake and is roughly related to the energy release at its focus. Although the magnitude scale has neither "top" nor "bottom" values, the highest ever recorded was magnitude 8.9 and the lowest about −3. On this logarithmic scale, a magnitude 6 shallow-focus earthquake represents elastic-wave energy approximately 30 times greater than that generated by a magnitude 5 earthquake, 900 times greater than that of a magnitude 4 shock, etc. Many factors enter into the determination of earthquake magnitude, including earthquake focal depth, frequency content of the sampled energy, and the earthquake radiation pattern. The magnitude values calculated by USGS in table 1 are based on the following formulae:

$$M_S = \log (A/T) + 1.66 \log D + 3.3, \qquad (1)$$

as adopted by the International Association of Seismology and Physics of the Earth's Interior (IASPEI; Bath, 1966,

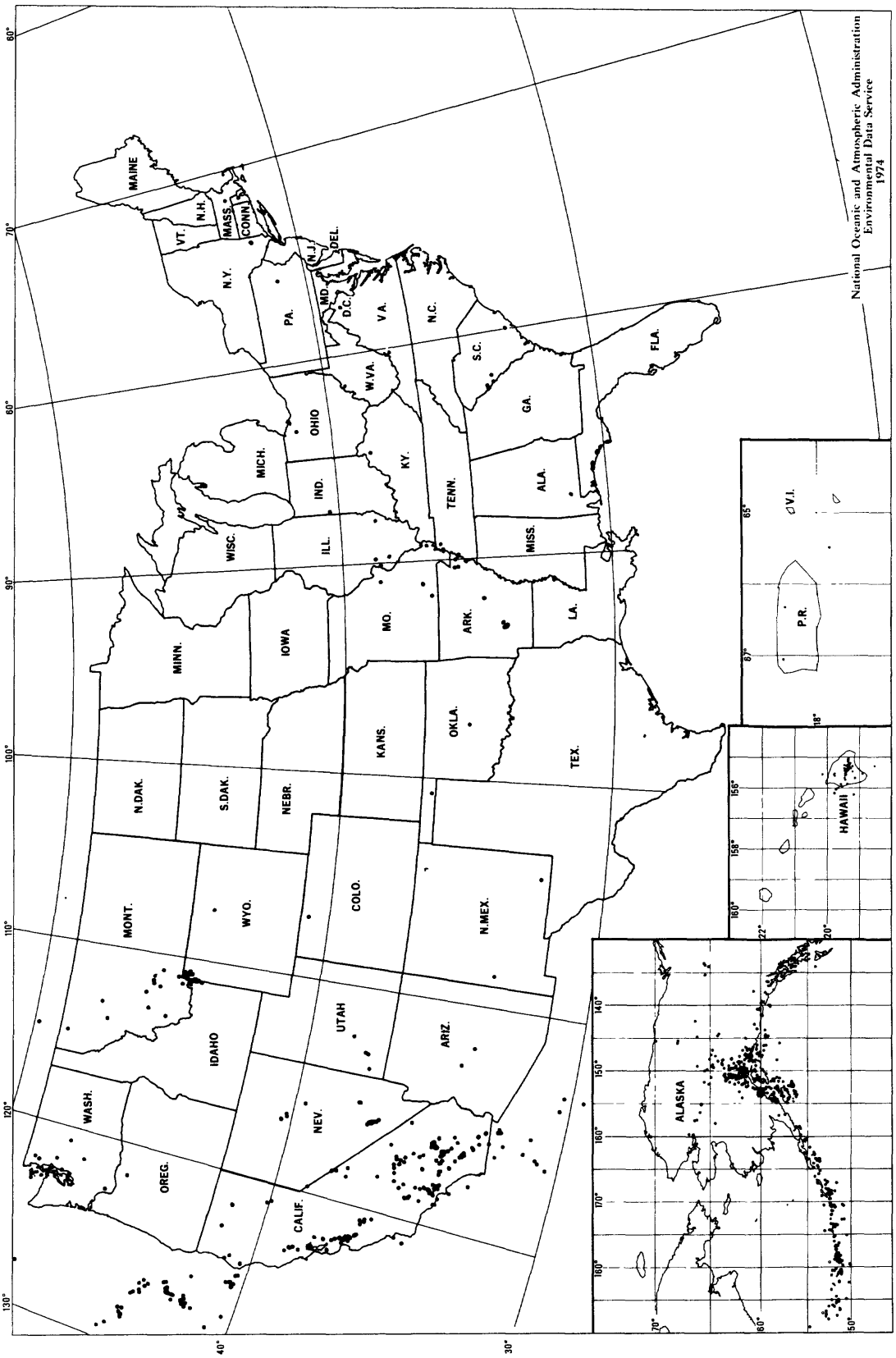

FIGURE 2.-Plot of United States earthquake epicenters in 1974.

p. 153), where A is the maximum horizontal surface-wave ground amplitude, in micrometers; T is the period, in seconds, and $18 \leq T \leq 22$, and D is the distance in geocentric degrees (station to epicenter) and $20° \leq D \leq 160°$. No depth correction is made for depth less than 50 km.

$$m_b = \log (A/T) + Q(D,h), \quad (2)$$

as defined by Gutenberg and Richter (1956), except that T, the period, in seconds, is restricted to $0.1 \leq T \leq 3.0$, and A, the ground amplitude, in micrometers, is not necessarily the maximum of the P-wave group. Q is a function of distance D and depth h, where $D \geq 5°$.

$$M_L = \log A - \log A_0, \quad (3)$$

as defined by Richter (1958, p. 340), where A is the maximum trace amplitude, in millimeters, written by a Wood-Anderson torsion seismometer, and $\log A_0$ is a standard value as a function of distance. M_L values are also calculated from other seismometers by conversion of recorded ground motion to the expected response of the torsion seismometer.

$$m_{bLg} = 3.75 + 0.90 (\log D) + \log (A/T) \quad (4)$$
$$0.5° \leq D \leq 4°,$$

$$m_{bLg} = 3.30 + 1.66 (\log D) + \log (A/T)$$
$$4° \leq D \leq 30°,$$

as proposed by Nuttli (1973), where A/T is expressed in micrometers per second, calculated from the vertical-component 1-second Lg waves, and D is the distance, in geocentric degrees.

References cited above are as follows:

(1) Bath, Markus, 1966, Earthquake Energy and Magnitude, in *Physics and Chemistry of the Earth,* Vol. 7, Oxford and New York, Pergamon Press, pp. 115-165.

(2) Gutenberg, B. and Richter, C.F., 1956, Magnitude and Energy of Earthquakes, *Annali di Geofisica,* Vol. IX, No. 1, pp. 1-15.

(3) Richter, C.F., 1958, *Elementary Seismology,* San Francisco, Calif., W.H. Freeman and Co., Inc., pp. 768.

(4) Nuttli, O.W., 1973, Seismic Wave Attenuation and Magnitude Relations for Eastern North America, *Jour. Geophys. Res.,* Vol. 78, No. 5, pp. 876-885.

The term intensity as applied to earthquakes represents a quantity determined from the effects on people, man-made objects, and the Earth's surface (landslides, ground fissures, etc.). Intensities are assigned according to the descriptions listed in the Modified Mercalli (MM) Intensity Scale of 1931 (Wood and Neumann, 1931; see next section). There are 12 steps to the MM scale; these are discrete steps, which is the reason Roman rather than Arabic numerals are used. An earthquake in a populated area will have different intensities at different localities, owing to the distance from the epicenter of the earthquake, local geological conditions, structural design of buildings, and the magnitude of the earthquake.

The text of this publication gives the intensity for each city where the earthquake was felt and summaries of the strongest effects reported. Each earthquake is further characterized by its maximum intensity, and this is given in the text and in table 1.

Although it is recognized that the Modified Mercalli Intensity Scale is in many instances inadequate for present-day requirements, it has been the guide used by NOAA and the USGS and will continue to be so used until a new scale has been devised and has acceptance in the engineering and seismological communities. As stated above, intensities on the MM scale are discrete numbers. However, bracketed intensities (e.g., VII-VIII) have been used in some cases in the past to describe the effects of earthquakes where the evidence for the higher intensity is less clear. This practice has been abandoned for current earthquakes. For historical earthquakes, questions concerning the interpretation of intensities in such cases or in cases where new data may point to a different maximum intensity should be referred to USGS.

MODIFIED MERCALLI INTENSITY SCALE OF 1931

NOAA's National Geophysical and Solar-Terrestrial Data Center and the USGS report all intensities on the Modified Mercalli Intensity Scale of 1931.[1] The abridged version of this scale is given below. Values in parentheses are equivalent intensities on the Rossi-Forel Scale, which is still used in some countries to evaluate earthquake effects.

ABRIDGED

I. Not felt except by a very few under specially favorable circumstances. (I)

[1]Wood, Harry O. and Neumann, Frank, 1931, Modified Mercalli Intensity Scale of 1931, *Bulletin of the Seismological Society of America,* Vol. 21, No. 4, pp. 277-283.

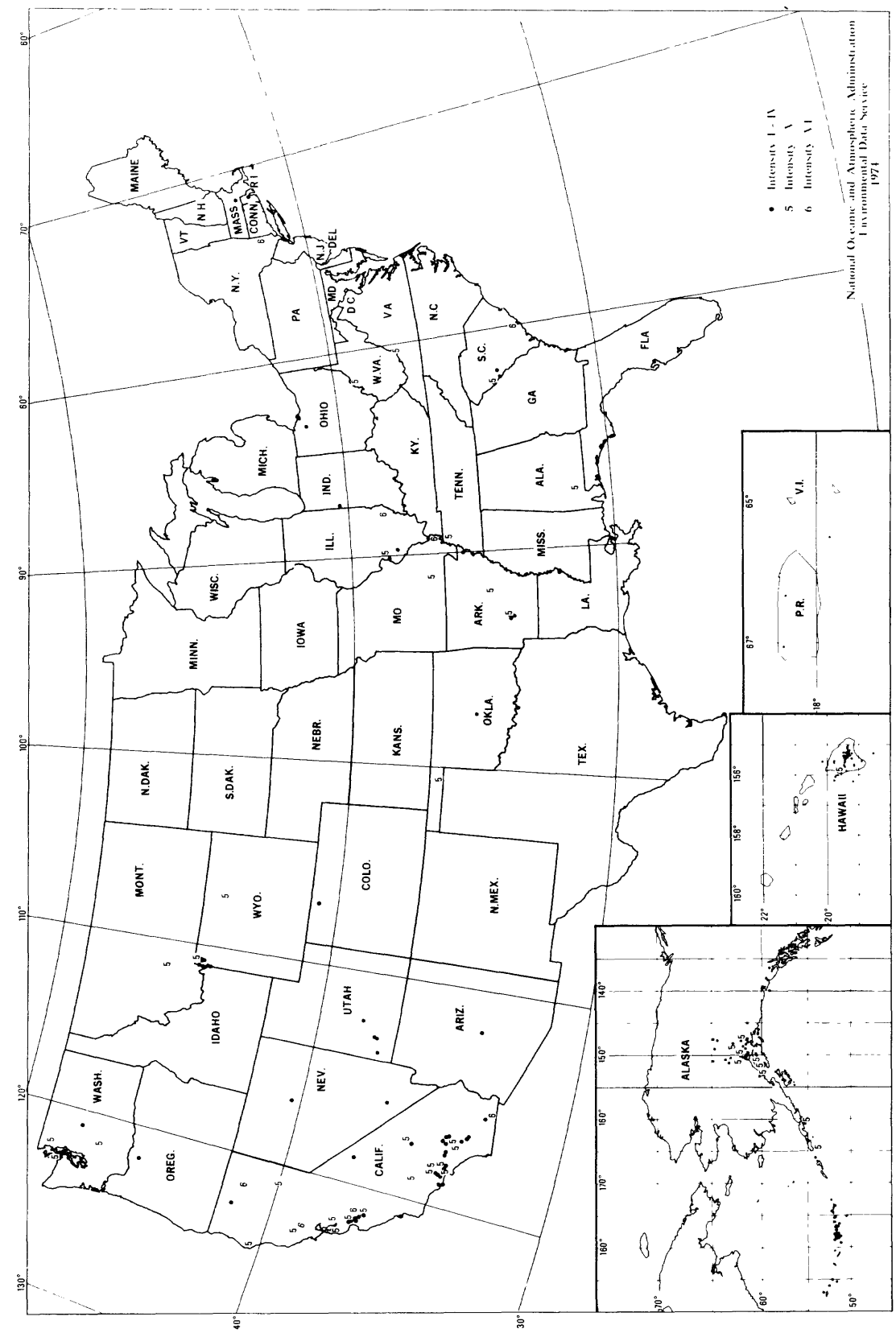

FIGURE 3.-Plot of earthquakes that were felt or caused damage in 1974.

II. Felt only by a few persons at rest, especially on upper floors of buildings. Delicately suspended objects may swing. (I to II)

III. Felt quite noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing motorcars may rock slightly. Vibration like passing of truck. Duration estimated. (III)

IV. During the day, felt indoors by many, outdoors by few. At night, some awakened. Dishes, windows, doors disturbed; walls make creaking sound. Sensation like heavy truck striking building. Standing motorcars rocked noticeably. (IV to V)

V. Felt by nearly everyone. many awakened. Some dishes, windows, etc., broken; a few instances of cracked plaster, unstable objects overturned. Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop. (V to VI)

VI. Felt by all, many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster or damaged chimneys. Damage slight. (VI to VII)

VII. Everybody runs outdoors. Damage *negligible* in buildings of good design and construction; *slight* to *moderate* in well-built ordinary structures; *considerable* in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving motorcars. (VIII−)

VIII. Damage *slight* in specially designed structures; *considerable* in ordinary, substantial buildings, with partial collapse; *great* in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving motorcars disturbed. (VIII+ to IX−)

IX. Damage *considerable* in specially designed structures; well-designed frame structures thrown out of plumb; *great* in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken. (IX+)

X. Some well-built wooden structures destroyed; most masonry and frame structures destroyed with their foundations; ground badly cracked. Rails bent. Landslides considerable from river banks and steep slopes. Shifted sand and mud. Water splashed (slopped) over banks. (X)

XI. Few, if any, (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.

XII. Damage *total*. Waves seen on ground surfaces. Lines of sight and level distorted. Objects thrown upward into air.

Earthquake Descriptions

INTRODUCTION

The times of earthquake occurrences in the 11 regions that follow table 1 are given in standard time. Times are expressed continuously from midnight to midnight, or 0 to 24 hours. Greenwich mean times are given in parentheses, following standard (local) times, for earthquakes with instrumental epicenters. The following symbols are used to indicate authority for arrival or origin times, epicenters, and/or magnitudes. Magnitudes are given only for earthquake listings without epicenters. Refer to table 1 for magnitudes determined for listings with instrumental epicenters.

ADK—NOAA, Adak Observatory, Adak, Alaska.

B—Seismographic Station, University of California, Berkeley.

BLA—Virginia Polytechnic Institute and State University, Blacksburg.

COL—U.S. Geological Survey, College Observatory, College, Alaska.

CON—University of Connecticut, Groton.

CPO—U.S. Geological Survey, Cumberland Plateau Observatory, McMinnville, Tenn.

CSC—University of South Carolina, Columbia.

L—Lamont-Doherty Geological Observatory, Palisades, N.Y.

NED—Delaware Geological Survey, University of Delaware, Newark.

P—Seismological Laboratory, California Institute of Technology, Pasadena.

PMR—NOAA, Palmer Observatory, Palmer, Alaska.

S—University of Washington, Seattle.

SLC—University of Nevada, Salt Lake City.

SLM—Department of Earth and Atmospheric Sciences, Saint Louis University.

TUL—University of Oklahoma, Leonard.

USGS—U.S. Geological Survey, Golden, Colo.

Roman numerals in the earthquake descriptions refer to the Modified Mercalli Intensity Scale of 1931 (see page 6), which gives about equal weight to the disturbance of inanimate objects and to personal reactions. When more than one degree of intensity is reported from a town, the town is assigned the highest intensity reported. Omission of an intensity rating indicates insufficient data. For brevity, intensity is abbreviated int. in the descriptions that follow.

Table 1, which follows the next section, is a chronological listing of all earthquakes and related phenomena located in the U.S. region in 1974. It contains the following information: date/origin time (GMT), geographic location, region of occurrence, intensity, depth, and magnitude(s) computed. Only those earthquakes with intensity designations are described in the 11 regions immediately following table 1. Several instrumentally located earthquakes described in the text are not listed in table 1, as they were reported to NGSDC after the table was prepared. Earthquakes that were not located instrumentally also do not appear in table 1.

SUMMARY OF EARTHQUAKE ACTIVITY

This is a summary of earthquake intensities by region. If no intensity is cited, the intensity is I to III on the Modified Mercalli Intensity Scale of 1931. Intensity II has arbitrarily been assigned to most of these events in table 1. Numbers in parentheses indicate the number of earthquakes occurring on that date.

NORTHEASTERN REGION

New York: June 7, VI.

Rhode Island: Oct. 1, II.

EASTERN REGION

Alabama: Dec. 10, V.

Delaware: Apr. 28, IV. 29 (2).

Georgia: Aug. 2, V. Felt South Carolina earthquake of

Nov. 22, III.

Kentucky: Felt Illinois earthquake of Apr. 3, V. Felt Missouri earthquake of May 13, IV.

North Carolina: May 16. Felt Georgia earthquake of Aug. 2. Felt South Carolina earthquake of Nov. 22, IV. Dec. 9 (2).

South Carolina: Felt Georgia earthquake of Aug. 2, V. Oct. 8; 28, IV. Nov. 4, II; 7, IV; 22, VI. Dec. 3, II.

Tennessee (East): Jan. 11, II.

Virginia: Felt Illinois earthquake of Apr. 3. May 30, V.

West Virginia: Felt Virginia earthquake of May 30, V. Sept. 28 (felt only in Ohio). Oct. 20, V.

Central Region

Arkansas: Felt Tennessee earthquake of Jan. 7. Feb. 15, V; 15 (2), II. Felt Illinois earthquake of Apr. 3. Felt Missouri earthquake of May 13, IV. Dec. 12, V. Dec. 25, II.

Illinois: Felt Tennessee earthquake of Jan. 7. Mar. 27, II. Apr. 3, VI. Felt Missouri earthquake of May 13. June 5, V. Aug. 22, IV.

Indiana: Felt Illinois earthquake of Apr. 3, VI. Nov. 25, II.

Iowa: Jan. 7, IV. Felt Illinois earthquake of Apr. 3, IV.

Kansas: Felt Texas earthquake of Feb. 15, V.

Michigan: Felt Illinois earthquake of Apr. 3, IV.

Missouri: Felt Tennessee earthquake of Jan. 7, V. Felt Illinois earthquake of Mar. 27, II and Apr. 3, V. Apr. 5, II. May 13, VI. Felt Illinois earthquake of June 5, V. Aug. 11, V.

Ohio: Felt Illinois earthquake of Apr. 3, V. Felt West Virginia earthquakes of Sept. 28, II and Oct. 20, V.

Oklahoma: Felt Texas earthquake of Feb. 15, V. Dec. 15, III.

Tennessee (West): Jan. 7, V. Felt Illinois earthquake of Apr. 3. Felt Missouri earthquake of May 13, V.

Texas: Feb. 15, V.

Wisconsin: Felt Illinois earthquake of Apr. 3.

Western Mountain Region

Arizona: Felt California-Mexico border area earthquake of Dec. 6. Dec. 19, III. Dec. 23, II.

Colorado: Mar. 31, II.

Montana: June 8, II. July 15, V. Felt Wyoming earthquake of Aug. 30. Aug. 30 (5), II. Sept. 1 (18). Oct. 19, II.

Nevada: Mar. 18, II; 18, IV; 18.

Utah: Mar. 9, II. Apr. 16; 28, II; 29, II. Nov. 4, II. Dec. 28, IV.

Wyoming: Felt Montana earthquake of June 8. Aug. 30, V. Sept. 19, V. Oct. 17-20 (numerous), II. Oct. 22, IV. Nov. 27, III. Dec. 1, II.

California And Western Nevada

California: Int. V and above. Jan. 6, VI; 10, V; 23, V; 30, V. Mar. 8, V; 12, V; 21, VI; 24, V; 31, V. Apr. 8, V. May 27, V. June 9, V; 12, V. July 2, V. Aug. 9, V; 14, V. Sept. 21, V. Oct. 22, V. Nov. 10, V; 28, VI. Dec. 6 (2), V; 29, V.

Nevada (Western): May 29, II.

Washington And Oregon

Oregon: Dec. 12, IV.

Washington: Apr. 19, V. May 16, V; 22, II; 24, II. July 14, IV; 28, IV. Aug. 15, II. Nov. 1, II; 30, II. Felt Oregon earthquake of Dec. 12, III. Dec. 15, V; 15, III.

Alaska

Int. V and above. Jan. 24, V. Feb. 4, V; 5, V. Apr. 5 (2), V. July 13, V; 29, V. Aug. 12, V. Sept. 9, V; 11, V. Nov. 10, V; 14, V. Dec. 29 (2), V.

Hawaii

Int. V and above. Feb. 4, V. June 19, V. Dec. 15, V; 31, V.

Panama Canal Zone

Dec. 19.

Puerto Rico

Felt Dominican Republic earthquake of Jan. 18. Mar. 16. Aug. 29. Oct. 8, V; 26.

NORTHEASTERN REGION

[Time given in this region is eastern standard. If an epicenter is quoted, Greenwich mean time is given in parentheses. This region includes Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont.]

June 7. 14:45:36.8 (19:45). Epicenter 41.57° N., 73.94° W., New York, at a depth of about 2 km, L. Int. VI. Minor damage (broken windows) was reported in Wappingers Falls area. The press reported a bookcase toppled in one home. Over 100 aftershocks were recorded in the 6-day period following the earthquake. A complete report has been published by Pomeroy, et al. (1976)*.

Oct. 1. 01:36:21 (06:36). Epicenter 41.66°N., 71.55° W., southern New England, vicinity of West Warwick, R.I., CON. Int. II in the Coventry-West Warwick, R.I., area.

*Pomeroy, P. W., Simpson, D. W., and Sbar, M. L., 1976, The Wappingers Falls Earthquake of June 7, 1974 and Its Aftershocks, *Bulletin of the Seismological Society of America*, Vol. 66, 1976, in press

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974

(SOURCE. PRELIMINARY DETERMINATION OF EPICENTERS MONTHLY LISTING, PUBLISHED BY U.S. GEOLOGICAL SURVEY.)

DATE	ORIGIN TIME G.M.T. H	M	S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY		DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
JAN 01	18	28	19.0	41.97N	126.74W	OFF COAST OF OREGON			033	4.7			
JAN 01	18	37	24.6	19.05N	064.94W	VIRGIN ISLANDS			057	4.6			
JAN 02	09	50	06.3	60.48N	149.18W	KENAI PENINSULA, ALASKA			033				3.0PMR
JAN 02	13	49	56.8	35.53N	117.23W	CENTRAL CALIFORNIA			008	4.2			4.2PAS
JAN 02	16	27	51.6	19.23N	155.46W	HAWAII		II	010			3.8	
JAN 05	14	00	56.8	52.17N	171.42W	FOX ISLANDS, ALEUTIAN ISLANDS			041	5.4	4.7		
JAN 05	15	16	14.1	42.30N	126.61W	OFF COAST OF OREGON			033	4.0			
JAN 05	15	24	05.0	42.32N	126.87W	OFF COAST OF OREGON			033	4.3			
JAN 05	15	30	24.2	42.56N	126.45W	OFF COAST OF OREGON			033	4.0			
JAN 05	15	37	33.7	42.63N	126.42W	OFF COAST OF OREGON			033	4.6	4.7		
JAN 05	15	54	03.3	42.48N	126.60W	OFF COAST OF OREGON			033	4.9	5.1		
JAN 05	16	25	56.1	42.37N	126.60W	OFF COAST OF OREGON			033	4.2			
JAN 05	17	43	02.1	42.58N	126.33W	OFF COAST OF OREGON			033	4.3	3.9		
JAN 05	23	23	56.7	42.52N	126.60W	OFF COAST OF OREGON			033	4.4	4.0		
JAN 05	23	29	18.6	42.59N	126.58W	OFF COAST OF OREGON			022	5.0	4.6		
JAN 06	11	29	38.0	59.01N	140.18W	SOUTHEASTERN ALASKA			015	3.7			4.2PMR
JAN 06	11	49	22.6	59.03N	140.00W	SOUTHEASTERN ALASKA			033	3.3			4.1PMR
JAN 06	13	55	23.2	41.12N	121.49W	NORTHERN CALIFORNIA	DAMAGE	VI	005	4.5			4.1BRK
JAN 06	23	17	35.3	40.36N	126.81W	OFF COAST OF NORTHERN CALIFORNIA			033	4.5			4.3BRK
JAN 07	02	42	56.1	58.94N	152.70W	KODIAK ISLAND REGION			061	3.8			
JAN 07	08	27	03.5	59.81N	153.72W	SOUTHERN ALASKA			128	4.9			

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H	M	S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
JAN 07	17	47	03.0	64.88N	147.56W	CENTRAL ALASKA	III	010				
JAN 08	01	12	37.4	36.20N	089.39W	TENNESSEE	V	001	4.1			4.3SLM
JAN 08	09	59	02.9	32.33N	116.32W	CALIFORNIA-MEXICO BORDER REGION		008				3.5PAS
JAN 08	14	54	43.5	19.31N	155.22W	HAWAII	II	008			3.7	
JAN 08	22	13	01.6	63.12N	149.83W	CENTRAL ALASKA		092				
JAN 10	00	02	29.9	53.06N	174.44W	ANDREANOF ISLANDS, ALEUTIAN IS.		207	4.5			
JAN 10	11	22	24.9	36.96N	121.61W	CENTRAL CALIFORNIA	V	010	4.4			4.4BRK
JAN 12	16	04	33.9	19.34N	155.03W	HAWAII	II	007	4.8		4.7	
JAN 14	04	46	37.9	62.25N	151.81W	CENTRAL ALASKA		112				
JAN 16	08	06	46.5	19.78N	155.60W	HAWAII	II	036			4.4	
JAN 17	00	55	35.2	19.46N	065.00W	PUERTO RICO REGION		033	4.2	4.0		
JAN 18	16	52	43.1	18.80N	069.40W	DOMINICAN REPUBLIC REGION	II	082	5.3			
JAN 19	08	53	39.1	52.94N	167.98W	FOX ISLANDS, ALEUTIAN ISLANDS		059	5.0			
JAN 19	13	13	37.2	34.38N	117.05W	SOUTHERN CALIFORNIA	IV	000	3.1			3.9PAS
JAN 20	04	17	37.2	62.57N	150.70W	CENTRAL ALASKA		089	3.6			
JAN 20	20	27	50.2	19.15N	155.69W	HAWAII	II	006			3.2	
JAN 21	14	10	10.4	53.91N	163.67W	UNIMAK ISLAND REGION		033	4.2			
JAN 22	01	30	40.9	63.85N	148.97W	CENTRAL ALASKA		122				
JAN 22	04	09	45.2	60.85N	150.02W	KENAI PENINSULA, ALASKA		050	3.4			
JAN 22	10	43	04.2	60.13N	153.34W	SOUTHERN ALASKA		152	4.6			
JAN 22	11	13	46.0	61.94N	152.15W	SOUTHERN ALASKA		115	3.8			
JAN 23	01	37	58.0	36.40N	120.42W	CENTRAL CALIFORNIA		010				3.1BRK

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H	M	S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
JAN 23	06	15	25.8	32.13N	115.80W	CALIFORNIA-MEXICO BORDER REGION		008				3.5PAS
JAN 23	20	19	30.2	57.82N	153.71W	KODIAK ISLAND REGION		053	3.9			
JAN 23	22	39	28.3	58.66N	153.29W	KODIAK ISLAND REGION		062	4.0			
JAN 24	05	02	00.8	35.07N	119.03W	CENTRAL CALIFORNIA	V	008	4.1			3.4PAS
JAN 24	14	33	08.6	52.66N	168.06W	FOX ISLANDS, ALEUTIAN ISLANDS		033	4.2			
JAN 24	15	52	08.6	60.17N	152.90W	SOUTHERN ALASKA		113				
JAN 24	18	43	26.8	61.59N	147.63W	SOUTHERN ALASKA	V	040	4.8			5.1PMR
JAN 24	20	17	24.6	61.47N	147.43W	SOUTHERN ALASKA		020				3.0PMR
JAN 24	20	44	13.2	61.49N	147.49W	SOUTHERN ALASKA		030				3.6PMR
JAN 24	21	54	23.9	61.50N	147.44W	SOUTHERN ALASKA		032				3.2PMR
JAN 24	22	47	41.7	61.45N	147.44W	SOUTHERN ALASKA		029				3.8PMR
JAN 25	01	00	21.3	61.53N	147.60W	SOUTHERN ALASKA	II	028				3.6PMR
JAN 26	03	11	20.9	52.30N	171.40W	FOX ISLANDS, ALEUTIAN ISLANDS		054	5.3			
JAN 26	12	36	26.4	35.02N	117.07W	CENTRAL CALIFORNIA		008				3.0PAS
JAN 26	16	15	46.0	62.46N	151.22W	CENTRAL ALASKA		106				
JAN 27	04	39	37.7	59.35N	136.37W	SOUTHEASTERN ALASKA		029	4.0			3.8PMR
JAN 28	05	58	49.7	61.57N	147.62W	SOUTHERN ALASKA		026				3.5PMR
JAN 30	00	38	41.1	32.65N	115.82W	CALIFORNIA-MEXICO BORDER REGION		008				3.1PAS
JAN 30	07	06	31.3	33.50N	116.52W	SOUTHERN CALIFORNIA		008				3.1PAS
JAN 31	01	20	41.3	63.81N	149.09W	CENTRAL ALASKA		126				
JAN 31	06	05	28.8	34.05N	117.03W	SOUTHERN CALIFORNIA	V	008	3.8			4.0PAS
JAN 31	14	35	11.9	63.02N	151.00W	CENTRAL ALASKA		128	3.7			

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H	M	S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
JAN 31	15	09	27.7	61.93N	148.67W	SOUTHERN ALASKA	II	066				
JAN 31	19	40	38.5	61.63N	151.92W	SOUTHERN ALASKA		103				
JAN 31	19	55	26.2	52.36N	168.74W	FOX ISLANDS, ALEUTIAN ISLANDS		036	5.6	5.0		
JAN 31	20	15	54.6	52.25N	168.78W	FOX ISLANDS, ALEUTIAN ISLANDS		044	4.8			
FEB 01	01	37	09.4	32.30N	115.23W	CALIFORNIA-MEXICO BORDER REGION		008				4.1PAS
FEB 01	01	55	12.7	32.38N	115.12W	CALIFORNIA-MEXICO BORDER REGION		008				3.7PAS
FEB 01	03	27	51.0	36.78N	121.57W	CENTRAL CALIFORNIA	IV	004				3.5BRK
FEB 01	09	02	17.7	62.14N	147.83W	CENTRAL ALASKA	III	063	3.5			
FEB 02	14	36	02.1	61.46N	147.47W	SOUTHERN ALASKA	II	069	3.8			
FEB 02	15	55	28.3	61.60N	147.60W	SOUTHERN ALASKA	II	048	5.1	4.7		
FEB 04	14	06	50.6	60.02N	152.92W	SOUTHERN ALASKA		111	3.7			
FEB 05	02	25	22.0	62.70N	148.85W	CENTRAL ALASKA	V	075	5.0			
FEB 05	04	16	54.0	19.54N	155.90W	HAWAII	V	008	4.1		4.3	
FEB 05	12	59	29.4	60.13N	147.70W	SOUTHERN ALASKA		035	3.6			3.5PMR
FEB 05	16	01	27.4	19.15N	155.67W	HAWAII	II	003			3.7	
FEB 06	02	32	03.4	40.37N	125.24W	OFF COAST OF NORTHERN CALIFORNIA		018	4.9			4.0BRK
FEB 06	04	04	07.2	53.80N	164.67W	UNIMAK ISLAND REGION	V	002	5.9	6.5		6.3PAS
FEB 06	07	26	13.0	45.11N	111.01W	MONTANA		033				
FEB 06	14	39	25.0	19.67N	156.00W	HAWAII	II	030			3.5	
FEB 06	22	22	32.3	61.45N	147.46W	SOUTHERN ALASKA		059				
FEB 07	13	51	54.8	59.17N	137.03W	SOUTHEASTERN ALASKA		033	4.0			
FEB 08	11	56	39.5	19.49N	155.26W	HAWAII	II	024			3.3	

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY		DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
FEB 08	17 19 59.1	30.26N	113.28W	GULF OF CALIFORNIA			033	4.4			
FEB 08	22 05 44.7	37.38N	121.76W	CENTRAL CALIFORNIA		II	007				3.3BRK
FEB 10	16 58 29.3	61.36N	150.23W	SOUTHERN ALASKA			033				2.8PMR
FEB 10	21 25 11.7	50.82N	172.68W	ANDREANOF ISLANDS, ALEUTIAN IS.			033	4.5			
FEB 10	22 05 46.2	59.13N	152.50W	SOUTHERN ALASKA			061	4.6			
FEB 11	03 45 16.5	53.82N	167.12W	FOX ISLANDS, ALEUTIAN ISLANDS			079	4.2			
FEB 11	05 30 19.7	67.98N	145.80W	ALASKA			033	3.7			
FEB 11	12 10 26.3	33.43N	116.53W	SOUTHERN CALIFORNIA			012	4.3			3.4PAS
FEB 11	12 11 15.2	33.50N	116.62W	SOUTHERN CALIFORNIA			012				3.4PAS
FEB 11	12 20 56.9	34.10N	118.27W	SOUTHERN CALIFORNIA		IV	012				3.4PAS
FEB 11	15 57 15.1	67.92N	145.44W	ALASKA			080				
FEB 12	04 17 03.3	59.81N	141.55W	SOUTHEASTERN ALASKA			059				
FEB 14	06 43 59.1	60.40N	152.72W	SOUTHERN ALASKA			129				
FEB 14	09 56 58.4	34.28N	116.83W	SOUTHERN CALIFORNIA			008				3.0PAS
FEB 15	06 06 28.5	63.14N	150.76W	CENTRAL ALASKA			126	4.5			
FEB 15	06 52 48.5	61.58N	151.50W	SOUTHERN ALASKA			091				
FEB 15	11 46 23.7	19.16N	064.16W	VIRGIN ISLANDS			003	4.4			
FEB 15	13 33 49.2	36.50N	100.69W	TEXAS PANHANDLE REGION	DAMAGE	V°	024	4.5			4.6SLM
FEB 15	14 44 29.3	34.42N	118.38W	SOUTHERN CALIFORNIA		II	008				3.7PAS
FEB 15	22 35 44.7	34.05N	093.13W	ARKANSAS		II	001	4.2			3.6SLM
FEB 15	22 49 01.8	33.96N	093.03W	ARKANSAS	DAMAGE	V	001	3.8			4.0SLM
FEB 15	22 53 02.2	33.92N	093.02W	ARKANSAS		II	001				2.8SLM

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
FEB 16	03 38 55.5	33.95N	093.09W	ARKANSAS		001				1.6SLM
FEB 16	09 43 13.7	33.95N	093.09W	ARKANSAS		001				1.8SLM
FEB 16	09 44 35.2	34.00N	093.13W	ARKANSAS		001				2.3SLM
FEB 16	16 09 51.9	64.76N	146.82W	CENTRAL ALASKA		022				2.9PMR
FEB 16	17 52 52.0	51.26N	179.29W	ANDREANOF ISLANDS, ALEUTIAN IS.	II	033	4.2			4.9ADK
FEB 17	21 19 53.1	53.65N	163.54W	UNIMAK ISLAND REGION		033	4.7			
FEB 18	13 34 05.0	51.77N	179.77E	RAT ISLANDS, ALEUTIAN ISLANDS		139	4.7			
FEB 19	06 07 55.1	33.78N	116.07W	SOUTHERN CALIFORNIA		008				3.1PAS
FEB 19	06 42 05.3	33.03N	117.83W	SOUTHERN CALIFORNIA		008				3.0PAS
FEB 19	21 02 31.7	65.92N	156.37W	ALASKA		033	3.7			4.1PMR
FEB 20	14 07 27.9	64.78N	149.27W	CENTRAL ALASKA		033				3.4PMR
FEB 21	04 38 24.9	33.00N	115.93W	SOUTHERN CALIFORNIA		008				3.1PAS
FEB 21	16 28 04.2	60.33N	140.59W	SOUTHEASTERN ALASKA		033	4.1			3.9PMR
FEB 23	03 40 38.2	59.44N	152.46W	SOUTHERN ALASKA		109				
FEB 23	08 09 45.8	60.66N	142.86W	SOUTHERN ALASKA		130	3.9			
FEB 23	19 07 54.2	61.36N	146.58W	SOUTHERN ALASKA		020				3.0PMR
FEB 24	07 53 45.2	35.82N	090.38W	ARKANSAS		006				3.2SLM
FEB 24	08 44 57.0	63.48N	151.34W	CENTRAL ALASKA		076				
FEB 24	14 56 54.0	53.41N	169.10W	FOX ISLANDS, ALEUTIAN ISLANDS		098	4.5			
FEB 24	20 55 51.5	63.83N	148.38W	CENTRAL ALASKA		015				3.2PMR
FEB 26	23 16 21.9	43.85N	128.41W	OFF COAST OF OREGON		033	4.6			
FEB 26	23 20 24.2	43.97N	128.32W	OFF COAST OF OREGON		033	4.4			

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
FEB 27	03 42 01.4	43.88N	128.44W	OFF COAST OF OREGON		015	5.0	4.9		
FEB 27	03 43 19.2	43.85N	128.55W	OFF COAST OF OREGON		033	5.0			
FEB 27	03 45 26.1	43.90N	128.08W	OFF COAST OF OREGON		033	4.9			
FEB 27	17 00 00.1	37.10N	116.05W	SOUTHERN NEVADA		000	5.8			5.0PAS
FEB 28	14 59 47.3	51.42N	179.34W	ANDREANOF ISLANDS, ALEUTIAN IS.		056	4.8			
FEB 28	19 19 21.9	53.01N	166.66W	FOX ISLANDS, ALEUTIAN ISLANDS		033	5.0			
MAR 01	06 25 37.0	52.62N	168.09W	FOX ISLANDS, ALEUTIAN ISLANDS		018	4.3			
MAR 01	08 00 34.8	61.19N	148.51W	SOUTHERN ALASKA		051	3.3			
MAR 01	14 11 13.7	58.32N	151.00W	KODIAK ISLAND REGION		033	3.9			3.5PMR
MAR 02	06 34 24.8	66.22N	157.48W	ALASKA		046				
MAR 02	08 28 25.4	37.27N	121.66W	CENTRAL CALIFORNIA		007				3.4BRK
MAR 02	20 10 04.6	61.08N	148.18W	SOUTHERN ALASKA		054	3.3			
MAR 03	11 37 36.8	41.88N	125.45W	OFF COAST OF NORTHERN CALIFORNIA		033	5.1			4.4BRK
MAR 03	16 29 02.5	34.35N	118.53W	SOUTHERN CALIFORNIA		008				3.0PAS
MAR 03	17 58 55.8	62.04N	149.45W	CENTRAL ALASKA		067	3.8			
MAR 04	03 33 47.5	62.17N	153.23W	CENTRAL ALASKA		033				3.2PMR
MAR 04	06 54 33.7	60.11N	140.67W	SOUTHEASTERN ALASKA		037	3.9			3.6PMR
MAR 04	09 53 17.5	65.81N	155.21W	ALASKA		021				3.8PMR
MAR 04	14 24 27.8	35.68N	090.35W	ARKANSAS		005				3.0SLM
MAR 04	18 17 34.1	43.54N	126.89W	OFF COAST OF OREGON		033	5.0			
MAR 04	18 56 23.0	59.51N	152.78W	SOUTHERN ALASKA		122	4.0			
MAR 05	10 25 57.4	62.48N	149.28W	CENTRAL ALASKA		091				

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
MAR 05	12 11 28.3	62.78N	150.66W	CENTRAL ALASKA		097	3.6			
MAR 05	23 58 31.7	62.13N	149.81W	CENTRAL ALASKA		063	3.8			
MAR 06	15 15 45.6	59.92N	153.89W	SOUTHERN ALASKA		172				
MAR 07	03 25 38.6	40.81N	127.57W	OFF COAST OF NORTHERN CALIFORNIA		033	4.5			3.8BRK
MAR 09	00 54 13.6	34.38N	118.42W	SOUTHERN CALIFORNIA	II	008				3.4PAS
MAR 09	00 54 31.6	34.38N	118.43W	SOUTHERN CALIFORNIA	V	008	4.7			4.5PAS
MAR 09	01 22 52.6	34.37N	118.45W	SOUTHERN CALIFORNIA		008				3.0PAS
MAR 09	04 19 09.4	34.38N	118.43W	SOUTHERN CALIFORNIA		008				3.2PAS
MAR 09	14 18 52.3	61.40N	149.62W	SOUTHERN ALASKA	II	042				
MAR 10	00 12 40.4	50.53N	175.11W	ANDREANOF ISLANDS, ALEUTIAN IS.	II	028	4.7			4.8AOK
MAR 10	01 50 21.3	37.57N	113.68W	UTAH	II	002				
MAR 10	04 34 19.7	36.21N	089.53W	NEW MADRID, MISSOURI REGION		005				2.5SLM
MAR 10	10 00 14.1	63.16N	150.50W	CENTRAL ALASKA	II	117	4.5			
MAR 12	05 17 15.6	44.06N	128.11W	OFF COAST OF OREGON		026	4.5	3.9		
MAR 12	07 35 46.0	34.10N	118.20W	SOUTHERN CALIFORNIA	IV	008				3.0PAS
MAR 12	10 15 41.2	54.31N	162.41W	ALASKA PENINSULA		056	4.0			
MAR 12	12 30 28.6	35.66N	089.79W	TENNESSEE		005				3.2SLM
MAR 12	12 45 28.1	37.29N	122.32W	CENTRAL CALIFORNIA	V	011	3.3			3.8BRK
MAR 12	15 37 29.5	34.82N	117.58W	SOUTHERN CALIFORNIA		008				3.4PAS
MAR 14	08 29 35.1	51.71N	167.07W	FOX ISLANDS, ALEUTIAN ISLANDS		033	4.5			
MAR 14	18 46 09.5	60.78N	151.17W	KENAI PENINSULA, ALASKA		039	4.1			4.0PMR
MAR 14	20 59 57.2	34.25N	112.70W	WESTERN ARIZONA		000	4.1			

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
MAR 15	20 27 30.8	65.57N	151.72W	ALASKA		026				3.2PMR
MAR 16	12 02 02.3	18.45N	067.05W	MONA PASSAGE	II	096	4.3			
MAR 16	13 11 14.8	52.20N	179.50E	RAT ISLANDS, ALEUTIAN ISLANDS		168	4.7			
MAR 16	15 57 41.8	40.34N	124.72W	NEAR COAST OF NORTHERN CALIF.	IV	033	4.7			
MAR 16	16 24 21.1	37.00N	121.74W	CENTRAL CALIFORNIA		009				3.5BRK
MAR 17	14 55 16.4	57.36N	152.96W	KODIAK ISLAND REGION		064	3.8			
MAR 17	15 30 36.4	58.02N	145.76W	GULF OF ALASKA		033				3.6PMR
MAR 18	07 57 58.6	18.37N	068.49W	MONA PASSAGE		137	4.0			
MAR 18	12 14 26.0	40.17N	116.70W	NEVADA	IV	005				4.3NRR
MAR 18	12 54 57.0	40.20N	116.58W	NEVADA	II	005				4.1NRR
MAR 19	11 53 04.6	60.62N	152.75W	SOUTHERN ALASKA		120	3.7			
MAR 20	15 35 58.6	52.36N	171.99W	ANDREANOF ISLANDS, ALEUTIAN IS.		088	4.3			
MAR 21	11 41 36.6	66.18N	144.80W	ALASKA		047	3.4			
MAR 21	21 16 05.3	38.60N	122.66W	NORTHERN CALIFORNIA	DAMAGE VI	002	3.8			3.3BRK
MAR 21	22 50 05.7	34.15N	117.47W	SOUTHERN CALIFORNIA	IV	008				3.0PAS
MAR 21	23 01 30.9	61.70N	150.93W	SOUTHERN ALASKA		071	3.7			
MAR 22	01 23 56.3	51.91N	168.36W	FOX ISLANDS, ALEUTIAN ISLANDS		033	4.0			
MAR 22	05 45 19.0	53.70N	163.43W	UNIMAK ISLAND REGION		033	4.9			
MAR 22	07 04 06.2	53.62N	163.37W	UNIMAK ISLAND REGION		033	5.1	4.6		
MAR 22	07 49 55.1	61.04N	147.36W	SOUTHERN ALASKA		041	3.4			3.3PMR
MAR 23	09 46 33.8	38.92N	077.78W	VIRGINIA		002				2.5BLA
MAR 23	17 36 47.0	30.35N	113.83W	GULF OF CALIFORNIA		033	4.3			

SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H	M	S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
MAR 23	18	29	29.6	61.64N	149.62W	SOUTHERN ALASKA		053				
MAR 23	19	09	40.9	42.68N	126.09W	OFF COAST OF OREGON		033	4.5			
MAR 24	02	40	33.9	58.77N	151.25W	KODIAK ISLAND REGION		016	3.7			
MAR 24	09	39	07.7	19.29N	155.19W	HAWAII	II	007			3.5	
MAR 24	15	04	45.6	44.63N	110.79W	YELLOWSTONE NATIONAL PARK, WYO.		033	3.8			
MAR 24	15	07	49.0	44.64N	110.80W	YELLOWSTONE NATIONAL PARK, WYO.		033				
MAR 24	16	57	09.0	37.55N	121.85W	CENTRAL CALIFORNIA	V	008				3.4BRK
MAR 24	22	57	07.7	44.50N	111.08W	HEBGEN LAKE REGION		033				
MAR 26	06	56	30.4	62.47N	151.00W	CENTRAL ALASKA		034	3.5			3.2PMR
MAR 26	08	11	36.9	52.46N	170.60W	FOX ISLANDS, ALEUTIAN ISLANDS		040	4.2			
MAR 26	16	56	34.0	64.89N	150.99W	CENTRAL ALASKA	III	033				3.2PMR
MAR 27	06	47	57.3	34.48N	116.48W	SOUTHERN CALIFORNIA		000	3.7			4.0PAS
MAR 27	07	04	27.6	34.48N	116.50W	SOUTHERN CALIFORNIA		000	4.0			4.5PAS
MAR 27	16	01	31.1	52.15N	174.16E	NEAR ISLANDS, ALEUTIAN ISLANDS		045	4.4			
MAR 27	16	10	56.3	38.55N	090.13W	ILLINOIS	II	010	5.6			2.4SLM
MAR 27	16	28	47.3	50.11N	179.66W	ANDREANOF ISLANDS, ALEUTIAN IS.		037	5.6	4.8		
MAR 27	17	22	53.7	33.93N	115.85W	SOUTHERN CALIFORNIA		002				3.4PAS
MAR 28	01	56	26.9	42.60N	126.39W	OFF COAST OF OREGON		033	4.6			
MAR 28	04	19	00.5	60.64N	151.62W	KENAI PENINSULA, ALASKA		053				
MAR 28	08	58	53.6	18.91N	155.54W	HAWAII	II	042			4.0	
MAR 28	17	52	26.8	52.51N	174.30W	ANDREANOF ISLANDS, ALEUTIAN IS.		201	4.3			
MAR 29	21	50	35.3	57.59N	153.92W	KODIAK ISLAND REGION	IV	044	5.7	5.2		5.5PMR

SEE FOOTNOTES AT END OF TABLE

ABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY		DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
AR 30	02 08 40.3	57.77N	153.43W	KODIAK ISLAND REGION			060	4.0			
AR 30	06 46 39.2	61.70N	151.00W	SOUTHERN ALASKA			083	3.5			
AR 31	11 20 48.8	34.02N	118.70W	SOUTHERN CALIFORNIA			008				3.1PAS
AR 31	11 58 47.1	40.70N	107.05W	COLORADO		II	005			3.5	
AR 31	15 34 24.7	51.71N	177.29W	ANDREANOF ISLANDS, ALEUTIAN IS.		IV	061	4.4			
AR 31	16 56 22.2	52.89N	173.24E	NEAR ISLANDS, ALEUTIAN ISLANDS			073	4.1			
AR 31	23 06 18.1	36.94N	121.60W	CENTRAL CALIFORNIA		V	008	3.5			3.6BRK
PR 01	14 07 22.1	33.48N	116.43W	SOUTHERN CALIFORNIA			008				3.2PAS
PR 01	23 16 57.4	63.13N	150.78W	CENTRAL ALASKA			115				
PR 02	11 19 30.6	62.98N	150.54W	CENTRAL ALASKA			108				
PR 02	19 08 04.1	59.67N	146.85W	GULF OF ALASKA			048	3.3			
PR 03	16 10 17.9	62.19N	148.59W	CENTRAL ALASKA			087				
PR 03	16 34 13.5	61.79N	149.51W	SOUTHERN ALASKA			048				
PR 03	23 05 02.5	38.59N	088.09W	SOUTHERN ILLINOIS	DAMAGE	VI	011	4.5			4.7SLM
PR 04	21 42 15.3	19.35N	155.27W	HAWAII		II	026			4.0	
PR 05	08 53 44.6	51.38N	177.69E	RAT ISLANDS, ALEUTIAN ISLANDS			080	4.1			
PR 05	10 42 50.7	34.53N	116.45W	SOUTHERN CALIFORNIA			008				4.0PAS
PR 05	14 24 43.3	61.47N	146.42W	SOUTHERN ALASKA			023				3.0PMR
PR 05	19 41 11.2	38.59N	090.91W	EASTERN MISSOURI		II	001				2.6SLM
PR 05	19 49 46.0	62.07N	149.67W	CENTRAL ALASKA			052				
PR 06	01 53 47.3	55.10N	160.44W	ALASKA PENINSULA	DAMAGE	V	027	5.7	5.1		
PR 06	02 27 21.8	55.34N	160.60W	ALASKA PENINSULA		II	033	4.3			

SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
APR 06	03 56 81.8	55.12N	160.44W	ALASKA PENINSULA	V	040	6.0	5.3		
APR 06	05 12 26.4	57.80N	153.50W	KODIAK ISLAND REGION		053	4.6			
APR 07	11 09 30.5	40.37N	125.31W	OFF COAST OF NORTHERN CALIFORNIA		033	4.5			3.8BRK
APR 07	16 35 15.1	60.03N	152.63W	SOUTHERN ALASKA		124				
APR 08	11 14 19.8	58.32N	154.89W	ALASKA PENINSULA		085	4.0			
APR 09	16 52 35.7	62.93N	149.59W	CENTRAL ALASKA		129				
APR 09	20 51 11.0	51.36N	177.82E	RAT ISLANDS, ALEUTIAN ISLANDS		037	4.7	4.7		
APR 10	01 28 15.9	52.52N	168.74W	FOX ISLANDS, ALEUTIAN ISLANDS		015	4.6			
APR 10	03 55 59.5	58.32N	148.34W	GULF OF ALASKA		060	3.6			
APR 10	04 40 42.1	60.20N	152.75W	SOUTHERN ALASKA		129				
APR 11	06 53 04.7	52.02N	170.53W	FOX ISLANDS, ALEUTIAN ISLANDS		033	4.5			
APR 13	05 38 05.8	18.65N	067.50W	MONA PASSAGE		088	4.2			
APR 13	13 35 24.8	58.81N	153.70W	KODIAK ISLAND REGION		019	4.3			4.4PMR
APR 14	04 07 19.6	54.76N	170.85E	NEAR ISLANDS, ALEUTIAN ISLANDS		040	4.2			
APR 14	13 32 15.6	44.85N	111.00W	HEBGEN LAKE REGION		003				
APR 15	16 27 35.5	59.19N	136.43W	SOUTHEASTERN ALASKA	IV	007	4.2			4.0PMR
APR 16	18 06 29.7	51.73N	175.51E	RAT ISLANDS, ALEUTIAN ISLANDS		040	4.2			
APR 17	00 39 40.6	51.74N	173.49W	ANDREANOF ISLANDS, ALEUTIAN IS.		046	4.9	4.7		
APR 17	19 30 30.4	36.94N	121.59W	CENTRAL CALIFORNIA	IV	007				3.2BRK
APR 18	21 54 26.4	59.16N	139.97W	SOUTHEASTERN ALASKA	II	028	3.9			4.4PMR
APR 19	14 19 01.5	61.85N	154.17W	SOUTHERN ALASKA		033				3.1PMR
APR 20	01 35 03.6	34.73N	118.45W	SOUTHERN CALIFORNIA		008	3.5			3.3PAS

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
APR 20	03 00 09.3	46.76N	121.52W	WASHINGTON	V	005	4.8		4.9	
APR 20	08 22 21.3	52.97N	167.38W	FOX ISLANDS, ALEUTIAN ISLANDS		042	4.3	5.9		
APR 20	17 38 29.3	51.87N	173.87W	ANDREANOF ISLANDS, ALEUTIAN IS.		040	4.0			
APR 22	02 29 40.1	51.99N	176.06W	ANDREANOF ISLANDS, ALEUTIAN IS.	IV	070	4.9			
APR 22	04 22 29.6	52.41N	169.54W	FOX ISLANDS, ALEUTIAN ISLANDS		043	4.2			
APR 22	04 31 00.5	52.56N	169.55W	FOX ISLANDS, ALEUTIAN ISLANDS		032	4.5			
APR 22	09 19 58.9	29.54N	113.31W	GULF OF CALIFORNIA		033	4.4			
APR 23	01 39 58.0	56.21N	154.02W	KODIAK ISLAND REGION		059	4.0			
APR 23	15 13 00.5	37.11N	116.09W	SOUTHERN NEVADA		005			3.4	
APR 24	13 18 59.2	63.87N	148.86W	CENTRAL ALASKA		121				
APR 25	08 33 59.4	66.45N	157.59W	ALASKA		101				
APR 25	12 06 55.1	19.32N	155.22W	HAWAII	II	008			4.0	
APR 26	01 07 08.7	51.76N	176.75W	ANDREANOF ISLANDS, ALEUTIAN IS.	III	064	4.7			
APR 26	14 23 14.6	61.85N	150.67W	SOUTHERN ALASKA		078	3.3			
APR 27	14 45 39.1	41.00N	075.96W	PENNSYLVANIA		003	3.0		3.0	
APR 28	00 48 12.9	63.21N	150.52W	CENTRAL ALASKA		130	3.6			
APR 28	16 27 39.8	61.67N	149.02W	SOUTHERN ALASKA	II	032				2.6PMR
APR 29	05 44 35.7	37.71N	113.03W	UTAH	II	005	4.1		3.0	
APR 29	07 35 51.8	37.81N	112.98W	UTAH	II	005	4.4		3.2	
APR 29	16 15 00.2	43.38N	126.67W	OFF COAST OF OREGON		033	4.5			
APR 30	02 54 34.9	51.13N	179.31E	RAT ISLANDS, ALEUTIAN ISLANDS		058	4.2			
APR 30	12 44 00.4	19.36N	155.08W	HAWAII	II	000			3.2	

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H	M	S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY		DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
APR 30	12	45	46.2	19.36N	155.08W	HAWAII		II	005			3.3	
APR 30	19	47	39.8	51.10N	172.73W	ANDREANOF ISLANDS, ALEUTIAN IS.			012	4.8			
MAY 01	10	21	52.9	58.65N	137.63W	SOUTHEASTERN ALASKA			017	3.6			3.5PMR
MAY 02	10	40	23.8	53.16N	170.52W	FOX ISLANDS, ALEUTIAN ISLANDS			131	4.3			
MAY 02	11	28	49.7	55.74N	158.80W	ALASKA PENINSULA			047	4.0			
MAY 02	14	07	22.5	51.29N	179.49E	RAT ISLANDS, ALEUTIAN ISLANDS			054	4.4			
MAY 02	21	45	39.1	52.23N	171.97W	ANDREANOF ISLANDS, ALEUTIAN IS.			047	4.0			
MAY 04	08	02	00.2	56.30N	153.27W	KODIAK ISLAND REGION			010	4.6			
MAY 04	08	47	04.6	56.30N	153.29W	KODIAK ISLAND REGION			002	4.4			
MAY 04	09	09	22.6	57.22N	152.94W	KODIAK ISLAND REGION			074	4.2			
MAY 04	16	23	06.6	62.30N	148.66W	CENTRAL ALASKA			064				
MAY 04	20	08	49.6	62.61N	149.56W	CENTRAL ALASKA			019				3.0PMR
MAY 04	22	28	51.2	58.17N	151.63W	KODIAK ISLAND REGION			047				
MAY 05	11	37	23.9	19.34N	155.26W	HAWAII		II	013	4.4		4.5	
MAY 06	20	31	48.4	34.07N	116.52W	SOUTHERN CALIFORNIA			008	3.6			3.1PAS
MAY 08	04	27	13.1	63.67N	150.73W	CENTRAL ALASKA		IV	011	4.6			4.7PMR
MAY 09	09	33	21.4	18.23N	068.36W	MONA PASSAGE			029	4.9			
MAY 11	04	17	34.7	61.66N	150.59W	SOUTHERN ALASKA		II	067	3.8			
MAY 11	19	10	47.8	56.50N	153.08W	KODIAK ISLAND REGION			027	4.9			4.1PMR
MAY 13	05	10	49.8	55.87N	158.51W	ALASKA PENINSULA			041	4.9		5.0	
MAY 13	06	52	18.8	36.71N	089.39W	NEW MADRID, MISSOURI REGION	DAMAGE	VI	001	4.3			4.1SLM
MAY 14	14	07	35.7	54.30N	164.10W	UNIMAK ISLAND REGION			027	4.8	4.5		

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
MAY 15	05 39 49.0	62.50N	151.32W	CENTRAL ALASKA		088				
MAY 15	10 58 03.3	62.46N	150.98W	CENTRAL ALASKA		116				
MAY 15	13 04 04.1	52.41N	168.82W	FOX ISLANDS, ALEUTIAN ISLANDS		044	5.0	4.5		
MAY 15	16 17 21.5	66.39N	142.41W	ALASKA		082				
MAY 16	05 12 38.6	52.25N	170.58W	FOX ISLANDS, ALEUTIAN ISLANDS		033	4.4			
MAY 16	06 48 01.4	35.08N	118.97W	CENTRAL CALIFORNIA		008				3.5PAS
MAY 16	08 55 46.4	51.06N	179.04W	ANDREANOF ISLANDS, ALEUTIAN IS.		042	4.3			
MAY 16	10 56 02.4	62.21N	151.06W	CENTRAL ALASKA		088	3.2			
MAY 16	13 04 36.1	48.14N	122.92W	WASHINGTON	V	054	3.8			
MAY 16	20 48 44.3	64.67N	149.49W	CENTRAL ALASKA		046				3.2PMR
MAY 16	22 55 06.7	62.98N	150.81W	CENTRAL ALASKA		129	3.6			
MAY 17	14 53 39.8	59.82N	153.53W	SOUTHERN ALASKA		141				
MAY 18	14 53 40.1	59.85N	153.51W	SOUTHERN ALASKA		136	3.8			
MAY 19	08 03 42.4	19.28N	066.46W	PUERTO RICO REGION		046	4.3	3.6		
MAY 19	16 34 16.8	63.64N	149.64W	CENTRAL ALASKA		127				
MAY 19	18 51 56.5	55.24N	160.46W	ALASKA PENINSULA		033	4.3			
MAY 20	18 43 32.3	52.62N	172.02E	NEAR ISLANDS, ALEUTIAN ISLANDS		038	4.6			
MAY 21	23 31 41.2	63.31N	151.25W	CENTRAL ALASKA	II	012	4.2			4.6PMR
MAY 22	00 28 36.7	34.53N	116.53W	SOUTHERN CALIFORNIA		008				3.5PAS
MAY 22	11 58 17.6	48.63N	123.00W	VANCOUVER ISLAND REGION	II					3.1SEA
MAY 22	14 15 00.5	37.06N	116.11W	SOUTHERN NEVADA		005	4.4			4.3BRK
MAY 23	05 16 54.2	50.20N	179.54W	ANDREANOF ISLANDS, ALEUTIAN IS.		035	4.8			

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
MAY 23	13 38 30.2	37.06N	116.07W	SOUTHERN NEVADA		005	4.8			4.8BRK
MAY 24	22 30 02.0	58.11N	156.83W	ALASKA PENINSULA		126	4.5			
MAY 25	06 59 20.7	47.90N	121.80W	WASHINGTON	II					3.5SEA
MAY 25	14 51 43.4	34.90N	116.95W	SOUTHERN CALIFORNIA		008				3.2PAS
MAY 26	14 13 59.0	34.20N	117.52W	SOUTHERN CALIFORNIA		008				3.0PAS
MAY 26	15 52 50.6	62.93N	148.23W	CENTRAL ALASKA	II	088				
MAY 26	18 13 58.6	61.57N	150.24W	SOUTHERN ALASKA	II	003				3.1PMR
MAY 27	09 19 19.7	39.85N	120.91W	NORTHERN CALIFORNIA	V	002	4.6			3.9BRK
MAY 27	11 42 47.1	34.70N	116.37W	SOUTHERN CALIFORNIA		008				3.6PAS
MAY 27	11 56 27.5	34.65N	116.35W	SOUTHERN CALIFORNIA		008				3.1PAS
MAY 27	14 01 43.5	60.33N	146.02W	SOUTHERN ALASKA	III	021	5.5	5.7		5.4PMR
MAY 27	14 09 37.6	34.67N	116.37W	SOUTHERN CALIFORNIA		008				3.8PAS
MAY 28	08 21 59.4	60.61N	149.78W	KENAI PENINSULA, ALASKA	II	027	3.4			3.8PMR
MAY 28	17 03 51.9	35.50N	118.63W	CENTRAL CALIFORNIA		008				3.2PAS
MAY 29	18 10 39.9	36.82N	115.87W	CALIFORNIA-NEVADA BORDER REGION		005				4.0PAS
MAY 29	19 23 32.8	36.82N	115.88W	CALIFORNIA-NEVADA BORDER REGION	II	011				4.0PAS
MAY 30	00 45 43.7	34.82N	117.55W	SOUTHERN CALIFORNIA		008				3.2PAS
MAY 30	21 28 37.2	37.38N	080.42W	VIRGINIA	V	008				3.6BLA
MAY 31	03 13 10.7	53.60N	163.82W	UNIMAK ISLAND REGION		033	4.8	4.6		
MAY 31	03 43 24.2	35.83N	117.40W	CENTRAL CALIFORNIA		008				3.2PAS
MAY 31	06 25 54.7	60.54N	151.36W	KENAI PENINSULA, ALASKA		065	3.4			
MAY 31	14 04 59.9	27.23N	111.24W	GULF OF CALIFORNIA		033	5.3	6.3		6.4PAS

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H	M	S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
JUN 01	04	23	17.2	18.19N	068.03W	MONA PASSAGE		079	4.7			
JUN 01	11	42	13.3	65.81N	155.08W	ALASKA		033				3.0PMR
JUN 01	12	46	39.6	65.79N	155.13W	ALASKA		035				3.1PMR
JUN 01	14	40	36.6	63.07N	151.03W	CENTRAL ALASKA		131	3.4			
JUN 01	18	17	20.6	27.23N	111.29W	GULF OF CALIFORNIA		033	4.3			
JUN 02	06	54	21.9	33.10N	115.60W	SOUTHERN CALIFORNIA		008				3.1PAS
JUN 02	18	05	02.0	53.74N	165.73W	FOX ISLANDS, ALEUTIAN ISLANDS		072	4.2			
JUN 03	21	24	02.6	35.05N	118.88W	CENTRAL CALIFORNIA		008				3.3PAS
JUN 03	23	02	09.1	19.42N	155.43W	HAWAII	II	008			4.1	
JUN 04	06	02	21.2	27.67N	111.45W	GULF OF CALIFORNIA		033	3.3			
JUN 05	00	16	40.4	38.60N	084.77W	KENTUCKY		015				3.2SLM
JUN 05	08	06	11.3	36.62N	089.94W	SOUTHERN ILLINOIS	V	011	4.0			3.6SLM
JUN 06	10	53	08.2	52.02N	175.40W	ANDREANOF ISLANDS, ALEUTIAN IS.	II	062	4.1			
JUN 06	12	13	49.8	38.45N	122.64W	NORTHERN CALIFORNIA	IV	002	3.5			3.1BRK
JUN 06	14	40	00.0	37.00N	116.04W	SOUTHERN NEVADA		002	4.4			
JUN 07	07	09	58.2	33.65N	118.33W	SOUTHERN CALIFORNIA		008				3.0PAS
JUN 07	17	50	08.8	50.93N	170.63W	ALEUTIAN ISLANDS REGION		033	5.0			
JUN 07	19	45	36.8	41.57N	073.94W	NEW YORK	DAMAGE VI	002				3.3PAL
JUN 08	14	13	27.5	42.78N	126.15W	OFF COAST OF OREGON		033	4.1			
JUN 09	00	50	42.0	44.80N	111.05W	HEBGEN LAKE REGION	II	005			4.9	
JUN 09	01	44	23.5	44.93N	111.34W	HEBGEN LAKE REGION		005				
JUN 09	03	19	25.8	58.41N	152.65W	KODIAK ISLAND REGION		018				3.3PMR

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H	M	S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
JUN 09	04	00	07.8	52.43N	170.18W	FOX ISLANDS, ALEUTIAN ISLANDS		048	4.3			
JUN 09	06	02	48.9	52.49N	170.18W	FOX ISLANDS, ALEUTIAN ISLANDS		033	4.1			
JUN 09	22	27	33.7	35.53N	117.45W	CENTRAL CALIFORNIA	II	008				4.0PAS
JUN 10	06	44	09.9	35.53N	117.45W	CENTRAL CALIFORNIA	V	008	4.1			4.2PAS
JUN 10	07	35	00.5	40.45N	125.08W	OFF COAST OF NORTHERN CALIFORNIA	IV	022	4.8	4.4		4.2BRK
JUN 10	14	34	22.3	54.77N	161.65W	ALASKA PENINSULA		011	4.8			
JUN 11	04	55	07.0	35.60N	115.65W	CALIFORNIA-NEVADA BORDER REGION		019				
JUN 11	10	19	34.7	61.47N	152.45W	SOUTHERN ALASKA		122	3.2			
JUN 11	12	40	40.9	37.66N	115.29W	SOUTHERN NEVADA		018	4.4			
JUN 11	12	53	07.6	37.60N	115.29W	SOUTHERN NEVADA		011	3.9			
JUN 11	13	37	46.6	57.67N	151.67W	KODIAK ISLAND REGION		006	3.7			3.7PMR
JUN 11	20	20	44.9	51.92N	173.53W	ANDREANOF ISLANDS, ALEUTIAN IS.	II	058	4.8			
JUN 12	14	18	21.0	62.96N	150.81W	CENTRAL ALASKA		121	3.6			
JUN 12	16	46	34.3	52.44N	170.20W	FOX ISLANDS, ALEUTIAN ISLANDS		046	5.2			5.2AOK
JUN 12	19	21	51.2	36.72N	121.43W	CENTRAL CALIFORNIA	V	005	3.7			3.7BRK
JUN 13	00	42	38.3	60.39N	143.56W	SOUTHERN ALASKA		033	3.5			3.3PMR
JUN 13	12	18	35.7	39.58N	115.91W	NEVADA		010				
JUN 14	23	47	53.9	34.20N	117.12W	SOUTHERN CALIFORNIA		008				3.0PAS
JUN 15	02	37	13.8	52.26N	178.79E	RAT ISLANDS, ALEUTIAN ISLANDS		157	5.7			
JUN 15	17	49	25.4	36.72N	121.41W	CENTRAL CALIFORNIA	III	007	3.1			3.0BRK
JUN 17	21	53	25.8	51.97N	179.48E	RAT ISLANDS, ALEUTIAN ISLANDS		190	4.2			
JUN 19	11	35	11.7	53.82N	163.43W	UNIMAK ISLAND REGION		033	4.7			

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY		DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
JUN 19	15 05 42.4	19.36N	155.40W	HAWAII	DAMAGE	V	008	5.1		4.9	
JUN 19	15 11 13.5	19.35N	155.42W	HAWAII		II	005			3.8	
JUN 19	15 33 03.6	19.35N	155.41W	HAWAII		II	007			3.7	
JUN 19	15 59 59.9	37.20N	116.19W	SOUTHERN NEVADA			005	5.0			
JUN 19	19 21 48.9	41.93N	126.78W	OFF COAST OF NORTHERN CALIFORNIA			033	4.9	4.2		
JUN 19	23 27 44.8	61.69N	149.50W	SOUTHERN ALASKA			013				2.9PMR
JUN 20	00 27 51.0	41.76N	126.78W	OFF COAST OF NORTHERN CALIFORNIA			033	4.4			
JUN 20	19 26 35.8	34.85N	120.99W	OFF COAST OF CALIFORNIA			033				
JUN 21	06 10 48.1	18.94N	067.00W	MONA PASSAGE			046	4.9	4.0		
JUN 21	06 50 26.4	19.33N	155.21W	HAWAII		II	007	4.3		4.4	
JUN 21	07 15 01.5	34.38N	117.03W	SOUTHERN CALIFORNIA			008				3.0PAS
JUN 21	23 57 01.9	63.20N	149.70W	CENTRAL ALASKA			100				
JUN 22	17 01 18.4	34.28N	116.60W	SOUTHERN CALIFORNIA			008	4.2			3.2PAS
JUN 22	20 35 37.0	51.25N	178.24W	ANDREANOF ISLANDS, ALEUTIAN IS.		II	049	4.5			
JUN 22	22 49 05.2	51.94N	173.94E	NEAR ISLANDS, ALEUTIAN ISLANDS			019	4.6			
JUN 23	05 14 53.8	52.54N	169.03W	FOX ISLANDS, ALEUTIAN ISLANDS			042	5.0	4.3		
JUN 23	16 13 00.7	34.28N	116.67W	SOUTHERN CALIFORNIA			008				3.1PAS
JUN 24	00 39 52.0	40.95N	124.06W	NEAR COAST OF NORTHERN CALIF.		IV	029	4.7			4.0BRK
JUN 24	21 20 22.1	63.17N	149.88W	CENTRAL ALASKA			075	5.5			
JUN 25	06 23 30.2	63.20N	149.22W	CENTRAL ALASKA			108				
JUN 26	01 40 23.6	36.16N	120.34W	CENTRAL CALIFORNIA			008				
JUN 28	01 44 42.9	19.41N	155.28W	HAWAII		II	001			3.1	

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H	M	S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
JUN 29	06	59	24.6	61.42N	149.88W	SOUTHERN ALASKA		067				
JUN 29	18	46	37.5	60.29N	153.54W	SOUTHERN ALASKA		179				
JUN 30	11	07	39.0	32.42N	115.25W	CALIFORNIA-MEXICO BORDER REGION		008	3.7			3.5PAS
JUN 30	14	41	30.0	32.40N	115.27W	CALIFORNIA-MEXICO BORDER REGION		008				3.1PAS
JUL 01	18	23	07.3	44.56N	111.09W	HEBGEN LAKE REGION		005	4.8		5.1	
JUL 03	03	13	43.3	44.64N	111.23W	HEBGEN LAKE REGION		005				
JUL 03	05	00	58.6	40.42N	125.14W	OFF COAST OF NORTHERN CALIFORNIA	V	012	5.4	5.2		5.1BRK
JUL 03	07	28	35.1	18.91N	064.69W	VIRGIN ISLANDS		033	4.2			
JUL 03	07	39	08.6	52.28N	170.79W	FOX ISLANDS, ALEUTIAN ISLANDS		087	4.2			
JUL 03	23	05	51.6	61.98N	150.12W	CENTRAL ALASKA		036				2.9PMR
JUL 04	03	10	56.2	44.41N	111.11W	HEBGEN LAKE REGION		005				
JUL 05	13	10	29.4	36.17N	116.83W	CALIFORNIA-NEVADA BORDER REGION		008				3.3PAS
JUL 06	04	03	56.0	36.55N	121.18W	CENTRAL CALIFORNIA		005				3.1BRK
JUL 06	06	10	41.8	38.77N	119.67W	CALIFORNIA-NEVADA BORDER REGION		005				3.7BRK
JUL 06	12	41	26.3	40.28N	127.95W	OFF COAST OF NORTHERN CALIFORNIA		028	3.8			
JUL 09	01	04	03.9	66.96N	159.66W	ALASKA		035	3.7			
JUL 09	07	48	56.6	65.12N	152.04W	ALASKA		013				
JUL 10	07	46	28.2	34.17N	116.72W	SOUTHERN CALIFORNIA	II	008				3.3PAS
JUL 10	16	00	00.1	37.07N	116.03W	SOUTHERN NEVADA		000	5.7			5.6BRK
JUL 11	02	17	57.8	62.39N	151.25W	CENTRAL ALASKA		092	4.2			
JUL 12	00	17	17.6	19.47N	155.44W	HAWAII	II	008			3.2	
JUL 13	01	32	59.0	19.45N	155.73W	HAWAII	II	008			3.6	

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H	M	S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
JUL 13	11	09	57.5	40.37N	125.18W	OFF COAST OF NORTHERN CALIFORNIA	II	001	5.0			4.0BRK
JUL 13	12	44	50.7	61.49N	145.01W	SOUTHERN ALASKA	IV	055	4.7			
JUL 13	14	48	50.0	62.23N	151.22W	CENTRAL ALASKA	V	085	4.4			
JUL 13	16	37	46.5	19.35N	155.25W	HAWAII	II	008			3.4	
JUL 16	06	38	45.8	45.84N	111.37W	MONTANA	V	010	4.4			
JUL 16	07	30	32.6	45.71N	111.68W	MONTANA		010				
JUL 17	10	42	42.3	51.66N	173.51W	ANDREANOF ISLANDS, ALEUTIAN IS.		045	5.0			
JUL 18	14	00	01.3	37.07N	116.07W	SOUTHERN NEVADA		005	4.1			4.2BRK
JUL 19	14	38	48.3	18.54N	155.29W	HAWAII	II	008			3.4	
JUL 19	15	00	02.9	19.38N	155.25W	HAWAII	II	001			3.0	
JUL 19	15	03	41.7	65.51N	150.01W	ALASKA		033			3.1	
JUL 19	21	22	02.9	19.38N	155.25W	HAWAII	II	002			3.7	
JUL 20	00	48	03.9	51.59N	173.55W	ANDREANOF ISLANDS, ALEUTIAN IS.		045	4.9	4.2		4.9ADK
JUL 20	01	04	33.8	51.83N	173.49W	ANDREANOF ISLANDS, ALEUTIAN IS.		033	4.3			
JUL 20	02	41	48.0	19.80N	155.56W	HAWAII	II	026			4.0	
JUL 20	04	22	54.7	69.89N	145.46W	ALASKA		033				
JUL 22	04	07	50.5	19.32N	155.21W	HAWAII	II	030			3.9	
JUL 23	02	39	41.9	59.68N	146.13W	GULF OF ALASKA		032	3.9			3.6PMR
JUL 24	04	13	02.3	19.39N	155.28W	HAWAII	II	014			3.9	
JUL 24	10	16	56.2	55.79N	162.25W	ALASKA PENINSULA		113	4.1			
JUL 25	21	56	44.5	40.36N	125.28W	OFF COAST OF NORTHERN CALIFORNIA		010	4.4			4.0BRK

'SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H	M	S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
JUL 26	05	28	15.9	41.92N	126.69W	OFF COAST OF NORTHERN CALIFORNIA		033	4.4			
JUL 26	20	37	17.8	51.06N	170.46W	FOX ISLANDS, ALEUTIAN ISLANDS		033	4.9			
JUL 26	23	36	03.0	48.72N	114.89W	MONTANA		013			3.7	
JUL 27	05	18	59.3	63.48N	151.34W	CENTRAL ALASKA		057				
JUL 27	11	44	51.0	27.23N	111.31W	GULF OF CALIFORNIA		033	4.3			
JUL 27	18	20	52.9	51.48N	179.15E	RAT ISLANDS, ALEUTIAN ISLANDS		056	4.4			
JUL 28	12	54	47.1	63.50N	151.59W	CENTRAL ALASKA		061				
JUL 28	21	56	12.7	63.75N	148.30W	CENTRAL ALASKA		092	3.7			
JUL 29	03	28	28.0	45.90N	122.60W	WASHINGTON	IV					3.0SEA
JUL 29	11	37	44.0	59.71N	152.73W	SOUTHERN ALASKA	V	084	4.5			
JUL 30	07	39	07.8	34.69N	116.52W	SOUTHERN CALIFORNIA		010	4.4			4.5PAS
JUL 30	07	46	35.6	34.68N	116.41W	SOUTHERN CALIFORNIA		010				3.9PAS
JUL 30	07	50	09.9	34.63N	116.28W	SOUTHERN CALIFORNIA		010				3.8PAS
JUL 30	07	51	58.9	34.62N	116.27W	SOUTHERN CALIFORNIA		010				4.1PAS
JUL 30	08	36	52.8	34.62N	116.37W	SOUTHERN CALIFORNIA		010	4.1			4.5PAS
JUL 30	08	53	54.2	34.62N	116.30W	SOUTHERN CALIFORNIA		010				3.9PAS
JUL 30	09	07	06.5	34.66N	116.48W	SOUTHERN CALIFORNIA		010				3.1PAS
JUL 30	10	22	17.0	34.49N	116.05W	SOUTHERN CALIFORNIA		010				3.6PAS
JUL 30	10	48	50.4	34.67N	116.44W	SOUTHERN CALIFORNIA		010				3.6PAS
JUL 30	12	23	02.7	34.48N	116.07W	SOUTHERN CALIFORNIA		010				3.7PAS
JUL 31	01	19	04.2	34.63N	116.30W	SOUTHERN CALIFORNIA		010				3.5PAS
JUL 31	07	31	27.3	35.70N	117.61W	CENTRAL CALIFORNIA		010				4.0PAS

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
JUL 31	09 07 18.7	34.65N	116.34W	SOUTHERN CALIFORNIA		010				4.0PAS
JUL 31	09 20 51.6	60.53N	150.05W	KENAI PENINSULA, ALASKA	IV	044	4.3			
JUL 31	10 47 52.8	34.63N	116.30W	SOUTHERN CALIFORNIA		010				3.5PAS
JUL 31	13 29 53.3	34.66N	116.31W	SOUTHERN CALIFORNIA		010				3.6PAS
JUL 31	21 52 08.8	34.62N	116.33W	SOUTHERN CALIFORNIA		010				3.5PAS
JUL 31	21 56 03.8	34.61N	116.36W	SOUTHERN CALIFORNIA		010				3.0PAS
AUG 01	05 06 19.5	56.72N	152.10W	KODIAK ISLAND REGION		024	4.6			
AUG 01	05 07 59.0	56.52N	152.32W	KODIAK ISLAND REGION		010	5.2	6.1		
AUG 01	05 55 38.2	56.67N	152.11W	KODIAK ISLAND REGION		033	5.7	6.3		
AUG 01	06 07 17.0	56.59N	152.39W	KODIAK ISLAND REGION		015	4.6			
AUG 01	06 14 54.2	56.73N	151.94W	KODIAK ISLAND REGION		033	3.8			
AUG 01	06 17 02.3	56.65N	152.07W	KODIAK ISLAND REGION		019	4.5			
AUG 01	06 32 00.4	56.71N	152.21W	KODIAK ISLAND REGION		007	4.3			
AUG 01	06 36 49.0	56.67N	152.16W	KODIAK ISLAND REGION		027	3.8			
AUG 01	06 48 16.3	56.71N	152.20W	KODIAK ISLAND REGION		016	4.4			
AUG 01	07 10 47.8	56.65N	152.05W	KODIAK ISLAND REGION		015	4.3			
AUG 01	07 15 02.4	56.73N	151.85W	KODIAK ISLAND REGION		033	3.9			
AUG 01	07 18 12.2	56.60N	152.07W	KODIAK ISLAND REGION		016	4.2			
AUG 01	07 44 53.3	56.71N	151.95W	KODIAK ISLAND REGION		033	3.8			
AUG 01	07 59 56.9	56.63N	152.27W	KODIAK ISLAND REGION		033	5.2	6.0		
AUG 01	08 17 26.6	56.67N	152.13W	KODIAK ISLAND REGION		033	4.1			
AUG 01	08 26 41.1	56.64N	152.17W	KODIAK ISLAND REGION		033	3.9			

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H	M	S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY		DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
AUG 01	09	04	05.3	34.63N	116.33W	SOUTHERN CALIFORNIA			005				3.4PAS
AUG 01	14	05	20.1	56.69N	152.08W	KODIAK ISLAND REGION			033	3.8			
AUG 01	15	29	31.9	56.77N	152.23W	KODIAK ISLAND REGION			033	4.0			
AUG 02	06	52	32.2	34.65N	116.30W	SOUTHERN CALIFORNIA			005				3.0PAS
AUG 02	08	52	09.8	33.87N	082.49W	GEORGIA	DAMAGE	V	001	4.3		4.9	
AUG 02	09	22	20.3	57.09N	152.31W	KODIAK ISLAND REGION			064	4.0			
AUG 02	17	03	02.9	56.60N	152.24W	KODIAK ISLAND REGION			036	4.1			
AUG 02	19	59	36.5	62.80N	149.64W	CENTRAL ALASKA			104				
AUG 03	20	03	31.0	56.54N	152.14W	KODIAK ISLAND REGION			033	4.1			
AUG 04	03	43	54.0	38.00N	121.86W	NORTHERN CALIFORNIA		II	024				3.2BRK
AUG 04	05	43	56.3	51.65N	179.10W	ANDREANOF ISLANDS, ALEUTIAN IS.			042	4.1			
AUG 04	08	30	32.3	34.62N	116.45W	SOUTHERN CALIFORNIA			005				3.0PAS
AUG 04	15	03	45.4	36.61N	121.26W	CENTRAL CALIFORNIA		II	006				3.1BRK
AUG 04	21	36	16.7	56.76N	152.01W	KODIAK ISLAND REGION			040	4.3			
AUG 05	00	54	07.7	52.34N	173.36W	ANDREANOF ISLANDS, ALEUTIAN IS.			066	5.1			
AUG 05	13	13	30.0	60.91N	146.97W	SOUTHERN ALASKA			069				
AUG 06	02	37	42.3	60.25N	153.32W	SOUTHERN ALASKA		IV	136	5.0			
AUG 06	12	59	55.6	56.55N	152.47W	KODIAK ISLAND REGION			016	4.5	4.7		
AUG 06	18	05	25.3	56.72N	152.41W	KODIAK ISLAND REGION			033	4.6			
AUG 07	08	21	01.8	56.78N	152.30W	KODIAK ISLAND REGION			032	4.6			4.3PMR
AUG 07	08	23	36.8	56.65N	152.31W	KODIAK ISLAND REGION			033	4.9	5.3		5.0PMR
AUG 07	08	50	31.2	56.85N	152.37W	KODIAK ISLAND REGION			067	3.9			

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
AUG 07	15 30 29.5	56.75N	152.39W	KODIAK ISLAND REGION		033	4.6			
AUG 07	15 59 38.5	56.80N	152.11W	KODIAK ISLAND REGION		033	4.5			
AUG 08	06 44 36.3	19.47N	155.67W	HAWAII	II	008			3.4	
AUG 08	11 12 59.5	19.35N	155.30W	HAWAII	II	027	4.2		4.3	
AUG 09	07 50 41.9	59.49N	144.97W	GULF OF ALASKA		033	3.7			4.0PMR
AUG 09	12 19 59.5	40.22N	124.15W	NEAR COAST OF NORTHERN CALIF.	V	007	3.9			3.9BRK
AUG 11	12 57 48.1	66.02N	165.51W	ALASKA	II	033	4.1			
AUG 11	14 29 45.0	36.92N	091.17W	MISSOURI-ARKANSAS BORDER REGION	V	004				3.6SLM
AUG 11	14 44 29.9	60.90N	146.74W	SOUTHERN ALASKA		033				3.3PMR
AUG 12	21 26 20.5	19.37N	155.43W	HAWAII	II	008			3.8	
AUG 13	03 46 20.3	51.53N	178.11W	ANDREANOF ISLANDS, ALEUTIAN IS.	DAMAGE V	052	5.8			5.9BRK
AUG 14	05 34 54.4	51.56N	178.15W	ANDREANOF ISLANDS, ALEUTIAN IS.	II	056	5.7			5.2BRK
AUG 14	14 00 00.1	37.02N	116.04W	SOUTHERN NEVADA		000	4.6			4.3BRK
AUG 14	14 45 55.4	34.43N	118.37W	SOUTHERN CALIFORNIA	V	007	4.3			4.3PAS
AUG 14	16 04 53.7	59.52N	144.65W	GULF OF ALASKA		008	3.7			4.0PMR
AUG 15	23 33 03.8	47.30N	122.40W	WASHINGTON	II					3.0SEA
AUG 16	09 41 31.7	51.50N	177.83W	ANDREANOF ISLANDS, ALEUTIAN IS.	IV	046	5.7	5.8		5.9ADK
AUG 17	20 19 35.6	34.62N	116.37W	SOUTHERN CALIFORNIA		008				3.4PAS
AUG 17	20 55 04.4	52.79N	168.75W	FOX ISLANDS, ALEUTIAN ISLANDS		056	4.3			
AUG 18	07 37 14.7	60.37N	150.64W	KENAI PENINSULA, ALASKA		051	3.5			
AUG 18	08 52 20.1	19.79N	156.17W	HAWAII	II	039			3.8	
AUG 18	10 04 19.5	57.83N	153.29W	KODIAK ISLAND REGION		059	3.5			

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H	M	S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
AUG 18	17	16	26.0	50.55N	175.10E	RAT ISLANDS, ALEUTIAN ISLANDS		033	5.0	4.7		5.2ADK
AUG 18	19	23	29.5	43.79N	127.23W	OFF COAST OF OREGON		033	4.1			
AUG 19	01	03	41.6	36.37N	118.40W	CENTRAL CALIFORNIA		008				2.6PAS
AUG 19	12	47	19.0	36.52N	120.69W	CENTRAL CALIFORNIA		009	4.2			4.1BRK
AUG 20	20	45	01.4	52.24N	174.97E	RAT ISLANDS, ALEUTIAN ISLANDS	III	058	5.6			5.1BRK
AUG 21	02	33	43.9	62.58N	150.92W	CENTRAL ALASKA		033				3.2PMR
AUG 21	08	38	23.4	19.55N	155.95W	HAWAII	II	006			3.3	
AUG 21	19	38	03.3	38.06N	118.67W	CALIFORNIA-NEVADA BORDER REGION		010				
AUG 22	03	58	31.6	51.42N	176.32W	ANDREANOF ISLANDS, ALEUTIAN IS.	II	044	4.1			
AUG 22	22	33	59.6	38.23N	089.73W	SOUTHERN ILLINOIS	IV	012				2.5SLM
AUG 22	22	54	39.5	61.51N	150.93W	SOUTHERN ALASKA		033				
AUG 23	04	57	40.8	63.04N	150.86W	CENTRAL ALASKA		127	3.7			
AUG 24	04	15	01.9	19.31N	155.22W	HAWAII	II	008			3.9	
AUG 24	10	41	11.2	52.41N	168.27W	FOX ISLANDS, ALEUTIAN ISLANDS		041	5.7	5.6		5.5ADK
AUG 24	14	24	27.3	52.64N	168.21W	FOX ISLANDS, ALEUTIAN ISLANDS		042	3.9			
AUG 24	18	16	56.0	51.66N	178.62W	ANDREANOF ISLANDS, ALEUTIAN IS.	II	066	4.0			
AUG 24	22	18	55.4	52.30N	168.31W	FOX ISLANDS, ALEUTIAN ISLANDS		037	5.3	4.5		
AUG 25	01	13	09.2	52.43N	168.66W	FOX ISLANDS, ALEUTIAN ISLANDS		059	4.1			
AUG 25	04	15	39.6	51.30N	173.41E	NEAR ISLANDS, ALEUTIAN ISLANDS		025	4.8			
AUG 25	09	22	32.5	52.72N	166.91W	FOX ISLANDS, ALEUTIAN ISLANDS		033	4.5			
AUG 25	10	10	59.3	35.89N	117.66W	CENTRAL CALIFORNIA		010	4.1			4.0PAS
AUG 25	12	21	58.8	35.85N	117.82W	CENTRAL CALIFORNIA		008				3.7PAS

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H	M	S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
AUG 25	15	06	19.3	36.40N	120.54W	CENTRAL CALIFORNIA		008				3.3BRK
AUG 25	16	59	37.1	52.77N	168.11W	FOX ISLANDS, ALEUTIAN ISLANDS		049	4.3			
AUG 27	19	24	55.0	51.94N	178.84W	ANDREANOF ISLANDS, ALEUTIAN IS.	II	036	4.4			
AUG 28	07	49	40.7	19.33N	155.21W	HAWAII	II	007	4.8		4.6	
AUG 28	18	43	25.7	59.51N	144.45W	GULF OF ALASKA		004	4.9	4.6		4.7PMR
AUG 29	06	40	03.3	50.24N	177.65E	RAT ISLANDS, ALEUTIAN ISLANDS		033	4.9			
AUG 29	13	18	26.0	17.83N	065.49W	PUERTO RICO REGION	III	033	4.6			
AUG 29	22	58	52.6	62.63N	152.04W	CENTRAL ALASKA		033	3.9			4.1PMR
AUG 30	13	24	47.9	44.49N	111.10W	HEBGEN LAKE REGION		005				
AUG 30	13	35	51.0	44.47N	111.11W	HEBGEN LAKE REGION		005				
AUG 30	15	00	00.2	37.15N	116.08W	SOUTHERN NEVADA		000	5.8			5.8BRK
AUG 30	16	41	59.1	44.70N	110.80W	YELLOWSTONE NATIONAL PARK, WYO.	V	001	4.5		4.5	
AUG 30	16	55	48.2	44.53N	111.02W	HEBGEN LAKE REGION		005				
AUG 30	17	01	59.5	44.70N	111.23W	HEBGEN LAKE REGION		005				
AUG 30	17	04	45.9	44.65N	111.09W	HEBGEN LAKE REGION	II	005				
AUG 30	17	41	20.9	44.58N	111.12W	HEBGEN LAKE REGION	II	005				
AUG 30	19	33	20.5	44.36N	111.05W	HEBGEN LAKE REGION	II	005				
AUG 30	19	46	54.0	44.64N	110.77W	YELLOWSTONE NATIONAL PARK, WYO.	II	002	4.5			
AUG 31	21	39	44.3	51.33N	173.61E	NEAR ISLANDS, ALEUTIAN ISLANDS		014	4.6			
SEP 02	06	07	08.7	60.22N	151.35W	KENAI PENINSULA, ALASKA		094				
SEP 03	09	50	22.3	45.34N	113.14W	MONTANA		005				
SEP 05	05	11	10.1	36.57N	120.52W	CENTRAL CALIFORNIA		006				3.2BRK

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H	M	S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
SEP 06	01	16	46.5	63.15N	150.85W	CENTRAL ALASKA		130	3.9			
SEP 06	13	23	31.4	34.29N	118.52W	SOUTHERN CALIFORNIA	II	008				3.0PAS
SEP 06	14	40	42.9	34.20N	118.58W	SOUTHERN CALIFORNIA	II	008				3.3PAS
SEP 07	12	27	35.4	58.96N	151.60W	KENAI PENINSULA, ALASKA		091				
SEP 07	20	45	56.1	36.57N	121.21W	CENTRAL CALIFORNIA		007				3.1BRK
SEP 07	23	12	06.4	38.03N	118.63W	CALIFORNIA-NEVADA BORDER REGION		002				3.5BRK
SEP 07	23	40	35.8	34.25N	118.50W	SOUTHERN CALIFORNIA		008				3.0PAS
SEP 08	07	30	14.9	62.15N	150.93W	CENTRAL ALASKA		075	3.6			
SEP 08	12	20	48.6	33.18N	116.17W	SOUTHERN CALIFORNIA		008	3.7			3.5PAS
SEP 08	12	57	44.0	33.17N	116.22W	SOUTHERN CALIFORNIA		009				3.0PAS
SEP 08	16	30	56.4	51.51N	178.98E	RAT ISLANDS, ALEUTIAN ISLANDS		093	4.4			
SEP 10	05	26	19.3	59.90N	151.71W	KENAI PENINSULA, ALASKA	V	086	3.7			
SEP 11	10	56	48.4	60.27N	151.04W	KENAI PENINSULA, ALASKA	V	033	4.3			4.1PMR
SEP 12	01	27	32.5	38.82N	122.65W	NORTHERN CALIFORNIA	II	008	4.1			3.8BRK
SEP 12	03	02	28.0	46.19N	112.10W	MONTANA		005				
SEP 12	05	18	29.9	41.53N	126.93W	OFF COAST OF NORTHERN CALIFORNIA		033	4.0			
SEP 12	05	19	35.3	41.86N	126.60W	OFF COAST OF NORTHERN CALIFORNIA		033	5.0	4.9		5.1BRK
SEP 12	05	24	33.9	41.92N	126.46W	OFF COAST OF NORTHERN CALIFORNIA		033	4.4			
SEP 12	06	26	35.8	53.67N	164.44W	UNIMAK ISLAND REGION		039	4.4			
SEP 12	06	40	55.0	41.89N	126.89W	OFF COAST OF NORTHERN CALIFORNIA		033	4.2			
SEP 12	08	08	17.9	41.77N	126.97W	OFF COAST OF NORTHERN CALIFORNIA	II	033	4.1			
SEP 13	16	29	38.4	35.28N	116.98W	CENTRAL CALIFORNIA		008				3.2PAS

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
SEP 14	05 10 28.6	60.48N	151.13W	KENAI PENINSULA, ALASKA		096				
SEP 14	08 56 55.2	59.99N	151.34W	KENAI PENINSULA, ALASKA		100	4.6			
SEP 15	10 03 00.2	59.82N	152.95W	SOUTHERN ALASKA		118				
SEP 15	10 13 34.1	59.80N	152.88W	SOUTHERN ALASKA		119				
SEP 17	02 01 23.2	56.72N	151.66W	KODIAK ISLAND REGION		017	5.0	5.1		5.2PMR
SEP 17	02 58 26.9	61.69N	150.73W	SOUTHERN ALASKA		063				
SEP 17	07 44 42.8	34.67N	118.98W	SOUTHERN CALIFORNIA		008	3.5			3.1PAS
SEP 18	07 56 34.2	19.39N	155.87W	HAWAII	II	010			3.3	
SEP 18	20 06 24.1	62.34N	149.76W	CENTRAL ALASKA		056				
SEP 19	15 36 11.4	44.11N	107.38W	WYOMING	V	010	4.4			
SEP 20	01 49 37.4	59.96N	141.45W	SOUTHEASTERN ALASKA		005	3.9			
SEP 20	01 51 37.3	19.78N	155.53W	HAWAII	II	038			3.5	
SEP 21	10 37 42.7	33.77N	117.25W	SOUTHERN CALIFORNIA	DAMAGE VI	008	4.2			4.2PAS
SEP 21	20 34 34.6	59.55N	143.76W	GULF OF ALASKA		108				
SEP 22	14 39 41.3	63.10N	150.76W	CENTRAL ALASKA		146				
SEP 23	11 57 10.1	61.84N	150.14W	SOUTHERN ALASKA		061	3.4			
SEP 24	15 39 19.7	59.69N	153.37W	SOUTHERN ALASKA		150				
SEP 24	20 07 24.8	35.19N	120.85W	CENTRAL CALIFORNIA	II	008				3.1BRK
SEP 25	03 32 16.3	44.32N	129.07W	OFF COAST OF OREGON		033	4.0			
SEP 25	11 27 18.3	52.28N	176.54E	RAT ISLANDS, ALEUTIAN ISLANDS		106	4.1			
SEP 25	11 53 36.0	64.25N	148.53W	CENTRAL ALASKA		012				
SEP 25	14 00 00.3	36.97N	116.00W	SOUTHERN NEVADA		005	4.4			

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
SEP 25	17 51 24.3	62.28N	151.12W	CENTRAL ALASKA		096				
SEP 26	01 37 27.7	65.04N	148.22W	ALASKA		015				
SEP 26	05 28 48.9	64.25N	144.62W	CENTRAL ALASKA		033	3.6			
SEP 26	05 40 22.0	64.17N	144.36W	CENTRAL ALASKA		033				3.0PMR
SEP 26	06 18 49.7	20.16N	155.55W	HAWAII	II	040			3.9	
SEP 26	11 29 23.3	54.30N	164.75W	UNIMAK ISLAND REGION		031	4.9	4.4		
SEP 26	15 05 00.2	37.13N	116.07W	SOUTHERN NEVADA		000	5.6	4.2		5.0BRK
SEP 26	16 03 54.7	61.35N	146.83W	SOUTHERN ALASKA		020				3.0PMR
SEP 27	03 36 25.7	61.58N	149.95W	SOUTHERN ALASKA	III	072	3.7			
SEP 28	02 51 54.0	64.48N	147.73W	CENTRAL ALASKA	IV	030	3.6			4.1PMR
SEP 28	13 08 56.4	60.94N	147.45W	SOUTHERN ALASKA		065				
SEP 28	17 33 32.8	60.05N	140.62W	SOUTHEASTERN ALASKA		010	4.1			4.6PMR
SEP 29	01 26 48.9	39.91N	120.79W	NORTHERN CALIFORNIA		010	4.7			3.8BRK
SEP 29	02 26 17.1	41.24N	083.36W	OHIO	II	001				3.0SLM
SEP 29	13 13 49.1	33.60N	108.61W	NEW MEXICO		005				
SEP 30	08 35 05.8	51.42N	179.05W	ANDREANOF ISLANOS, ALEUTIAN IS.		053	4.3			
OCT 01	06 36 21.0	41.66W	071.55W	SOUTHERN NEW ENGLAND	II					2.5CON
OCT 04	00 43 22.3	60.98N	147.52W	SOUTHERN ALASKA		052	3.5			
OCT 04	05 15 51.5	63.02N	150.71W	CENTRAL ALASKA		170				
OCT 04	05 34 43.9	63.04N	150.98W	CENTRAL ALASKA		149	3.6			
OCT 04	17 43 10.8	35.87N	117.28W	CENTRAL CALIFORNIA		008				3.1PAS
OCT 05	00 53 43.3	63.17N	150.53W	CENTRAL ALASKA		115				

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H	M	S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
OCT 05	22	34	32.1	58.16N	153.01W	KODIAK ISLAND REGION		066	4.4			
OCT 06	13	37	43.7	60.26N	152.66W	SOUTHERN ALASKA		098	4.0			
OCT 06	18	08	58.2	63.13N	151.75W	CENTRAL ALASKA		194				
OCT 06	19	57	59.1	45.96N	111.57W	MONTANA		005				
OCT 08	00	56	05.1	34.05N	118.97W	SOUTHERN CALIFORNIA	IV	008	3.8			4.0PAS
OCT 08	09	50	58.1	17.30N	062.00W	LEEWARD ISLANDS	DAMAGE VIII	047	6.6	7.5		7.1PAS
OCT 09	06	13	35.5	60.00N	152.86W	SOUTHERN ALASKA		146				
OCT 09	14	46	58.2	19.33N	065.18W	PUERTO RICO REGION		033	4.7			
OCT 10	01	19	14.1	62.00N	151.09W	CENTRAL ALASKA		086				
OCT 11	04	09	47.6	59.74N	153.02W	SOUTHERN ALASKA		146				
OCT 11	10	30	40.2	60.37N	147.37W	SOUTHERN ALASKA		018	3.5			3.4PMR
OCT 11	13	21	31.0	33.23N	116.13W	SOUTHERN CALIFORNIA		008				3.3PAS
OCT 12	09	54	57.4	34.13N	118.98W	SOUTHERN CALIFORNIA	II	008				3.6PAS
OCT 12	12	21	26.1	33.72N	116.88W	SOUTHERN CALIFORNIA	II	008				3.5PAS
OCT 12	12	33	24.9	56.15N	153.72W	KODIAK ISLAND REGION		010	4.8	4.8		
OCT 12	18	43	46.9	40.26N	124.67W	NEAR COAST OF NORTHERN CALIF.		008	4.5			4.2BRK
OCT 12	19	29	01.0	60.83N	148.40W	KENAI PENINSULA, ALASKA		004				2.7PMR
OCT 12	20	20	44.5	34.20N	116.58W	SOUTHERN CALIFORNIA		008				3.1PAS
OCT 13	15	26	14.4	61.43N	148.02W	SOUTHERN ALASKA	IV	051				
OCT 13	22	37	21.9	46.01N	112.89W	MONTANA		005				
OCT 14	17	33	00.0	34.25N	117.15W	SOUTHERN CALIFORNIA	II	008				3.3PAS

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY		DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
OCT 15	15 42 27.9	63.05N	150.90W	CENTRAL ALASKA			127	3.5			
OCT 15	18 16 12.8	57.17N	154.95W	KODIAK ISLAND REGION			090				
OCT 15	18 38 05.3	19.42N	155.49W	HAWAII		II	008			4.0	
OCT 15	21 32 41.5	62.88N	148.11W	CENTRAL ALASKA			093	3.7			
OCT 16	11 18 23.5	63.56N	150.92W	CENTRAL ALASKA			018	3.4			3.9PMR
OCT 17	02 13 06.4	26.50N	110.94W	GULF OF CALIFORNIA			046	4.6			
OCT 17	12 05 54.4	59.19N	144.67W	GULF OF ALASKA			038	3.4			3.5PMR
OCT 18	06 25 28.1	44.73N	110.74W	YELLOWSTONE NATIONAL PARK, WYO.		II	005	4.4			
OCT 18	06 59 11.5	44.74N	110.74W	YELLOWSTONE NATIONAL PARK, WYO.		II	005	3.5			
OCT 18	14 02 33.8	53.63N	163.80W	UNIMAK ISLAND REGION			042	4.7			
OCT 18	19 36 48.9	43.48N	126.39W	OFF COAST OF OREGON			033	4.0			
OCT 19	22 09 42.5	43.29N	126.49W	OFF COAST OF OREGON			033	4.5			
OCT 20	02 14 55.0	44.47N	111.01W	HEBGEN LAKE REGION		II	005				
OCT 20	02 19 29.5	44.24N	111.14W	HEBGEN LAKE REGION			005				
OCT 20	06 45 34.3	44.94N	110.86W	YELLOWSTONE NATIONAL PARK, WYO.			005				
OCT 20	15 13 55.1	39.10N	081.59W	WEST VIRGINIA	DAMAGE	V	011				3.4SLM
OCT 20	15 51 25.'	45.71N	110.80W	MONTANA			005				
OCT 20	19 23 13.7	45.99N	111.43W	MONTANA			005				
OCT 20	22 49 46.9	44.73N	110.64W	YELLOWSTONE NATIONAL PARK, WYO.			005				
OCT 20	22 57 04.4	44.78N	110.89W	YELLOWSTONE NATIONAL PARK, WYO.			005				
OCT 21	13 21 00.1	43.60N	126.61W	OFF COAST OF OREGON			033	4.3			
OCT 21	13 28 44.1	51.32N	179.42E	RAT ISLANDS, ALEUTIAN ISLANDS			065	4.4			

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
OCT 21	17 09 17.0	63.58N	150.48W	CENTRAL ALASKA		033				2.9PMR
OCT 22	02 57 59.0	62.71N	150.73W	CENTRAL ALASKA		033				
OCT 22	08 43 07.1	44.74N	110.81W	YELLOWSTONE NATIONAL PARK, WYO.	IV	005	4.6			
OCT 22	12 13 39.1	34.00N	118.37W	SOUTHERN CALIFORNIA	V	008	4.1			2.9PAS
OCT 22	13 39 32.2	63.63N	150.58W	CENTRAL ALASKA		033				3.1PMR
OCT 22	17 03 21.3	60.04N	147.11W	SOUTHERN ALASKA		033				
OCT 24	22 05 16.0	59.82N	147.60W	GULF OF ALASKA		045	3.8			
OCT 24	22 16 02.6	63.33N	151.19W	CENTRAL ALASKA		033				
OCT 25	07 39 49.3	56.42N	153.54W	KODIAK ISLAND REGION		032	4.5			
OCT 25	13 29 52.2	33.07N	115.62W	SOUTHERN CALIFORNIA	II	008	4.3			3.3PAS
OCT 25	19 12 37.0	62.83N	151.08W	CENTRAL ALASKA		136				
OCT 26	00 04 45.1	35.37N	118.43W	CENTRAL CALIFORNIA		008				3.1PAS
OCT 26	05 30 38.0	18.42N	066.32W	PUERTO RICO REGION	II	093	4.7			
OCT 26	23 20 07.1	19.33N	155.19W	HAWAII	II	008			3.7	
OCT 26	23 24 05.8	59.45N	150.41W	KENAI PENINSULA, ALASKA		052	3.5			
OCT 28	04 22 56.6	57.44N	156.71W	ALASKA PENINSULA		014	4.7	4.3		
OCT 28	09 12 07.1	35.73N	118.38W	CENTRAL CALIFORNIA	II	008				3.8PAS
OCT 29	01 48 31.7	44.63N	111.31W	HEBGEN LAKE REGION		005	4.0			
OCT 30	04 57 32.2	19.39N	155.41W	HAWAII	II	008			3.7	
OCT 30	09 14 48.8	44.82N	110.79W	YELLOWSTONE NATIONAL PARK, WYO.		005	3.9			
OCT 31	05 04 14.4	51.16N	179.63E	RAT ISLANDS, ALEUTIAN ISLANDS		066	4.9			
OCT 31	17 59 48.6	52.77N	167.01W	FOX ISLANDS, ALEUTIAN ISLANDS		036	4.9			

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H	M	S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
OCT 31	20	01	48.9	19.37N	155.08W	HAWAII	II	005			4.0	
OCT 31	20	45	22.1	19.36N	155.07W	HAWAII	II	006			3.8	
NOV 01	17	04	16.0	59.43N	146.08W	GULF OF ALASKA		033				3.6PMR
NOV 01	20	22	59.1	48.60N	123.20W	VANCOUVER ISLAND REGION	II	053				3.5SEA
NOV 02	09	54	36.3	51.01N	179.72W	ANDREANOF ISLANDS, ALEUTIAN IS.		033	4.3			4.7ADK
NOV 02	11	30	36.9	61.89N	150.80W	SOUTHERN ALASKA		061				
NOV 02	19	36	25.2	61.34N	151.75W	SOUTHERN ALASKA		106				
NOV 03	00	30	52.1	64.78N	149.38W	CENTRAL ALASKA		033				3.3PMR
NOV 04	09	02	28.0	38.34N	112.33W	UTAH	II	017	4.3		3.9	
NOV 04	21	17	36.7	63.48N	151.36W	CENTRAL ALASKA		033				
NOV 05	10	24	53.9	60.05N	140.43W	SOUTHEASTERN ALASKA		013	4.0			4.0PMR
NOV 05	12	39	12.6	37.89N	118.59W	CALIFORNIA-NEVADA BORDER REGION		005				3.5BRK
NOV 06	00	38	28.0	34.20N	118.15W	SOUTHERN CALIFORNIA	IV	004				3.0PAS
NOV 06	09	23	08.9	60.19N	153.85W	SOUTHERN ALASKA		194	4.4			
NOV 06	23	26	56.9	61.31N	152.28W	SOUTHERN ALASKA		122				
NOV 07	18	45	41.1	52.61N	174.01E	NEAR ISLANDS, ALEUTIAN ISLANDS	IV	021	4.5			
NOV 09	10	10	35.3	33.58N	116.67W	SOUTHERN CALIFORNIA	II	005				3.2PAS
NOV 09	10	12	57.4	33.58N	116.67W	SOUTHERN CALIFORNIA	II	006				3.5PAS
NOV 09	14	46	15.7	19.37N	155.14W	HAWAII	II	007			3.2	
NOV 09	18	01	20.7	62.16N	153.25W	CENTRAL ALASKA		033				3.0PMR
NOV 10	11	53	14.7	19.40N	155.41W	HAWAII	II	008			4.1	
NOV 11	04	14	20.0	38.75N	122.83W	CENTRAL CALIFORNIA	V	002				3.5BRK

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H	M	S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
NOV 11	05	17	51.0	51.63N	178.11W	ANDREANOF ISLANDS, ALEUTIAN IS.	DAMAGE V	068	5.8			
NOV 11	05	59	16.1	61.50N	146.39W	SOUTHERN ALASKA		061				
NOV 12	00	03	11.1	60.18N	150.97W	KENAI PENINSULA, ALASKA		094	4.0			
NOV 12	09	14	58.9	34.42N	118.42W	SOUTHERN CALIFORNIA	II	004				2.1PAS
NOV 13	04	59	04.1	19.42N	155.28W	HAWAII	II	002			3.5	
NOV 14	04	48	54.7	58.80N	154.62W	ALASKA PENINSULA	IV	037	5.5	5.6		5.4PMR
NOV 14	05	06	12.5	58.83N	154.28W	ALASKA PENINSULA		061	3.9			
NOV 14	06	02	36.7	58.53N	154.09W	ALASKA PENINSULA		033	3.6			4.0PMR
NOV 14	06	04	04.6	58.65N	153.60W	KODIAK ISLAND REGION		033	4.4			
NOV 14	07	34	58.6	59.35N	153.40W	SOUTHERN ALASKA		137				
NOV 14	09	49	47.0	58.47N	154.50W	ALASKA PENINSULA		033				
NOV 14	11	55	45.6	56.38N	153.17W	KODIAK ISLAND REGION		033	3.7			
NOV 14	12	28	46.6	58.36N	154.77W	ALASKA PENINSULA		033				
NOV 14	13	24	10.4	55.35N	162.54W	ALASKA PENINSULA		018	4.4			
NOV 15	03	01	31.6	58.74N	154.64W	ALASKA PENINSULA		042	4.8	4.1		
NOV 15	03	10	14.2	58.45N	154.46W	ALASKA PENINSULA		033				
NOV 15	05	43	43.0	58.84N	154.45W	ALASKA PENINSULA	V	060	3.8			
NOV 15	06	25	29.7	63.45N	151.16W	CENTRAL ALASKA		040				
NOV 15	19	02	28.4	51.33N	178.89W	ANDREANOF ISLANDS, ALEUTIAN IS.		043	4.2			
NOV 16	09	59	25.5	62.63N	152.10W	CENTRAL ALASKA		033				3.0PMR
NOV 16	15	12	41.0	19.19N	156.22W	HAWAII	II	018			3.8	
NOV 17	13	45	09.3	43.71N	127.12W	OFF COAST OF OREGON		033	4.0			

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H	M	S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
NOV 17	15	27	59.4	43.50N	127.04W	OFF COAST OF OREGON		012	5.1			
NOV 18	06	43	51.6	35.68N	117.58W	CENTRAL CALIFORNIA	II	008				3.6PAS
NOV 18	09	59	29.1	34.92N	118.45W	SOUTHERN CALIFORNIA		000				3.5PAS
NOV 18	17	59	07.0	61.25N	147.53W	SOUTHERN ALASKA		022				3.0PMR
NOV 19	10	35	01.3	62.29N	150.77W	CENTRAL ALASKA		033				3.0PMR
NOV 20	00	09	15.0	53.60N	165.25W	FOX ISLANDS, ALEUTIAN ISLANDS		057	5.0			
NOV 20	01	58	56.1	66.20N	149.29W	ALASKA		033	3.6			
NOV 20	05	34	05.6	58.60N	154.61W	ALASKA PENINSULA		017	4.6			4.3PMR
NOV 20	23	49	38.1	35.80N	118.03W	CENTRAL CALIFORNIA		008				3.4PAS
NOV 21	10	16	22.0	58.63N	151.60W	KODIAK ISLAND REGION		033	4.0			
NOV 21	12	55	16.3	37.50N	118.36W	CALIFORNIA-NEVADA BORDER REGION	II	010				3.4BRK
NOV 21	19	02	34.0	34.18N	116.62W	SOUTHERN CALIFORNIA		008				3.4PAS
NOV 21	21	15	06.5	61.78N	152.03W	SOUTHERN ALASKA		104				
NOV 22	05	25	55.5	32.90N	080.15W	SOUTH CAROLINA	DAMAGE VI	018	4.7			
NOV 22	07	49	14.7	19.34N	155.32W	HAWAII	II	029	3.9		4.5	
NOV 22	09	31	16.1	64.50N	158.02W	CENTRAL ALASKA		033	3.7			
NOV 22	16	17	27.6	61.90N	152.12W	SOUTHERN ALASKA		129				
NOV 22	18	04	02.1	60.27N	153.30W	SOUTHERN ALASKA		158	4.6			
NOV 25	03	50	41.4	33.53N	116.55W	SOUTHERN CALIFORNIA	IV	010				3.4PAS
NOV 26	13	20	32.3	51.63N	172.57E	NEAR ISLANDS, ALEUTIAN ISLANDS		029	4.7			
NOV 28	01	48	23.8	47.69N	113.01W	MONTANA		005				
NOV 28	03	35	20.5	32.31N	104.14W	NEW MEXICO		005	3.9		3.7	

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
NOV 28	05 28 48.2	51.87N	175.27W	ANDREANOF ISLANDS, ALEUTIAN IS.	IV	063	5.2			
NOV 28	12 25 11.1	65.27N	149.81W	ALASKA		103				
NOV 28	16 31 58.3	53.62N	163.70W	UNIMAK ISLAND REGION		032	5.3			
NOV 28	18 16 05.6	40.32N	125.13W	OFF COAST OF NORTHERN CALIFORNIA	IV	010	4.5			4.0BRK
NOV 28	18 27 02.8	61.63N	148.35W	SOUTHERN ALASKA	II	012				
NOV 28	22 10 56.2	62.57N	150.82W	CENTRAL ALASKA		037				3.2PMR
NOV 28	23 01 24.8	36.91N	121.50W	CENTRAL CALIFORNIA	DAMAGE VI	009	5.0	4.5		5.2BRK
NOV 28	23 07 59.1	34.23N	116.88W	SOUTHERN CALIFORNIA	II	012				3.2PAS
NOV 28	23 35 57.8	36.93N	121.49W	CENTRAL CALIFORNIA		009	3.2			3.2BRK
NOV 29	01 04 07.1	36.93N	121.49W	CENTRAL CALIFORNIA		008	3.9			4.0BRK
NOV 30	12 57 20.6	53.27N	172.96E	NEAR ISLANDS, ALEUTIAN ISLANDS	IV	017	5.2	4.9		
NOV 30	13 54 23.4	19.42N	155.40W	HAWAII	II	007	5.1	5.5	5.3	
NOV 30	14 07 37.7	19.49N	155.36W	HAWAII	III	008			3.6	
NOV 30	14 46 54.8	19.44N	155.38W	HAWAII	III	008			3.4	
DEC 01	02 51 58.1	51.56N	176.75W	ANDREANOF ISLANDS, ALEUTIAN IS.	III	055	4.1			
DEC 01	06 23 56.4	47.60N	122.32W	WASHINGTON	II	013				3.0SEA
DEC 01	10 20 54.9	37.26N	121.64W	CENTRAL CALIFORNIA	II	006				3.8BRK
DEC 01	11 14 18.7	44.55N	129.35W	OFF COAST OF OREGON		033	4.7			
DEC 01	15 56 32.3	62.21N	150.53W	CENTRAL ALASKA		064	4.0			
DEC 02	07 49 04.0	47.40N	113.86W	MONTANA		005				
DEC 04	20 14 19.4	51.90N	170.86W	FOX ISLANDS, ALEUTIAN ISLANDS		039	4.5			
DEC 06	08 49 07.4	63.07N	150.98W	CENTRAL ALASKA		126	3.3			

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H	M	S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY		DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
DEC 06	12	13	08.0	32.72N	115.40W	CALIFORNIA-MEXICO BORDER REGION	DAMAGE	V	015	4.5			4.8PAS
DEC 06	13	45	13.6	34.10N	118.22W	SOUTHERN CALIFORNIA	DAMAGE	V	015				3.5PAS
DEC 07	00	47	10.8	51.40N	175.01E	RAT ISLANDS, ALEUTIAN ISLANDS			027	4.5			
DEC 07	06	18	02.5	34.18N	117.63W	SOUTHERN CALIFORNIA		III	006				3.0PAS
DEC 07	07	34	11.0	51.86N	170.80W	FOX ISLANDS, ALEUTIAN ISLANDS			033	5.5	5.8		
DEC 07	22	02	40.2	51.68N	174.76E	NEAR ISLANDS, ALEUTIAN ISLANDS			033	5.0	4.9		
DEC 08	01	14	27.8	19.40N	155.44W	HAWAII		II	008			4.3	
DEC 08	16	46	31.9	19.42N	155.38W	HAWAII		II	007			3.8	
DEC 08	17	23	18.5	53.71N	163.46W	UNIMAK ISLAND REGION			033	4.3			
DEC 09	00	12	25.6	61.84N	149.79W	SOUTHERN ALASKA			042				
DEC 10	06	01	32.7	31.35N	087.47W	ALABAMA		V	010				3.0SLM
DEC 10	07	49	07.4	51.91N	170.86W	FOX ISLANDS, ALEUTIAN ISLANDS			043	4.1			
DEC 10	15	00	58.0	64.75N	149.05W	CENTRAL ALASKA		IV	061				
DEC 10	16	05	18.2	61.81N	146.89W	SOUTHERN ALASKA			027	4.4			3.3PMR
DEC 11	10	39	05.3	19.45N	155.52W	HAWAII		II	001			3.6	
DEC 11	13	49	52.7	19.43N	155.56W	HAWAII		II	006			3.3	
DEC 11	23	56	16.2	27.45N	111.25W	GULF OF CALIFORNIA			033	3.7			
DEC 12	14	01	19.1	19.36N	155.11W	HAWAII		II	006			3.8	
DEC 13	03	28	54.2	45.27N	121.60W	WASHINGTON-OREGON BORDER REGION		IV	022	4.1		4.0	
DEC 13	05	03	57.6	34.67N	091.88W	ARKANSAS		V	005				3.4SLM
DEC 13	10	13	21.9	36.70N	091.63W	MISSOURI-ARKANSAS BORDER REGION			005				2.8SLM
DEC 15	02	25	19.0	42.52N	126.58W	OFF COAST OF OREGON			033	4.2			

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
DEC 15	17 59 05.7	48.50N	122.08W	WASHINGTON	V	001				3.1SEA
DEC 15	18 06 59.0	48.50N	122.10W	WASHINGTON	III					2.1SEA
DEC 15	20 53 47.4	19.45N	155.59W	HAWAII	II	004	4.3		4.8	
DEC 16	02 30 21.4	35.33N	097.48W	OKLAHOMA	III	010				2.6 TUL
DEC 16	09 17 29.4	19.39N	155.42W	HAWAII	V	008	5.0		4.9	
DEC 16	09 30 35.7	19.39N	155.42W	HAWAII	II	008			3.7	
DEC 16	17 30 00.5	36.89N	115.98W	CALIFORNIA-NEVADA BORDER REGION		005	4.3			
DEC 16	19 00 55.0	19.40N	155.42W	HAWAII	II	009			3.9	
DEC 18	05 32 13.5	52.66N	168.24W	FOX ISLANDS, ALEUTIAN ISLANDS		042	4.2			
DEC 19	00 17 21.8	59.78N	153.35W	SOUTHERN ALASKA		123				
DEC 19	12 36 16.9	34.08N	118.08W	SOUTHERN CALIFORNIA	IV	008	4.0			3.7PAS
DEC 19	12 39 50.5	34.07N	118.08W	SOUTHERN CALIFORNIA	IV	008				3.4PAS
DEC 19	16 00 49.0	07.40N	078.70W	PANAMA	II	013	5.4	5.8	4.2	
DEC 19	22 14 57.8	60.81N	152.57W	SOUTHERN ALASKA		151				
DEC 20	00 27 29.2	60.88N	147.77W	SOUTHERN ALASKA		033	4.1			
DEC 20	10 48 34.6	63.51N	151.51W	CENTRAL ALASKA		033				3.0PMR
DEC 20	13 39 38.5	58.61N	151.23W	KODIAK ISLAND REGION		033				3.2PMR
DEC 21	18 18 03.9	19.38N	155.44W	HAWAII	II	008			4.2	
DEC 22	05 32 12.3	51.44N	178.52W	ANDREANOF ISLANDS, ALEUTIAN IS.	III	055	4.6			5.1ADK
DEC 22	19 50 57.3	59.09N	154.24W	SOUTHERN ALASKA		033				3.1PMR
DEC 23	20 51 41.1	33.97N	116.37W	SOUTHERN CALIFORNIA		006				3.1PAS
DEC 24	05 47 20.7	33.86N	111.88W	EASTERN ARIZONA	II	004				

*SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
DEC 25	02 49 13.0	51.70N	174.64E	NEAR ISLANDS, ALEUTIAN ISLANDS	IV	040	5.7	5.8		5.9ADK
DEC 25	06 42 49.8	51.43N	174.72E	NEAR ISLANDS, ALEUTIAN ISLANDS		033	4.1			
DEC 25	07 54 46.0	51.73N	174.49E	NEAR ISLANDS, ALEUTIAN ISLANDS		037	5.1	4.8		
DEC 25	11 14 40.7	54.08N	163.38W	UNIMAK ISLAND REGION		030	4.4			
DEC 25	13 21 35.0	35.78N	090.01W	ARKANSAS	II	010			3.0	
DEC 25	17 47 49.5	19.32N	155.28W	HAWAII	II	028	4.5		4.7	
DEC 25	22 43 51.7	62.18N	148.97W	CENTRAL ALASKA		033				3.0PMR
DEC 26	04 13 20.6	19.22N	155.29W	HAWAII	II	005			4.3	
DEC 26	04 17 10.2	19.23N	155.29W	HAWAII	II	005			4.1	
DEC 26	04 24 14.1	19.22N	155.30W	HAWAII	II	005			4.4	
DEC 26	18 32 39.2	51.47N	174.86E	NEAR ISLANDS, ALEUTIAN ISLANDS		033	4.7			
DEC 28	00 11 53.7	54.19N	162.77W	ALASKA PENINSULA		044	4.6			
DEC 29	03 02 38.1	19.74N	156.05W	HAWAII	II	004			3.9	
DEC 29	05 24 23.5	19.35N	155.09W	HAWAII	II	007			4.2	
DEC 29	09 51 44.9	37.96N	122.36W	NORTHERN CALIFORNIA	V	004	3.1			3.5BRK
DEC 29	13 31 30.7	51.12N	178.91E	RAT ISLANDS, ALEUTIAN ISLANDS		054	4.4			
DEC 29	18 25 00.7	61.60N	150.51W	SOUTHERN ALASKA	V	067	5.6			
DEC 30	03 08 17.7	58.04N	151.13W	KODIAK ISLAND REGION		033				3.7PMR
DEC 30	03 22 10.6	19.32N	155.28W	HAWAII	II	029			4.1	
DEC 30	03 33 16.6	61.98N	149.69W	CENTRAL ALASKA	V	062	5.1			
DEC 30	12 27 35.8	61.71N	150.81W	SOUTHERN ALASKA		066				
DEC 30	12 51 43.9	19.40N	155.41W	HAWAII	II	007			3.6	

SEE FOOTNOTES AT END OF TABLE

TABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY		DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
DEC 31	04 37 31.2	52.53N	179.26W	ANDREANOF ISLANDS, ALEUTIAN IS.			228	5.1			
DEC 31	10 30 27.0	19.39N	155.28W	HAWAII		II	005			3.4	
DEC 31	11 12 56.3	19.36N	155.43W	HAWAII		II	021			3.5	
DEC 31	19 30 56.2	19.31N	155.33W	HAWAII		II	005			3.2	
DEC 31	20 22 01.2	36.93N	121.48W	CENTRAL CALIFORNIA		IV	009				4.4BRK
DEC 31	22 14 02.8	19.29N	155.36W	HAWAII		II	006			3.0	
DEC 31	22 25 29.1	19.30N	155.37W	HAWAII		II	003			3.2	
DEC 31	22 40 47.8	19.29N	155.36W	HAWAII	DAMAGE	V	005	5.5	5.2	5.3	
DEC 31	23 06 45.0	19.27N	155.36W	HAWAII		II	006			3.0	
DEC 31	23 56 37.3	19.34N	155.33W	HAWAII		II	006			3.5	
JAN 01	00 39 21.8	19.31N	155.36W	HAWAII		II	005			3.4	
JAN 01	00 49 13.7	19.26N	155.36W	HAWAII		II	000			4.0	
JAN 01	00 59 13.9	19.28N	155.36W	HAWAII		II	004			3.4	
JAN 01	01 28 59.1	19.02N	155.19W	HAWAII		II	031			4.4	
JAN 01	01 51 17.3	19.33N	155.32W	HAWAII		II	004			3.3	
JAN 01	02 48 19.0	19.32N	155.33W	HAWAII		II	004			3.1	
JAN 01	03 10 53.0	19.31N	155.37W	HAWAII		II	004			3.2	
JAN 01	04 02 17.0	19.29N	155.37W	HAWAII		II	007			3.2	
JAN 01	04 12 20.0	19.31N	155.38W	HAWAII		II	005			3.1	
JAN 01	05 51 30.6	19.27N	155.38W	HAWAII		II	004			3.4	
JAN 01	06 43 55.0	19.29N	155.38W	HAWAII		II	005			4.1	
JAN 01	06 53 24.4	19.25N	155.34W	HAWAII		II	003			3.4	

*SEE FOOTNOTES AT END OF TABLE

ABLE 1 - LOCATIONS OF EARTHQUAKES AND RELATED PHENOMENA THAT OCCURRED IN THE UNITED STATES DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H	M	S	GEOGRAPHIC COORDINATES LAT. DEG.	LONG. DEG.	REGION	REMARKS/MM-INTENSITY	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
AN 01	07	24	48.2	19.28N	155.39W	HAWAII	III	005			3.4	
AN 01	07	41	54.0	19.26N	155.35W	HAWAII	III	005			4.2	

NOTE: Hawaii earthquakes of Jan 01 (GMT) occurred Dec 31, 1974, local time.

*USGS magnitudes are as follows:

MB -- Computed from body wave on seismogram.
MS -- Computed from surface wave on seismogram.
ML -- Computed only for local earthquakes west of the Rocky Mountains. The magnitudes under the ML column can be either ML or MBLG (east of the Rocky Mountains).

**Abbreviations following magnitude values are as follows:

ADK -- NOAA, Adak observatory, Adak, AK.
BLA -- Virginia Polytechnic institute and State University, Blacksburg, VA.
BRK -- University of California, Berkeley, CA.
CON -- University of Connecticut, Groton, CT.
NRR -- University of Nevada, North Reno, NV.
PAS -- California Institute of Technology, Pasadena, CA.
PMR -- NOAA, Palmer Observatory, Palmer, AK.
SEA -- University of Washington, Seattle, WA.
SLM -- Dept. of Earth and Atmospheric Sciences, Saint Louis University, Saint Louis, MO.

Note: Magnitude values under this column (Other Magnitudes) generally are ML. However, for precise information on these values, refer to the USGS PDE reports.

EASTERN REGION

[Time given in this region is eastern standard. If an epicenter is quoted, Greenwich mean time is given in parentheses. This region includes Alabama, Delaware, Florida, Georgia, Kentucky (eastern), Maryland, Mississippi (eastern), New Jersey, North Carolina, Pennsylvania, South Carolina, Tennessee (eastern), Virginia, Washington, D.C., and West Virginia.]

Jan. 11. 12:42:11.5, CPO. McMinnville, Tenn. Int. II. Felt by some.

Apr. 28. 09:19:20, NED. Wilmington, Del. Int. IV. Pictures shifted; windows, doors, and dishes rattled. Generally felt in the southwestern part of Wilmington. Possible aftershocks on Apr. 29 at 12:30 and 17:55.

May 16. During the day. North Carolina Mountains. Felt in Brevard, Hendersonville, and Waynesville, N.C. Not recorded by seismographs in area.

May 30. 16:28:37.2 (21:28). Epicenter 37.38° N., 80.42° W., Virginia, at a depth of 8 km, BLA. Felt over 5,400 km² (2,084 mi²) of southwestern Virginia and southeastern West Virginia. Int. V. No damage occurred, but small objects shifted, residents were frightened, and houses and windows rattled.

INT. V IN WEST VIRGINIA

Gap Mills and Pickaway.

INT. V IN VIRGINIA

Belspring, Kimballton, Lafayette, and Pembroke.

INT. IV IN WEST VIRGINIA

Alderson, Lindside, Sarton, Union, and Waiteville.

INT. IV IN VIRGINIA

Catawba, Fincastle, New Castle, Newport, and Ripplemead.

INT. I-III IN WEST VIRGINIA

Cucumber, Dingess, Drennen, Forest Hill, Gary, Greenville, Meadow Bridge, Peterstown, Sweet Springs, and Willow Bend.

INT. I-III IN VIRGINIA

Blairs, Eggleston, Emory, Glen Lyn, Paint Bank, Roanoke, and Vansant.

Aug. 2. 03:52:09.8 (08:52). Epicenter 33.87° N., 82.49° W., Georgia, at a depth of 1 km, USGS. Int. V. Felt over 36,400 km² (14,000 mi²) of Georgia, North Carolina, and South Carolina (see fig. 4). Slight damage was reported 1 km north of Bobby Brown State Park, Ga.

INT. V IN GEORGIA

Boneville, Conyers, Crawfordville, Madison, Rayle, Robinson, Sharon, Toomsboro, Warrenton, and Washington.

INT. V IN SOUTH CAROLINA

Cross Hill, Hodges, and Parksville.

INT. IV IN GEORGIA

Appling, Augusta, Bethlehem, Bishop, Bowman, Buford, Canon, Carlton, Crawford, Culloden, Davisboro, Dearing, Demorest, Dewy Rose, Evans, Experiment, Farmington, Gibson, Gillsville, Greensboro, Grovetown, Haddock, Hardwick, Harlem, Indian Springs, Kelly, Lexington, Lincolnton, Mansfield, Martinez, Mitchell, Monticello, Norwood, Oxford, Penfield, Philomath, Round Oak, Shady Dale, Social Circle, Statham, Thomson, Union Point, White Plains, and Zebulon.

INT. IV IN SOUTH CAROLINA

Abbeville, Aiken, Bath, Blair, Calhoun Falls, Clarks Hill, Graniteville, Greenwood, Johnston, Lowndesville, McCormick, Modoc, Mount Carmel, New Ellenton, Ninety Six, Plum Branch, Saluda, Warrenville, and Willington.

INT. I-III IN GEORGIA

Arnoldsville, Atlanta (press), Avera, Avondale, Bonaire, Bostwick, Covington, Elberton, Fry, Gough, Gracewood, Gwinnett, Hartwell, Hephzibah, Macon (press), Marietta, Mayfield, Rutledge, Stonewall, Thomaston (press), Vanna, and Winterville.

INT. I-III IN NORTH CAROLINA

Hayesville and Union Mills.

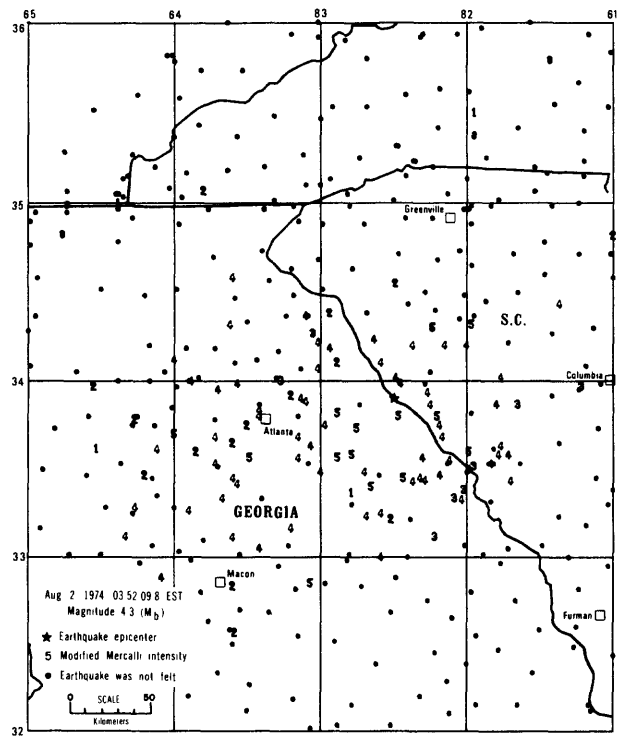

FIGURE 4.-Area affected by Georgia earthquake of August 2.

INT. II-III IN SOUTH CAROLINA

Belton, Edgemoor, Lexington, North Augusta, and Ridge Spring.

Oct. 8. 18:22:28. Clark Hill Reservoir, S.C. Mag. 3.1 (m_b). Reported felt at Bordeaux and Willington. Recorded at a temporary station at Clark Hill Reservoir.

Oct. 20. 10:13:55.1 (15:13). Epicenter 39.10° N., 81.59° W., West Virginia, at a depth of 11 km, USGS. Int. V. Felt over a small area of southeastern Ohio and northwestern West Virginia. A Parkersburg, W. Va., resident reported "cracked plaster and articles toppling from shelves." Int. V effects also occurred at Ravenswood, W. Va., and Belpre, Ohio; int. IV in West Virginia at Belleville, Cottageville, New Haven, and Morgantown (press); in Ohio at Athens, Coolville, Hockingport, and Nelsonville; int. II-III in Ohio at Marietta, Pomeroy, Reedsville, Stockport, and Vincent.

Oct. 28. 07:33 (12:33). Macroseismic location 33.79° N., 81.92° W., South Carolina, CSC. Int. IV at Edgefield, Johnston, and Trenton. NOTE: This epicenter is not listed in table 1 of this publication.

Nov. 4. 22:00 (Nov. 5. 03:00). Macroseismic location 33.73°N., 82.22°W., South Carolina area, CSC. Int. II at Clark Hill Dam, McCormick, Modoc, and Parksville. NOTE: This epicenter is not listed in table 1 of this publication.

Nov. 7. 16:31:04.5 (21:32). Macroseismic epicenter 37.75°N., 78.20°W., central Virginia, mag. 2.4, BLA. Int. IV. Felt near Cartersville, Columbia, Cumberland (near), Georges Tavern (north of), Goochland (near), and Palmyra. NOTE: This epicenter is not listed in table 1 of this publication.

Nov. 22. 00:25:55.5 (05:25). Epicenter 32.90° N., 80.15° W., South Carolina, at a depth of 18 km, USGS. Int. VI. Felt over approximately 130,000 km² (50,000 mi²) of South Carolina, North Carolina, and Georgia (one town) (see fig. 5). The following has been excerpted from an unpublished report prepared by A. Benson, Law Engineering Co., Marietta, Ga., who visted the epicentral area: "The initial stop was Saint Philip's Cathedral located in downtown Charleston. Both the interior and the exterior of the church displayed radial cracks extending from the apex of the arches over the outside wall windows. Several cracks within the building prior to the earthquake were either enlarged or lengthened following the November 22 event. The cracks extended upward through interior trim and supporting members of the church roof. In the church rectory located approximately three blocks south, the ceiling of the first-floor living room had separated from the wall approximately ½ inch. Damage both in the church and in the rectory was located predominately on the south side of the buildings.

"Examinations of the older buildings immediately adjacent and surrounding the Saint Philip's area revealed that many display extensive cracking of the walls. It was not possible to determine if these cracks were the result of earthquake damage, either of the latest event or previous event or the result of foundation settlement.

"The most significant [damage] occurred in the Northwood Estates area of north Charleston. There were two reports in this area consisting of a new subdivision of ranch style brick homes, slab on grade. The most extensive damage was observed at the residence of A.W. Powell. Mrs. Powell reported cracked bricks in the brick veneer of the house, stretched steel railings along the outside of the house, fresh cracks in the driveway and sidewalk, and an outside decorative brick wall which had separated from the house. The damage appeared to be legitimate. The cracked bricks were in an area of the house where they had previously experienced foundation settlement. The settlement cracks resulting from these problems were evident. However, the fresh cracks through the individual bricks were apparently related to the earthquake. A second home approximately three blocks from the Powell residence also reported cracked brick. Once again this home had previously experienced foundation settlements. However, as before, the cracks through the bricks were fresh, distinct, and definitely related to the earthquake by the owners. Additional damage reported in Charleston consisted of reports of cracked plaster, minor masonry damage, such as cracked driveways and sidewalks, and repeated reports of heavy objects such as refrigerators and beds being moved and displaced during the earthquake. The repeatability of these damage reports seems to indicate that they are valid, and these occurrences are definitely earthquake related.

"Damage reports from the Summerville, South Carolina, area were similar to those encountered in Charleston. We investigated four reported damage cases in the Summerville area. The damage typically consisted of cracked concrete block footings, a broken windowpane, and the movement of heavy objects in homes during the earthquake. As we encountered in Charleston these events all bear similar traits and appear to be related to the earthquake."

INT. VI IN SOUTH CAROLINA

Charleston (Northwood Estates, 8431 Deerwood Dr.).—Felt by and awakened many in community; frightened all. Floor pole lamp shifted. Outside wall cracked

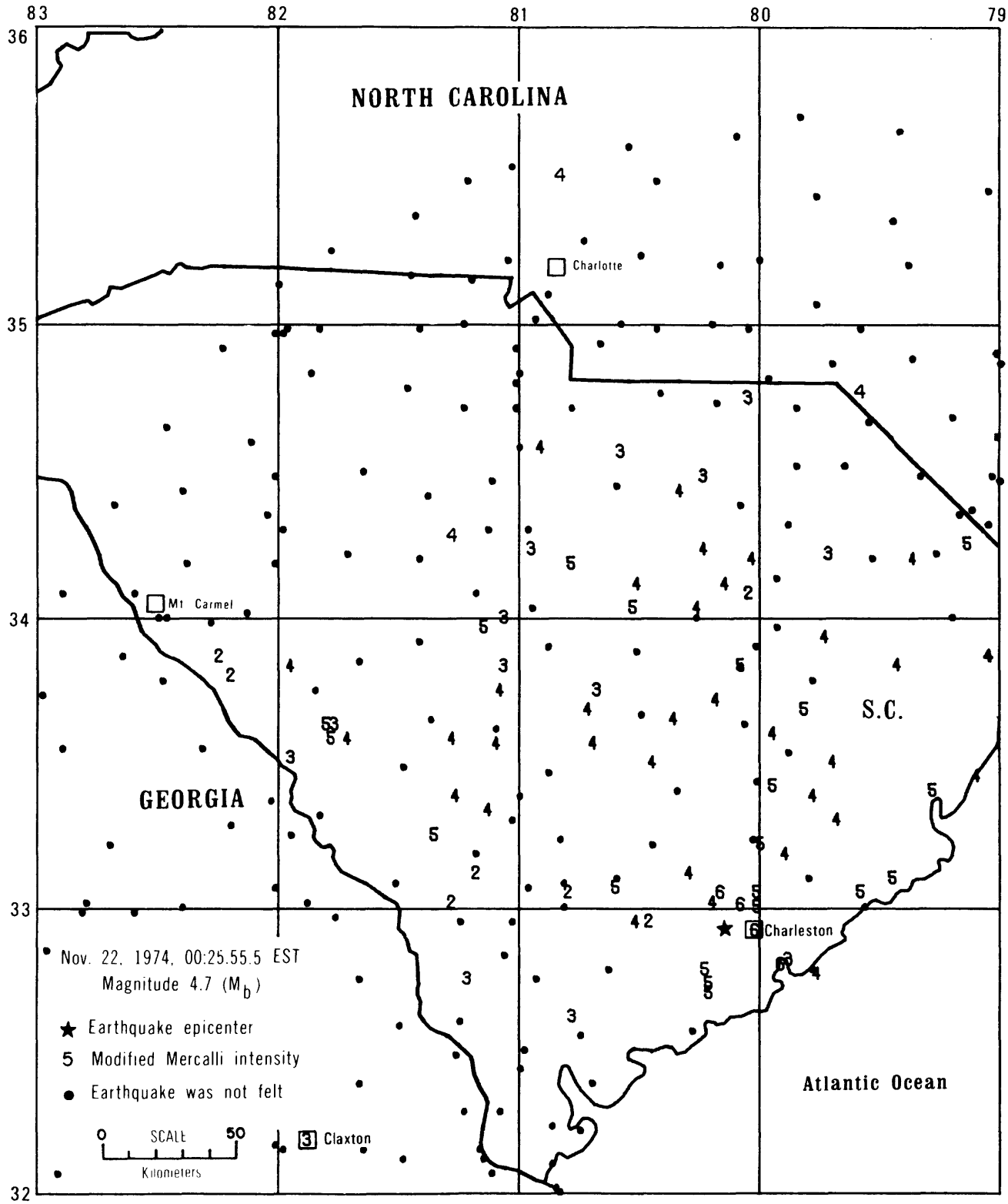

FIGURE 5.-Area affected by South Carolina earthquake of November 22.

from ceiling to ground. "A crack (previously repaired) reopened to ground. Brick loosened. Slight cracks in sidewalks. Caulking on south side of building cracked and railing stretched." Note: Field visit appears to confirm the described damage.

Charleston (Northwood Estates, 8327 Witsell St.).—Awakened and frightened all in home. Dresser, beds, and freezer moved. Bricks cracked. Note: Field visit confirms damage.

Charleston (1 Live Oak-Ashley Forest).—Awakened and frightened all in home. "Bed furniture moved approximately 6 inches from east wall."

Charleston Air Force Base (Barracks 248).—Awakened and frightened all. "Everything rattled." Plaster cracked. Damage slight. "Friends on third floor became so frightened they evacuated."

Ladson (General Electric Plant).—Many frightened at work. "Moved turbine parts that were bolted to beds. A 500-ton machine tool jumped around on its bed." Damage slight.

Summerville (Oakdale Subdivision).—Awakened and frightened all in home. Water in aquarium vibrated and shook. Enlarged patio cracks in concrete floor. Garage floor cracked at 1420 Wannamaker Drive. NOTE: Field visit confirms damage.

INT. V IN SOUTH CAROLINA

Awendaw, Barnwell (plaster cracked), Canadys (plaster cracked), Cayce, Elgin, Gable, Georgetown (small cracks noted in some buildings), Goose Creek (furniture shifted, overturned, broken), Graniteville, Horatio, Kingstree (card table overturned), McClellanville, Meggett, Moncks Corner, Mount Holly, Myrtle Beach, Nichols, Ravenel, Russellville, Vaucluse, and Yonges Island.

INT. IV IN SOUTH CAROLINA

Aiken, Alvin, Bath, Bethune, Bishopville, Blackville, Cameron, Conway, Cordesville, Denmark, Edgefield, Elko, Elliott, Great Falls, Greeleyville, Isle of Palms, Jamestown, Johnsonville, Lamar, Manning, Marion, Mayesville, Neeses, Oswego, Pawleys Island, Peak, Rembert, Ridgeville, Round O, Saint Mathews, Salley, Santee, Scranton, Summerton, Swansea, and Trio.

INT. IV IN NORTH CAROLINA

Brunswick, Davidson, Gibson, and Lake Waccamaw.

INT. I-III IN SOUTH CAROLINA

Allendale, Blythewood, Chesterfield, Cottageville, Estill, Florence, Fort Motte, Gaston, Kershaw, Lynchburg, McBee, North Augusta, Mount Pleasant, Parksville, Parr, Plum Branch, Sheldon, Ulmers, Warrenville, West Columbia, Williams, and Williston.

INT. III IN GEORGIA

Claxton.

INT. II IN NORTH CAROLINA

Teacheys.

Dec. 3. 03:25 (08:25). Macroseismic location 33.95° N., 82.50° W., South Carolina, CSC. Int. II at Willington, Bordeaux, and Hickory Knob State Park (possible aftershock of Aug. 2 event).

Dec. 9. 10:00, 13:40. Felt at Wilmington, N.C. Not recorded by seismographs, as nearest station is 200 km away.

1974. North Carolina-South Carolina area. David M. Stewart, Director, MacCarthy Geophysics Laboratory, University of North Carolina, Chapel Hill reports: "Persistent, audible, offshore microearthquakes are reported felt between Myrtle Beach, S.C., and Wrightsville Beach, N.C., with most intense reports centered near Fort Fisher and Southport, N.C., on the point of Cape Fear. The frequency is about 1 per week and magnitudes are less than 1.0, usually less than 0.0. People in this area tell me that these persistent events have been going on for at least 10 years."

Dec. 10. 01:01:32.7 (06:01). Epicenter 31.35° N., 87.47° W., Alabama, at a depth of 10 km, USGS. Int. V at Huxford where small objects fell. Small canvass (about 8 towns).

CENTRAL REGION

[Time given in this region is central standard. If an epicenter is quoted, Greenwich mean time is given in parentheses. This region includes Arkansas, Colorado (eastern), Illinois, Indiana, Iowa, Kansas, Kentucky (western), Louisiana, Michigan, Minnesota, Mississippi (western), Missouri, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota, Tennessee (western), Texas (eastern), and Wisconsin.]

Jan. 7. 10:47. Des Moines, Iowa, area. Felt over approximately 2,340 km^2 (900 mi^2) of central Iowa. Int. IV effects were noted at Clive, Elkhart, Granger, and West Des Moines; int. III at Cambridge, the northernmost town in the felt area; int. II at Carlisle, Indianola (the southernmost point in the felt area), and Sheldahl. The USGS canvassed 69 towns in the region for intensity data. Of these, 55 reported the event "not felt," 8 felt, and 6 did not return the questionnaire. The disturbance was not recorded by seismographs in the area and may have been an explosion for bridge construction.

Jan. 7. 19:12:37.4 (Jan. 8, 01:12). Epicenter 36.20° N., 89.39° W., northwestern Tennessee region, at a depth of 1 km, SLM. Int. V. Felt over a small area of western Tennessee, southern Missouri, and at a few towns in southern Illinois and northeastern Arkansas. No damage

occurred, but small objects shifted at Burfordville, Mo., and Dyersburg and Elbridge, Tenn. Dishes rolled off kitchen cabinet at Miston, Tenn. The USGS canvassed 500 towns in the region for intensity data. Of these 400 reported the earthquake was not felt and 61 did not return the questionnaire.

On Mar. 29, 1972, an earthquake located a few kilometers west of this epicenter (36.20°N., 89.61°W.) and with the same magnitude was felt over 171,000 km^2 of six states and caused minor damage in Missouri and Kentucky.

INT. V IN MISSOURI

Burfordville.

INT. V IN TENNESSEE

Bogota, Dyersburg, Elbridge, Hornbeak, Miston, and Ridgely.

INT. IV IN MISSOURI

Deering, Gobler, and Hayti.

INT. IV IN TENNESSEE

Bradford, Darden, Dyer, Friendship, Obion, Samburg, and Tiptonville.

INT. I-III IN ARKANSAS

Keiser and McDougal.

INT. I-III IN ILLINOIS

Perks and Royalton.

INT. I-III IN MISSOURI

Campbell, Caruthersville, Matthews, Oxly, and Steele.

INT. I-III IN TENNESSEE

Camden, Morris Chapel, Scotts Hill, Trimble, Troy, and Woodland Mills.

Feb. 15. 07:33:49.2 (13:33). Epicenter 36.50° N., 100.69°W., Texas Panhandle region, at a depth of 24 km, USGS. Int. V. Felt over about 37,000 km^2 (14,282 mi^2) of northern Texas, northwestern Oklahoma, and southwestern Kansas (see fig. 6.). Slight damage in the form of cracks in plaster was reported at Booker, Darrouzett, and Perryton, Tex., Texhoma and Woodward, Okla., and Liberal, Kans.

INT. V IN KANSAS

Liberal (press reported cracks in basement floor of Greenbriar Apartments) and Ulysses.

INT. V IN OKLAHOMA

Balko, Beaver, Forgan, Knowles, May, Texhoma (plaster cracked slightly; small objects fell), and Woodward (plaster cracked in a few houses; wall decoration fell).

INT. V IN TEXAS

Booker ("few cracks opened in walls"), Darrouzett (some cracking of plaster), and Perryton (few broken glasses; press reported "some walls were cracked").

INT. IV IN KANSAS

Richfield and Rolla.

INT. IV IN OKLAHOMA

Baker, Elmwood, Erick, Goodwell, Hardesty, Reydon, Rosston, Sweetwater, Turpin, Tyrone, and Vinson.

INT. IV IN TEXAS

Briscoe (doubtful report of highway damage 1.6 km west of Briscoe on Highway 83, 125 km southeast of epicenter), Farnsworth, Glazier, Gruver, Lipscomb, Morse, Sanford, Spearman (press), Stinnett, Sunray, and Waka.

INT. I-III IN KANSAS

Ashland, Kismet, and Dodge City (press).

INT. I-III IN OKLAHOMA

Adams, Buffalo, Camargo, Fargo, Fort Supply, Gate, Guymon, Hooker (press), Mayfield, Mutual, Optima, Sharon, and Shattuck.

INT. I-III IN TEXAS

Amarillo (press), Borger, Canadian (press), Dumas (press), Fritch, Masterson, and Pampa (press).

Feb. 15. 16:35:44.7 (22:35, foreshock), 16:49:01.8 (22:49, main shock), 16:53:02.2 (22:53, aftershock). Epicenters (1) 34.05° N., 93.13° W., (2) 33.96° N., 93.03° W., (3) 33.92° N., 93.02° W., Arkansas, all at a depth of 1 km, SLM. Int. V. The principal earthquake at 16:49 was felt over about 17,000 km^2 (6,600 mi^2) of southern Arkansas, from Little Rock in the north to Magnolia on the south and from Texarkana on the west to Tinsman on the east. The foreschock and aftershock were observed by residents in several towns. The only damage occurred in Whelen Springs where plaster cracked in some buildings during the main tremor. A few small objects were shifted or shaken from shelves in Arkadelphia, Bluff City, Donaldson, Gurdon, and Whelen Springs. Intensities are for the main earthquake at 16:49.

INT. V

Arkadelphia (3 shocks), Beirne (3 shocks, third the strongest), Bluff City, Donaldson, Gurdon (3 shocks), and Whelen Springs (3 shocks).

INT. IV

Emmet, Friendship, Leola (3 tremors), Malvern (2 tremors), Manning, Okolona, Ozan, Prescott, Sparkman, Tinsman, and Vaden.

INT. I-III

Bonnerdale, Cale, Camden (press), El Dorado (press), Harrell, Hope (press), Hot Springs (press), Little Rock, Mabelvale (press; 3 tremors), Magnolia (press), McCaskill, Sheridan, and Texarkana (press; 2 shakes at municipal airport).

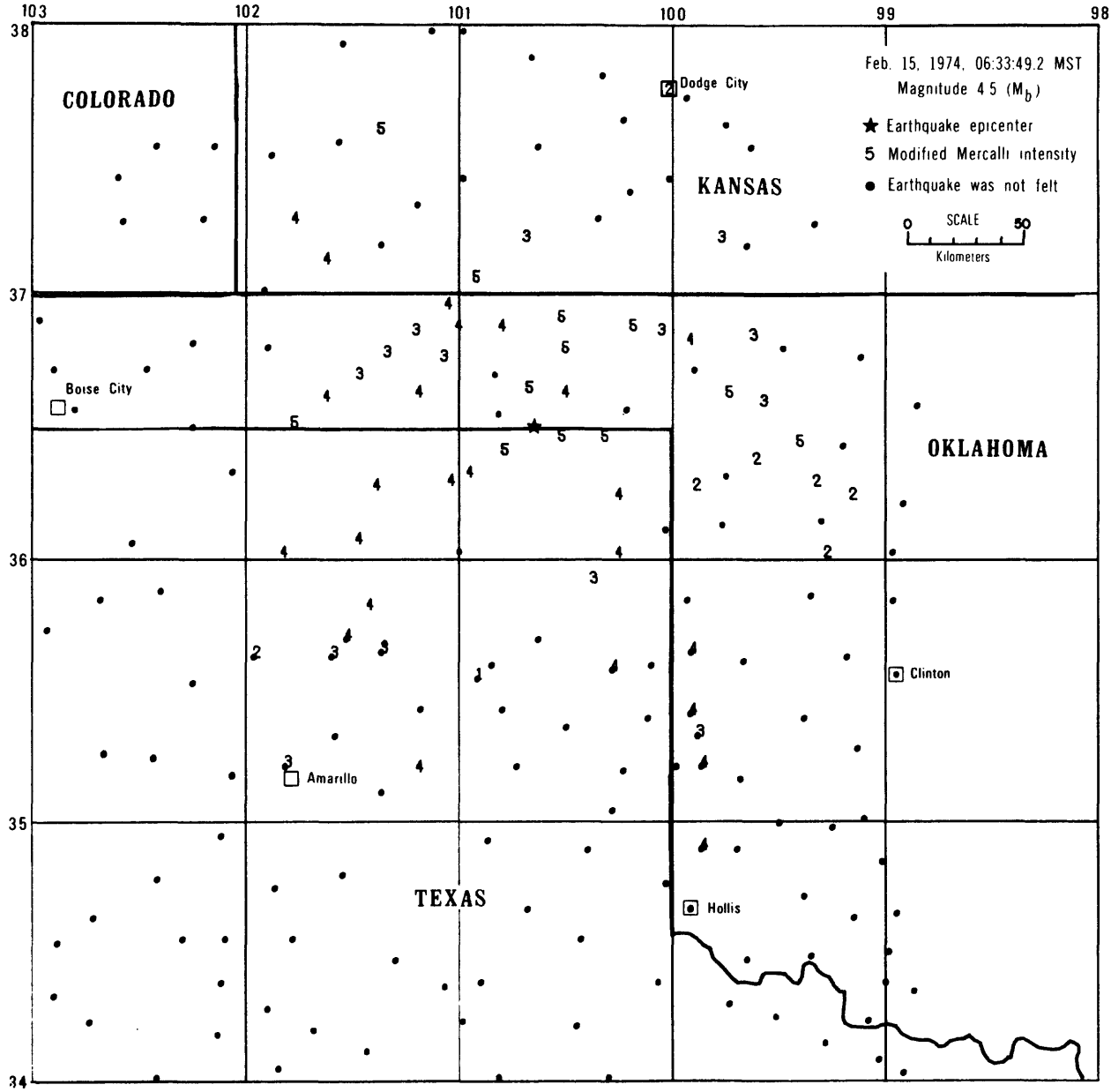

FIGURE 6.-Area affected by Texas Panhandle earthquake of February 15.

Mar. 27. 10:10:56.3 (16:10). Epicenter 38.55° N., 90.13° W., Illinois, at a depth of 10 km, SLM. Int. II in South and East Saint Louis, Ill., and at Saint Louis, Mo.

Apr. 3. 17:05:02.5 (23:05). Epicenter 38.59° N., 88.09° W., southern Illinois, at a depth of 11 km, USGS. Int. VI. Felt over approximately 632,000 km² (243,000 mi²) of all or parts of Arkansas, Illinois, Indiana, Iowa, Kentucky, Michigan, Missouri, Ohio, Tennessee, Virginia, and Wisconsin (see fig. 7). Minor damage, generally in the form of cracked and broken chimneys, cracked walls and concrete floors, occurred at Hillsdale and Velpen, Ind., and Lancaster and West Salem, Ill. Other types of slight damage (cracked plaster and windows principally) occurred at many towns throughout the two states. Doubtful reports of house foundations damage were received from Cutler, Ind. (about 240 km northeast of the epicenter of the earthquake), and from Florence, Ky. (about 312 km east of the epicenter). NOTE: Tornadoes

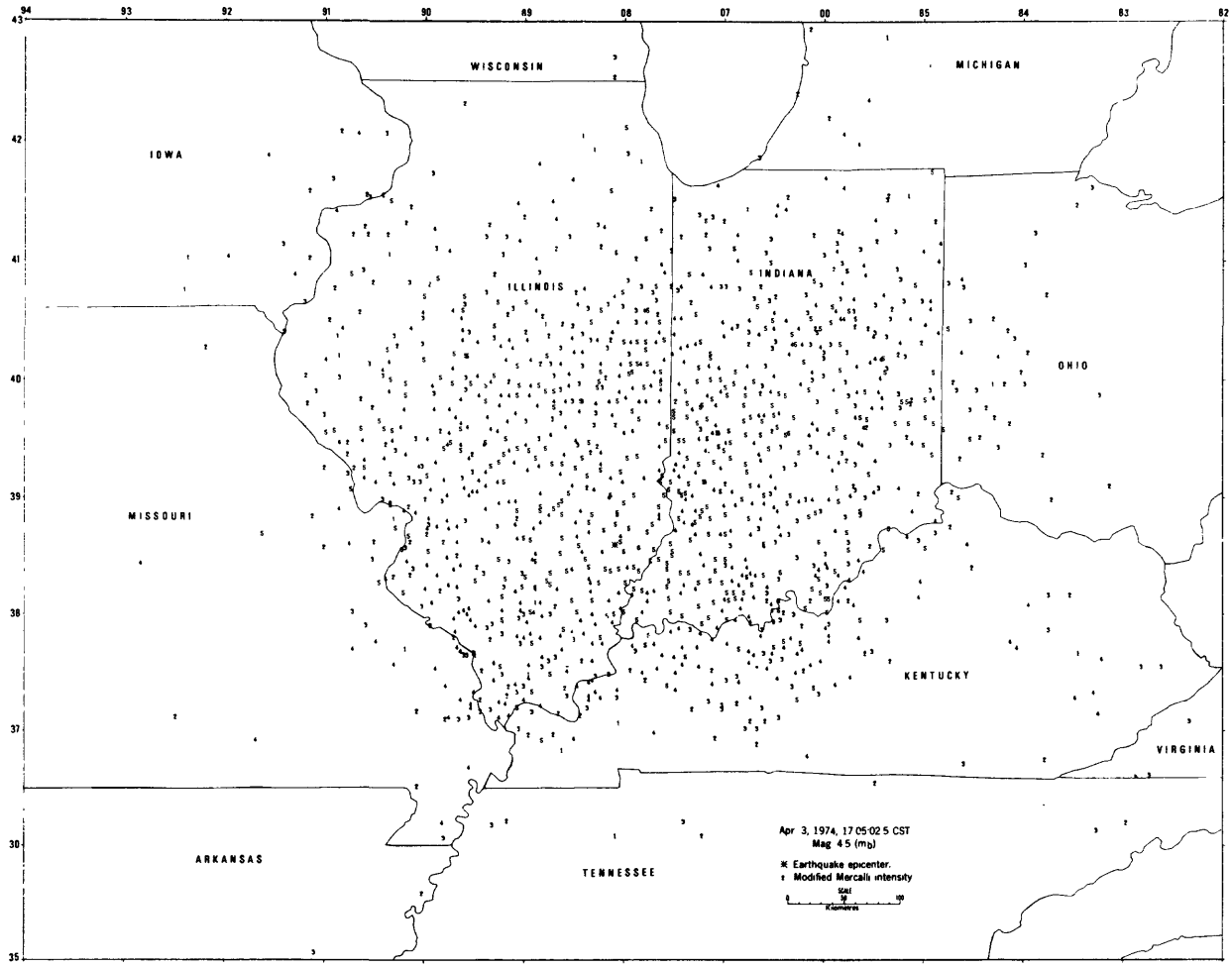

FIGURE 7.-Area affected by southern Illinois earthquake of April 3.

passed through the area affected by the earthquake within an hour or so of the earthquake occurrence. Many of the reports probably have confused effects of the earthquake and those caused by the tornadoes.

INT. VI IN ILLINOIS

Lancaster.—Felt by all and frightened many in community. Chimneys cracked; small objects shifted. Loud earth noises.

West Salem.—Felt by and frightened all in home. "A few chimneys and tombstones were shaken down." At 301 N. Main, chimney was badly damaged. Few cans fell from shelves of service station. A chimney in north part of town was damaged badly owing to weak mortar. Another report noted that "one chimney overturned. Everything rattled. House shook all over. Loud roar."

INT. VI IN INDIANA

Hillsdale.—Felt by many in community; frightened few. Sidewalk cracked. Concrete blocks cracked. Plaster cracked. Heavy metal closet moved 1 inch. Rumble heard.

Velpen.—Felt by all and frightened few. Concrete floor, garage, and blocks cracked. Dishes and knick-knacks shifted, overturned, and fell. Slight damage.

INT. V IN ILLINOIS

Albion (cement cracked), Allendale, Alsey, Alvin, Armstrong, Astoria, Athens, Atwood, Belknap, Belle Rive, Belleville, Bellmont, Bingham, Bluff Springs, Bluford, Bone Gap, Bonnie, Bridgeport, Brimfield, Broadlands, Brocton, Brownstown, Burnt Prairie, Casey, Cerro Gordo, Claremont, Cobden, Collison, Colona,

Cornland, Dale, Decatur (press reported 50-ft. crack in basement wall on Windsor Rd. Wall full of hairline cracks), Dennison (basement walls cracked), Dewitt, Divernon, Dowell, Dundas, Edgewood, Ellery, (plaster cracked), Elwin, Emma, Enfield, Fairfield, Fairmount, Farmington, Fithian, Flat Rock, Fults, Galatia, Geff, Gibson City, Gifford, Goldengate, Goodfield, Goodwine, Grayville, Harristown, Hazel Dell, Hecker, Herald, Herscher, Hillsboro, Homer, Hoopeston, Hoyleton, Hutsonville, Ingraham, Iola, Jewett, Keensburg, Kenney, Kilbourne, Kincaid, Kirkwood, La Cledge, Lake City, Lakewood, Lawrenceville, Literberry, Loogootee, Lovejoy, Mackinaw, Manchester, Marion, Martinsville, Mason, Mason City, Mattoon, McLeansboro, Mechanicsburg, Melvin, Michael, Middletown, Milton, Minier, Mode, Monroe Center, Montrose, Mount Carmel, Mount Pulaski, Murdock, Neoga, New Holland, Nilwood, Noble, Nokomis, Oakdale, Oakley, Oakwood, Oblong, Odin, Ogden, Ohlman, Olivet, Olney, Onarga, Opdyke, Orchardville, Oreana, Owaneco, Palestine, Palmer, Palos Heights, Pana, Parkersburg, Pekin, Peoria, Pesotum, Petersburg, Philo, Plainview, Potomac, Radom, Redmon, Ridgway, Rinard, Robinson, Rockport, Sailor Springs, Sainte Marie, St. Francisville, Saint Peter, Salem, Savoy, Shelbyville, Shobonier, Sidell, Sigel, Simpson (plaster cracked), Stewardson, Summer Hill, Tamaroa, Texico, Tolono, Tower Hill, Vermilion (few windows cracked), Virden, Virginia, Waggoner, Waltonville, Warrensburg, Watseka, Watson, Wayne, Wayne City, West Liberty, West York, Westville, Williamsville, Willow Hill, Winchester, Witt, and Xenia.

INT. V IN INDIANA

Advance (plaster cracked), Alamo, Amboy, Arlington, Attica, Bainbridge, Bethlehem, Bicknell, Blanford, Boggstown, Boonville, Bowling Green, Bridgeton, Brook, Brooklyn, Brookville, Brownsburg, Brownsville, Buffalo (plaster cracked), Buffaloville, Cambridge City, Camby, Cannelburg, Cedar Grove, Centerpoint, Centerton, Centerville (walls cracked), Clay City, Clayton, Clinton, Cloverdale, Coalmont, Commiskey, Connersville, Corydon, Craigville, Crandall, Crawfordsville, Cutler (doubtful report that bricks dislodged from foundation), Dale (plaster cracked), Danville, Decker, Delphi, Dublin, Eckerty, Edwardsport, Elizabeth, Elwood, Eminence, Emison, Evansville, Fillmore, Forest, Fort Branch, Francisco, Freedom, Fremont, French Lick, Gas City, Glenwood, Grand View, Graysville, Greencastle, Greentown, Griffin, Gwynneville, Hatfield, Haubstadt, Hazleton, Hebron, Heltonville, Hemlock, Henryville, Holland, Indian Springs, Indianapolis, Inglefield, Jonesville, Judson, Kingman, Knightsville, Kokomo, Koleen, Kyana, Lapel, Lewis, Liberty, Lincoln City, Linton, Lynn, Mariah Hill, Mauckport, Medaryville, Medora, Mellott, Merom, Mexico, Monroe City, Monrovia (plaster cracks enlarged), Montezuma, Morgantown, Mount Saint Francis, Mount Vernon, Muncie, Newburgh, New Goshen (concrete walks cracked), New Lebanon, New Market, New Middletown, New Palestine, New Ross, Newport, Newtown, Oakland City, Odon (faint plaster cracks), Otwell, Owensville, Oxford, Paragon, Patoka, Patricksburg, Paxton, Pimento, Pittsboro, Plainville, Poland, Prairie Creek, Princeton, Reelsville, Richland, Roachdale, Rockville, Rosedale, Rossville, Rusk, Russellville, Saint Bernice (plaster cracked), Saint Meinrad, Salem, Sandborn, Sandford, Santa Claus, Scircleville, Scottsburg, Seymour, Sharpsville, Shelbyville, Shepardsville, Sheridan, Siberia, Solsberry, Spencer, Springport, Spurgeon, Star City, Staunton, Stendal, Stewartsville, Stilesville (slight plaster damage), Sullivan, Sweetser, Switz City, Tennyson, Terre Haute (slight plaster cracks), Universal, Urbana, Vallonia, Veedersburg, Wallace, Washington, West Terre Haute, Westphalia, Westport, Whitestown, and Wilkinson.

INT. V IN KENTUCKY

Beech Grove, Clermont, Custer, Florence (dubious report of damage to concrete foundation, 312 km east of epicenter), Harned, Lovelaceville, Manitou, McQuady, Milton, Mooleyville, Perry Park, Radcliff, Smith Mills, Sweeden, Waverly, Wax, West Point, and Whitesville.

INT. V IN MISSOURI

Foley, Mapaville, Morrison, and Normandy.

INT. V IN OHIO

College Corner, Fort Recovery, and Seven Mile.

INT. IV IN ILLINOIS

Allerton, Alma, Alto Pass, Annapolis, Arenzville, Arthur, Ashmore, Atlanta, Ava, Barnhill, Beason, Beaverville, Bellflower, Bement, Benld, Benton, Bible Grove, Birds, Blue Mound, Boles, Bonnie, Braidwood, Broughton, Browning, Browns, Bulpitt, Bunker Hill, Cache, Calhoun, Camargo, Campbell Hill, Canton, Carlinville, Carlyle, Carmi, Carriers Mills, Carrollton, Catlin, Champaign, Chatham, Chesterfield, Chrisman, Cisne, Clay City, Claytonville, Clinton, Coffeen, Colp, Columbia, Cowden, Creal Springs, Cropsey, Crossville, Curran, Cutler, Dahlgren, Danville, Dawson, De Land, Dewey, Dix, Donnellson, Donovan, Du Quoin, Eagarville, East Lynn, Eddyville, Edinburg, Edwardsville, Effingham, Eldorado, Elkhart, Emden, Energy, Equality, Evansville, Ewing, Farina, Farmersville, Fieldon, Fillmore, Findlay, Flora, Forrest, Forsyth, Frederick, Gar-

rett, Gays, Georgetown, Gillespie, Girard, Glenarm, Golconda, Goreville, Grand Chain, Green Valley, Greenfield, Greenview, Greenville, Hagarstown, Hammond, Harco, Hardin, Hartford, Henning, Herrick, Herrin, Heyworth, Hidalgo, Highland, Hindsboro, Hume, Illinois City, Illiopolis, Indianola, Irving, Jacksonville, Janesville, Jerseyville, Johnston City, Jonesboro, Joppa, Junction, Kampsville, Kansas, Karbers Ridge, Kell, Kewanee, Kinmundy, Lake Fork, Langleyville, La Place, La Prairie, Lewistown, Logan, Long Point, Longview, Lostant, Louisville, Ludlow, Mahomet, Mansfield, Mapleton, Marine, Marissa, Marseilles, Marshall, Maryville, Mascoutah, Maunie, McLean, Metcalf, Mill Shoals, Modesto, Monticello, Morrisonville, Mounds, Mount Auburn, Mount Clare, Mount Erie, Mount Zion, Mulberry Grove, Muncie, Murrayville, New Athens, New Berlin, New Haven, Newman, Newton, Niantic, Norris City, Oconee, Omaha, Orient, Palmyra, Panama, Paris, Patoka, Pawnee, Paxton, Pearl, Penfield, Percy, Pinckneyville, Pinkstaff, Pittsburg, Plano, Pleasant Hill, Pulaski, Raleigh, Raymond, Red Bud, Ridge Farm, Riverton, Rockwood, Roodhouse, Rosamond, Rosiclare, Rossville, Royalton, St. Elmo, Saint Jacob, St. Joseph, Saint Libory, San Jose, Sandoval, Sawyerville, Scheller, Serena, Sesser, Shumway, Sidney, Sims, Smithton, Sorento, South Pekin, Springerton, Springfield, Staunton, Steeleville, Stonington, Stoy, Strasburg, Sullivan, Tallula, Tamms, Taylorville, Tennessee, Teutopolis, Thawville, Thayer, Tilden, Toledo, Towanda, Trenton, Troy, Troy Grove, Tuscola, Valier, Vandalia, Venedy, Walshville, Waynesville, Welge, West Union, Westfield, Wheeler, Willisville, Willow Springs, Wyoming, and Yale.

INT. IV IN INDIANA

Albany, Ambia, Amo, Anderson, Andrews, Bargersville, Bedford, Bellmore, Bennington, Berne, Beverly Shores, Bippus, Birdseye, Bloomfield, Bloomington, Bradford, Brazil, Bristow, Bruceville, Buck Creek, Buckskin, Burlington, Butlerville, Cannelton, Carbon, Carlisle, Cartersburg, Cates, Cayuga, Celestine, Charlestown, Chesterton, Chrisney, Clarksville, Clifford, Coal City, Coatesville, Columbus, Converse, Cortland, Cory, Covington, Cynthiana, Daleville, Darlington, Derby, Dubois, Dugger, Edinburg, Elberfeld, Evanston, Fairbanks, Farmersburg, Ferdinand, Flora, Floyds Knobs, Francesville, Freelandville, Freetown, Fulda, Geneva, Gentryville, Goodland, Goshen, Gosport, Greensboro, Greensburg, Greenville, Greenwood, Grovertown, Harmony, Hillisburg, Hillsboro, Huntingburg, Hymera, Ireland, Jasper, Kempton, Kentland, Kirklin, Knightstown, Ladoga, La Fontaine, Lafayette, Lebanon, Little York, Lizton, Loogootee, Lynnville, Mackey, Magnet, Manilla, Marshall, Marshfield, Mays, McCordsville, Mecca, Metamora, Miami, Midland, Mitchell, Monroeville, Montgomery, Montmorenci, Morristown, Mulberry, Needham, New Harmony, New Haven, New Salisbury, New Whiteland, Newberry, Nineveh, Norman, Oaktown, Oolitic, Orestes, Orleans, Owensburg, Pence, Pendleton, Pennville, Petersburg, Portland, Poseyville, Prairieton, Quincy, Ragsdale, Remington, Richmond, Rockport, Rushville, Russiaville, Saint Anthony, Saint Croix, Saint Paul, Salanoia, San Pierre, Santa Claus, Schnellville, Scotland, Sedalia, Seelyville, Shelburn, Shoals, Silver Lake, Sims, Smithville, Somerville, Spiceland, Springville, Stanford, State Line, Stinesville, Sulphur Springs, Summitville, Swayzee, Talbot, Tell City, Tipton, Versailles, Vincennes, Wabash, Wadesville, Waldron, Walkerton, Warren, Warsaw, Waveland, Waynetown, West Baden Springs, West Lebanon, Westfield, Westpoint, Wheatland, Williams, Williamsport, Willow Branch, Winslow, Wolflake, Woodburn, Yorktown, and Zionsville.

INT. IV IN IOWA

Danville, Ely, Fairfield, and Maquoketa.

INT. IV IN KENTUCKY

Bagdad, Baskett, Beaver Dam, Big Clifty, Bonnieville, Boston, Brooks, Burna, Calhoun, Caneyville, Carrollton, Carrsville, Cerulean, Clay, Cloverport, Constantine, Corydon, Dixon, Dundee, Eastview, Fordsville, Garfield, Glen Dean, Hampton, Hawesville, Henderson, Hudson, Leitchfield, Lewisport, Logansport, Lola, Louisville, Maceo, Madisonville, Magnolia, Maple Mount, Marion, Mason, Moorman, Mount Sterling, Napfor, Olaton, Onton, Owensboro, Philpot, Poole, Prospect, Reynolds Station, Rineyville, Rousseau, Salem, Saul, Scottsville, Sebree, Slaughters, Stanley, Stephensport, Symsonia, Uniontown, Valley Station, Vine Grove, Waco, Waddy, Warsaw, Wendover, West Louisville, Westview, Winston, and Yeaman.

INT. IV IN MICHIGAN

Kalamazoo, Marcellus, and Three Rivers.

INT. IV IN MISSOURI

Belleview, Braggadocio, Brazeau, Burfordville, Cape Girardeau, Doe Run, Dutchtown, Farrar, Flinthill, Fredericktown, Kelso, Kewanee, Mountain View, Perkins, Pevely, Saint Albans, Scott City, Sedgewickville, Versailles, and Westalton.

INT. IV IN OHIO

Ansonia, Harbor View, Piqua, and Van Wert.

INT. I-III IN ARKANSAS

Hunter and Wilson.

INT. I-III IN ILLINOIS

Addieville, Akin, Aledo, Alpha, Alton, Anna, Arcola, Armington, Arrowsmith, Ashton, Baldwin, Barry, Beardstown, Beckemeyer, Belleview, Berwick, Bethany, Blackstone, Bluffs, Brookfield, Brookport, Brownfield, Buckley, Buckner, Buncombe, Bureau, Butler, Cabery, Cambridge, Chicago, Carbon Cliff, Carlock, Cave in Rock, Chambersburg, Chebanse, Christopher, Cisco, Cissna Park, Coal City, Coello, Collinsville, Colmar, Crescent City, Cypress, Dalton City, Danforth, Danvers, De Soto, Delavan, Dieterich, Dongola, Dorsey, Dow, Dubois, Dunfermline, Dupo, East Carondelet, East Moline, East Peoria, East St. Louis, Elizabethtown, Elmwood, Elwin, Fairbury, Fancy Prairie, Farmer City, Fidelity, Fisher, Flanagan, Foosland, Freeport, Gale, Galesburg, Geneseo, Gilman, Glen Carbon, Good Hope, Grafton, Grand Tower, Grant Park, Hamburg, Harvel, Havana, Hazel Crest, Herod, Holder, Hopkins Park, Humboldt, Huntsville, Ipava, Irvington, Ivesdale, Kane, Keyesport, Kinsman, Lane, Latham, Le Roy, Lebanon, Lerna, Liberty, Lincoln, Litchfield, Liverpool, Lovington, Lowder, Lowpoint, Lyndon, Macedonia, Maquon, Matherville, McNabb, Merna, Milford, Milmine, Modoc, Monee, Monmouth, Moweaqua, Muddy, Murphysboro, Nashville, Nebo, New Burnside, New Liberty, New Memphis, Olive Branch, Olmsted, Oraville, Paloma, Perks, Piasa, Pierron, Pierson Station, Plainville, Plato Center, Pleasant Plains, Plymouth, Pontoosuc, Putnam, Rankin, Rantoul, Rardin, Reddick, Roberts, Rosebud, Royal, Rushville, St. Charles, Saybrook, Scottville, Seymour, Sheldon, Sherman, Shipman, Sibley, Sparta, Stonefort, Stronghurst, Summum, Temple Hill, Thomasboro, Timewell, Toulon, Trilla, Tunnel Hill, Ullin, Utica, Valmeyer, Vergennes, Vernon, Villa Grove, Villa Park, Viola, Washington, Waterloo, Weldon, Wellington, Westervelt, White Hall, Whittington, Williamson, Wolf Lake, Woodland, Woodlawn, Worden, and Wrights.

INT. I - III IN INDIANA

Akron, Alfordsville, Arcadia, Atlanta, Austin, Battle Ground, Beech Grove, Bentonville, Boone Grove, Branchville, Brownstown, Burrows, Cannelburg, Carmel, Central, Chesterfield, Churubusco, Clarksburg, Claypool, Columbia City, Dana, Dayton, Demotte, Dillsboro, Dunkirk, Dyer, Fairmount, Flat Rock, Fontanet, Fort Ritner, Fort Wayne, Fowler, Fowlerton, Frankfort, Frankton, Galveston, Goldsmith, Grantsburg, Greenfield, Hall, Hanna, Hardinsburg, Harrodsburg, Hartford City, Hartsville, Helmer, Helmsburg, Hoagland, Hobbs, Homer, Hope, Huron, Idaville, Ingalls, Jamestown, Jasonville, Kouts, Kurtz, Laketon, Lanesville, Laurel, Leipsic, Leopold, Leroy, Linn Grove, Marion, Martinsville, Matthews, Maxwell, Milton, Montpelier, Nebraska, New Lisbon, New Washington, Noblesville, North Salem, North Vernon, Oakford, Oakville, Onward, Ora, Palmyra, Paoli, Paris Crossing, Parker, Pekin, Pershing, Peru, Poneto, Raub, Reynolds, Ridgeville, Roann, Rockfield, Rome, Rome City, Schneider, Scipio, Sellersburg, Selma, Somerset, South Whitley, Spencerville, Stockwell, Thorntown, Tippecanoe, Tobinsport, Trafalgar, Troy, Tyner, Underwood, Uniondale, Unionville, Van Buren, Vernon, Webster, West Lafayette, Williamsburg, Winamac, Winona Lake, Wolcott, Wolcottville, Worthington, Yeoman, and Zanesville.

INT. I - III IN IOWA

Atalissa, Baldwin, Bloomfield, Burlington, Clinton, Davenport, Dubuque, Fort Madison, Keokuk, Mediapolis, Preston, Sunbury, Vining, and Winfield.

INT. I - III IN KENTUCKY

Auburn, Belton, Bandana, Beechmont, Berrys Lick, Bethany, Blandville, Bowen, Browder, Burlington, Centertown, Clarkson, CoOperative, Crayne, Cub Run, Echols, Eddyville, Elliston, Fairdale, Fairfield, Falls of Rough, Farmers, Fort Knox, Guston, Hadley, Harold, Hartford, Hickory, Hueysville, Ingram, Livermore, McDaniels, Melber, Morganfield, New Haven, Owingsville, Payneville, Powderly, Providence, Reed, Rhodelia, Richardsville, Richelieu, Rochester, Rockport, Sadieville, Sadler, Saint Mary, Sharon Grove, Sparta, Sullivan, Trappist, Union Star, Vanzant, Woodbury, and Worthville.

INT. I - III IN MICHIGAN

Alto, Decatur, Harbert, Lakeside, South Haven, and West Olive.

INT. I - III IN MISSOURI

Altenburg, Baring, Benton, Campbell, Commerce, Cooter, El Dorado Springs, Elsberry, Eolia, Florrissant, Frohna, High Ridge, Holden, Leadwood, Lockwood, Macomb, Manchester, Menfro, Messler, O'Fallon, Oran, Saint Charles, Saint Louis, Saint Marys, Saint Peters, Truesdail, Washington, Winfield, Wittenberg, Womack, and Zalma.

INT. I - III IN OHIO

Anna, Centerville, Christiansburg, Deshler, Eldorado, Farmersville, Luckey, Macon, McGuffey, Miamisburg, Middletown, Montezuma, New Knoxville, New Lebanon, New Madison, Ohio City, Piketon, Port Jefferson, Rosewood, Ross, Tipp City, Verona, West Alexandria,

West Milton, Williston, Wilmington, Wren, and Wright Patterson Air Force Base.

INT. I - III IN TENNESSEE

Celina, Erin, Eva, Midway, Obion, Trimble, White Bluff, and White Pine.

INT. I - III IN VIRGINIA

Clinchport and Nora.

INT. I - III IN WISCONSIN

Kansasville, Mount Hope, and Trevor.

Apr. 5. 13:41:11.2 (19:41). Epicenter 38.59° N., 90.91° W., eastern Missouri, at a depth of 1 km, SLM. Int. II at Augusta.

May 13. 00:52:18.8 (06:52). Epicenter 36.71° N., 89.39° W., New Madrid, Mo., region, at a depth of 1 km, SLM. Int. VI. Felt over a small area or Arkansas, Illinois, Kentucky, Missouri, and Tennessee (see fig. 8). At East Prairie, Mo., the city swimming pool was "badly damaged," and plaster cracked in several buildings. Many were awakened at one home by loud earth noises.

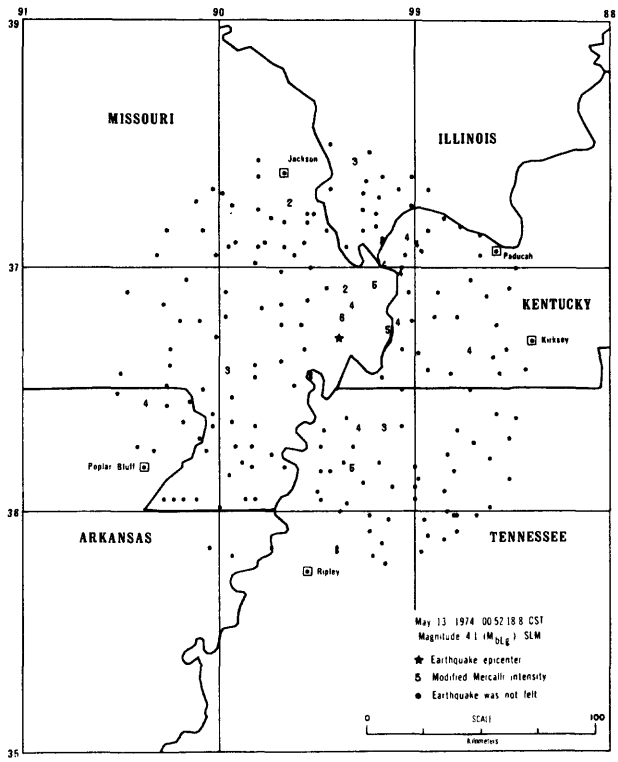

FIGURE 8.-Area affected by Missouri earthquake of May 13.

INT. V IN MISSOURI

Wolf Island and Wyatt.

INT. V IN TENNESSEE

Obion.

INT. IV IN ARKANSAS

McDougal.

INT. IV IN ILLINOIS

Cairo and Olmsted (press).

INT. IV IN MISSOURI

Anniston.

INT. IV IN KENTUCKY

Columbus, Kevil, Wickliffe, and Wingo.

INT. IV IN TENNESSEE

Hornbeak.

INT. I-III IN ILLINOIS

Jonesboro.

INT. I-III IN MISSOURI

Charleston, Dutchtown, and Malden.

INT. I-III IN TENNESSEE

Troy

June 5. 02:06:11.3 (08:06). Epicenter 38.62° N., 89.94° W., southern Illinois, at a depth of 11 km, SLM. Int. V. The press reported that pictures were knocked from walls at East Saint Louis, Ill., and that some concerned citizens called the police department. Int. V effects also were observed at Belleville, Caseyville, Cottage Hills, Hartford, Highland, Marine, Mitchell, O'Fallon, Plainview, Renault, Roxana, Saint Jacob, Summerfield, and Troy.

INT. V IN MISSOURI

Arnold, Barnhart, Normandy, and Saint Louis.

INT. IV IN ILLINOIS

Alhambra, Edwardsville, Evansville, Glen Carbon, Granite City, Maryville, Mascoutah, New Baden, Oakdale, Saint Clair (press), Scott Air Force Base (press), Texico, and Trenton.

INT. IV IN MISSOURI

Flinthill, Saint Ann, Saint Charles (press), and Westalton.

INT. II IN ILLINOIS

Lebanon (press), New Minden, Piasa (press), and Shipman (press).

INT. II-III IN MISSOURI

Bonne Terre, Dittmer, Hillsboro, Mapaville, and Maplewood.

Aug. 11. 08:29:45.0 (14:29). Epicenter 36.92° N., 91.17°W., southern Missouri area, at a depth of 4 km, USGS. Int. V. At Fremont, all in community felt the shock, which was accompanied by moderate earth noises. Windows, doors, and dishes rattled; hanging objects swung moderately northwest-southeast. Int. IV at Alton, Belleview, Ironton, and Winona; int. I-III at Centerville, Hiram, Jackson, McGee, New Madrid, Newburg, Success, Teresita, Thayer, Thomasville, Thornfield, and Womack.

Aug. 22. 16:33:59.6 (22:33). Epicenter 38.23° N.,

89.73° W., southern Illinois, at a depth of 12 km, USGS. Int. IV in Marissa area. The press reported houses shook at Sparta, Ill., and that many farmers felt the shock east of Marissa.

Sept. 28. 20:26:17.1 (Sept. 29, 02:26). Epicenter 41.24°N., 83.36°W., Ohio, at a depth of 1 km, USGS. Int. II in Bowling Green, Findlay, Fostoria, and Tiffin areas.

Nov. 25. 17:34:05.1 (23:34). Epicenter 40.3° N., 87.4° W., western Indiana, at a depth of 5 km, mag. 2.4 (m_{bLg}), SLM. Int. II at Attica, Ind. NOTE: This epicenter is not listed in table 1 of this publication.

Dec. 12. 23:03:57.6 (Dec. 13. 05:03). Epicenter 34.67° N., 91.88° W., Arkansas, at a depth of 5 km, SLM. Int. V in Tucker-Coy area where the shock awakened many or all. The press reported that Little Rock residents were awakened and frightened. Int. IV at Coy, England, Hummoke, Humphrey, Keo, Little Rock, and Wabbaseka; int. III at Dumas, Ethel, Mabelvale, Sheridan, Sweet Home (south of), and Scott.

Dec. 15. 20:30:21.4 (Dec. 16, 02:30). Macroseismic epicenter 35.33° N., 97.48° W., Oklahoma, at an assumed depth of 10 km or less, TUL. Int. III in Moore.

Dec. 25. 07:21:35.0 (13:21). Epicenter 35.78° N., 90.01° W., Arkansas, at a depth of 10 km, USGS. Int. II at Armorel and Blytheville.

WESTERN MOUNTAIN REGION

[Time given in this region is mountain standard. If an epicenter is quoted, Greenwich mean time is given in parentheses. This region includes Arizona, Colorado (western), Idaho, Montana, Nevada (eastern), New Mexico, Texas (western), Utah, and Wyoming.]

Mar. 9. 18:50:21.3 (Mar. 10, 01:50). Epicenter 37.57° N., 113.68° W., southwestern Utah, at a depth of 2 km, USGS. Int. II at Enterprise.

Mar. 18. 05:14:26.0 (12:14). Epicenter 40.17°N., 116.70°W., Nevada, at a depth of 5 km, USGS. Awakened residents in Crescent Valley (int. IV).

Mar. 18. 05:54:57.0 (12:54). Epicenter 40.20°N., 116.58°W., Nevada, at a depth of 5 km, USGS. Int. II in Crescent Valley.

Mar. 31. 04:58:47.1 (11:58). Epicenter 40.70° N., 107.05° W., northern Colorado, at a depth of 5 km, USGS. Int. II at Clark and Steamboat Springs.

Apr. 16. No time given. Cedar City, Utah. Felt.

Apr. 28. 22:44:35.7 (Apr. 29, 05:44). Epicenter 37.71° N., 113.03° W., Utah, at a depth of 5 km, USGS. Int. II in Summit area.

Apr. 29. 00:35:51.8 (07:35). Epicenter 37.81° N., 112.98° W., Utah, at a depth of 5 km, USGS. Int. II in Summit area.

June 8. 17:50:42.0 (June 9, 00:50). Epicenter 44.80° N., 111.05° W., Hebgen Lake, Mont., region, at a depth of 5 km, USGS. Int. II in Gallatin County, Mont.-Yellowstone National Park, Wyo., area.

July 15. 23:38:45.8 (July 16, 06:38). Epicenter 45.84° N., 111.37° W., Hebgen Lake, Mont., region, at a depth of 10 km, USGS. Int. V. Small objects shifted at Maudlow, Norris, and Springdale; int. IV at Belt, Jeffers, Manhattan, Shawmut, Trident, Virginia City, and Willow Creek; I-III at Belgrade, Bozeman, Butte, Cameron, Canyon Creek, Fort Shaw, Gardiner, Garrison, Glen, Grey, Harrison, Helena (press), Jefferson City, Livingston, Pony, Ramsay, Silver Gate, Three Forks, Twin Bridges, White Sulphur Springs, and Winston.

Aug. 30. 09:41:59.1 (16:41). Epicenter 44.70° N., 110.80° W., Yellowstone National Park, Wyo., at a depth of 1 km, USGS. Int. V. Felt throughout Yellowstone National Park and in parts of southwestern Montana. The press reported "the appearance of a few murky pools [of water]" and that six aftershocks occurred. At Norris, felt outside by tour group in geyser basin. "Trees shook; knees buckled." At West Yellowstone, some items were knocked off walls in stores and shops. At Old Faithful, windows at visitor center rattled loudly and ball point pens shifted on desk. "Telephone or powerlines behind the Old Faithful Inn bounced up and down at least 6 inches for about a minute after the quake." Int. IV at Madison Junction and Grants Village; I-III at Mammoth, Tower Junction, Lake, Canyon, and West Thumb Junction.

Aug. 30. (1) 10:04:45.9 (17:04), (2) 10:41:20.9 (17:41), (3) 12:33:20.5 (19:33), (4) 12:46:54.0 (19:46), 23:07. Epicenter (1) 44.65°N., 111.09° W; (2) 44.58° N., 111.12°W; (3) 44.36°N., 111.05°W; (4) 44.64°N., 110.77°W, Hebgen Lake region, Mont., the first three at a depth of 5 km, USGS. Aftershocks of 09:41 event. Int. II. The aftershocks at 10:04 and 12:46 were felt at Old Faithful. Those at 10:41, 12:33, and 23:07 were observed at Norris. "A minimum of 114 tremors were recorded on the seismograph at the Old Faithful Visitor Center Aug. 30th."

Sept. 1. 09:30-15:24. Montana. A swarm of small tremors occurred near the Norris Geyser Basin; 18 were strong enough to be felt. Those at 09:33, 09:36, 12:46, and 15:09 were felt strongest.

Sept. 19. 08:36:11.4 (15:36). Epicenter 44.11° N., 107.38° W., Wyoming, at a depth of 10 km, USGS. Int. V at Ten Sleep where small objects shifted and vehicles rocked. According to the press, cans and dishes on shelves

rattled, and one observer "could see the concrete [probably sidewalk] moving."

Oct. 17. 23:25:28.1 (Oct. 18, 06:25). Epicenter 44.73° N., 110.74° W., Yellowstone National Park, Wyo., at a depth of 5 km, USGS. Int. II at Madison Junction. During the period Oct. 17-23, more than 500 distinct tremors were recorded on the helicorder at the Old Faithful Visitor Center. Approximately 15-20 of these were reported felt at several locations in the Park. On Oct. 18 rocks were cleared off the Firehole Canyon Drive; possibly they were brought down by one or more of the tremors. Additional tremors felt are as follows (from R.A. Hutchinson, National Park Service, Yellowstone National Park):

Oct. 17. 23:59:11.5 (Oct. 18, 06:59). Epicenter 44.74°N., 110.74°W., Yellowstone National Park, Wyo., at a depth of 5 km, USGS. Int. II at Madison Junction.

Oct. 18. 05:00. Two minor shocks felt at Canyon Village.

10:00. Brief shaking and rumbling at Lewis Lake.

11:30. South entrance of Park. Buildings rattled.

12:05, 15:05, 19:45. Lasted 1 to 2 seconds at Madison Junction.

21:00. Three to five minor shocks at Canyon Village.

Oct. 19. 04:00. A couple of small tremors felt at Canyon Village.

Oct. 20.---- Little tremors felt during day at Canyon Village.

Oct. 19. 19:14:55.0 (Oct. 20, 02:14). Epicenter 44.47° N., 111.01°W., Hebgen Lake, Mont., region, at a depth of 5 km. USGS. Int. II at Canyon Village (press).

Oct. 22. 01:43:07.1 (08:43). Epicenter 44.74°N., 110.81°W., Yellowstone National Park, Wyo., at a depth of 5 km, USGS. Int. IV. Several were awakened at Old Faithful, Canyon Village, and Madison Junction.

Nov. 4. 02:02:28.0 (09:02). Epicenter 38.34° N., 112.33° W., Utah, at a depth of 17 km, USGS. Int. II in Marysvale area.

Nov. 27. 12:49. Int. III at Old Faithful, Yellowstone National Park, Wyo.

Dec. 1. 13:47, 13:50. Int. II at Madison Junction, Wyo.

Dec. 19. 20:01:10.4 (Dec. 20, 03:01). Epicenter 33.86° N., 111.88° W., eastern Arizona, mag. 2.5, USGS. Int. II at New River. NOTE: This epicenter is not listed in table 1 of this publication.

Dec. 23. 22:47:20.7 (Dec. 24, 05:47). Epicenter 33.86° N., 111.88° W., eastern Arizona, at a depth of 4 km, USGS. Int. II at New River.

Dec. 28. 06:57:41.1 (13:57). Epicenter 42.00° N., 111.97° W., Idaho-Utah area, at a depth of 8 km,USGS, mag. 2.8, SLC. The press reported many residents in Fairview-Lewiston, Utah, were jolted by a slight tremor. It was felt over much of Cache Valley, according to one press account. Int. IV at Richmond and Weston; int. II in areas 5 to 19 km south of Preston. NOTE: This epicenter is not listed in table 1 of this publication.

CALIFORNIA AND WESTERN NEVADA

[Time given in this region is Pacific standard. If an epicenter is quoted, Greenwich mean time is given in parentheses. All towns are located in California unless otherwise noted.]

Jan. 5. 19:21. Mag. 2.6, B. Felt in the Day area (about 19 km northwest of Nubieber).

Jan. 6. 05:55:23.2 (13:55). Epicenter 41.12° N., 121.49° W., northern California, at a depth of 5 km, B. Int. VI. Felt over about 3,200 km^2 (1,235 mi^2) of northern California. Minor damage occurred at Bieber and Nubieber.

INT. VI

Bieber.—Felt by and awakened many in community; frightened few. Some plaster cracked, broke, and fell. Trees and bushes shook. Hanging objects swung violently. Damage slight.

Nubieber.—Felt by and awakened all in community. Small objects shifted, overturned, and fell. "Ruptured main gas pipe leading to gas pumps at Chevron station."

INT. V

Adin (2 shocks), Dana area (about 10 km northwest of Glenburn), Day (aftershock 5 minutes later), Fall River Mills, Glenburn, Lookout (16 km north of), McArthur (plaster cracked), McCloud, and Pondosa.

INT. IV

Lookout (5 km west-southwest of).

INT. II

Hat Creek.

Jan. 7. 20:49. Northern California. Mag. 2.2, B. Int. IV at Santa Rosa. Faint earth noises. Windows, dishes, and doors rattled. Motion rapid, 1-second duration.

Jan. 8. 21:51. Northern California. Mag. 2.7, B. Int. II at Ferndale.

Jan. 10. 03:22:24.9 (11:22). Epicenter 36.96° N., 121.61° W., central California, at a depth of 10 km, B. Int. V. The earthquake was felt over approximately 10,400 km^2 (4,000 mi^2) of central California, but caused no damage. It generally awakened many in the area, and caused small objects to shift and fall in several instances.

Int. V at Aromas, Boulder Creek, Carmel, Carmel Valley, Castroville, Chittenden Pass (36.9° N., 121.6° W.), Corralitos area (37.0° N., 121.8° W.), Cupertino, Freedom, Gilroy (1 km west of and 12 km northeast of), Hollister area (14 km and 21 km south of), Jamesburg area (Search Ranch), Marina, Monterey, Morgan Hill, Moss Landing, Mount Hamilton, Pacheco area (about 16 km north of Hollister), Pacific Grove, Salinas, San Juan Bautista, San Martin, Santa Cruz, Seaside, Soquel, and Watsonville; int. IV at Hollister (and 11 km south of), Los Gatos, Mount Hermon, Pebble Beach, and Santa Clara; int. III at Capitola (press), King City (press), La Honda, Redwood City (press), San Francisco, San Jose (press), San Mateo, Scotts Valley (press), South San Francisco, and Sunnyvale.

Jan. 17. 01:30. The press reported a minor earthquake shook dozens of residents in the Lawndale-Hawthorne area. Reportedly felt from Gardena to Manhattan Beach and from Torrance to Hawthorne.

Jan. 19. 05:13:37.2 (13:13). Epicenter 34.38° N., 117.05° W., southern California, at a depth of 0 km, P. Int. IV. Felt in Apple and Lucerne Valleys and at Victorville and Hesperia, according to press accounts. Residents in the area were awakened.

Jan. 23. 21:02:00.8 (Jan. 24, 05:02). Epicenter 35.07° N., 119.03° W., central California, at a depth of 8 km, P. Int. V. Felt by all in community at Mettler; awakened all in home. "A few cracks." Dishes fell off shelves and furniture shifted at Pumpkin Center; frightened few in community. Int. IV at California City, Frazier Park, Lebec (Fort Tejon State Historical Park), Maricopa, Sandberg Ranch, Taft, and Tehachapi; int. II-III at Caliente, Di Giorgio, Lamont, Lebec, Loraine, Mojave, Monolith, North Edwards, and Tejon Rancho (35°02' N., 118°45' W.).

Jan. 30. 22:05:28.8 (Jan. 31, 06:05). Epicenter 34.05° N., 117.03° W., southern California, at a depth of 8 km, P. Int. V. Felt over about 6,500 km² (2,500 mi²) of Riverside and San Bernardino Counties. No damage occurred. Int. V at Big Bear Lake, Riverside, San Bernardino (Del Rosa), and Sunnymead; int. IV at Calimesa, Corona, Crestline, East Highlands, Green Valley Lake, Hemet, Highland, Lakeview, Loma Linda, Moreno, Redlands, Running Springs, and Skyforest; int. II-III at Anaheim (press), Cabazon, Norco, Nuevo, Sun City, and Yucaipa.

Jan. 31. 19:27:51.0 (Feb. 1, 03:27). Epicenter 36.78° N., 121.57° W., central California, at a depth of 4 km, B. Int. IV at Salinas Substation and at Harris Ranch (11 km south of Hollister).

Feb. 8. 14:05:44.7 (22:05). Epicenter 37.38° N., 121.76° W., central California, at a depth of 7 km, B. Int. II at Milpitas.

Feb. 11. 04:20:56.9 (12:20). Epicenter 34.10° N., 118.27° W., southern California, at a depth of 12 km, P. Felt in the Silver Lake area near downtown Los Angeles and in the San Fernando Valley. Int. IV at Glendale, Hollywood, and west Los Angeles. The press reported the earthquake was felt at Burbank, Escondido (3 tremors felt), Pasadena, and Sherman Oaks.

Feb. 13. 20:20:02.4 (Feb. 14, 04:20). Epicenter 36.73° N., 121.40° W., central California, at a depth of 3 km, mag. 2.8, B. Int. IV at Harris Ranch, 11 km south of Hollister, where windows and doors rattled and building creaked. NOTE: This epicenter is not listed in table 1 of this publication.

Feb. 15. 06:44:29.3 (14:44). Epicenter 34.42° N., 118.38° W., southern California, at a depth of 8 km, P. Int. II in the Saugus area.

Mar. 1. 16:23. Int. IV at Alpine (a few kilometers east of San Diego).

Mar. 5. 17:45. A slight shock was felt in the Eagle Rock and Highland Park areas of Los Angeles, according to press accounts.

Mar. 8. 16:54:13.6 (Mar. 9, 00:54), 16:54:31.6 (Mar. 9, 00:54, main shock). Epicenter (1) 34.38° N., 118.42° W, (2) 34.38° N., 118.43° W., southern California, both at a depth of 8 km, P. Int. V (main shock) at Altadena, Flintridge, Glendale (swimming pool water sloshed), Granada Hills (plaster cracked), Hollywood, La Canada (water disturbed in pond), La Crescenta, Newhall, Pacoima, Pasadena (minor crack in stucco siding), San Fernando (Kagel Canyon), Saugus, Sylmar (new block wall and plaster cracked), Van Nuys (few cracks), and west Lost Angeles; int. IV at Arcadia, Canoga Park, Compton, Fillmore, Inglewood, Manhattan Beach, Monrovia, Moorpark, Piru, Redondo Beach, Sierra Madre, Temple City, Simi Valley, Torrance, and Woodland Hills; int. III at Maywood; int. II at Alhambra, El Segundo, Gardena, Palos Verdes Peninsula, San Pedro, and Thousand Oaks.

Mar. 11. 23:35:46.0 (Mar. 12, 07:35). Epicenter 34.10° N., 118.20° W., southern California, at a depth of 8 km, P. Int. IV at Hollywood where the shock was felt by many. The press reported the shock was felt at Burbank, Central City, east Los Angeles, Glendale, Los Feliz, Silverlake, south Los Angeles, and Van Nuys.

Mar. 12. 04:45:28.1 (12:45). Epicenter 37.29° N., 122.32° W., central California, at a depth of 11 km, B. Int. V. The earthquake caused no damage. One Big Basin resident noted: "First noticed on Mar. 13, 1974, on China

Grade Rd. [Big Basin State Park], that a faultline that runs across the road developed an open crack across the road, and the down hill (south) portion of the road dropped 3-5 inches." The observer did *not* feel the earthquake. Int. V effects were observed at La Honda, Pescadero, and San Gregorio. The press reported the earthquake was felt at Atherton, Palo Alto, and Redwood City.

Mar. 16. 07:57:41.8 (15:57). Epicenter 40.34° N., 124.72° W., near coast of northern California, at a depth of 33 km, B. Int. IV at Fortuna, Humboldt Hill (near Eureka), and Rio Dell; int. III at Eureka (Humboldt Bay Powerplant) and Scotia.

Mar. 21. 13:16:05.3 (21:16). Epicenter 36.60° N., 122.66° W., northern California, at a depth of 2 km, B. Int. VI. A Cloverdale resident reported: "I understand that the floor in workshop [Union Oil] cracked enough to bring dirt into the shop; boulders and rocks fell; several cracks in the earth. This was reported to me by those working there." At Pacific Gas and Electric (PG&E) Geysers Powerplant, rocks slid down hills; several light fixtures broke; clock fell off wall. "Everything rocked for about 2 seconds." Int. IV at Cobb and near Loch Lomond (0.4 km north of); int. II at Calistoga. Also felt at Healdsburg. Questionable felt report from San Francisco (390 Main Street, 7th floor).

Mar. 21. 14:50:05.7 (22:50). Epicenter 34.15° N., 117.47° W., southern California, at a depth of 8 km, P. Int. IV at Etiwanda; int. II at Fontana.

Mar. 24. 08:57:09.0 (16:57). Epicenter 37.55° N., 121.85° W., central California (on the Calaveras fault), at a depth of 8 km, B. Int. V at Sunol, where furniture shifted; loud earth noises; int. IV at Fremont; int. II at Berkeley. Also felt at Mission San Jose and Irvington.

Mar. 31. 15:06:18.1 (23:06). Epicenter 36.94° N., 121.60° W., central California, at a depth of 8 km, B. Int. V. Several small objects shifted and fell at Watsonville (Chittenden Pass area). Frightened all in home. Int. IV at Gilroy; int. III at Moss Landing.

Apr. 8. 11:13. Int. V at Cloverdale where everyone felt the earthquake. Small objects overturned and fell; int. III at PG&E Geysers Powerplant.

Apr. 9. 14:14. Int. IV at Alpine (a few kilometers east of San Diego).

Apr. 17. 11:30:30.4 (19:30). Epicenter 36.94° N., 121.59°W., central California, at a depth of 7 km, B. Int. IV at Moss Landing. Also felt at a radio station in Gilroy.

Apr. 18. 02:11, 02:15. Two slight tremors were felt at Gilroy and Cupertino, according to press accounts.

Apr. 19. 16:57, 17:00, 17:05, 17:12. Int. IV at Alpine (a few kilometers east of San Diego).

Apr. 20. 11:55. Int. II at Alpine (a few kilometers east of San Diego).

Apr. 26. 04:26:17.2 (12:26). Epicenter 40.80° N., 123.88° W., northern California, at a depth of 21 km, mag. 3.0, B. Int. IV at Eureka and Fortuna. NOTE: This epicenter is not listed in table 1 of this publication.

Apr. 29. 06:58. Int. II at Redwood Valley.

May 27. 01:19:19.7 (09:19). Epicenter 39.85° N., 120.91° W., northern California, at a depth of 2 km, B. Int. V at Berry Creek, Blairsden, Calpine, Clio, Dobbins, Feather Falls, Johnsville, La Porte, Nevada City, Quincy, Sierra City, and Strawberry Valley; int. IV at Alleghany, Beckwourth, Downieville, Grass Valley, Janesville, Paradise, Portola, Sattley, Sierraville, Sloat, Spring Garden, Storrie, Vinton, and Washington.

May 29. 11:23:32.8 (19:23). Epicenter 36.82° N., 115.88° W., California-Nevada region, at a depth of 11 km, USGS. Int. II in Yucca Flat, Nev., area.

June 5. 15:15. Int. IV at Caribou. Observer reported: "Dept. of Water Resources reports an earthquake of 2.75 mag. at 1615 [PDT] on 6/5/74. Location approximately 30 miles (48 km) northeast of Oroville Dam. Location of center 39°57'' N., 121°15'' W. Earthquake was felt and described as slight in camp at Caribou but not at the Powerhouse 1 mile (1.6 km) away. Was not felt at Rock Creek Powerhouse down river or at Prattville."

June 6. 04:13:49.8 (12:13). Epicenter 38.45° N., 122.64° W., northern California, at a depth of 2 km, B. Int. IV at Santa Rosa; int. II at Angwin and Rohnert Park (press).

June 9. 14:27:33.7 (22:27). Epicenter 35.53° N., 117.45° W., central California, at a depth of 8 km, P. Int. II at China Lake and Ridgecrest (press).

June 9. 22:44:09.9 (June 10, 06:44). Epicenter 35.53° N., 117.45° W., central California, at a depth of 8 km, P. Int. V. Felt over a small area, including parts of Kern and San Bernardino Counties. An observer at Argus reported a crack in driveway, but no other damage was noted. Int. V effects also were observed at China Lake (weak foreshock at 14:25), Randsburg, Red Mountain, and Trona; int. IV at Johannesburg; int. III at Inyokern (3.5 km north of).

June 9. 23:35:00.5 (June 10, 07:35). Epicenter 40.45° N., 125.08° W., off coast of northern California, at a depth of 22 km, USGS. Int. IV at Pepperwood, Rio Dell, and Scotia.

June 10. 07:02. Mag. about 2.5, B. Int. II at Santa Rosa.

June 12. 10:56, 11:21:51.2 (19:21). Epicenter 36.72° N., 121.43° W., central California, at a depth of 5 km, B. Int. V at Almaden Vineyards (about 14 km south of

Hollister) and Tres Pinos; int. IV at Harris Ranch (11 km south of Hollister; both tremors felt), Hollister (and 19 km south of), and San Juan Bautista; int. III about 18 km south of Hollister (12830 Cienega Rd.)

June 13. 03:10. Int. II at Ferndale.

June 13. 18:49:37.6 (June 14, 02:49). Epicenter 36.86° N., 121.41° W., central California, at a depth of 9 km, mag. 3.0, B. Int. IV at Harris Ranch, 11 km south of Hollister. NOTE: This epicenter is not included in table 1 of this publication.

June 14. 06:03. Int. IV at Hollister.

June 14. 16:24. Mag. 2.3, B. Epicenter in or very near Oakland. Widely felt in Oakland.

June 15. 09:49:25.4 (17:49), 11:00, 11:29. Epicenter 36.72° N., 121.41° W., central California, at a depth of 7 km, B. Int. III. Observer reported three earthquakes between 09:00 and 11:30. Three shocks were felt at Harris Ranch (11 km south of Hollister).

June 19. 10:20. Int. IV at Alpine (a few kilometers east of San Diego).

June 23. 16:39:52.0 (June 24, 00:39). Epicenter 40.95° N., 124.06° W., near coast of northern California, at a depth of 29 km, B. Felt along a 70-km stretch of Humboldt County coastline, from Trinidad on the north to Scotia on the south. Int. IV at Bayside, Eureka (Humboldt Bay Powerplant), and Rio Dell; int. III at Fortuna; int. II at Ferndale. Also felt at Trinidad (press), and at Pepperwood and Scotia (reported by Rio Del resident).

July 2. 21:00:58.6 (July 3, 05:00). Epicenter 40.42° N., 125.14° W., off coast of northern California, at a depth of 12 km, B. Int. V. Small objects shifted at Bridgeville and Eureka (Humboldt Hill). The press reported that Ferndale and the Eel River Valley area were shaken. Int. IV at Ferndale, Fortuna, and Petrolia; int. III at Miranda (aftershock felt on July 3, 00:50 PST, int. III) and Rio Dell.

July 9. 23:46:28.2 (July 10, 07:46). Epicenter 34.17° N., 116.72° W., southern California, at a depth of 8 km, P. Int. II in San Bernardino area.

July 13. 03:09:57.5 (11:09). Epicenter 40.37° N., 125.18° W., off coast of northern California, at a depth of 1 km, USGS. Int. II at Ferndale.

July 18. 06:33. Int. II at Ferndale.

Aug. 3. 19:43:54.0 (Aug. 4, 03:43). Epicenter 38.00° N., 121.86° W., northern California, at a depth of 24 km, B. Int. II in the Pittsburg area (press).

Aug. 4. 01:08:21.9, P. Residents of the Lake Arrowhead area were awakened, according to press reports. This was the strongest of a series of minor tremors that shook San Bernardino County and desert towns (press).

Aug. 4. 07:03:45.4 (15:03). Epicenter 36.61° N., 121.26° W., central California, at a depth of 6 km, B. Int. II at Harris Ranch, 11 km south of Hollister.

Aug. 9. 04:19:59.5 (12:19), Epicenter 40.22°N., 124.15°W., near coast of northern California, at a depth of 7 km, B. Int. V at Petrolia where all were awakened; int. IV at Ferndale and Rio Dell.

Aug. 10. 09:47:34.5 (17:47). Epicenter 40.7° N., 124.4° W., northern California, at a depth of 7 km, mag. 3.3, P. Int. III at Ferndale. NOTE: This epicenter is not listed in table 1.

Aug. 14. 06:45:55.4 (14:45). Epicenter 34.43° N., 118.37°W., southern California, at a depth of 7 km, P. Felt over 10,000 km^2 (3,860 mi^2) of southern California. The press reported that windows and dishes rattled, buildings swayed, and small objects shifted throughout the Los Angeles area. Int. V at Acton, Burbank, El Monte, Glendale, La Canada, Lake Hughes, Los Angeles, Newhall, Monrovia, Pacoima, Tujunga, and Verdugo City; int. IV at Agoura, Alhambra, Arcadia, Arleta, Canoga Park, Chatsworth, Etiwanda, Fullerton, La Mirada, Monterey Park, Montrose, Newbury Park, North Hollywood, Northridge, Panorama City, Pasadena, Placentia, Rosemead, South Pasadena, Sunland, Temple City, Topanga, Valyermo, and Ventura; int. I-III at Altadena, Beverly Hills, Calabasas, Fountain Valley, Lancaster, Mount Wilson, Reseda, San Fernando, Sierra Madre, Simi Valley, Sun Valley, West Covina, Westminster, Woodland Hills, and Wrightwood.

Aug. 29. 14:52. Mag. 3.0, B. Int. II at Eureka (Humboldt Hill).

Aug. 29. 23:55:29.8 (Aug. 30, 07:55). Epicenter 36.83° N., 121.37° W., at a depth of 6 km, mag. 3.4, B. Int. II at Hollister (about 11 km south of, at Harris Ranch). NOTE: This epicenter is not listed in table 1.

Sept. 6. 05:23:31.4 (13:23). Epicenter 34.29° N., 118.52° W., southern California, at a depth of 8 km, P. Int. II in San Fernando area.

Sept. 6. 06:40:42.9 (14:40). Epicenter 34.20° N., 118.58° W., southern California, at a depth of 8 km, P. Int. II at Saugus.

Sept. 11. 17:27:32.5 (Sept. 12, 01:27), 23:12. Epicenter 38.82° N., 122.65° W., northern California, at a depth of 8 km, B. Both shocks were int. II at PG&E Geysers Powerplant (Cloverdale area).

Sept. 20. 20:31:28.5 (Sept. 21, 04:31). Epicenter 40.70° N., 123.87° W., northern California, at a depth of 25 km, mag. 3.5 B. NOTE: This epicenter is not listed in table 1.

Sept. 21. 02:37:42.7 (10:37). Epicenter 33.77° N., 117.25° W., southern California, at a depth of 8 km, P. Int. VI. The press reported damage at Sunnymead (three

walls cracked at ranch) and San Bernardino (damage not described). Int. V effects occurred at Hemet (sleepers knocked out of beds; press) and Beaumont; int. IV at Calimesa, Redlands, and Yucaipa. Press reports indicated the shock also was felt at Banning, Palm Springs, Perris, Riverside, and Sun City.

Sept. 24. 12:07:24.8 (20:07). Epicenter 35.19° N., 120.85° W., central California, at a depth of 8 km, B. Int. II at Diablo Canyon, Morro Bay, and San Luis Obispo.

Oct. 7. 16:56:05.1 (Oct. 8, 00:56). Epicenter 34.05° N., 118.97° W., southern California, at a depth of 8 km, P. Int. IV in Ventura-Camarillo-Malibu area. The press reported the jolt triggered a small earthslide south of Oxnard on the Pacific Coast Highway, but another press account stated that rain might have caused the slide.

Oct. 12. 01:54:57.4 (09:54). Epicenter 34.13° N., 118.98°W., southern California, at a depth of 8 km, P. Int. II at Solromar.

Oct. 12. 04:21:26.1 (12:21). Epicenter 33.72° N., 116.88°W., southern California, at a depth of 8 km, P. Int. II at Hemet.

Oct. 14. 09:33:00.0 (17:33). Epicenter 34.25° N., 117.15° W., southern California, at a depth of 8 km, P. Int. II at Lake Arrowhead.

Oct. 22. 04:13:39.1 (12:13). Epicenter 34.00° N., 118.37° W., southern California, at a depth of 8 km, P. Int. V at Newhall and Los Angeles (2555 South Westgate Ave.) where many were awakened; int. IV at Seal Beach and Torrance; int. I-III at Beverly Hills, Culver City, Hawthorne, Inglewood, Lawndale, Pico Rivera, Santa Monica, Topanga, and Vernon. The press reported the shock was noted in Malibu, Manhattan Beach, Marina del Rey, and Venice (int. I-III).

Oct. 25. 05:29:52.2 (13:29). Epicenter 33.07° N., 115.62° W., southern California, at a depth of 8 km, P. Int. II in Imperial Valley, including Brawley and Westmorland.

Oct. 28. 01:12:07.1 (09:12). Epicenter 35.73° N., 118.38° W., central California, at a depth of 8 km, P. Int. II in Kernville area.

Nov. 5. 16:38:28.0 (Nov. 6, 00:38). Epicenter 34.20° N., 118.15° W., southern California, at a depth of 4 km, P. Int. IV at Altadena, Pasadena, and Sierra Madre (press).

Nov. 9. 02:10:35.3 (10:10). Epicenter 33.58°N., 116.67° W., southern California, at a depth of 5 km, P. Int. II in Palm Springs area.

Nov. 9. 02:12:57.4 (10:12). Epicenter 33.58° N., 116.67° W., southern California, at a depth of 6 km, P. Int. II in Palm Springs area.

Nov. 10. 20:14:20.0 (Nov. 11, 04:14). Epicenter 38.75° N., 122.83° W., central California, at a depth of 2 km, B. Int. V. Felt by many or all workers at the PG&E Geysers Powerplant (Cloverdale area). "Like an explosion." Vehicles rocked. Rockslides were reported, but it is doubtful that such a small tremor would generate slides.

Nov. 12. 01:14:58.9 (09:14). Epicenter 34°42' N., 118°42' W., southern California, at a depth of 4 km, P. Int. II in San Fernando area.

Nov. 17. 17:50:34.1 (Nov. 18, 01:50). Epicenter 37.51° N., 121.84° W., central California, at a depth of 8 km, mag. 2.9, B. Int. II at Milpitas, a few kilometers north of San Jose. NOTE: This epicenter is not listed in table 1.

Nov. 17. 18:04:53.5 (Nov. 18, 02:04). Epicenter 37.50° N., 118.75° W., California-Nevada border area, at a depth of 2 km, mag. 3.8, P. Int. II at Crowley Lake Dam in Bishop area. NOTE: This epicenter is not listed in table 1 of this publication.

Nov. 17. 22:43:51.6 (Nov. 18, 06:43). Epicenter 35.68° N., 117.58° W., central California, at a depth of 8 km, P. Int. II at Ridgecrest.

Nov. 21. 04:55:16.3 (12:55). Epicenter 37.50° N., 118.36° W., California-Nevada border region in Chalfant Valley, Calif., at a depth of 10 km, USGS. Int. II. A series of earthquakes occurred on this date. A number of these reportedly were felt from Mammoth Lakes to Bridgeport.

Nov. 24. 19:50:41.4 (Nov. 25, 03:50). Epicenter 33.53° N., 116.55° W., southern California, at a depth of 10 km, P. Int. IV at Alpine; int. II at Banning and Hemet.

Nov. 27. 10:27. Int. III at Alpine.

Nov. 28. 10:16:05.6 (18:16). Epicenter 40.32° N., 125.13° W., off coast of northern California, at a depth of 10 km, B. Int. IV at Rio Dell; int. III at Ferndale and Scotia.

Nov. 28. 10:30. Int. III at Dunlap, about 35 miles east of Fresno.

Nov. 28. 15:01:24.8 (23:01). Epicenter 36.91° N., 121.50° W., central California, at a depth of 9 km, B. Felt over 18,000 km² (7,000 mi²) of central California (see fig. 9). Int. VI. At Hollister, widespread minor damage occurred. Much stock was destroyed in supermarkets, and several windows broke. The following was excerpted from press reports:

Firemen spent half an hour reconnecting gas pipes at one residence. A water pipe burst on Shore Road. Bits of plaster fell in one home on that street. Minor cracks appeared in the old San Benito County Hall of Records and in the wall and ceiling of the Hollister Hotel. Bricks were knocked from chimney top at one residence; five windows broke at another. Three 7- by 10-foot plate glass windows shattered at a glass company; two cracked. Water sloshed out of swimming pool.

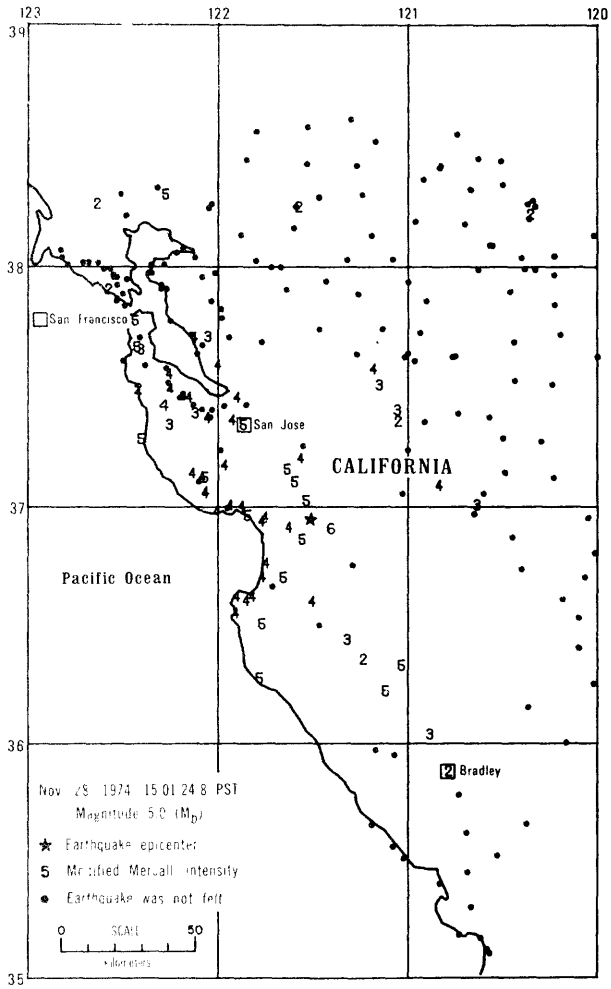

FIGURE 9.-Area affected by central California earthquake of November 28.

INT. V

Ben Lomond, Big Sur, Carmel Valley, Gilroy, King City, La Selva Beach, Loma Mar, Morgan Hill, Pescadero, Salinas, San Benito City (windows cracked). San Francisco, San Jose, San Juan Bautista (press reported plate glass window broke at Mission Sundries on Third St.), San Martin, and South San Francisco (press).

INT. IV

Aptos, Aromas, Boulder Creek, Brookdale, Campbell (press), Capitola, Carmel, Castroville, Chualar, Cupertino, Daly City, Felton, Freedom, Fremont, Holy City, Los Banos, Marina, Milpitas, Monterey, Mount Hermon, Pacific Grove, Palo Alto, Redwood City, San Lorenzo, Santa Clara, Santa Cruz, Seaside, Tiburon, Watsonville, and Westley.

INT. I-III

Bradley, Castro Valley, Crows Landing, Dos Palos, Fresno, Friant, Greenfield, Half Moon Bay (press), Hathaway Pines, La Honda, Los Altos, Newman, Patterson, Petaluma, Pleasanton, San Ardo, San Bruno, Soledad, Stinson Beach, Vacaville, and Willow Glen.

Nov. 28. 15:07:59.1 (23:07). Epicenter 34.23° N., 116.80° W., southern California, at a depth of 12 km, P. Int. II in Big Bear area.

Dec. 1. 02:20:54.9 (10:20). Epicenter 37.26° N., 121.64° W., central California, at a depth of 6 km, B. Int. II at Gilroy, Hollister, Morgan Hill, and San Jose.

Dec. 6. 04:13:08.0 (12:13). Epicenter 32.72° N., 115.40° W., California-Mexico border region, at a depth of 15 km, P. Int. V. Burglar alarms were triggered at El Centro and Brawley; several cans fell off shelves in a Brawley supermarket. Plaster cracks were noted in Calexico's El Rey Hotel. Int. V effects also occurred at Heber and Imperial; int. IV at Glendale, La Canada, Seeley, and Winterhaven; int. II at Yuma, Ariz.

Dec. 6. 05:45:13.6 (13:45). Epicenter 34.10° N., 118.22° W., southern California, at a depth of 15 km, P. Int. V. Slight damage occurred on Los Feliz Boulevard in Hollywood—windows and plaster cracked; small objects shifted. Int. V effects also occurred at Glendale; int. IV at La Canada and North Hollywood; int. III at Altadena.

Dec. 6. 22:18:02.5 (Dec. 7, 06:18). Epicenter 34.18° N., 117.63° W., southern California, at a depth of 6 km, P. Int. III at Etiwanda.

Dec. 19. 04:36:16.9 (12:36), 04:39:50.5 (12:39). Epicenter (1) 34.08° N., 118.08° W., (2) 34.07° N., 118.08° W., southern California, at a depth of 8 km, P. Int. IV at Glendale, Hollywood, and San Gabriel. The press reported the earthquakes were felt (int. III) at Burbank, Covina, Eagle Rock, Huntington Park, La Canada, La Crescenta, Lakewood, Long Beach, Metropolitan Los Angeles, Santa Monica, Sierra Madre, Silver Lake, South Gate, South Pasadena, and Temple City.

Dec. 29. 01:51:44.9 (09:51). Epicenter 37.96° N., 122.36° W., northern California, at a depth of 4 km, B. Int. V. At Richmond, many were awakened; int. IV at Pinole. The press reported the tremor also was felt at Berkeley, El Cerrito, and Kensington (I-III).

Dec. 30. 10:28. Mag. 2.2, B. The press reported a clock "rattled off the walls" of a Monterey radio station.

Dec. 31. 12:22:01.2 (20:22). Epicenter 36.93° N., 121.48° W., central California, at a depth of 9 km, B. Int. IV at Hollister, Salinas, and Seaside; int. III at Castroville, Friant, Moss Landing Powerplant, and San Martin. Also felt in Oakland, San Francisco, and San Jose area (int. I-III).

WASHINGTON AND OREGON

[All times are Pacific standard. If an epicenter is quoted, Greenwich mean time is given in parentheses.]

Apr. 19. 19:00:09.3 (Apr. 20, 03:00). Epicenter 46.76° N., 121.52° W., Washington, at a depth of 5 km, USGS. Int. V at Packwood, where several felt the tremor and small objects shifted, overturned, and fell. Roaring earth noises. Int. IV at Longmire; int. I-III at Carbonado, Carnation, Eatonville, Elbe, Freeland, Indianola, Issaquah, Kapowsin, Kittitas, Mattawa, Randle, Ronald, Roslyn, Seabeck, Selleck, Union, and Winlock.

May 16. 05:04:36.1 (13:04). Epicenter 48.14° N., 122.92° W., Washington, at a depth of 54 km, USGS. Felt over about 9,400 km^2 (3,628 mi^2) of northwestern Washington. Int. V. No damage occurred, but a wood pile and a bookcase were knocked over at Nordland. Int. V effects also were observed at Coupeville and La Conner; int. IV at Bellingham, Brinnon, Darrington, Eastsound, Gardiner, Granite Falls, Greenbank, Index, Joyce, Lynden, Oak Harbor (northeast of, in Mariner's Cove area), Olga, Port Gamble, Port Ludlow, Preston, and Stanwood; int. I-III at Anacortes, Arlington, Clinton, Duvall, Freeland, Friday Harbor, Langley, Lopez, Quilcene, and Silvana.

May 22. 03:58:17.6 (11:58). Epicenter 48.63° N., 123.00° W., Vancouver Island region, S. Int. II at Orcas.

May 24. 22:59:20.7 (May 25, 06:59). Epicenter 47.90° N., 121.80°W., Snohomish County, Wash., S. Int. II at Monroe, Granite Falls, Machias, Marysville, and Lake Roesiger (press). Loud rumbling sound. Lasted 4-5 seconds.

July 14. 03:14:38.0 (11:14). Epicenter 47.60° N., 120.70° W., Washington, S. Int. IV at Plain.

July 28. 19:28:28.0 (July 29, 03:28). Epicenter 45.90° N., 122.60°W., Vancouver, Wash., area, S. Int. IV. Rattled windows and startled residents in the Vancouver area (press).

Aug. 15. 15:33:03.8 (23:33). Epicenter 47.30° N., 122.40° W., Washington, S. Int. II at Tacoma.

Nov. 1. 12:22:59.1 (20:22). Epicenter 48.60° N., 123.20° W., Washington, Vancouver Island region, at a depth of 53 km, S. Int. II on San Juan and Orcas Islands.

Nov. 30. 22:23:56.4 (Dec. 1, 06:23). Epicenter 47.60° N., 122.32°W., Washington, at a depth ot 13 km, S. Int. II in Seattle area. Two tremors felt (press).

Dec. 12. 19:28:54.2 (Dec. 13, 03:28). Epicenter 45.27° N., 121.60° W., Washington-Oregon border region, at a depth of 22 km, USGS. Int. IV at Government Camp and Hood Meadows, Oreg.; int. III at Camas and Parkdale, Wash.; int. II at Rhododendron, Oreg.

Dec. 15. 09:59:05.7 (17:59). Epicenter 48.50° N., 122.08° W., Washington, at a depth of 1 km, S. Int. V. Felt in Concrete-Sedro Woolley area. Int. V at Hamilton where all in community felt the tremor. Small objects shifted, overturned, and fell; faint earth noises. At Lyman, felt by and frightened many in community. "Loud blast." Two shocks felt, first the stronger. "Heard of cracked chimneys in nearby vicinity." Int. III at Clearlake.

Dec. 15. 10:06:59.0 (18:06). Epicenter 48.50° N., 122.10° W., Washington, S. Int. III in the Hamilton area.

ALASKA

[Time given in this state is Alaska standard (150° Meridian). If an epicenter is quoted, Greenwich mean time is given in parentheses. Authority for epicenters, arrival times, and/or magnitudes is given after each parameter.]

Jan. 7. 07:47:03.0 (17:47). Epicenter 64.88° N., 147.56° W., central Alaska, at a depth of 10 km, USGS. Int. II at Fairbanks.

Jan. 8. 07:17:47.6, ADK. Int II at Adak.

Jan. 24. 08:43:26.8 (18:43). Epicenter 61.59° N., 147.63° W., southern Alaska, at a depth of 40 km. USGS. Felt generally through south-central Alaska. Int. V at Sheep Mountain Lodge; int. IV at Anchorage, Glennallen, and Palmer; int. III at Valdez.

Jan. 24. 15:00:21.3 (Jan. 25, 01:00). Epicenter 61.53° N., 147.60° W., southern Alaska, at a depth of 28 km, USGS. Int. II at Sutton (61.4° N., 148.5° W.).

Jan. 31. 05:09:27.7 (15:09). Epicenter 61.93°N., 148.67°W., southern Alaska, at a depth of 66 km, USGS. Int. II at Palmer.

Jan. 31. 23:02:17.7 (Feb. 1, 09:02). Epicenter 62.14° N., 147.83° W., central Alaska, at a depth of 63 km, USGS. Int. II in Palmer area.

Feb. 2. 04:36:02.1 (14:36). Epicenter 61.46° N., 147.47° W., southern Alaska, at a depth of 69 km, USGS. Int. II. Felt strongly in south-central Alaska (press). Reported at Anchorage, Palmer, and Wasilla.

Feb. 2. 05:55:28.3 (15:55). Epicenter 61.60° N., 147.60° W., southern Alaska, at a depth of 48 km, USGS. Int. II. Felt in southern Alaska. Felt strongly in Anchorage, Palmer, and other communities (press).

Feb. 4. 16:25:22.0 (Feb. 5, 02:25). Epicenter 62.70° N., 148.85° W., central Alaska, at a depth of 75 km, USGS. Int. V. Reported felt at the following stations on

the Alaska Railroad: Gold Creek, int. V (62.5°N., 149.4° W.); Colorado, int. IV (63.1° N., 149.3° W.); Houston, int. IV (61.4° N., 141.5° W.); and Montana, int. IV (62.1° N., 150.0° W.). Also felt at Anchorage, Fairbanks, and Palmer.

Feb. 5. 18:04:07.2 (Feb. 6, 04:04). Epicenter 53.80° N., 164.67° W., Unimak Island region, at a depth of 2 km, USGS. Int. V at Cold Bay where the shock was felt by all; few were awakened and frightened. Small objects displaced. Trees and bushes shook. Int. III in the Cape Sarichef area; int. II on Unalaska Island.

Feb. 16. 07:52:52.0 (17:52). Epicenter 51.26° N., 179.29° W., Andreanof Islands, at a depth of 33 km, USGS. Int. II on Adak Island.

Feb. 16. 14:54:42.3, ADK. Int. II on Adak Island.

Mar. 9. 04:18:52:3 (14:18). Epicenter 61.40° N., 149.62° W., southern Alaska, at a depth of 42 km, USGS. Int. II at Wasilla.

Mar. 9. 14:12:40.4 (Mar. 10, 00:12). Epicenter 50.53° N., 175.11° W., Andreanof Islands, at a depth of 28 km USGS. Int. II on Adak Island

Mar. 10. 00:00:14.1 (10:00). Epicenter 63.16° N., 150.50° W., central Alaska, at a depth of 117 km, USGS. Int. II in Gold Creek area.

Mar. 24. 23:29:47.6, ADK. Int. II on Adak Island.

Mar. 26. 06:56:34.0 (16:56). Epicenter 64.89° N., 150.99° W., central Alaska, at a depth of 33 km, USGS. Int. II at Manley Hot Springs.

Mar. 29. 11:50:35.3 (21:50). Epicenter 57.59°N., 153.92°W., Kodiak Island region, at a depth of 44 km, USGS. Int. IV at Kodiak and II at Anchorage. Felt strongly on Woody Island (press).

Mar. 31. 05:34:24.7 (15:34). Epicenter 51.71° N., 177.29° W., Andreanof Islands, at a depth of 61 km, USGS. Int. IV on Adak Island.

Apr. 5. 15:53:47.3 (Apr. 6, 01:53). Epicenter 55.10° N., 160.44° W., Alaska Peninsula, at a depth of 27 km, USGS. Int. V. Minor damage at Sand Point. Felt by all at Port Moller and Cold Bay where small objects shifted.

Apr. 5. 16:27:21.8 (Apr. 6, 02:27). Epicenter 55.34° N., 160.60° W., Alaska Peninsula, at a depth of 33 km, USGS. Int. II at Sand Point.

Apr. 5. 17:56:01.8 (Apr. 6, 03:56). Epicenter 55.12° N., 160.44° W., Alaska Peninsula, at a depth of 40 km, USGS. Int. V. Small objects shifted and fell at Cold Bay. Felt at Sand Point and Port Moller.

Apr. 6. 03:27:36.4, PMR. Int. II at Sand Point.

Apr. 6. 05:13:32.2, PMR. Int. II Cold Bay, Port Moller, and Sand Point.

Apr. 13. 17:30. Int. IV at Port Moller. Building creaked; light tremor.

Apr. 15. 06:27:35.5 (16:27). Epicenter 59.19° N., 136.43° W., southeastern Alaska, at a depth of 7 km, USGS. Int. IV at Haines.

Apr. 18. 11:54:26.4 (21:54). Epicenter 59.16° N., 139.97° W., southeastern Alaska, at a depth of 28 km, USGS. Int. II at Yakutat.

Apr. 21. 16:29:40.1 (Apr. 22, 02:29). Epicenter 51.99° N., 176.06° W., Andreanof Islands, at a depth of 70 km, USGS. Int. IV on Adak Island

Apr. 25. 00:16:15.3, ADK. Int. III on Adak Island.

Apr. 25. 15:07:08.7 (Apr. 26, 01:07). Epicenter 51.76° N., 176.75° W., Andreanof Islands, at a depth of 64 km, USGS. Int. II on Adak Island.

Apr. 28. 06:27:39.8 (16:27). Epicenter 61.67° N., 149.02° W., southern Alaska, at a depth of 32 km, USGS. Int. II at Palmer and Wasilla.

May 7. 18:27:13.1 (May 8, 04:27). Epicenter 63.67° N., 150.73° W., central Alaska, at a depth of 11 km, USGS. Int. IV in Fairbanks area.

May 10. 18:17:34.7 (May 11, 04:17). Epicenter 61.66° N., 150.59° W., southern Alaska, at a depth of 67 km, USGS. Int. II. Felt from Gold Creek to Anchorage, and at points along the Alaska Railroad.

May 13. 06:50. Int. III at College.

May 21. 13:31:41.2 (23:31). Epicenter 63.31° N., 151.25° W., central Alaska, at a depth of 12 km, USGS. Int. II at Palmer.

May 26. 05:52:50.6 (15:52). Epicenter 62.93° N., 148.23° W., central Alaska, at a depth of 88 km, USGS. Int. II at Willow.

May 26. 08:13:58.6 (18:13). Epicenter 61.57° N., 150.24° W., southern Alaska, at a depth of 3 km, USGS. Int. II at Willow.

May 27. 04:01:43.5 (14:01). Epicenter 60.33° N., 146.02°W., southern Alaska, at a depth of 21 km, USGS. Int. III at Boswell Bay and Cordova; int. II in Anchorage area.

May 27. 22:21:59.4 (May 28, 08:21). Epicenter 60.61° N., 149.78° W., Kenai Peninsula. at a depth of 27 km, USGS. Int. II at Anchorage and Seward.

June 3. 22:13:12.6, ADK. Int. II on Adak Island.

June 6. 00:53:08.2 (10:53). Epicenter 52.02° N., 175.40°W., Andreanof Islands, at a depth of 62 km, USGS. Int. II on Adak Island.

June 11. 10:20:44.9 (20:20). Epicenter 51.92° N., 173.53° W., Andreanof Islands, at a depth of 58 km, USGS. Int. II on Adak Island.

June 15. 01:47:20.1, ADK. Int. II on Adak Island.

June 22. 10:35:37.0 (20:35). Epicenter 51.25° N.,

178.24° W., Andreanof Islands, at a depth of 49 km, USGS. Int. II on Adak Island.

June 27. 13:21:51.7, ADK. Int. II on Adak Island.

July 5. 19:06:50.1, ADK. Int. II on Adak Island.

July 13. 02:44:50.7 (12:44). Epicenter 61.49° N., 145.01° W., southern Alaska, at a depth of 55 km, USGS. Int. IV at Chitina, Tonsina, and Valdez; int. III at Glennallen and Copper Center.

July 13. 04:48:50.0 (14:48). Epicenter 62.23° N., 151.22° W., central Alaska, at a depth of 85 km, USGS. Int. V at Talkeetna where all in home were awakened. Whole house shook. Also felt at Kashwitna (IV).

July 29. 01:37:44.0 (11:37). Epicenter 59.71° N., 152.73° W., southern Alaska, at a depth of 84 km, USGS. Int. V. Many awakened at Homer; few frightened.

July 30. 23:20:51.6 (July 31, 09:20). Epicenter 60.53° N., 150.05° W., Kenai Peninsula, at a depth of 44 km, USGS. Int. IV at Homer; int. III at Anchorage.

Aug. 5. 16:37:42.3 (Aug. 6, 02:37). Epicenter 60.25° N., 153.32° W., southern Alaska, at a depth of 136 km, USGS. Int. IV at Homer; also felt at Anchorage.

Aug. 11. 02:57:48.1 (12:57). Epicenter 66.02°N., 165.51° W., Alaska, at a depth of 33 km, USGS. Int. II. Felt on western Seward Peninsula.

Aug. 12. 17:46:20.3 (Aug. 13, 03:46). Epicenter 51.53° N., 178.11° W., Andreanof Islands, at a depth of 52 km, USGS. Int. V. Press reported slight damage at Adak. Dishes rattled; furniture moved.

Aug. 13. 19:34:54.4 (Aug. 14, 05:34). Epicenter 51.56° N., 178.15° W., Andreanof Islands, at a depth of 56 km, USGS. Int. II on Adak Island.

Aug. 15. 23:41:31.7 (Aug. 16, 09:41). Epicenter 51.50° N., 177.83° W., Andreanof Islands, at a depth of 46 km, USGS. Int. IV on Atka Island.

Aug. 20. 10:45:01.4 (20:45). Epicenter 52.24° N., 174.97° E., Rat Islands, at a depth of 58 km, USGS. Int. III on Shemya Island.

Aug. 21. 15:30 (probably Bering Daylight Time?). Seward Peninsula area. Int. III. Mild ground vibration felt outside by two persons at head of North Fork, Grand Central River, beneath east face of Mount Osborne. Rumbling earth noises.

Aug. 21. 17:58:31.6 (Aug. 22, 03:58). Epicenter 51.42°N., 176.32°W., Andreanof Islands, at a depth of 44 km, USGS. Int. II on Adak Island.

Aug. 24. 08:16:56.0 (18:16). Epicenter 51.66° N., 178.62° W., Andreanof Islands, at a depth of 66 km, USGS. Int. II on Adak Island.

Aug. 26. 07:14:57.9, ADK. Int. II on Adak Island.

Aug. 26. 09:44:32.7, ADK. Int. II on Adak Island.

Aug. 27. 09:24:55.0 (19:24). Epicenter 51.94° N., 178.84° W., Andreanof Islands, at a depth of 36 km, USGS. Int. II on Adak Island.

Aug. 27. 16:33:40.0, ADK. Int. II on Adak Island.

Sept. 9. 19:26:19.3 (Sept. 10, 05:26). Epicenter 59.90° N., 151.71° W., Kenai Peninsula, at a depth of 86 km, USGS. Int. V. Felt by all at Homer.

Sept. 11. 00:56:48.4 (10:56). Epicenter 60.27° N., 151.04° W., Kenai Peninsula, at a depth of 33 km, USGS. Int. V. All were awakened and frightened at Cohoe.

Sept. 24. 02:40:51.1, ADK. Int. II on Adak Island.

Sept. 26. 17:36:25.7 (Sept. 27, 03:36). Epicenter 61.58°N., 149.95°W., southern Alaska, at a depth of 72 km, USGS. Int. III in Kashwitna-Willow area; int. II in Anchorage and Palmer.

Sept. 27. 16:51:54.0 (Sept. 28, 02:51). Epicenter 64.48° N., 147.73° W., central Alaska, at a depth of 30 km, USGS. Int. IV at College Observatory.

Oct. 3. 01:30:08.5, ADK. Int. II on Adak Island.

Oct. 9. 06:00:04.7, COL. Int. IV at Fairbanks.

Oct. 13. 05:26:14.4 (15:26). Epicenter 61.43° N., 148.02°W., southern Alaska, at a depth of 51 km, USGS. Int. IV at Fairbanks.

Oct. 13. 15:20. Int. IV at Fairbanks; III at College.

Nov. 4. 13:32. Int. III at Fairbanks.

Nov. 7. 10:19. Int. IV at Shemya Air Force Base, Shemya Island.

Nov. 7. 08:45:41.1 (18:45). Epicenter 52.61° N., 174.01° E., Near Islands, at a depth of 21 km, USGS. Int. IV at Shemya Air Force Base, Shemya Island.

Nov. 10. 15:20:01.4, COL. Int. II at College.

Nov. 10. 19:17:51.0 (Nov. 11, 05:17). Epicenter 51.63° N., 178.11° W., Andreanof Islands, at a depth of 68 km, USGS. Int. V on Adak Island where minor damage was reported.

Nov. 13. 18:48:54.7 (Nov. 14, 04:48). Epicenter 58.80° N., 154.62° W., Alaska Peninsula, at a depth of 37 km, USGS. Int. IV at Iliamna; int. III in King Salmon-Homer area. Also felt at Seldovia.

Nov. 14: 19:43:43.0 (Nov. 15, 05:43). Epicenter 58.84° N., 154.45° W., Alaska Peninsula, at a depth of 60 km, USGS. Int. V at King Salmon where furniture shifted.

Nov. 15. 04:18:54.0, ADK. Int. II on Adak Island.

Nov. 27. 19:28:48.2 (Nov. 28, 05:28). Epicenter 51.87° N., 175.27° W., Andreanof Islands, at a depth of 63 km, USGS. Int. IV on Adak Island.

Nov. 27. 22:28:00.1, ADK. Int. II on Adak Island.

Nov. 28. 08:27:02.8 (18:27). Epicenter 61.63° N., 148.35° W., southern Alaska, at a depth of 12 km, USGS.

Int. II at Palmer.

Nov. 30. 02:57:20.6 (12:57). Epicenter 53.27° N., 172.96°E., Near Islands, at a depth of 17 km, USGS. Int. IV on Attu Island.

Nov. 30. 16:51:58.1 (Dec. 1, 02:51). Epicenter 51.56° N., 176.75° W., Andreanof Islands, at a depth of 55 km, USGS. Int. II on Adak Island.

Dec. 10. 05:00:58.0 (15:00). Epicenter 64.75° N., 149.05°W., central Alaska, at a depth of 61 km, USGS. Int. IV in Fairbanks area.

Dec. 21. 19:32:12.3 (Dec. 22, 05:32). Epicenter 51.44° N., 178.52° W., Andreanof Islands, at a depth of 55 km, USGS. Int. II on Adak Island.

Dec. 24. 16:49:13.0 (Dec. 25, 02:49). Epicenter 51.70° N., 174.64° E., Near Islands, at a depth of 40 km, USGS. Int. IV on Shemya Island.

Dec. 28. 12:03:33.6, ADK. Int. III on Adak Island.

Dec. 29. 08:25:00.7 (18:25). Epicenter 61.60° N., 150.51°W., southern Alaska, at a depth of 67 km, USGS. Int. V at Elmendorf Air Force Base, Talkeetna, Tyonek, and Wasilla; int. IV at Palmer; and int. III at Anchorage.

Dec. 29. 17:33:16.6 (Dec. 30, 03:33). Epicenter 61.98° N., 149.69° W., central Alaska, at a depth of 62 km, USGS. Felt strongly in Anchorage and Palmer areas. Felt at Talkeetna. Reports are confused with the earthquake at 08:25, Dec. 29, but this tremor probably is int. V also.

Dec. 31. 17:55:12.0 (Jan. 1, 03:55). Epicenter 61.90° N., 149.70° W., southern Alaska, at a depth of 66 km, mag. 5.9 (mb), USGS. Int. V. Minor damage in Anchorage-Palmer area. NOTE: This epicenter is not listed in table 1 of this publication.

HAWAII*

[The following list includes felt earthquakes of magnitude ≥3.0. as determined by the Hawaiian Volcano Observatory. The time is given in Hawaiian standard. If an epicenter is quoted, Greenwich mean time is given in parentheses.]

Jan. 2. 06:27:51.6 (16:27). Epicenter 19° 13.9′ N., 155°28.1′ W., at a depth of 10 km. Int. II at Ainahou Ranch.

Jan. 8. 04:54:43.5 (14:54). Epicenter 19°19.0′ N., 155°13.5′ W., at a depth of 8 km. Int. II at Ainahou Ranch and Hilo.

Jan. 12. 06:04:33.9 (16:04). Epicenter 19°20.7′ N., 155°07.6′ W., at a depth of 7 km. Int. II at Kamuela, Honokaa, Volcano, Kona, and Hilo.

Jan. 15. 22:06:46.5 (Jan. 16, 08:06). Epicenter 19°46.9′ N., 155°36.0′ W., at a depth of 36 km. Int. II at Waimea, Kealakekua, Captain Cook, and Keauhou-Kona.

Jan. 20. 10:27:50.2 (20:27). Epicenter 19°09.0′ N., 155°41.7′ W., at a depth of 6 km. Int. II at South Kona.

Feb. 4. 18:16:54.0 (Feb. 5, 04:16). Epicenter 19°32.4′ N., 155°54.1′ W., at a depth of 8 km. Int. V. At Kailua-Kona, heavy metal sheets covering holes at a construction site were shifted (press). Also felt at Captain Cook and Kealakekua.

Feb. 5. 06:01:27.4 (16:01). Epicenter 19°09.0′N., 155°40.5′W., at a depth of 3 km. Int. II at South Kona.

Feb. 6. 04:39:25.0 (14:39). Epicenter 19°40.2′ N., 156°00′ W., at a depth of 30 km. Int. II on western Hawaii.

Feb. 8. 01:56:39.5 (11:56). Epicenter 19°29.5′ N., 155°15.8′ W., at a depth of 24 km. Int. II at Volcano and Glenwood.

Mar. 23. 23:39:07.7 (Mar. 24, 09:39). Epicenter 19°17.2′ N., 155°11.8′ W., at a depth of 7 km. Int. II at Ainahou Ranch, Mountainview, Glenwood, and Hilo.

Mar. 27. 22:58:53.6 (Mar. 28, 08:58). Epicenter 18°54.9′ N., 155°32.9′ W., at a depth of 42 km. Int. II at Kahuku Ranch and Naalehu.

Apr. 4. 11:42:15.3 (21:42). Epicenter 19°21.5′ N., 155°16.5′ W., at a depth of 26 km. Int. II at Hilo.

Apr. 25. 02:06:55.1 (12:06). Epicenter 19°19.2′ N., 155°13.5′ W., at a depth of 8 km. Int. II at Volcano, Kaiwiki, Hilo, and Glenwood.

Apr. 30. 02:44:00.4 (12:44). Epicenter 19°22.1′ N., 155°04.9′ W., at a depth of 0 km. Int. II at Volcano.

Apr. 30. 02:45:46.2 (12:45). Epicenter 19°22.1′ N., 155°04.7′ W., at a depth of 5 km. Int. II at Volcano.

May 5. 01:37:23.9 (11:37). Epicenter 19°20.9′N., 155°15.6′ W., at a depth of 13 km. Int. II at Kona, Hilo, Volcano, Keaau, Kamuela, Kahuku Ranch, and Waiohinu.

June 3. 13:02:09.1 (23:02). Epicenter 19°25.2′ N., 155°25.8′ W., at a depth of 8 km. Int. II at Volcano, Hilo, Hawaii Volcanoes National Park, Glenwood, and Pahala.

June 19. 05:05:42.4 (15:05). Epicenter 19°21.7′ N., 155°24.3′ W., at a depth of 8 km. Int. V. Felt Islandwide, but most strongly in Kau, Volcano, Puna, and Hilo areas. The press reported that dishes broke and objects fell from shelves in the Kau district.

June 19. 05:11:13.5 (15:11). Epicenter 19°21.5′ N., 155°25.4′ W., at a depth of 5 km. Int. II at Hilo, Kau, and Volcano.

June 19. 05:33:03.6 (15:33). Epicenter 19°22.1′ N.,

*Prepared by Hawaiian Volcano Observatory, U.S. Geological Survey, Hawaii National Park, Hawaii.

155°24.6' W., at a depth of 7 km. Int. II at Hilo, Kau, and Volcano.

June 20. 20:50:26.4 (June 21, 06:50). Epicenter 19°20.0' N., 155°13.0' W., at a depth of 7 km. Int. II at Volcano, Ainahou Ranch, Hilo, Kurtistown, Glenwood, Hawaii Volcanoes National Park, and Kona.

June 27. 15:44:42.9 (June 28, 01:44). Epicenter 19°25.0' N., 155°17.2' W., at a depth of 1 km. Int. II at Hawaii Volcanoes National Park.

July 11. 14:17:17.6 (July 12, 00:17). Epicenter 19°28.3' N., 155°26.6' W., at a depth of 8 km. Int. II at Kealakekua.

July 12. 15:32:59.0 (July 13, 01:32). Epicenter 19°27.0' N., 155°43.9' W., at a depth of 8 km. Int. II at Kainaliu.

July 13. 06:37:46.5 (16:37). Epicenter 19°21.4' N., 155°15.1' W., at a depth of 8 km. Int. II at Ainahou Ranch.

July 19. 04:38:48.3 (14:38). Epicenter 18°32.4' N., 155°17.6' W., at a depth of 8 km. Int. II at Volcano.

July 19. 05:00:02.9 (15:00). Epicenter 19°23.3' N., 155°15.0' W., at a depth of 1 km. Int. II at Volcano and Hawaii Volcanoes National Park.

July 19. 11:22:02.9 (21:22). Epicenter 19°23.1' N., 155°15.4' W., at a depth of 2 km. Int. II at Volcano and Hawaii Volcanoes National Park.

July 19. 16:41:48.0 (July 20, 02:41). Epicenter 19°48.3' N., 155°33.9' W., at a depth of 26 km. Int. II at Honokaa.

July 21. 18:07:50.5 (July 22, 04:07). Epicenter 19°19.5' N., 155°13.0' W., at a depth of 30 km. Int. II at Volcano and Hilo.

July 23. 18:13:02.3 (July 24, 04:13). Epicenter 19°23.4' N., 155°17.2' W., at a depth of 14 km. Int. II at Ainahou Ranch and Kapapala Ranch.

Aug. 7. 20:44:36.3 (Aug. 8, 06:44). Epicenter 19°28.7' N., 155°40.6' W., at a depth of 8 km. Int. II at Kona.

Aug. 8. 01:12:59.5 (11:12). Epicenter 19°21.4' N., 155°18.2' W., at a depth of 27 km. Int. II at Honokaa, Glenwood, Hilo, Kapapala Ranch, Hawaii Volcanoes National Park, Volcano, Kona, and Puna.

Aug. 12. 11:26:20.5 (21:26). Epicenter 19°22.6' N., 155°26.1' W., at a depth of 8 km. Int. II at Kapapala Ranch.

Aug. 17. 22:52:20.1 (Aug. 18, 08:52). Epicenter 19°47.8' N., 156°10.2' W., at a depth of 39 km. Int. II at Kona.

Aug. 20. 22:38:23.4 (Aug. 21, 08:38). Epicenter 19°33.3' N., 155°57.5' W., at a depth of 6 km. Int. II at Kealakekua.

Aug. 23. 18:15:01.9 (Aug. 24, 04:15). Epicenter 19°19.0' N., 155°13.5' W., at a depth of 8 km. Int. II at Hilo.

Aug. 27. 21:49:40.7 (Aug. 28, 07:49). Epicenter 19°19.9' N., 155°12.6' W., at a depth of 7 km. Int. II at Hilo, Keaau, Kurtistown, Pahoa, Honokaa, Laupahoehoe, Naalehu, Kapapala Ranch, Hookena, Holualoa, Mountainview, Volcano, Hawaii Volcanoes National Park, Pahala, and South Kona.

Sept. 17. 21:56:34.2 (Sept. 18, 07:56). Epicenter 19°23.6' N., 155°52.5' W., at a depth of 10 km. Int. II at South Kona.

Sept. 19. 15:51:37.3 (Sept. 20, 01:51). Epicenter 19°46.8' N., 155°31.9' W., at a depth of 38 km. Int. II at Hilo.

Sept. 25. 20:18:49.7 (Sept. 26, 06:18). Epicenter 20°09.4' N., 155°33.1' W., at a depth of 40 km. Int. II at Kamuela and Honokaa.

Oct. 15. 08:38:05.3 (18:38). Epicenter 19°25.5' N., 155°29.6' W., at a depth of 8 km. Int. II at Kapapala Ranch.

Oct. 26. 13:20:07.1 (23:20). Epicenter 19°19.8'N., 155°11.4' W., at a depth of 8 km. Int. II at Hilo and Hawaii Volcanoes National Park.

Oct. 29. 18:57:32.2 (Oct. 30, 04:57). Epicenter 19°23.8' N., 155°24.6' W., at a depth of 8 km. Int. II at Pahala.

Oct. 31. 10:01:48.9 (20:01). Epicenter 19°22.2' N., 155°04.6' W., at a depth of 5 km. Int. II at Hilo, Kaimu, Pahoa, Glenwood, Kalapana, and Volcano.

Oct. 31. 10:45:22.1 (20:45). Epicenter 19°22.1' N., 155°04.4' W., at a depth of 6 km. Int. II at Hilo, Kaimu, and Volcano.

Nov. 9. 04:46:15.7 (14:46). Epicenter 19°22.6' N., 155°08.7' W., at a depth of 7 km. Int. II at Volcano.

Nov. 10. 01:53:14.7 (11:53). Epicenter 19°24.2' N., 155°25.1' W., at a depth of 8 km. Int. II at Hilo, Volcano, Hawaii Volcanoes National Park, Onomea, Pahala, Honokaa, Napoopoo, Kamuela, and Kurtistown.

Nov. 12. 18:59:04.1 (Nov. 13, 04:59). Epicenter 19°25.4' N., 155°17.1' W., at a depth of 2 km. Int. II at Volcano and Hawaii Volcanoes National Park.

Nov. 16. 05:12:41.0 (15:12). Epicenter 19°11.6' N., 156°13.6' W., at a depth of 18 km. Int. II at Napoopoo and South Kona.

Nov. 21. 21:49:14.7 (Nov. 22, 07:49). Epicenter 19°20.4' N., 155°18.5' W., at a depth of 29 km. Int. II at Hilo, Glenwood, Volcano, Hawaii Volcanoes National Park, Mountainview, Kapapala Ranch, Pahala, Honomu, Ainahou Ranch, Kamuela, South Kona, Kealakekua, Puna, Kau, Humakua, and Volcano.

Nov. 30. 03:54:23.4 (13:54). Epicenter 19°25.5' N., 155°24.7' W., at a depth of 7 km. Int. II. Felt Islandwide.

Nov. 30. 04:07:37.7 (14:07). Epicenter 19°29.5' N., 155°21.6' W., at a depth of 8 km. Int. II at Kamuela and Hilo.

Nov. 30. 04:46:54.8 (14:46). Epicenter 19°26.7' N., 155°23.3' W., at a depth of 8 km. Int. II at Hilo.

Dec. 7. 15:14:27.8 (Dec. 8, 01:14). Epicenter 19°24.1' N., 155°26.4' W., at a depth of 8 km. Int. II at Hilo and South Kona.

Dec. 8. 06:46:31.9 (16:46). Epicenter 19°25.5' N., 155°23.3' W., at a depth of 7 km. Int. II at Hilo.

Dec. 11. 00:39:05.3 (10:39). Epicenter 19°27.0' N., 155°35.1' W., at a depth of 1 km. Int. II at Volcano.

Dec. 11. 03:49:52.7 (13:49). Epicenter 19°25.9' N., 155°33.9' W., at a depth of 6 km. Int. II at Hilo.

Dec. 12. 04:01:19.1 (14:01). Epicenter 19°22.0'N., 155°06.7'W., at a depth of 6 km. Int. II at Hilo.

Dec. 15. 10:53:47.4 (20:53). Epicenter 19°27.3'N., 155°35.9' W., at a depth of 4 km. Int. II at Volcano, Hawaii Volcanoes National Park, Kapapala Ranch, Mauna Loa summit cabin, Mauna Loa Observatory, and Hilo.

Dec. 15. 23:17:29.4 (Dec. 16, 09:17). Epicenter 19°23.9' N., 155°25.4' W., at a depth of 8 km. Int. V at Ookala and Papaaloa; int. IV at Honokaa and Paauhau; int. I-III at Kapapala Ranch, Kailua-Kona, Volcano, Keaau, Hawaii Volcanoes National Park, Mountainview, South Kona, and Kealakekua.

Dec. 15. 23:30:35.7 (Dec. 16, 09:30). Epicenter 19°23.9' N., 155°25.7' W., at a depth of 8 km. Int. II at South Kona.

Dec. 16. 09:00:55.0 (19:00). Epicenter 19°24.3' N., 155°25.2' W., at a depth of 9 km. Int. II at Hawaii Volcanoes National Park, Kapapala Ranch, and Hilo.

Dec. 21. 08:18:03.9 (18:18). Epicenter 19°23.1' N., 155°26.5' W., at a depth of 8 km. Int. II at Volcano, Pahala, Hawaii Volcanoes National Park, and Hilo.

Dec. 25. 07:47:49.5 (17:47). Epicenter 19°19.6' N., 155°16.9' W., at a depth of 28 km. Int. II. Felt Islandwide, and on the Island of Oahu.

Dec. 25. 18:13:20.6 (Dec. 26, 04:13). Epicenter 19°13.6' N., 155°17.9' W., at a depth of 5 km. Int. II at Hilo, Volcano, Glenwood, Mountainview, and Pahala.

Dec. 25. 18:17:10.2 (Dec. 26, 04:17). Epicenter 19°13.8' N., 155°17.6' W., at a depth of 5 km. Int. II at Volcano and Hilo.

Dec. 25. 18:24:14.1 (Dec. 26, 04:24). Epicenter 19°13.5' N., 155°18.2' W., at a depth of 5 km. Int. II at Hilo, Volcano, Glenwood, and Pahala.

Dec. 28. 17:02:38.1 (Dec. 29, 03:02). Epicenter 19°44.9' N., 156°02.8' W., at a depth of 4 km. Int. II at Keauhou-Kona and Kealakekua.

Dec. 28. 19:24:23.5 (Dec. 29, 05:24). Epicenter 19°21.2'N., 155°05.3'W., at a depth of 7 km. Int. II at Kahuku Ranch, Volcano, Papikou, Hilo, Hawaii Volcanoes National Park, and Glenwood.

Dec. 29. 17:22:10.6 (Dec. 30, 03:22). Epicenter 19°19.4' N., 155°17.0' W., at a depth of 29 km. Int. II. Felt Islandwide.

Dec. 30. 02:51:43.9 (12:51). Epicenter 19°24.1' N., 155°25.0' W., at a depth of 7 km. Int. II at Pahala.

Dec. 31. A swarm of earthquakes accompanied and followed an eruption of Kilauea Volcano on December 31, 1974. Many hundreds of earthquakes of about magnitude 2.0 to 5.3 were felt by residents of Kapapala Ranch, Pahala, Volcano, and the Hawaii Volcanoes National Park. Because of the continuously intense nature of the activity during this episode, much of the Hawaiian Volcano Observatory seismic records were obscured, and the following list of events may be incomplete.

Dec. 31. 00:30:27.0 (10:30). Epicenter 19°23.4' N., 155°16.9' W., at a depth of 5 km. Int. II at Volcano, Kapapala Ranch, Pahala, and Hawaii Volcanoes National Park.

Dec. 31. 01:12:56.3 (11:12). Epicenter 19°22.1' N., 155°26.1' W., at a depth of 21 km. Int. II at Volcano, Kapapala Ranch, Pahala, and Hawaii Volcanoes National Park.

Dec. 31. 09:30:56.2 (19:30). Epicenter 19°19.0' N., 155°20.2' W., at a depth of 5 km. Int. II at Volcano, Kapapala Ranch, Pahala, and Hawaii Volcanoes National Park.

Dec. 31. 12:14:02.8 (22:14). Epicenter 19°17.5' N., 155°22.1' W., at a depth of 6 km. Int. II at Volcano, Kapapala Ranch, Pahala, and Hawaii Volcanoes National Park.

Dec. 31. 12:25:29.1 (22:25). Epicenter 19°18.3' N., 155°22.2' W., at a depth of 3 km. Int. II at Volcano, Kapapala Ranch, Pahala, and Hawaii Volcanoes National Park.

Dec. 31. 12:40:47.8 (22:40). Epicenter 19°17.4' N., 155°21.7' W., at a depth of 5 km. Int. V. Felt Islandwide; minor damage at Kapapala Ranch.

Dec. 31. 13:06:45.0 (23:06). Epicenter 19°16.6' N., 155°21.6' W., at a depth of 6 km. Int. II at Volcano, Kapapala Ranch, Pahala, and Hawaii Volcanoes National Park.

Dec. 31. 13:56:37.3 (23:56). Epicenter 19°20.4' N., 155°20.0' W., at a depth of 6 km. Int. II at Volcano,

Page 79 follows.

Kapapala Ranch, Pahala, and Hawaii Volcanoes National Park.

Dec. 31. 14:39:21.8 (Jan. 1, 00:39). Epicenter 19°19.1' N., 155°22.1' W., at a depth of 5 km. Int. II at Volcano, Kapapala Ranch, Pahala, Hawaii Volcanoes National Park, and South Kona.

Dec. 31. 14:49:13.7 (Jan. 1, 00:49). Epicenter 19°16.0' N., 155°21.6' W., at a depth of 0 km. Int. II at Hilo, Volcano, Kapapala Ranch, Pahala, and Hawaii Volcanoes National Park.

Dec. 31. 14:59:13.9 (Jan. 1, 00:59). Epicenter 19°17.0' N., 155°22.0' W., at a depth of 4 km. Int. II at Volcano, Kapapala Ranch, Pahala, and Hawaii Volcanoes National Park.

Dec. 31. 15:28:59.1 (Jan. 1, 01:28). Epicenter 19°01.3' N., 155°11.5' W., at a depth of 31 km. Int. II at Hilo, Volcano, Kapapala Ranch, Pahala, and Hawaii Volcanoes National Park.

Dec. 31. 15:51:17.3 (Jan. 1, 01:51). Epicenter 19°20.3' N., 155°19.7' W., at a depth of 4 km. Int. II at Volcano, Kapapala Ranch, Pahala, and Hawaii Volcanoes National Park.

Dec. 31. 16:48:19.0 (Jan. 1, 02:48). Epicenter 19°19.7' N., 155°20.0' W., at a depth of 4 km. Int. II at Volcano, Kapapala Ranch, Pahala, and Hawaii Volcanoes National Park.

Dec. 31. 17:10:53.0 (Jan. 1, 03:10). Epicenter 19°18.6' N., 155°22.7' W., at a depth of 4 km. Int. II at Volcano, Kapapala Ranch, Pahala, and Hawaii Volcanoes National Park.

Dec. 31. 18:02:17.0 (Jan. 1, 04:02). Epicenter 19°17.7' N., 155°22.7' W., at a depth of 7 km. Int. II at Volcano, Kapapala Ranch, Pahala, and Hawaii Volcanoes National Park.

Dec. 31. 18:12:20.0 (Jan. 1, 04:12). Epicenter 19°18.9' N., 155°22.8' W., at a depth of 5 km. Int. II at Volcano, Kapapala Ranch, Pahala, and Hawaii Volcanoes National Park.

Dec. 31. 19:51:30.6 (Jan. 1, 05:51). Epicenter 19°16.4' N., 155°23.0' W., at a depth of 4 km. Int. II at Volcano, Kapapala Ranch, Pahala, and Hawaii Volcanoes National Park.

Dec. 31. 20:43:55.0 (Jan. 1, 06:43). Epicenter 19°17.9' N., 155°23.1' W., at a depth of 5 km. Int. II at Hilo, Volcano, Kapapala Ranch, Pahala, and Hawaii Volcanoes National Park.

Dec. 31. 20:53:24.4 (Jan. 1, 06:53). Epicenter 19°15.0' N., 155°20.6' W., at a depth of 3 km. Int. II at Volcano, Kapapala Ranch, Pahala, and Hawaii Volcanoes National Park.

Dec. 31. 21:24:48.2 (Jan. 1, 07:24). Epicenter 19°16.9' N., 155°23.9' W., at a depth of 5 km. Int. II at Volcano, Kapapala Ranch, Pahala, and Hawaii Volcanoes National Park.

Dec. 31. 21:41:54.0 (Jan. 1, 07:41). Epicenter 19°16.1' N., 155°21.5' W., at a depth of 5 km. Int. II at Hilo, Volcano, Kapapala Ranch, Pahala, and Hawaii Volcanoes National Park.

PANAMA CANAL ZONE

[Time given is 75° meridian. Greenwich mean time is given in parentheses.]

Dec. 19. 11:00:49.0 (16:00). Epicenter 7.40° N., 78.70° W., Panama, at a depth of 13 km, USGS. Int. II at Panama City, Panama, and at Balboa Heights, C.Z.

PUERTO RICO

[Time given is 60° meridian. Greenwich mean time is given in parentheses.]

Jan. 18. 12:52:43.1 (16:52). Epicenter 18.80° N., 69.40° W., Dominican Republic region, at a depth of 82 km, USGS. Int. II at Mayagüez.

Mar. 16. 08:02:02.3 (12:02). Epicenter 18.45° N., 67.05° W., Mona Passage, at a depth of 96 km, USGS. Int. II at Boqueron, Guanica, Mayagüez, and Rosario.

Aug. 29. 09:18:26.0 (13:18). Epicenter 17.83° N., 65.49° W., Puerto Rico region, at a depth of 33 km, USGS. Int. III at Mayagüez.

Oct. 8. 05:50:58.1 (09:50). Epicenter 17.30° N., 62.00° W., Leeward Islands, at a depth of 47 km, USGS. Int. VIII on Antigua and Barbuda. Int. V at Fajardo, P.R.: int. IV at Guayama, Humacao, and Ponce; int. III at Roosevelt Roads, P.R. (U.S. Naval Station).

Oct. 26. 01:30:38.0 (05:30). Epicenter 18.42° N., 66.32° W., Puerto Rico region, at a depth of 93 km, USGS. Int. II at Cayey, Caguas, and San Juan.

VIRGIN ISLANDS

No earthquakes were reported felt in this area in 1974.

Principal Earthquakes of the World

Table 2 lists and briefly describes the principal earthquakes of the worldduring 1974. This list is included in the *United States Earthquakes* series because it is not available in this format in other earthquake reports. It includes earthquakes of magnitude 6.8 or greater; shocks of smaller magnitude that were locally destructive and/or caused fatalities; and tremors of unusual interest.

FIGURE 10.-View of destruction in the village of Pattan, West Pakistan, after December 28 earthquake. The shock took a toll of 5,300 lives and injured 17,000. (USGS photo)

TABLE 2 - PRINCIPAL EARTHQUAKES OF THE WORLD DURING 1974

(SOURCE. PRELIMINARY DETERMINATION OF EPICENTERS MONTHLY LISTING, PUBLISHED BY U.S. GEOLOGICAL SURVEY.)

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT DEG.	LONG DEG.	REGION	REMARKS	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
JAN 02	10 42 29.9	22.5S	068.4W	NORTHERN CHILE	THREE INJURED, BUILDINGS DAMAGED AT CALAMA.	105	6.4			6.8PAS
JAN 05	08 33 50.7	12.3S	076.4W	NEAR COAST OF PERU	TEN KILLED, MANY INJURED, AND EXTENSIVE PROPERTY DAMAGE IN LIMA-YAUYOS AREA.	098	6.3			6.6PAS
JAN 10	08 51 13.3	14.4S	166.9E	NEW HEBRIDES ISLANDS	FELT ON VANUA LAVA AND AT LUGANVILLE.	034	6.7	7.2		7.0PAS
JAN 31	23 30 05.3	07.5S	155.9E	SOLOMON ISLANDS	FELT AT ARAWA, PANGUNA, KOROVOU, AND SHORTLAND. TSUNAMU RECORDED.	034	6.0	7.0		6.9PAS
FEB 01	00 01 02.4	38.6N	027.0E	TURKEY	TWO KILLED, 20 INJURED AT IZMIR.	029	5.2		5.4	
FEB 01	03 12 33.1	07.4S	155.6E	SOLOMON ISLANDS	WIDELY FELT IN REGION. TSUNAMI GENERATED.	040	6.2	7.1		6.8PAS
APR 18	01 19 22.6	06.9N	072.9W	NORTHERN COLOMBIA	THREE DEATHS, 2 INJURIES, SOME HOUSES DESTROYED AT CEPITA AND SAN ANORES.	024	5.0	4.5		
MAY 08	23 33 25.2	34.5N	138.7E	NEAR S. COAST OF HONSHU, JAPAN	TWENTY-SEVEN KILLED, 73 INJURED, AND MAJOR PROPERTY DAMAGE ON IZU PENINSULA.	002	6.0	6.5		6.7PAS
MAY 10	19 25 15.0	28.2N	104.0E	SZECHWAN PROVINCE, CHINA	CASUALTIES AND PROPERTY DAMAGE IN CHAOTUNG-IPIN AREA.	011	6.2	6.8		6.7PAS

SEE FOOTNOTES AT END OF TABLE

TABLE 2 - PRINCIPAL EARTHQUAKES OF THE WORLD DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT DEG.	LONG DEG.	REGION	REMARKS	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
MAY 11	06 14 08.6	19.7N	147.3E	MARIANA ISLANDS REGION	NOT FELT.	006	6.4	5.9		6.8PAS
JUN 12	16 25 47.6	10.6N	063.4W	NEAR COAST OF VENEZUELA	THREE KILLED, SEVERAL INJURED, AND BUILDINGS DAMAGED IN CARUPANO REGION.	034	5.7	6.1		6.5PAS
JUN 28	05 29 39.5	51.6N	007.8E	SWITZERLAND	ROCKBURST. FOUR KILLED AND 7 INJURED AT HAMM.	001				
JUL 02	23 26 26.6	29.1S	176.0W	KERMADEC ISLANDS REGION	NOT FELT.	033	6.8	7.2		7.3PAS
JUL 13	01 18 22.8	07.7N	077.7W	PANAMA-COLOMBIA BORDER REGION	ELEVEN DEATHS, SEVERAL INJURIES, AND ABOUT 50 HOUSES DAMAGED OR DESTROYED.	012	6.4	7.3		7.2PAS
JUL 30	05 12 40.6	36.4N	070.8E	TADZHIK-SINKIANG BORDER REGION	FELT IN NORTHEASTERN AFGHANISTAN, NORTHERN PAKISTAN, AND IN NEW DELHI, INDIA, AND TASHKENT, USSR, AREAS.	211	6.5			7.4PAS
AUG 03	18 16 34.0	36.0N	139.8E	HONSHU, JAPAN	TWO KILLED, 17 INJURED, MINOR PROPERTY DAMAGE IN TOKYO-MITO AREA.	058	5.6			5.5BRK
AUG 11	01 13 55.5	39.5N	073.8E	NORTHWESTERN KASHMIR	FELT	009	6.4	7.3		6.9PAS
AUG 18	10 44 12.8	38.5S	073.4W	NEAR COAST OF CENTRAL CHILE	SLIGHT DAMAGE AT LA UNION AND VALDIVIA.	036	5.9	7.1		7.0PAS
OCT 03	14 21 29.1	12.3S	077.8W	NEAR COAST OF PERU	SEVENTY-EIGHT KILLED, OVER 2,000 INJURED, AND EXTENSIVE DAMAGE IN LIMA AREA. TSUNAMI RECORDED IN PERU, HAWAII, SAMOA, AND CALIFORNIA.	013	6.6	7.6		7.5PAS

SEE FOOTNOTES AT END OF TABLE

TABLE 2 - PRINCIPAL EARTHQUAKES OF THE WORLD DURING 1974 - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT DEG. LONG DEG.	REGION	REMARKS	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
OCT 08	09 50 58.1	17.3N 062.0W	LEEWARD ISLANDS	MODERATE PROPERTY DAMAGE ON ANTIGUA, BARBUDA, AND ST. KITTS.	047	6.6	7.5		7.1PAS
OCT 16	05 45 09.8	52.6N 032.1W	NORTH ATLANTIC OCEAN	NOT FELT.	033	5.8	6.9		7.3PAS
OCT 23	06 14 54.0	09.4S 154.0E	DENTRECASTEAUX ISLANDS REGION	FELT AT SALAMO AND ARAWA.	048	6.1	7.2		
NOV 09	12 59 49.8	12.5S 077.8W	NEAR COAST OF PERU	FELT AT LIMA.	006	6.0	7.2		6.2PAS
NOV 20	04 14 46.9	15.0S 167.1E	NEW HEBRIDES ISLANDS	FELT AT LUGANVILLE, LAMAP AND PORT VILA.	033	6.4	6.9		7.0PAS
DEC 04	03 07 46.3	00.4N 097.8E	MALAY PENINSULA	NOT FELT.	020	6.0	6.9		
DEC 24	06 55 47.1	02.3S 099.0E	SOUTHERN SUMATRA	NOT FELT.	033	5.8	6.8		
DEC 28	12 11 43.7	35.1N 072.9E	SOUTHWESTERN KASHMIR	ABOUT 5,300 KILLED, 17,000 INJURED. PATTAN AND NEARBY HAMLETS DESTROYED.	022	6.0	6.2		6.1MOX

*USGS MAGNITUDES ARE AS FOLLOWS.
MB -- COMPUTED FROM BODY WAVE ON SEISMOGRAM
MS -- COMPUTED FROM SURFACE WAVE ON SEISMOGRAM
ML -- COMPUTED ONLY FOR LOCAL EARTHQUAKES.

**ABBREVIATIONS FOLLOWING MAGNITUDES ARE AS FOLLOWS
BRK -- UNIVERSITY OF CALIFORNIA, BERKLEY
PAS -- CALIFORNIA INSTITUTE OF TECHNOLOGY, PASADENA
MOX -- MOXA, GERMAN DEMOCRATIC REPUBLIC

Miscellaneous Activities

HORIZONTAL CONTROL SURVEYS FOR CRUSTAL MOVEMENT STUDIES[1]

In 1974, the following surveys for the study of horizontal movements in the Earth's crust were made in California by NOAA's National Geodetic Survey.

Aqueduct Surveys–The cooperative project with the State of California Department of Water Resources was continued during 1974. Resurveys were accomplished at three sites along the aqueduct route: COLT, RIALTO, and DEVIL.

The 1972 survey report stated that horizontal movement at COLT and REALTO sites was opposite in direction to the accumulated changes from 1964 to 1970. From 1972 to 1974, the results indicate movement in agreement with that shown from 1964 to 1970. The average horizontal change indicated about 3-mm right-lateral shift along the respective fault areas. Local movement continued at COLT F, but the movement was away from the fault. Since 1970, DEVIL has continued to show right-lateral movement. The amount of movement from 1970 to 1974 was about 13 mm.

TSUNAMIS[2]

Four tsunamis were reported to the National Oceanic and Atmospheric Administration during 1974, including one that was recorded on National Ocean Survey tide gages.

An earthquake on January 31 (mag. 7.0 M_S) in the Solomon Islands (7.5° S., 155.9° E.) caused a local tsunami. A 1.2- to 1.5-m rise flooded the Korovu Police Station in the Shortland Islands. The tsunami was recorded on the Loloho (Anewa Bay) tide gage with an amplitude of 7 to 8 cm.

A second earthquake (mag. 7.1 M_S) in the Solomon Islands on February 1 (7.4° S., 155.6° E.) also generated a tsunami which caused minor damage on Choiseul Island and in the Shortland Islands. Amplitudes reached 3 to 4.5 m. The tsunami was recorded on the Honiara tide gage with an amplitude of 10 to 13 cm.

The Kuril Islands earthquake (mag. 6.7 M_S) of September 27 (43.2° N., 146.7° E.) caused a tsunami which was observed at Hanasaki, Japan, with 38-cm amplitude.

An earthquake (mag. 7.6 M_S) near the coast of Peru (12.3° S., 77.8° W.) on October 3 generated a tsunami that was widely observed. Representative maximum wave heights were: 1.83 m at Callao, Peru; 0.37 m at Hilo and Kahului, Hawaii; 0.30 m at Pagopago, American Samoa; 0.15 m at Crescent City, Calif., and 0.06 m at Midway and Wake Islands.

FLUCTUATIONS IN WELL-WATER LEVELS[3]

In 1943, the Coast and Geodetic Survey (now the National Ocean Survey) first published the section on well-water fluctuations in its annual *United States Earthquakes* series. Data for the years 1944-49 appeared in the 1949 issue. From 1950 to the present, the material has been published annually in this series.

Table 3 lists fluctuations in well-water caused principally by earthquakes. Table 4 lists the date and location of specific events that may have caused fluctuations noted in

[1]Prepared by B.K. Meade, NOAA, National Ocean Survey, National Geodetic Survey, Rockville, Md.

[2]Prepared by Mark G. Spaeth, NOAA, National Weather Service, Office of Meteorology and Oceanography, Silver Spring, Md.

[3]Prepared by Kenneth L. Rennick, U.S. Geological Survey, Denver, Colo.

FIGURE 11.-A tsunami (seismic seawave) sweeps toward man (at left) on Hilo, Hawaii, beach in April 1946. This is one of the many unusual photographs available from NGSDC's newly developed earthquake photograph file. (J.W. Duncan photo)

table 3. Also included are the states in which fluctuations were recorded.

Complete information on earthquakes possibly associated with the fluctuations tabulated in table 3 may be obtained from the biweekly *Preliminary Determination of Epicenters* listings, published by the USGS.

TABLE 3 - EARTHQUAKE FLUCTUATIONS IN WELL-WATER LEVELS, JANUARY 1 THROUGH DECEMBER 31, 1974

COUNTY AND/OR WELL NUMBER	DATE/TIME AT RECORDER G.M.T.		DEPTH TO WATER BEFORE DISTURBANCE (M)	WATER-LEVEL FLUCTUATIONS FROM PREQUAKE LEVEL UPWARD (CM)	DOWNWARD (CM)	DOUBLE AMPLITUDE (CM)
			GEORGIA			
DOUGHERTY 13L3	JUL 13,	0145	9.23	4.27	4.57	8.84
LONG 33M4	JUL 13,	0145	13.99	1.52	0.91	2.44
MCINTOSH 35M13	JUL 13,	0145	4.47	0.91	1.52	2.44
THOMAS 14E15	JUL 13,	0145	59.03	12.19	12.19	24.38
CHARLTON 27E2	OCT 03,	1510	19.90	2.44	2.44	4.88
DECATUR 9F520	OCT 03,	1510	14.38	3.05	3.05	6.10
DOUGHERTY 13L3	OCT 03,	1510	9.85	7.62	7.92	15.54
LONG 33M4	OCT 03,	1510	13.89	0.91	0.61	1.52
MCINTOSH 35M13	OCT 03,	1510	4.16	2.13	0.61	2.74
DAWSON 13KK1	OCT 03,	1525	8.36	0.30	0.61	0.91
CHARLTON 27E2	OCT 08,	1050	19.81	8.53	9.14	17.68
DAWSON 13KK1	OCT 08,	1050	8.51	0.30	0.61	0.91
DECATUR 9F520	OCT 08,	1050	14.38	2.44	3.05	5.49
DOUGHERTY 13L3	OCT 08,	1050	9.86	3.66	5.18	8.84
LONG 33M4	OCT 08,	1050	13.83	4.27	3.96	8.23
MCINTOSH 35M13	OCT 08,	1050	4.32	5.49	4.88	10.37
DOUGHERTY 13L3	OCT 16,	0600	9.97	3.35	3.35	6.71
LONG 33M4	OCT 16,	0600	13.88	0.30	0.30	0.61

TABLE 3 - EARTHQUAKE FLUCTUATIONS IN WELL-WATER LEVELS, JANUARY 1 THROUGH DECEMBER 31, 1974 - CONTINUED

COUNTY AND/OR WELL NUMBER	DATE/TIME AT RECORDER G.M.T.		DEPTH TO WATER BEFORE DISTURBANCE (M)	WATER-LEVEL FLUCTUATIONS FROM PREQUAKE LEVEL UPWARD (CM)	DOWNWARD (CM)	DOUBLE AMPLITUDE (CM)
			IDAHO			
BUTTE 5N-31E-28CCC1	JAN 10,	1000	79.82	0.91	0.30	1.21
BUTTE 4N-30E-7ADB1	JAN 10,	1000	96.55	0.30	0.30	0.60
BUTTE 5N-31E-28CCC1	JAN 26,	0600	79.71	0.61	0.61	1.22
BUTTE 4N-30E-7ADB1	JAN 26,	0600	96.52	0.30	1.22	1.52
BUTTE 4N-30E-7ADB1	MAY 31,	1510	96.42	0.91	2.13	3.04
BUTTE 3N-29E-14ADB1	MAY 31,	1510	137.80	0.61	1.52	2.13
BUTTE 5N-31E-28CCC1	MAY 31,	1600	80.02	0.91	0.91	1.82
BUTTE 5N-31E-28CCC1	JUL 13,	0230	80.31	1.83	1.22	3.05
BUTTE 4N-30E-7ADB1	JUL 13,	0230	96.78	0.61	1.22	1.83
BUTTE 4N-30E-7ADB1	AUG 11,	0245	96.86	0.30	0.61	0.91
BUTTE 5N-31E-28CCC1	AUG 11,	0345	80.38	0.91	0.61	1.52
BUTTE 4N-30E-7ADB1	OCT 03,	1530	96.89	1.52	3.05	4.57
BUTTE 5N-31E-28CCC1	OCT 03,	1600	80.32	2.13	3.05	5.18
BUTTE 5N-31E-28CCC1	OCT 08,	1015	80.40	2.74	2.74	5.48
BUTTE 4N-30E-7ADB1	OCT 16,	0620	96.93	0.30	1.22	1.52
BUTTE 5N-31E-28CCC1	OCT 16,	0630	80.37	0.30	1.52	1.82
BUTTE 4N-30E-7ADB1	NOV 09,	1300	96.91	0.30	0.61	0.91
BUTTE 5N-31E-28CCC1	NOV 09,	1445	80.12	0.61	0.91	1.52

TABLE 3 - EARTHQUAKE FLUCTUATIONS IN WELL-WATER LEVELS, JANUARY 1 THROUGH DECEMBER 31, 1974 - CONTINUED

COUNTY AND/OR WELL NUMBER	DATE/TIME AT RECORDER G.M.T.	DEPTH TO WATER BEFORE DISTURBANCE (M)	WATER-LEVEL FLUCTUATIONS FROM PREQUAKE LEVEL UPWARD (CM)	DOWNWARD (CM)	DOUBLE AMPLITUDE (CM)
		INDIANA			
MA 32	FEB 02, 1110-1200	2.81	0.00	0.91	0.91
MA 32	FEB 10, 1000-1100	2.80	1.22	0.61	1.83
MA 32	MAR 01, 0110-0240	2.88	0.30	0.30	0.60
MA 32	MAR 10, 1715-1720	2.88	0.30	0.00	0.30
MA 32	MAY 31, 1150-1210	3.08	0.30	1.22	1.52
MA 32	JUL 12, 1120-1140	3.40	0.30	0.61	0.91
SH 2	JUL 13, 0110-0130	5.75	0.61	0.91	1.52
SH 2	OCT 03, 1400-1420	5.99	0.00	0.61	0.61
SH 2	OCT 08, 0930-0950	6.01	0.30	0.91	1.21
PU 6	OCT 08, 0950-1015	4.79	2.13	0.30	2.43
		NEVADA			
S17/50-36DC1	JAN 26, 0700	0.90	1.22	1.52	2.74
S17/50-36DC1	FEB 27, 1700	0.88	1.52	2.44	3.96
S17/50-36DC1	MAY 31, 1420	1.00	3.66	3.35	7.01
S17/50-36DC1	JUL 03, 0500	0.98	1.22	1.22	2.44
S17/50-36DC1	JUL 10, 1600	1.00	2.74	2.13	4.87
S17/50-36DC1	JUL 13, 0150	0.98	3.66	3.96	7.62
S17/50-36DC1	JUL 21, 0910	1.01	0.30	0.61	0.91
S17/50-36DC1	AUG 30, 1450	1.01	2.74	3.66	6.40

TABLE 3 - EARTHQUAKE FLUCTUATIONS IN WELL-WATER LEVELS, JANUARY 1 THROUGH DECEMBER 31, 1974 - CONTINUED

COUNTY AND/OR WELL NUMBER	DATE/TIME AT RECORDER G.M.T.		DEPTH TO WATER BEFORE DISTURBANCE (M)	WATER-LEVEL FLUCTUATIONS FROM PREQUAKE LEVEL UPWARD (CM)	DOWNWARD (CM)	DOUBLE AMPLITUDE (CM)
			NEVADA			
			(CONTINUED)			
S17/50-36DC1	SEP 26,	1510	1.03	1.83	1.83	3.66
S17/50-36DC1	SEP 28,	2205	1.01	0.91	0.61	1.52
S17/50-36DC1	OCT 03,	1510	0.98	7.62	7.92	15.54
S17/50-36DC1	OCT 08,	1025	1.02	3.35	3.96	7.31
S17/50-36DC1	OCT 16,	0645	1.04	3.05	2.74	5.79
			WISCONSIN			
ML-120	JAN 02,	1015	25.366	0.091	0.488	0.579
ML-120	JAN 10,	0945	25.254	1.006	0.000	1.006
ML-120	JAN 26,	0600	25.095	0.335	0.488	0.823
ML-120	FEB 01,	0415	25.039	0.488	0.274	0.762
LF-57	FEB 01,	0440	29.61	0.61	0.30	0.91
LF-57	FEB 06,	0430	29.58	0.91	1.22	2.13
ML-120	FEB 06,	0450	24.942	0.213	0.030	0.243
ML-120	MAR 22,	0005	24.864	0.610	0.000	0.610
LF-57	MAY 31,	1440	30.18	1.52	0.30	1.82
ML-120	MAY 31,	1445	24.165	0.366	1.158	1.524
ML-120	JUN 23,	0040	24.183	0.213	0.274	0.487
ML-120	JUL 03,	0015	24.122	0.183	0.335	0.518
ML-120	JUL 13,	0115	24.258	3.871	3.200	7.071

TABLE 3 - EARTHQUAKE FLUCTUATIONS IN WELL-WATER LEVELS, JANUARY 1 THROUGH DECEMBER 31, 1974 - CONTINUED

COUNTY AND/OR WELL NUMBER	DATE/TIME AT RECORDER G.M.T.	DEPTH TO WATER BEFORE DISTURBANCE (M)	WATER-LEVEL FLUCTUATIONS FROM PREQUAKE LEVEL UPWARD (CM)	DOWNWARD (CM)	DOUBLE AMPLITUDE (CM)
		WISCONSIN (CONTINUED)			
LF-57	JUL 13, 0130	28.86	5.49	5.49	10.98
DR-265	JUL 13, 0145	0.91	4.88	7.32	12.20
LF-57	AUG 01, 0500	28.97	0.91	1.52	2.43
ML-120	AUG 01, 0550	24.284	0.152	0.030	0.182
LF-57	AUG 11, 0100	29.09	1.22	0.30	1.52
ML-120	AUG 11, 0145	24.268	0.427	0.366	0.792
LF-57	OCT 03, 1425	29.08	6.71	7.01	13.72
ML-120	OCT 03, 1445	24.236	1.494	2.621	4.115
LF-57	OCT 08, 0940	29.17	7.62	8.84	16.46
ML-120	OCT 08, 1005	24.115	3.810	2.560	6.370
LF-57	OCT 16, 0535	29.18	2.74	3.05	5.79
ML-120	OCT 16, 0615	23.993	1.646	1.341	2.987
LF-57	OCT 23, 0630	29.10	0.91	0.61	1.52
ML-120	OCT 23, 0730	23.995	0.061	0.274	0.335
LF-57	NOV 09, 1020	29.07	0.30	0.61	0.91
ML-120	NOV 09, 1025	23.891	0.031	0.549	0.580
LF-57	NOV 09, 1300	29.08	1.22	0.91	2.13
ML-120	NOV 09, 1305	23.904	0.640	0.823	1.463
ML-120	DEC 04, 0440	23.772	0.000	0.244	0.244

TABLE 4 - EARTHQUAKES IN 1974 BELIEVED TO HAVE CAUSED FLUCTUATIONS IN WELL-WATER LEVELS

(SOURCE. PRELIMINARY DETERMINATION OF EPICENTERS MONTHLY LISTING, PUBLISHED BY U.S. GEOLOGICAL SURVEY.)

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT DEG.	LONG DEG.	REGION	STATES RECORDING FLUCTUATIONS	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
JAN 02	10 42 29.9	22.5S	068.3W	NORTHERN CHILE	WISCONSIN.	105	6.4			6.8PAS
JAN 10	08 51 13.3	14.4S	166.8E	NEW HEBRIDES ISLANDS	IDAHO, WISCONSIN.	034	6.7	7.2		7.0PAS
JAN 26	05 35 33.6	18.5N	103.4W	NEAR COAST OF MICHOACAN, MEXICO	IDAHO, NEVADA, WISCONSIN.	033	6.1	6.1		
FEB 01	03 12 33.1	07.3S	155.5E	SOLOMON ISLANDS	WISCONSIN.	040	6.2	7.1		6.8PAS
FEB 02	11 44 52.9	05.0S	134.0E	ARDE ISLANDS REGION	INDIANA.	033	5.6	5.8		
FEB 06	04 04 07.2	53.7N	164.6W	UNIMAK ISLAND REGION	WISCONSIN.	002	5.9	6.5		6.3PAS
FEB 27	17 00 00.1	37.1N	116.0W	SOUTHERN NEVADA	NEVADA.	000	5.8			
MAR 10	16 17 08.8	00.4N	080.0W	NEAR COAST OF ECUADOR	INDIANA.	043	5.1	5.6		
MAY 31	14 04 59.9	27.2N	111.2W	GULF OF CALIFORNIA	IDAHO, NEVADA, WISCONSIN.	033	5.3	6.3		6.4PAS
JUL 02	23 26 26.6	29.0S	175.9W	KERMADEC ISLANDS REGION	WISCONSIN.	033	6.8	7.2		7.3PAS
JUL 03	05 00 58.6	40.4N	125.1W	OFF COAST OF NORTHERN CALIFORNIA	NEVADA.	012	5.4	5.2		
JUL 10	16 00 00.1	37.0N	116.0W	SOUTHERN NEVADA	NEVADA.	000	5.7			
JUL 13	01 18 22.5	07.7N	077.6W	PANAMA-COLOMBIA BORDER REGION	GEORGIA, IDAHO, INDIANA, NEVADA, WISCONSIN.	012	6.4	7.3		7.2PAS
JUL 21	08 28 35.3	14.3N	092.0W	NEAR COAST OF CHIAPAS, MEXICO	NEVADA.	070	5.3			5.7BRK
AUG 01	05 55 38.2	56.6N	152.1W	KODIAK ISLAND REGION	WISCONSIN.	033	5.7	6.3		
AUG 11	01 13 55.5	39.4N	073.8E	TADZHIK-SINKIANG BORDER REGION	IDAHO, WISCONSIN.	009	6.4	7.3		6.9PAS
AUG 30	15 00 00.2	37.1N	116.0W	SOUTHERN NEVADA	NEVADA.	000	5.8			
SEP 26	15 05 00.2	37.1N	116.0W	SOUTHERN NEVADA	NEVADA.	000	5.6	4.2		
OCT 03	14 21 29.1	12.2S	077.7W	NEAR COAST OF PERU	GEORGIA, IDAHO, INDIANA, NEVADA, WISCONSIN.	013	6.6	7.6		7.5PAS
OCT 08	09 50 58.1	17.3N	062.8W	LEEWARD ISLANDS	GEORGIA, IDAHO, INDIANA, NEVADA, WISCONSIN.	047	6.6	7.5		7.1PAS

*SEE FOOTNOTES AT END OF TABLE

TABLE 4 - EARTHQUAKES IN 1974 BELIEVED TO HAVE CAUSED FLUCTUATIONS IN WELL-WATER LEVELS - CONTINUED

DATE	ORIGIN TIME G.M.T. H M S	GEOGRAPHIC COORDINATES LAT DEG.	LONG DEG.	REGION	STATES RECORDING FLUCTUATIONS	DEPTH KM	USGS MAGNITUDE* MB	MS	ML	OTHER MAGNITUDE**
OCT 16	05 45 09.8	52.6N	032.0W	NORTH ATLANTIC OCEAN	GEORGIA, IDAHO, NEVADA, WISCONSIN.	033	5.8	6.9		7.3PAS
OCT 23	06 14 54.0	08.4S	154.0E	DENTRECASTEAUX ISLANDS REGION	WISCONSIN.	048	6.1	7.2		
NOV 09	12 59 49.8	12.5S	077.7W	NEAR COAST OF PERU	IDAHO, WISCONSIN.	006	6.0	7.2		6.2PAS
DEC 04	03 07 46.3	00.3N	097.8E	NORTHERN SUMATRA	WISCONSIN.	020	6.0	6.9		

*USGS magnitudes are as follows:

MB -- Computed from body wave on seismogram.
MS -- Computed from surface wave on seismogram.
ML -- Computed only for local earthquakes west of the Rocky Mountains. The magnitudes under the ML column can be either ML or MBLG (east of the Rocky Mountains).

**Abbreviations following magnitude values are as follows:

BRK -- University of California, Berkeley.
PAS -- California Institute of Technology, Pasadena.

Strong-Motion Seismograph Data[4]

INTRODUCTION

The U.S. Geological Survey Seismic Engineering Branch (previously called Seismological Field Survey) has conducted an engineering seismology program in the United States and Latin America since 1932. The Survey, with cooperation of state and municipal governments, private industry, and state and private educational institutions, has installed and maintained strong-motion seismographs and analyzed the records. Results of these analyses have been published in Government bulletins and scientific journals, and the records, either originals or copies, have been made available to research scientists.

A list of strong-motion stations in the United States and Central and South America is available from the Seismic Engineering Branch (address in footnote). This list, which gives the geographic location of each station and instrumental constants, has been cataloged through 1974.

Notes pertinent to this engineering seismology program may be found in preceding issues of the *United States Earthquakes* series, *Geological Survey Circular 717-A,* Seismic Engineering Program Report, Jan.-Mar. 1975, and in *Publication 41-2, Earthquake Investigations in the Western United States, 1931-1964,* U.S. Department of Commerce, Coast and Geodetic Survey, Washington, D.C., 1965. The latter is much broader in scope, containing data on structural and ground vibrations and detailed descriptions of the many activities that constitute the seismological program as a whole.

ACCELEROGRAPH RECORDS

More than 130 accelerograph records were obtained during 1974 from the national strong-motion instrumentation network operated by the U.S. Geological Survey. The recordings were largely from California, although Alaska, Hawaii, and South Carolina also were represented. The South Carolina earthquake occurred about 14 km from the accelerograph station at Citadel College in Charleston. Most of the 30 Hawaiian shocks recorded between November 30, 1974, and January 5, 1975, were of volcanic origin. Several records also were obtained from earthquakes in Peru, Nicaragua, and near Panama.

The following paragraphs summarize the results of the most important earthquakes recorded in 1974:

Lima, Peru–Jan. 5, Oct. 3, and Nov. 9

Three large earthquakes were recorded at Lima, Peru, accelerograph stations within 70 to 90 km of the epicenters. Two records were obtained from each shock, one from the standard instrument located at the Geophysical Institute and the second from a Kinemetrics SMA-1 that was relocated after each event. The January 5 earthquake, magnitude 6.3, occurred 73 and 79 km from the recording stations where respective maximum accelerations were 0.16 and 0.11g. The November 9 shock, magnitude 7.2, was 90 and 94 km from the accelerographs; peak accelerations were, respectively, 0.14 and 0.08g. The October 3 event, magnitude 7.6 and largest of the three earthquakes, was located 85 and 91 km from the recording stations; maximum accelerations registered were 0.25 and 0.24g. Accelerations at the Geophysical Institute exceeded 0.1g for a duration of 30 seconds and exhibited a relatively high frequency content, phenomena observed in other earthquakes recorded at this site.

Hollister, California, Nov. 28

A magnitude 5.2 earthquake occurred 10 km northwest of Hollister between the Calaveras and Sargent faults, apparently on an extension of the smaller southwest-trending Busch fault. Nine accelerographs were triggered within 80 km of the epicenter, including three instruments located nearly equidistant from the earthquake at 10 km. These latter sites showed maximum accelerations of 0.17g at Hollister City Hall, 0.14g at Gilroy, and 0.12g at San Juan Bautista. This was the fourth time in 27 years that accelerations greater than 0.1g were recorded at Hollister and the second time in 1974 that 0.1g had been exceeded at Gilroy. Several seismoscope records were obtained from the shock, including those from a pair

[4]Prepared by Charles F. Knudson, U.S. Geological Survey, 355 Middlefield Rd., Menlo Park, Calif. Appreciation is extended to Virgilio Perez, Stephen Schwartz, Richard P. Maley, and Christopher Rojahn for their assistance in preparing this section.

of instruments located on opposite sides of the San Andreas fault at San Juan Bautista where the largest amplitudes were polarized transverse to the direction of wave travel. Similar large directional responses have been observed on seismoscope records from numerous other moderate-sized earthquakes.

Table 5 presents a listing of earthquakes recorded in 1974 and the maximum accelerations scaled from those considered most significant. The earthquakes are listed in chronological order and include locality, geographic coordinates, magnitude, and maximum intensity when available. This information has been gathered principally from *Preliminary Determination of Epicenters*, published by USGS. The recording stations for each earthquake are listed in alphabetical order with a brief description of the building in which the instrument is housed. Maximum accelerations are listed for those events where ground accelerations were $0.05g$ or where amplitudes recorded in structures (other than at the basement or ground level) were more than $0.1g$. These criteria were arbitrarily adopted to reduce the amount of insignificant data reported. Although the maximum recorded acceleration poorly defines the nature of motion at a site, it is the most easily and quickly obtained quantity. It should be pointed out that these measurements have no relation to frequency or duration of shaking, and, in fact, the amplitudes recorded as maximum accelerations were observed as only one or two prominent peaks in many instances.

Data published in this section differs slightly from that previously published by USGS in *Circulars 717-A* and *717-B*. Some minor changes in epicenters and magnitudes have been made, and maximum accelerations for some events have been rescaled.

TABLE 5 - SUMMARY OF ACCELEROGRAPH RECORDS OBTAINED FROM EARTHQUAKES IN 1974

Event	Station Location Name	Coord	S-t Time[a] (sec)	Comp	Max Accl[b] (g)	Duration[c] (sec)
5 January 1974 Lima, Peru 12.30S - 76.40W Mag 6.3	Lima, Peru Zarate Station	12.02S 77.01W	10.2	Long Vert Trans	.16 .09 .16	7.5 - 6.9
	Lima, Peru Geophys Institute (1-story bldg)	12.07S 77.04W		Up N82W N08E	.06 .09 .11	- - 2.8
10 January 1974 Hollister, CA 36.96N - 121.61W Mag 4.4	Gilroy, CA Gavilan College (1-story bldg)	36.97N 121.57W	.7	S67W Down S13E	.05 .02 .09	- - -
	A small-amplitude record was also obtained at Hollister, CA: City Hall (339 Fifth).					
12 January 1974[e] Mauna Loa area, HI 19.34N - 155.03W Mag 4.7	A small-amplitude record was obtained at Kilauea, HI: Camp Ground.					
31 January 1974[e] Gilroy, CA 36.78N - 121.57W Mag 3.5	Gilroy, CA Gavilan College (1-story bldg)	36.97N 121.57W	.7	S67W Down S13E	.08 .03 .16	- - .07
7 February 1974 Bear Valley, CA 36.57N - 121.19W Mag 3.2	A small-amplitude record was obtained at Bear Valley, CA: CDF Fire Station with an S-t time of 0.6 sec.					
8 Feb-31 Oct 1974 Los Angeles, CA Unkwn loc & Mag	Los Angeles, CA 533 S Fremont (basement)	34.05N 118.26W	1.2	N30W S60W Up	.06 .25 .06	- .25 -
	(sixth floor)			N30W S60W Up	.19 .16 .10	.25 .15 1 peak
	(roof-11th level)			N30W S60W Up	.07 .12 .10	- 1 peak d

See footnotes at end of table.

TABLE 5 - SUMMARY OF ACCELEROGRAPH RECORDS OBTAINED FROM EARTHQUAKES IN 1974 - CONTINUED

Event	Station Location Name	Coord	S-t Time[a] (sec)	Comp	Max Accl[b] (g)	Duration[c] (sec)
11 February 1974[e] Los Angeles, CA 34.10N - 118.27W Mag 3.4	Los Angeles, CA 445 Figueroa Street (basement)	34.05N 118.26W		N52W	.03	-
				Down	.04	-
				S38W	.05	-
	(19th floor)			N52W	.07	-
				Down	.04	-
				S38W	.02	-
	(39th floor)			N52W	.03	-
				Down	.04	-
				S38W	.01	-
	Los Angeles, CA 420 S Grand (basement)	34.05N 118.25W		S37W	.10	1 peak
				Down	.08	-
				S53E	.08	-
	(8th floor)			S37W	.07	-
				Down	.07	-
				S53E	.07	-
	(15th Floor)			S37W	.05	-
				Down	.10	1 peak
				S53E	.03	-
	Los Angeles, CA 525 S Flower North Tower (basement)	34.05N 118.26W	1.2	S52E	.13	1 peak
				Down	.09	-
				N38E	.10	1 peak
	(24th floor)			S52E	.01	-
				Down	.06	-
				N38E	.02	-
	(52d floor)			S52E	.01	-
				Down	.03	-
				N38E	.01	-
	Los Angeles, CA 700 W 7th, store (basement)	34.05N 118.26W		N52W	.09	-
				Down	.05	-
				S38W	.18	.08
	(4th floor)			N52W	.10	1 peak
				Down	.06	-
				S38W	.13	.10
	(Roof-10th level)			N52W	.14	.13
				Down	.04	-
				S38W	.16	.22

See footnotes at end of table.

TABLE 5 - SUMMARY OF ACCELEROGRAPH RECORDS OBTAINED FROM EARTHQUAKES IN 1974 - CONTINUED

Event	Station Location Name	Coord	S-t Time[a] (sec)	Comp	Max Accl[b] (g)	Duration[c] (sec)
11 February 1974 (Cont.)	Los Angeles, CA	34.05N		S37W	.07	-
	646 S Olive	118.25W		Down	.05	-
	(basement)			S53E	.07	-
				S37W	.09	-
	(4th level)			Down	.06	-
				S53E	.05	-
				S37W	.12	1 peak
	(Roof-8th level)			Down	.08	-
				S53E	.09	-
	Smaller amplitude records that may or may not be from the 11 FEB 74 event were also obtained at the following Los Angeles stations: 525 S Flower (South Tower), 750 Garland, 110 E Ninth St, 800 W Sixth St, 637 Wilshire, 770 Wilshire, 1200 Wilshire, and 700 W Seventh St (tower).					
5 March 1974 Managua, Nicaragua 12.3N - 86.4W Mag 5.8	Managua, Nicaragua	12.11N		E-W	.09	-
	National University	86.27W		Down	.05	-
	(1-story bldg)			N-S	.09	-
8 March 1974[e] San Fernando, CA 34.38N - 118.43W Mag 4.7	Los Angeles, CA	34.31N	2.3	S25W	.05	-
	Jensen Filter Plant	118.50W		Down	.03	-
	(2-story bldg)			S65E	.06	-
	Smaller amplitude records were also obtained at Leona Valley (Ritter Ranch), Castaic Dam, Castaic: Old Ridge Route and the following Los Angeles stations: 8244 Orion, Sepulveda VA Hospital (Bldg 40), 15107 Van Owen, and UCLA (Reactor Lab).					
1 Apr-16 Jul 1974 Los Angeles, CA Unkwn loc & Mag	Los Angeles, CA	34.06N		N41W	.06	-
	Bunker Hill	118.25W		Down	.05	-
				S49W	.09	-
17 April 1974 Gilroy, CA 36.94N - 121.59W Mag 3.2	Gilroy, CA	36.97N	.6	S67W	.06	-
	Gavilan College	121.57W		Down	.02	-
	(1-story bldg)			S13E	.06	-
25 April 1974[e] Mauna Loa area, HI 19.32N - 155.22W Mag 4.0	A small-amplitude record was obtained at Kilauea, HI: Camp Ground.					

See footnotes at end of table.

TABLE 5 - SUMMARY OF ACCELEROGRAPH RECORDS OBTAINED FROM EARTHQUAKES IN 1974 - CONTINUED

Event	Station Location Name	Coord	S-t Time[a] (sec)	Comp	Max Accl[b] (g)	Duration[c] (sec)
5 May 1974[e] Mauna Loa area, HI 19.34N - 155.26W Mag 4.5	A small-amplitude record was obtained at Kilauea, HI: Camp Ground.					
5 May-7 Nov 1974 So Alaska Unkwn loc & Mag	Small-amplitude records were obtained at Anchorage, AK: Westward Hotel.					
9 June 1974 China Lake, CA 35.53N - 117.45W Mag 4.0	A small-amplitude record was obtained at China Lake, CA: Naval Weapons Ctr.					
12 June 1974 Hollister, CA 36.72N - 121.43W Mag 3.7	Almaden Winery Cienega Valley (1-story bldg)	36.75N 121.38W		N45W Down S45W	.06 .02 .03	- - -
	Smaller amplitude records were also obtained at Sago Central and Sago East.					
15 June 1974 36.72N - 121.41W Mag 3.0	A small-amplitude record was obtained at Almaden Winery: Cienega Valley.					
19 June 1974[e] Mauna Loa area, HI 19.36N - 155.40W Mag 4.9	A small-amplitude record was obtained at Kilauea, HI: Camp Ground.					
5 July 1974 Central Calif 36.55N - 121.18W Mag 3.1	Bear Valley, CA CDF Fire Station (1-story bldg)	36.57N 121.18W	.7	S50E Down N40E	.04 .02 .05	- - -
13 July 1974 Panama Canal Zone 7.70N - 77.70W Mag 7.3	A small-amplitude record was obtained at Panama Canal Zone: Canal Zone Administration Bldg.					

See footnotes at end of table.

TABLE 5 - SUMMARY OF ACCELEROGRAPH RECORDS OBTAINED FROM EARTHQUAKES IN 1974 - CONTINUED

Event	Station Location Name	Coord	S-t Time[a] (sec)	Comp	Max Accl[b] (g)	Duration[c] (sec)
12 August 1974 Aleutian Islands 51.53N - 178.11W Mag 5.8	A small-amplitude record was obtained at Adak, AK: Naval Base.					
14 August 1974 San Fernando, CA 34.43N - 118.37W Mag 4.3	Pacoima Dam Abutment	34.34N 118.40W		N76W Down S14W	.06 .03 .12	- - .06
	Kagel Canyon 12587 Dexter Park (1-story bldg)	34.30N 118.38W		S20E Down N70E	.06[f] .02[f] .06[f]	- - -
	Vasquez Rocks Park (small, prefab bldg)	34.49N 118.32W		North Down West	.10 .06 -	1 peak - -
	Smaller amplitude records were also obtained at the following Los Angeles stations: Jensen Filtration Plant, 14123 Nordhoff, 8244 Orion, and 14800 Ventura.					
3 October 1974 Lima, Peru 12.30S - 77.80W Mag 7.6	Lima, Peru Las Gardenias Huaco Residence	12.13S 76.97W	8.6	Long Vert Trans	.20 .16 .25	39.0 39.0 41.0
	Lima, Peru Geophys Institute (1-story bldg)	12.07S 77.04W		Up N82W N08E	.13 .24 .21	9.0 39.0 35.0
7 October 1974 Oxnard, CA 34.05N - 118.97W Mag 4.0	A small-amplitude record was obtained at Oxnard, CA: 500 Esplanade.					
12 October 1974 Hemet, CA 33.72N - 116.88W Mag 3.5	Hemet, CA 895 Stetson (Fire Sta) (1-story bldg)	33.73N 116.98W	2.7	N45E Down N45W	.09 .05 .05	- - -
	Smaller amplitude records were also obtained at Anza: Post Office, Indio: Coachella Citrus Groves, and Palm Springs: Airport.					
9 November 1974 Lima, Peru 12.50S - 77.80W Mag 7.2	Lima, Peru La Molina Station	-		Long Vert Trans	.11 .05 .14	1 peak - 1.1
	Lima, Peru Geophys Institute (1-story bldg)	12.07S 77.04W		Up N82W N08E	.03 .05 .08	- - -

See footnotes at end of table.

TABLE 5 - SUMMARY OF ACCELEROGRAPH RECORDS OBTAINED FROM EARTHQUAKES IN 1974 - CONTINUED

Event	Station Location Name	Coord	S-t Time[a] (sec)	Comp	Max Accl[b] (g)	Duration[c] (sec)
10 November 1974 Aleutian Islands 51.63N - 178.11W Mag 5.8	Adak, AK Naval Base	51.88N 176.58W		North Down West	.03 .03 .05	- - -
22 November 1974 Charleston, SC 32.90N - 80.15W Mag 4.7	Charleston, SC Citadel College (1-story bldg)	32.79N 79.96W		East Down North	.01 .01 .01	- - -
28 November 1974 Hollister, CA 36.91N - 121.50W Mag 5.2	Bear Valley, CA Stone Canyon East (1-story bldg)	36.64N 121.24W		S03E Down N87E	.02 .05 .03	- - -
	Hollister, CA City Hall (339 Fifth) (1-story bldg)	36.85N 121.40W		Up S01W N89W	.07 .10 .17	- 1.25 .75
	San Juan Bautista, CA 24 Polk Street (1-story bldg)	36.86N 121.54W	1.8	S45E Down N45E	.12 .05 .05	1 peak - -
	Gilroy, CA Gavilan College (1-story bldg)	36.97N 121.57W	1.6	S67W Down S23E	.14 .03 .10	.15 - 1 peak
	Smaller amplitude records were also obtained at Capitola: 405 Capitola Avenue, Castle Rock Geophys Observatory, Corralitos: 1473 Eureka Canyon Road, San Jose: 8 S First; Bank of America, Santa Cruz: University of California Observatory, and SAGO Vault.					
28 November 1974 Ferndale, CA 40.32N - 125.13W Mag 4.0	A small-amplitude record was obtained at Ferndale, CA: Old City Hall/ Fire Stn.					
30 Nov - 2 Jan 1975 Mauna Loa area, HI Mag 3.5 - 5.3	More than 15 shocks were recorded at Punuluu, Hawaii before, during and after the 28 DEC 74 volcanic eruption on the flank of Kilauea.					

See footnotes at end of table.

TABLE 5 - SUMMARY OF ACCELEROGRAPH RECORDS OBTAINED FROM EARTHQUAKES IN 1974 - CONTINUED

Event	Station Location Name	Coord	S-t Time[a] (sec)	Comp	Max Accl[b] (g)	Duration[c] (sec)
6 December 1974 Calexico, CA 32.72N - 115.40W Mag 4.8	El Centro, CA Meadows Union School 2059 Bowker (1-story bldg)	32.80N 115.47W		S52W Down S38E	.07 .01 .07	- - -
	El Centro, CA Imperial Val Irrig Dist 302 Commercial (2-story bldg)	32.79N 115.55W		N52E Down N38W	- .01 .05	- - -
	Imperial, CA Imperial Val College Admin Bldg (1-story bldg)	32.83N 115.50W		S52W Down N38E	.11 .03 .16	.13 - .22
	Small-amplitude records were also obtained from El Centro: Community Hospital (Imperial & Ross Streets), and from a second accelerograph at Imperial Valley Irrigation District.					
6 December 1974 Los Angeles, CA 34.10N - 118.22W Mag 3.5	Small-amplitude records were obtained at Los Angeles, CA: 1526 N Edgemont.					
19 December 1974 San Gabriel, CA 34.08N - 118.08W Mag 3.7	Monterey Pk, CA Garvey Reservoir (Earth Dam)	34.05N 118.11W	1.5	S60W Down S30E	.04 .02 .06	- - -
19 December 1974 San Gabriel, CA 34.07N - 118.08W Mag 3.4	A small-amplitude record was obtained at Monterey Pk, CA: Garvey Reservoir.					
29 December 1974 Richmond, CA 37.96N - 122.36W Mag 3.5	A small-amplitude record was obtained at Oakland, CA: 2730 Adeline St.					
29 December 1974 So Alaska 61.60N - 150.51W Mag 5.6	Small-amplitude records were obtained at Anchorage, AK: Westward Hotel, Government Hospital, and Post Office (605 W 4th St).					

See footnotes at end of table.

TABLE 5 - SUMMARY OF ACCELEROGRAPH RECORDS OBTAINED FROM EARTHQUAKES IN 1974 - CONTINUED

Event	Station Location Name	Coord	S-t Time[a] (sec)	Comp	Max Accl[b] (g)	Duration[c] (sec)
31 December 1974 Hollister, CA 36.93N - 121.48W Mag 4.4	Small-amplitude records were obtained from Hollister, CA: City Hall (339 Fifth), and San Juan Bautista: 24 Polk Street (Fire Station).					
31 December 1974 So Alaska 61.90N - 149.70W Mag 5.9	Anchorage, AK Alaska Methodist Univ	61.19N 149.80W	-	S45E Down N45E	.07 .04 .09	- - -
	Anchorage, AK Government Hospital	61.19N 149.89W	-	South Down East	.07 .05 .06	- - -
	Anchorage, AK Post Office 605 W Fourth	61.22N 149.89W	-	East Down North	.05 .03 .05	- - -
	Anchorage, AK Westward Hotel (basement)	61.22N 149.89W	11.2	N45W Down S45W	.08 .02 .05	- - -
	(roof-23d level)			N45W Down S45W	.12 .14 .08	1 peak 1 peak -
	Talkeetna, AK FAA-VOR Bldg	62.30N 150.10W	9.0	N15W Down S75W	.07 .09 .08	- - -
	A small-amplitude record from an event of unknown time, location, and magnitude is also present on the above record.					

a S-wave minus trigger time.
b Unless otherwise noted, maximum acceleration recorded at ground or basement level. Data from the records are summarized only if the maximum acceleration is greater than 0.05 g at ground stations or greater than 0.10 g at upper floors of buildings.
c Duration for which peaks of acceleration exceed 0.10 g.
d Only a partial record was obtained owing to a faint trace.
e A definite correlation between these events and records cannot be established. The indicated event is the most likely one to have triggered the instrument.
f Partial record.

Index of Town Names

CALIFORNIA
(CONTINUED)

ALPINE--66,67,68,69
ALTADENA--66,68,69,70
ANAHEIM--66
ANGWIN--67
APPLE VALLEY--66
APTOS--70
ARCADIA--66,68
ARGUS--67
ARLETA--68
AROMAS--66,70
ATHERTON--67
BANNING--69
BAYSIDE--68
BEAUMONT--69
BECKWOURTH--67
BEN LOMOND--70
BERKELEY--67,70
BERRY CREEK--67
BEVERLY HILLS--68,69
BIEBER--65
BIG BASIN--66
BIG BEAR LAKE--66,70
BIG SUR--70
BISHOP--69
BLAIRSDEN--67
BOULDER CREEK--66,70
BRADLEY--70
BRAWLEY--69,70
BRIDGEPORT--69
BRIDGEVILLE--68
BROOKDALE--70
BURBANK--66,68,70
CABAZON--66
CALABASAS--68
CALEXICO--70
CALIENTE--66
CALIFORNIA CITY--66
CALIMESA--66,69
CALISTOGA--67
CALPINE--67
CAMARILLO--69
CAMPBELL--70
CANOGA PARK--66,68
CAPITOLA--66,70
CARIBOU--67
CARMEL VALLEY--66,70
CARMEL--66,70
CASTRO VALLEY--70
CASTROVILLE--66,70
CENTRAL CITY--66
CHATSWORTH--68
CHINA LAKE--67
CHITTENDEN PASS--66
CHUALAR--70
CLIO--67

CALIFORNIA
(CONTINUED)

CLOVERDALE--67,68,69
COBB--67
COMPTON--66
CORONA--66
CORRALITOS--66
COVINA--70
CRESTLINE--66
CROWS LANDING--70
CULVER CITY--69
CUPERTINO--66,67,70
DALY CITY--70
DANA--65
DAY--65
DI GIORGIO--66
DIABLO CANYON--69
DOBBINS--67
DOS PALOS--70
DOWNIEVILLE--67
DUNLAP--69
EAGLE ROCK--66,70
EAST HIGHLANDS--66
EL CENTRO--70
EL CERRITO--70
EL MONTE--68
EL SEGUNDO--66
ESCONDIDO--66
ETIWANDA--67,68,70
EUREKA--67,68
FALL RIVER MILLS--65
FEATHER FALLS--67
FELTON--70
FERNDALE--65,68,69
FILLMORE--66
FLINTRIDGE--66
FONTANA--67
FORTUNA--67,68
FOUNTAIN VALLEY--68
FRAZIER PARK--66
FREEDOM--66,70
FREMONT--67,70
FRESNO--69,70
FRIANT--70
FULLERTON--68
GARDENA--66
GILROY--66,67,70
GLENBURN--65
GLENDALE--66,68,70
GRANADA HILLS--66
GRASS VALLEY--67
GREEN VALLEY LAKE--66
GREENFIELD--70
HALF MOON BAY--70
HAT CREEK--65
HATHAWAY PINES--70
HAWTHORNE--66,69

CALIFORNIA
(CONTINUED)

PONDOSA--65
PORTOLA--67
PRATTVILLE--67
PUMPKIN CENTER--66
QUINCY--67
RANDSBURG--67
RED MOUNTAIN--67
REDLANDS--66,69
REDONDO BEACH--66
REDWOOD CITY--66,67,70
REDWOOD VALLEY--67
RESEDA--68
RICHMOND--70
RIDGECREST--67,69
RIO DELL--67,68,69
RIVERSIDE--66,69
ROHNERT PARK--67
ROSEMEAD--68
RUNNING SPRINGS--66
SALINAS--66,70
SAN ARDO--70
SAN BENITO CITY--70
SAN BERNARDINO--66,68
SAN BRUNO--70
SAN DIEGO--67,68
SAN FERNANDO--66,68,69
SAN FRANCISCO--66,67,70
SAN GABRIEL--70
SAN GREGORIO--67
SAN JOSE--66,69,70
SAN JUAN BAUTISTA--66,68,70
SAN LORENZO--70
SAN LUIS OBISPO--69
SAN MARTIN--66,70
SAN MATEO--66
SAN PEDRO--66
SANTA CLARA--66,70
SANTA CRUZ--66,70
SANTA MONICA--69,70
SANTA ROSA--65,67
SATTLEY--67
SAUGUS--66,68
SCOTIA--67,68,69
SCOTTS VALLEY--66
SEAL BEACH--69
SEASIDE--66,70
SEELEY--70
SHERMAN OAKS--66
SIERRA CITY--67
SIERRA MADRE--66,68,69,70
SIERRAVILLE--67
SILVER LAKE--66,70
SIMI VALLEY--66,68
SKYFOREST--66
SLOAT--67

CALIFORNIA
(CONTINUED)

SOLEDAD--70
SOLROMAR--69
SOQUEL--66
SOUTH GATE--70
SOUTH PASADENA--68,70
SOUTH SAN FRANCISCO--66,70
SPRING GARDEN--67
STINSON BEACH--70
STORRIE--67
STRAWBERRY VALLEY--67
SUN CITY--66,69
SUN VALLEY--68
SUNLAND--68
SUNNYMEAD--66
SUNNYVALE--66
SUNOL--67
SYLMAR--66
TAFT--66
TEHACHAPI--66
TEMPLE CITY--66,68,70
THOUSAND OAKS--66
TIBURON--70
TOPANGA--68,69
TORRANCE--66,69
TRES PINOS--68
TRINIDAD--68
TRONA--67
TUJUNGA--68
VACAVILLE--70
VALYERMO--68
VAN NUYS--66
VENICE--69
VENTURA--68,69
VERDUGO CITY--68
VERNON--69
VICTORVILLE--66
VINTON--67
WASHINGTON--67
WATSONVILLE--66,67,70
WEST COVINA--68
WEST LOS ANGELES--66
WESTLEY--70
WESTMINSTER--68
WESTMORLAND--69
WILLOW GLEN--70
WINTERHAVEN--70
WOODLAND HILLS--66,68
WRIGHTWOOD--68
YUCAIPA--66,69

COLORADO

CLARK--64
STEAMBOAT SPRINGS--64

HAWAII
(CONTINUED)

MAUNA LOA--76
MOUNTAINVIEW--74,75,76
NAALEHU--74,75
NAPOOPOO--75
OAHU ISLAND--76
ONOMEA--75
OOKALA--76
PAAUHAU--76
PAHALA--74,75,76,77
PAHOA--75
PAPAALOA--76
PAPAIKOU--76
PUNA--74,75
SOUTH KONA--74,75,76,77
VOLCANO--74,75,76,77
WAIMEA--74
WAIOHINU--74

ILLINOIS

ADDIEVILLE--62
AKIN--62
ALBION--59
ALEDO--62
ALHAMBRA--63
ALLENDALE--59
ALLERTON--60
ALMA--60
ALPHA--62
ALSEY--59
ALTO PASS--60
ALTON--62
ALVIN--59
ANNA--62
ANNAPOLIS--60
ARCOLA--62
ARENZVILLE--60
ARMINGTON--62
ARMSTRONG--59
ARROWSMITH--62
ARTHUR--60
ASHMORE--60
ASHTON--62
ASTORIA--59
ATHENS--59
ATLANTA--60
ATWOOD--59
AVA--60
BALDWIN--62
BARNHILL--60
BARRY--62
BEARDSTOWN--62
BEASON--60
BEAVERVILLE--60
BECKEMEYER--62

ILLINOIS
(CONTINUED)

BELKNAP--59
BELLE RIVE--59
BELLEVIEW--62
BELLEVILLE--59,63
BELLFLOWER--60
BELLMONT--59
BEMENT--60
BENLD--60
BENTON--60
BERWICK--62
BETHANY--62
BIBLE GROVE--60
BINGHAM--59
BIRDS--60
BLACKSTONE--62
BLUE MOUND--60
BLUFF SPRINGS--59
BLUFFS--62
BLUFORD--59
BOLES--60
BONE GAP--59
BONNIE--59,60
BRAIDWOOD--60
BRIDGEPORT--59
BRIMFIELD--59
BROADLANDS--59
BROCTON--59
BROOKFIELD--62
BROOKPORT--62
BROUGHTON--60
BROWNFIELD--62
BROWNING--60
BROWNS--60
BROWNSTOWN--59
BUCKLEY--62
BUCKNER--62
BULPITT--60
BUNCOMBE--62
BUNKER HILL--60
BUREAU--62
BURNT PRAIRIE--59
BUTLER--62
CABERY--62
CACHE--60
CAIRO--63
CALHOUN--60
CAMARGO--60
CAMBRIDGE--62
CAMPBELL HILL--60
CANTON--60
CARBON CLIFF--62
CARLINVILLE--60
CARLOCK--62
CARLYLE--60
CARMI--60

ILLINOIS
(CONTINUED)

FOOSLAND--62
FORREST--60
FORSYTH--60
FREDERICK--60
FREEPORT--62
FULTS--60
GALATIA--60
GALE--62
GALESBURG--62
GARRETT--60
GAYS--61
GEFF--60
GENESEO--62
GEORGETOWN--61
GIBSON CITY--60
GIFFORD--60
GILLESPIE--61
GILMAN--62
GIRARD--61
GLEN CARBON--62,63
GLENARM--61
GOLCONDA--61
GOLDENGATE--60
GOOD HOPE--62
GOODFIELD--60
GOODWINE--60
GOREVILLE--61
GRAFTON--62
GRAND CHAIN--61
GRAND TOWER--62
GRANITE CITY--63
GRANT PARK--62
GRAYVILLE--60
GREEN VALLEY--61
GREENFIELD--61
GREENVIEW--61
GREENVILLE--61
HAGARSTOWN--61
HAMBURG--62
HAMMOND--61
HARCO--61
HARDIN--61
HARRISTOWN--60
HARTFORD--61,63
HARVEL--62
HAVANA--62
HAZEL CREST--62
HAZEL DELL--60
HECKER--60
HENNING--61
HERALD--60
HEROD--62
HERRICK--61
HERRIN--61
HERSCHER--60

ILLINOIS
(CONTINUED)

HEYWORTH--61
HIDALGO--61
HIGHLAND--61,63
HILLSBORO--60
HINDSBORO--61
HOLDER--62
HOMER--60
HOOPESTON--60
HOPKINS PARK--62
HOYLETON--60
HUMBOLDT--62
HUME--61
HUNTSVILLE--62
HUTSONVILLE--60
ILLINOIS CITY--61
ILLIOPOLIS--61
INDIANOLA--61
INGRAHAM--60
IOLA--60
IPAVA--62
IRVING--61
IRVINGTON--62
IVESDALE--62
JACKSONVILLE--61
JANESVILLE--61
JERSEYVILLE--61
JEWETT--60
JOHNSTON CITY--61
JONESBORO--61,63
JOPPA--61
JUNCTION--61
KAMPSVILLE--61
KANE--62
KANSAS--61
KARBERS RIDGE--61
KEENSBURG--60
KELL--61
KENNEY--60
KEWANEE--61
KEYESPORT--62
KILBOURNE--60
KINCAID--60
KINMUNDY--61
KINSMAN--62
KIRKWOOD--60
LA CLEDGE--60
LA PLACE--61
LA PRAIRIE--61
LAKE CITY--60
LAKE FORK--61
LAKEWOOD--60
LANCASTER--58,59
LANE--62
LANGLEYVILLE--61
LATHAM--62

ILLINOIS
(CONTINUED)

ILLINOIS
(CONTINUED)

ILLINOIS
(CONTINUED)

OLMSTED--62,63
OLNEY--60
OMAHA--61
ONARGA--60
OPDYKE--60
ORAVILLE--62
ORCHARDVILLE--60
OREANA--60
ORIENT--61
OWANECO--60
PALESTINE--60
PALMER--60
PALMYRA--61
PALOMA--62
PALOS HEIGHTS--60
PANA--60
PANAMA--61
PARIS--61
PARKERSBURG--60
PATOKA--61
PAWNEE--61
PAXTON--61
PEARL--61
PEKIN--60
PENFIELD--61
PEORIA--60
PERCY--61
PERKS--57,62
PESOTUM--60
PETERSBURG--60
PHILO--60
PIASA--62,63
PIERRON--62
PIERSON STATION--62
PINCKNEYVILLE--61
PINKSTAFF--61
PITTSBURG--61
PLAINVIEW--60,63
PLAINVILLE--62
PLANO--61
PLATO CENTER--62
PLEASANT HILL--61
PLEASANT PLAINS--62
PLYMOUTH--62
PONTOOSUC--62
POTOMAC--60
PULASKI--61
PUTNAM--62
RADOM--60
RALEIGH--61
RANKIN--62
RANTOUL--62
RARDIN--62
RAYMOND--61
RED BUD--61

ILLINOIS
(CONTINUED)

REDDICK--62
REDMON--60
RENAULT--63
RIDGE FARM--61
RIDGWAY--60
RINARD--60
RIVERTON--61
ROBERTS--62
ROBINSON--60
ROCKPORT--60
ROCKWOOD--61
ROODHOUSE--61
ROSAMOND--61
ROSEBUD--62
ROSICLARE--61
ROSSVILLE--61
ROXANA--63
ROYAL--62
ROYALTON--57,61
RUSHVILLE--62
SAILOR SPRINGS--60
SAINT CHARLES--62
SAINT CLAIR--63
SAINT ELMO--61
SAINT FRANCISVILLE--60
SAINT JACOB--61,63
SAINT JOSEPH--61
SAINT LIBORY--61
SAINT PETER--60
SAINTE MARIE--60
SALEM--60
SAN JOSE--61
SANDOVAL--61
SAVOY--60
SAWYERVILLE--61
SAYBROOK--62
SCHELLER--61
SCOTT AIR FORCE BASE--63
SCOTTVILLE--62
SERENA--61
SESSER--61
SEYMOUR--62
SHELBYVILLE--60
SHELDON--62
SHERMAN--62
SHIPMAN--62,63
SHOBONIER--60
SHUMWAY--61
SIBLEY--62
SIDELL--60
SIDNEY--61
SIGEL--60
SIMPSON--60
SIMS--61
SMITHTON--61

INDIANA
(CONTINUED)

ATLANTA--62
ATTICA--60,64
AUSTIN--62
BAINBRIDGE--60
BARGERSVILLE--61
BATTLE GROUND--62
BEDFORD--61
BEECH GROVE--62
BELLMORE--61
BENNINGTON--61
BENTONVILLE--62
BERNE--61
BETHLEHEM--60
BEVERLY SHORES--61
BICKNELL--60
BIPPUS--61
BIRDSEYE--61
BLANFORD--60
BLOOMFIELD--61
BLOOMINGTON--61
BOGGSTOWN--60
BOONE GROVE--62
BOONVILLE--60
BOWLING GREEN--60
BRADFORD--61
BRANCHVILLE--62
BRAZIL--61
BRIDGETON--60
BRISTOW--61
BROOK--60
BROOKLYN--60
BROOKVILLE--60
BROWNSBURG--60
BROWNSTOWN--62
BROWNSVILLE--60
BRUCEVILLE--61
BUCK CREEK--61
BUCKSKIN--61
BUFFALO--60
BUFFALOVILLE--60
BURLINGTON--61
BURROWS--62
BUTLERVILLE--61
CAMBRIDGE CITY--60
CAMBY--60
CANNELBURG--60,62
CANNELTON--61
CARBON--61
CARLISLE--61
CARMEL--62
CARTERSBURG--61
CATES--61
CAYUGA--61
CEDAR GROVE--60
CELESTINE--61

INDIANA
(CONTINUED)

CENTERPOINT--60
CENTERTON--60
CENTERVILLE--60
CENTRAL--62
CHARLESTOWN--61
CHESTERFIELD--62
CHESTERTON--61
CHRISNEY--61
CHURUBUSCO--62
CLARKSBURG--62
CLARKSVILLE--61
CLAY CITY--60
CLAYPOOL--62
CLAYTON--60
CLIFFORD--61
CLINTON--60
CLOVERDALE--60
COAL CITY--61
COALMONT--60
COATSVILLE--61
COLUMBIA CITY--62
COLUMBUS--61
COMMISKEY--60
CONNERSVILLE--60
CONVERSE--61
CORTLAND--61
CORY--61
CORYDON--60
COVINGTON--61
CRAIGVILLE--60
CRANDALL--60
CRAWFORDSVILLE--60
CUTLER--58,60
CYNTHIANA--61
DALE--60
DALEVILLE--61
DANA--62
DANVILLE--60
DARLINGTON--61
DAYTON--62
DECKER--60
DELPHI--60
DEMOTTE--62
DERBY--61
DILLSBORO--62
DUBLIN--60
DUBOIS--61
DUGGER--61
DUNKIRK--62
DYER--62
ECKERTY--60
EDINBURG--61
EDWARDSPORT--60
ELBERFELD--61
ELIZABETH--60

INDIANA
(CONTINUED)

INDIANA
(CONTINUED)

INDIANA
(CONTINUED)

LEOPOLD--62
LEROY--62
LEWIS--60
LIBERTY--60
LINCOLN CITY--60
LINN GROVE--62
LINTON--60
LITTLE YORK--61
LIZTON--61
LOOGOOTEE--61
LYNN--60
LYNNVILLE--61
MACKEY--61
MAGNET--61
MANILLA--61
MARIAH HILL--60
MARION--62
MARSHALL--61
MARSHFIELD--61
MARTINSVILLE--62
MATTHEWS--62
MAUCKPORT--60
MAXWELL--62
MAYS--61
MC CORDSVILLE--61
MECCA--61
MEDARYVILLE--60
MEDORA--60
MELLOTT--60
MEROM--60
METAMORA--61
MEXICO--60
MIAMI--61
MIDLAND--61
MILTON--62
MITCHELL--61
MONROE CITY--60
MONROEVILLE--61
MONROVIA--60
MONTEZUMA--60
MONTGOMERY--61
MONTMORENCI--61
MONTPELIER--62
MORGANTOWN--60
MORRISTOWN--61
MOUNT SAINT FRANCIS--60
MOUNT VERNON--60
MULBERRY--61
MUNCIE--60
NEBRASKA--62
NEEDHAM--61
NEW GOSHEN--60
NEW HARMONY--61
NEW HAVEN--61
NEW LEBANON--60

INDIANA
(CONTINUED)

NEW LISBON--62
NEW MARKET--60
NEW MIDDLETOWN--60
NEW PALESTINE--60
NEW ROSS--60
NEW SALISBURY--61
NEW WASHINGTON--62
NEW WHITELAND--61
NEWBERRY--61
NEWBURGH--60
NEWPORT--60
NEWTOWN--60
NINEVEH--61
NOBLESVILLE--62
NORMAN--61
NORTH SALEM--62
NORTH VERNON--62
OAKFORD--62
OAKLAND CITY--60
OAKTOWN--61
OAKVILLE--62
ODON--60
ONWARD--62
OOLITIC--61
ORA--62
ORESTES--61
ORLEANS--61
OTWELL--60
OWENSBURG--61
OWENSVILLE--60
OXFORD--60
PALMYRA--62
PAOLI--62
PARAGON--60
PARIS CROSSING--62
PARKER--62
PATOKA--60
PATRICKSBURG--60
PAXTON--60
PEKIN--62
PENCE--61
PENDLETON--61
PENNVILLE--61
PERSHING--62
PERU--62
PETERSBURG--61
PIMENTO--60
PITTSBORO--60
PLAINVILLE--60
POLAND--60
PONETO--62
PORTLAND--61
POSEYVILLE--61
PRAIRIE CREEK--60
PRAIRIETON--61

INDIANA
(CONTINUED)

INDIANA
(CONTINUED)

INDIANA
(CONTINUED)

WASHINGTON--60
WAVELAND--61
WAYNETOWN--61
WEBSTER--62
WEST BADEN SPRINGS--61
WEST LAFAYETTE--62
WEST LEBANON--61
WEST TERRE HAUTE--60
WESTFIELD--61
WESTPHALIA--60
WESTPOINT--61
WESTPORT--60
WHEATLAND--61
WHITESTOWN--60
WILKINSON--60
WILLIAMS--61
WILLIAMSBURG--62
WILLIAMSPORT--61
WILLOW BRANCH--61
WINAMAC--62
WINONA LAKE--62
WINSLOW--61
WOLCOTT--62
WOLCOTTVILLE--62
WOLFLAKE--61
WOODBURN--61
WORTHINGTON--62
YEOMAN--62
YORKTOWN--61
ZANESVILLE--62
ZIONSVILLE--61

IOWA

ATALISSA--62
BALDWIN--62
BLOOMFIELD--62
BURLINGTON--62
CAMBRIDGE--56
CARLISLE--56
CLINTON--62
CLIVE--56
DANVILLE--61
DAVENPORT--62
DES MOINES--56
DUBUQUE--62
ELKHART--56
ELY--61
FAIRFIELD--61
FORT MADISON--62
GRANGER--56
INDIANOLA--56
KEOKUK--62
MAQUOKETA--61
MEDIAPOLIS--62

IOWA
(CONTINUED)

PRESTON--62
SHELDAHL--56
SUNBURY--62
VINING--62
WEST DES MOINES--56
WINFIELD--62

KANSAS

ASHLAND--57
DODGE CITY--57
KISMET--57
LIBERAL--57
RICHFIELD--57
ROLLA--57
ULYSSES--57

KENTUCKY

AUBURN--62
BAGDAD--61
BANDANA--62
BASKETT--61
BEAVER DAM--61
BEECH GROVE--60
BEECHMONT--62
BELTON--62
BERRYS LICK--62
BETHANY--62
BIG CLIFTY--61
BLANDVILLE--62
BONNIEVILLE--61
BOSTON--61
BOWEN--62
BROOKS--61
BROWDER--62
BURLINGTON--62
BURNA--61
CALHOUN--61
CANEYVILLE--61
CARROLLTON--61
CARRSVILLE--61
CENTERTOWN--62
CERULEAN--61
CLARKSON--62
CLAY--61
CLERMONT--60
CLOVERPORT--61
CO OPERATIVE--62
COLUMBUS--63
CONSTANTINE--61
CORYDON--61
CRAYNE--62
CUB RUN--62
CUSTER--60

KENTUCKY
(CONTINUED)

KENTUCKY
(CONTINUED)

KENTUCKY
(CONTINUED)

YEAMAN--61

MICHIGAN

ALTO--62
DECATUR--62
HARBERT--62
KALAMAZOO--61
LAKESIDE--62
MARCELLUS--61
SOUTH HAVEN--62
THREE RIVERS--61
WEST OLIVE--62

MISSOURI

ALTENBURG--62
ALTON--63
ANNISTON--63
ARNOLD--63
AUGUSTA--63
BARING--62
BARNHART--63
BELLEVIEW--61,63
BENTON--62
BONNE TERRE--63
BRAGGADOCIO--61
BRAZEAU--61
BURFORDVILLE--57,61
CAMPBELL--57,62
CAPE GIRARDEAU--61
CARUTHERSVILLE--57
CENTERVILLE--63
CHARLESTON--63
COMMERCE--62
COOTER--62
DEERING--57
DITTMER--63
DOE RUN--61
DUTCHTOWN--61,63
EAST PRARIE--63
EL DORADO SPRINGS--62
ELSBERRY--62
EOLIA--62
FARRAR--61
FLINTHILL--61,63
FLORISSANT--62
FOLEY--60
FREDERICKTOWN--61
FREMONT--63
FROHNA--62
GOBLER--57
HAYTI--57
HIGH RIDGE--62
HILLSBORO--63

MISSOURI
(CONTINUED)

HIRAM--63
HOLDEN--62
IRONTON--63
JACKSON--63
KELSO--61
KEWANEE--61
LEADWOOD--62
LOCKWOOD--62
MACOMB--62
MALDEN--63
MANCHESTER--62
MAPAVILLE--60,63
MAPLEWOOD--63
MATTHEWS--57
MC GEE--63
MENFRO--62
MESSLER--62
MORRISON--60
MOUNTAIN VIEW--61
NEW MADRID--63
NEWBURG--63
NORMANDY--60,63
O FALLON--62
ORAN--62
OXLY--57
PERKINS--61
PEVELY--61
SAINT ALBANS--61
SAINT ANN--63
SAINT CHARLES--62,63
SAINT LOUIS--58,62,63
SAINT MARYS--62
SAINT PETERS--62
SCOTT CITY--61
SEDGEWICKVILLE--61
STEELE--57
SUCCESS--63
TERESITA--63
THAYER--63
THOMASVILLE--63
THORNFIELD--63
TRUESDAIL--62
VERSAILLES--61
WASHINGTON--62
WESTALTON--61,63
WINFIELD--62
WINONA--63
WITTENBERG--62
WOLF ISLAND--63
WOMACK--62,63
WYATT--63
ZALMA--62

OKLAHOMA

ADAMS--57
BAKER--57
BALKO--57
BEAVER--57
BUFFALO--57
CAMARGO--57
ELMWOOD--57
ERICK--57
FARGO--57
FORGAN--57
FORT SUPPLY--57
GATE--57
GOODWELL--57
GUYMON--57
HARDESTY--57
HOOKER--57
KNOWLES--57
MAY--57
MAYFIELD--57
MOORE--64
MUTUAL--57
OPTIMA--57
REYDON--57
ROSSTON--57
SHARON--57
SHATTUCK--57
SWEETWATER--57
TEXHOMA--57
TURPIN--57
TYRONE--57
VINSON--57
WOODWARD--57

OREGON

GOVERNMENT CAMP--71
HOOD MEADOWS--71
RHODODENDRON--71

PANAMA CANAL ZONE

BALBOA HEIGHTS--77
PANAMA CITY--77
PANAMA--77

PUERTO RICO

BOQUERON--77
CAGUAS--77
CAYEY--77
FAJARDO--77
GUANICA--77
GUAYAMA--77
HUMACAO--77
MAYAGUEZ--77
PONCE--77

PUERTO RICO
(CONTINUED)

ROOSEVELT ROADS--77
ROSARIO--77
SAN JUAN--77

RHODE ISLAND

COVENTRY--10
WEST WARWICK--10

SOUTH CAROLINA

ABBEVILLE--53
AIKEN--53,56
ALLENDALE--56
ALVIN--56
AWENDAW--56
BARNWELL--56
BATH--53,56
BELTON--54
BETHUME--56
BISHOPVILLE--56
BLACKVILLE--56
BLAIR--53
BLYTHEWOOD--56
BORDEAUX--56
CALHOUN FALLS--53
CAMERON--56
CANADYS--56
CAYCE--56
CHARLESTON AIR FORCE BASE--56
CHARLESTON--54,56
CHESTERFIELD--56
CLARKS HILL--53
CONWAY--56
CORDESVILLE--56
COTTAGEVILLE--56
CROSS HILL--53
DENMARK--56
EDGEFIELD--54,56
EDGEMOOR--54
ELGIN--56
ELKO--56
ELLIOTT--56
ESTILL--56
FLORENCE--56
FORT MOTTE--56
GABLE--56
GASTON--56
GEORGETOWN--56
GOOSE CREEK--56
GRANITEVILLE--53,56
GREAT FALLS--56
GREELEYVILLE--56
GREENWOOD--53
HICKORY KNOT STATE PARK--56

TEXAS
(CONTINUED)

SANFORD--57
SPEARMAN--57
STINNETT--57
SUNRAY--57
WAKA--57

UTAH

CEDAR CITY--64
ENTERPRISE--64
FAIRVIEW--65
LEWISTON--65
MARYSVALE--65
PRESTON--65
RICHMOND--65
SUMMIT--64
WESTON--65

VIRGINIA

BELSPRING--53
BLAIRS--53
CARTERSVILLE--54
CATAWBA--53
CLINCHPORT--63
COLUMBIA--54
CUMBERLAND--54
EGGLESTON--53
EMORY--53
FINCASTLE--53
GEORGES TAVERN--54
GLEN LYN--53
GOOCHLAND--54
KIMBALLTON--53
LAFAYETTE--53
NEW CASTLE--53
NEWPORT--53
NORA--63
PAINT BANK--53
PALMYRA--54
PEMBROKE--53
RIPPLEMEAD--53
ROANOKE--53
VANSANT--53

WASHINGTON

ANACORTES--71
ARLINGTON--71
BELLINGHAM--71
BRINNON--71
CAMAS--71
CARBONADO--71
CARNATION--71
CLEARLAKE--71

WASHINGTON
(CONTINUED)

CLINTON--71
CONCRETE--71
COUPEVILLE--71
DARRINGTON--71
DUVALL--71
EASTSOUND--71
EATONVILLE--71
ELBE--71
FREELAND--71
FRIDAY HARBOR--71
GARDINER--71
GRANITE FALLS--71
GREENBANK--71
HAMILTON--71
INDEX--71
INDIANOLA--71
ISSAQUAH--71
JOYCE--71
KAPOWSIN--71
KITTITAS--71
LA CONNER--71
LAKE ROESIGER--71
LANGLEY--71
LONGMIRE--71
LOPEZ--71
LYMAN--71
LYNDEN--71
MACHIAS--71
MARYSVILLE--71
MATTAWA--71
MONROE--71
NORDLAND--71
OAK HARBOR--71
OLGA--71
ORCAS ISLAND--71
ORCAS--71
PACKWOOD--71
PARKDALE--71
PLAIN--71
PORT GAMBLE--71
PORT LUDLOW--71
PRESTON--71
QUILCENE--71
RANDLE--71
RONALD--71
ROSLYN--71
SAN JUAN ISLAND--71
SEABECK--71
SEATTLE--71
SEDRO WOOLLEY--71
SELLECK--71
SILVANA--71
STANWOOD--71
TACOMA--71
UNION--71

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