

# United States Earthquakes, 1985

U.S. GEOLOGICAL SURVEY BULLETIN 1954





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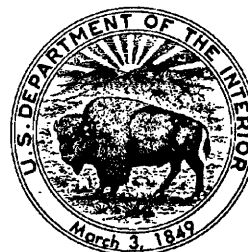
# United States Earthquakes, 1985

By CARL W. STOVER and LINDIE R. BREWER

This publication summarizes data for earthquakes that occurred in the 50 States and Puerto Rico during 1985. Descriptions of individual earthquakes include hypocenters, magnitudes, intensities, and damages. The report also contains results from regional networks and data recorded by strong-motion seismographs

U.S. GEOLOGICAL SURVEY BULLETIN 1954

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MANUEL LUJAN, JR., Secretary



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Dallas L. Peck, Director

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# United States Earthquakes, 1985

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By Carl W. Stover and Lindie R. Brewer

## INTRODUCTION

This publication describes all earthquakes that were reported felt in the United States and nearby territories in 1985. Its purpose is to provide a continuous history of U.S. earthquakes to be used in estimating areal seismic risk, for designing earthquake-resistant structures, and for answering inquiries from scientists, engineers, and the public.

The U.S. Geological Survey's National Earthquake Information Center (USGS/NEIC) collects intensity information primarily by mailing questionnaires, "Earthquake Report" forms, to postmasters and other public institutions (police departments and (or) fire departments) in the earthquake area. Completed questionnaires are returned to the USGS, where they are evaluated and intensities are assigned. For damaging earthquakes, the questionnaires are supplemented by USGS field investigations. The USGS/NEIC publishes preliminary maximum intensity data for United States earthquakes in the *Preliminary Determination of Epicenters, Monthly Listing (PDE)* (for example, Irby and others, 1982). The latest and most complete information is published with maps, diagrams, and photographs in *United States Earthquakes* (now published as a USGS Bulletin) issued annually since 1928. Copies of issues prior to 1982 can be obtained from the Open-File Services Section (OFSS), Western Distribution Branch, U.S. Geological Survey, Box 25425, Federal Center, Denver, CO 80225.

This current bulletin is composed of four major sections: "Earthquake Descriptions," which includes a summary of macroseismic data reported for each earthquake and a chronological list of earthquakes by State (table 1); "Network Operations," which summarizes the results from local seismic networks; "Miscellaneous Activities," which contains information on the principal earthquakes of the world (table 5); and "Strong-Motion Seismograph Data" (table 6). The intensity and macroseismic data in "Earthquake Descriptions" are compiled from questionnaires returned to USGS/NEIC (see previous paragraph), newspaper articles,

and reports prepared by other Federal government organizations, State institutions, local organizations, and individuals. Each description includes date, hypocenter, source of the hypocenter computation, magnitude, maximum intensity (Modified Mercalli), and (or) macroseismic effects reported from localities where the earthquake was felt.

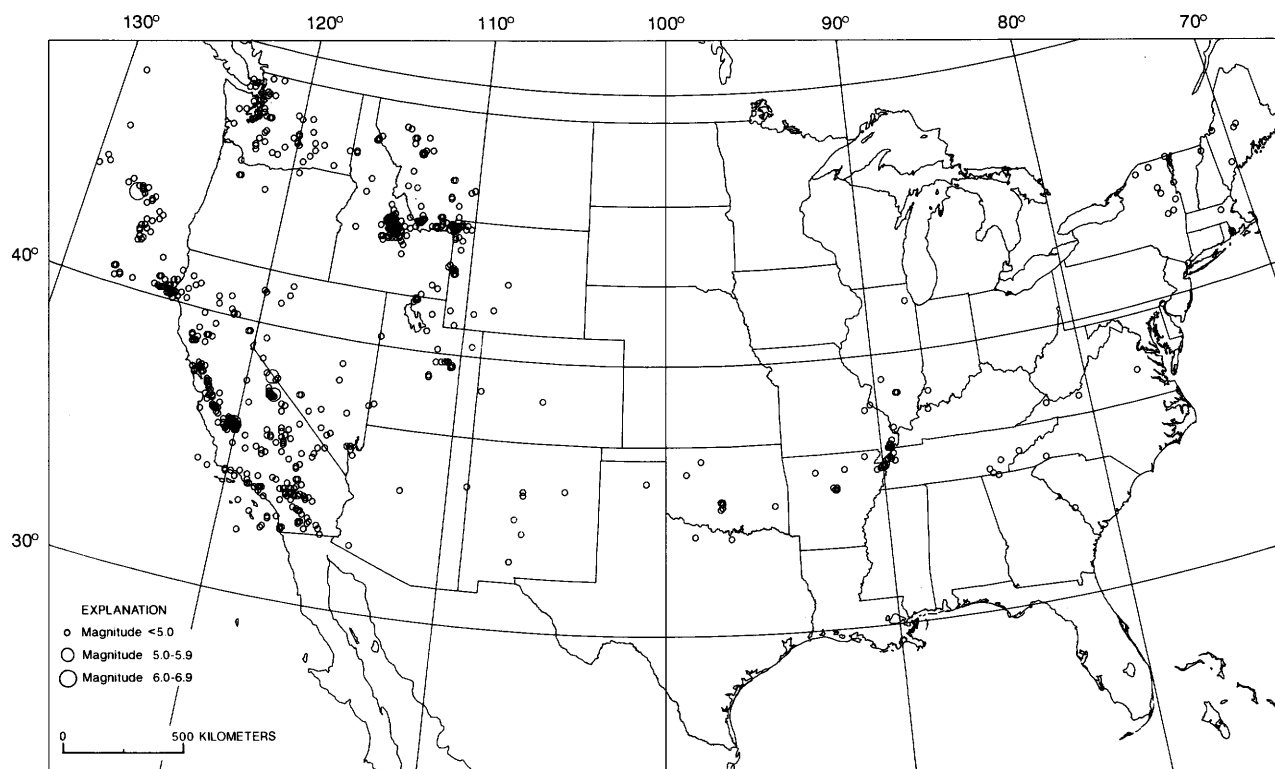
## Discussion of Tables

The earthquake parameters in tables 1 and 5 include date, origin time, hypocenter (epicenter and focal depth), and magnitude. Table 1 also lists the maximum observed Modified Mercalli (MM) intensity. The origin time and date are listed in Universal Coordinated Time (UTC). The epicenters are taken principally from those published in the USGS *Preliminary Determination of Epicenters, Monthly Listings*. These data have been updated and new data added from subsequent publications of universities or State agencies who operate seismic networks. The accuracy of the epicenters is that claimed by the institution supplying the hypocenter data and is not necessarily the accuracy indicated by the number of decimals listed. The epicenters located by the USGS/NEIC vary in degree of accuracy, usually by two-tenths of a degree or less. See *Preliminary Determination of Epicenters, Monthly Listing*, for an explanation of the accuracy of USGS hypocenters. Depths are listed to the nearest kilometer.

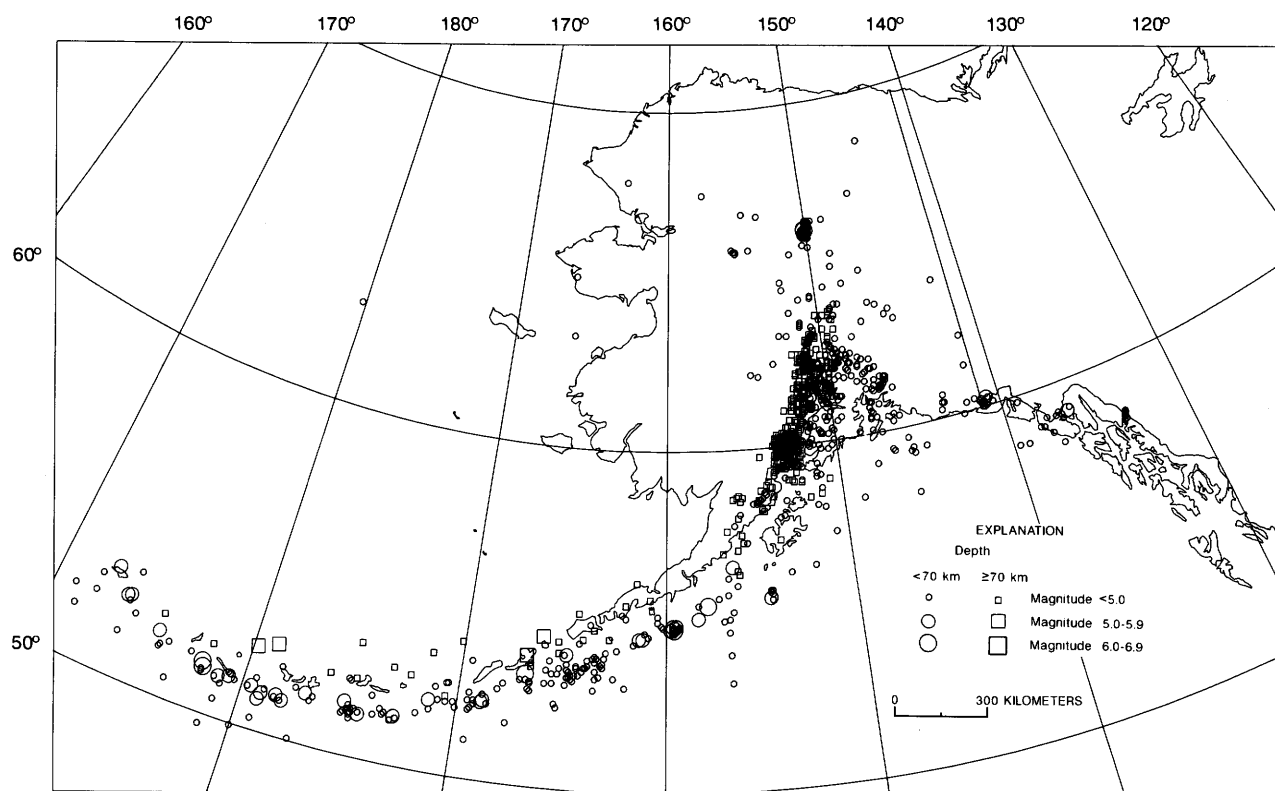
Magnitudes listed in the tables are either furnished by cooperating institutions or determined by the USGS. The computational sources are indicated by letter codes identified in headnotes to the tables.

## Epicenter and Isoseismal Maps

Figures 1-3 are computer plots of all earthquake epicenters in the conterminous United States, Alaska, and Hawaii listed in table 1. Figures 4-5 show only those

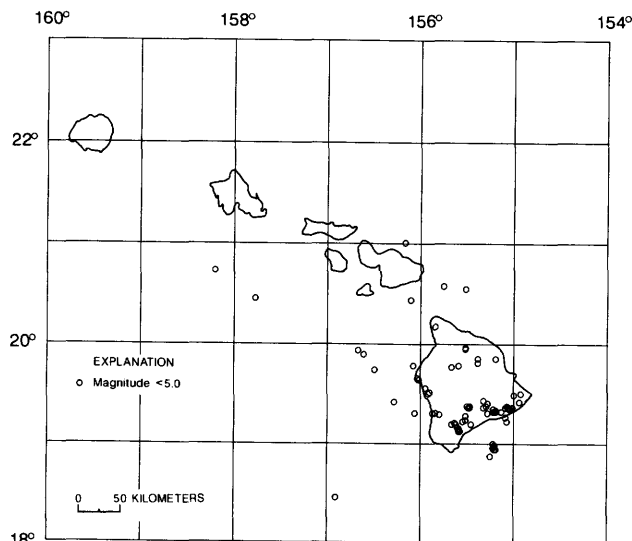


**Figure 1. Earthquake epicenters in the conterminous United States for 1985 (from table 1).**



**Figure 2. Earthquake epicenters in Alaska for 1985 (from table 1).**





**Figure 3.** Earthquake epicenters in Hawaii for 1985 (from table 1).

earthquakes whose computed magnitudes are 5.0 or larger. Each earthquake epicenter is indicated by a small circle or square.

Figures 6–8 are maps showing the maximum intensity of earthquakes in the conterminous United States, Alaska, and Hawaii. Maximum intensities are represented by Arabic numerals at the epicentral locations. Earthquakes of intensity I–IV are represented by solid circles.

The USGS/NEIC coordinates the collection of all types of earthquake information; the special objective is to correlate instrumentally determined earthquake locations with noninstrumental locations indicated by intensity data. This correlation is achieved through regional investigations of earthquakes by local organizations and the USGS. Primary data are gathered by a mail canvass of the epicentral area using questionnaire cards. A field survey is usually made for damaging events. When returned and analyzed, this information is used to prepare isoseismal maps that show the areal pattern of intensity associated with individual earthquakes.

The selection of earthquakes for isoseismal maps (shown in the “Earthquake Descriptions”) is governed largely by the size of the area affected. This means that sharp, localized shocks of intensity VI (which are common in California) may not be represented by these maps, whereas more widely felt earthquakes of intensity V and VI (which are characteristic of the Eastern and Central States) commonly will be illustrated because of the larger felt areas. Arabic numerals on these computer plotted maps represent the maximum MM intensities at sampled localities. Isoseismal contours are a generalization of intensity data and are extrapolated in regions that have reported few observations. The isoseismals do not account

for each intensity observation because they are drawn to show the general patterns at a level of intensity or range of intensities.

## Magnitude and Intensity

Magnitude, a measure of the “size” of an earthquake, is related to the energy release at the focus of an earthquake. Although the magnitude scale has neither “top” nor “bottom” values, the highest magnitude ever calculated was greater than 9.0 and the lowest magnitude ever calculated was about –3.0. On this logarithmic scale, a magnitude 6.0, shallow-focus earthquake represents elastic-wave energy about 30 times greater than that generated by a magnitude 5.0 earthquake, 900 times greater than that of a magnitude 4.0 shock, and so forth. Many factors enter into the determination of earthquake magnitude, including earthquake focal depth, frequency content of the sampled energy, and the earthquake radiation pattern. Magnitude values calculated by the USGS are based on the following five formulas:

### *Surface-Wave Magnitude*

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

as adopted by the International Association of Seismology and Physics of the Earth’s Interior (IASPEI; Bath, 1966, p. 153), where  $A$  is the maximum vertical 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  $20^\circ \leq D \leq 160^\circ$ . No depth correction is made for depth less than 50 km, and no  $M_S$  magnitudes are computed for depths greater than 50 km.

### *Body-Wave Magnitude*

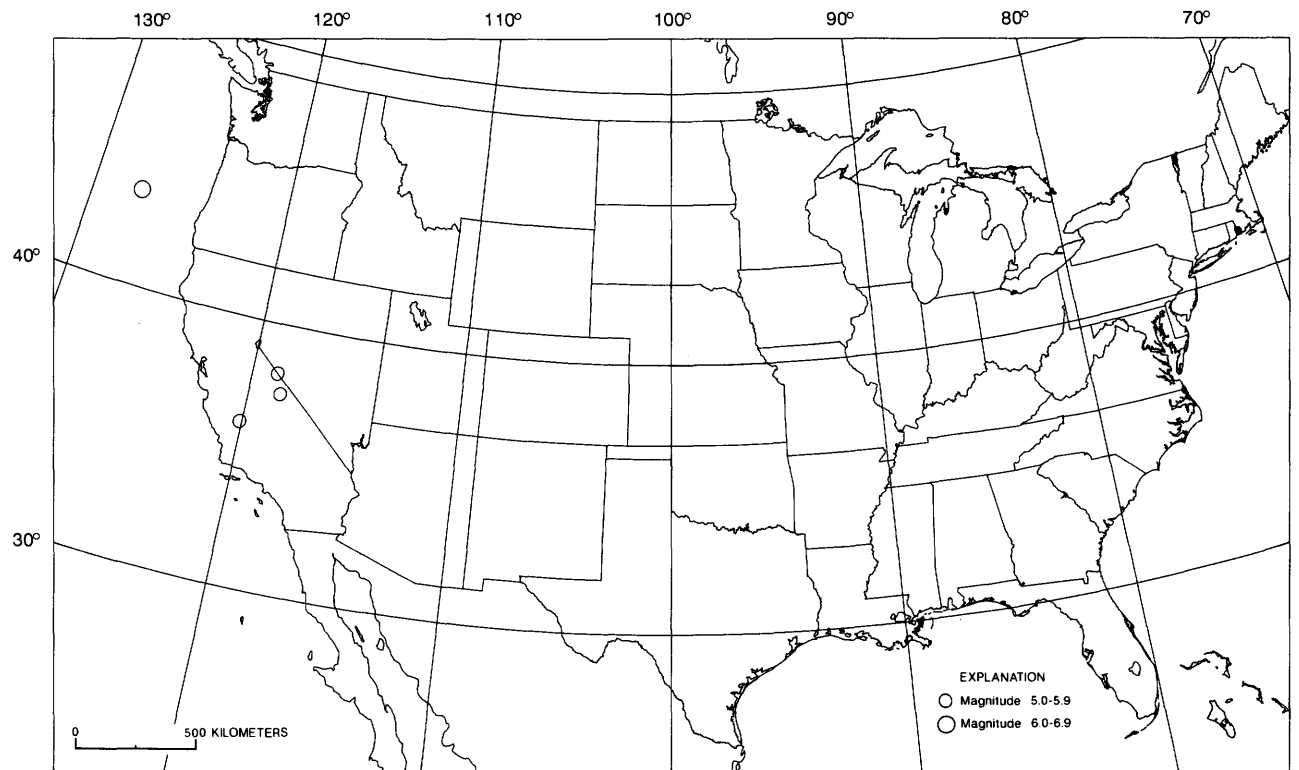
$$m_b = \log (A/T) + Q(D,h), \quad (2)$$

as defined by Gutenberg and Richter (1956), except that  $T$ , the period in seconds, is restricted to  $0.1 \geq T \geq 3.0$ , 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  $D > 5^\circ$ .

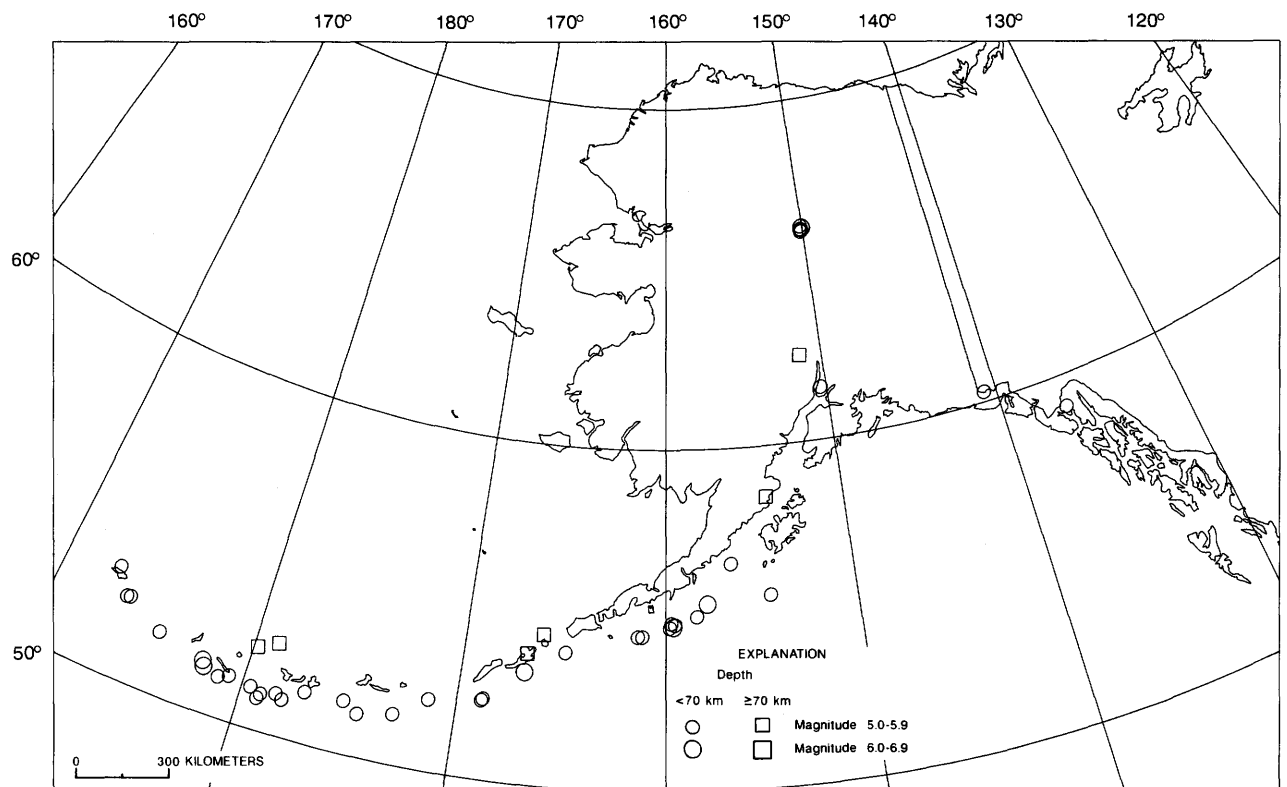
### *Local Magnitude*

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

as defined by Richter (1958, p. 340), where  $A$  is the maximum trace amplitude in millimeters, written by a Wood-



**Figure 4. Epicenters in the conterminous United States for earthquakes with magnitudes  $\geq 5.0$  in 1985.**



**Figure 5. Epicenters in Alaska for earthquakes with magnitudes  $\geq 5.0$  in 1985.**

Anderson torsion seismometer, and  $\log A_0$  is a standard value as a function  $\leq 600$  km. Values of  $M_L$  are also calculated from other seismometers by conversion of recorded ground motion to the expected response of the torsion seismometer.  $M_L$  magnitudes are listed for events with depths less than 70 km.

#### Local Magnitude

$$M_n = 3.75 + 0.90 (\log D) + \log (A/T) \\ 0.5^\circ \leq D \leq 4^\circ, \quad (4)$$

$$M_n = 3.30 + 1.66 (\log D) + \log (A/T) \\ 4^\circ \leq D \leq 30^\circ$$

as proposed by Nuttli (1973) for North America east of the Rocky Mountains, where  $A/T$  is expressed in micrometers per second, calculated from the vertical-component 1-second  $L_g$  waves, and  $D$  is the distance in geocentric degrees.

#### Moment Magnitude

$$M_w = 2/3 \log M_0 - 10.7 \quad (5)$$

as defined by Hanks and Kanamori (1979), where  $M_0$  is the seismic moment in dyne-centimeter.

Other types of magnitudes computed by other organizations or universities are also listed in this publication and are defined in the following two paragraphs.

$M_D$  designates duration or coda length magnitude.  $M_D$  is usually computed from the difference, in seconds, between  $P_n$ - or  $P_g$ -wave arrival time and the time the final coda amplitude decreases to the background-noise amplitude. Duration magnitude scales are normally adjusted to agree with  $M_L$  or  $M_n$  estimates so that resulting magnitudes are compatible. Thus, the  $M_D$  formulas vary for different geographic regions and seismograph systems.

Some seismograph network operators determine a magnitude formula for their specific network based on a comparison of their computed magnitude values with magnitudes published from other sources, such as from the USGS. These values are usually compared with  $m_b$ ,  $M_L$ , or  $M_n$  magnitudes. In this bulletin these types of magnitudes are designated as  $m_x$  for body-wave magnitudes ( $m_b$ ) and  $M_x$  for local magnitudes ( $M_L$  or  $M_n$ ).

Intensity, as applied to earthquakes, represents a quantity determined from the effects on people, manmade structures, and the Earth's surface (landslides, ground fissures, and such). Intensities are assigned according to the descriptions listed in the Modified Mercalli Intensity Scale

of 1931 (Wood and Neumann, 1931). There are 12 discrete steps in the MM scale (see next section). An earthquake in a populated area will have different intensities at different localities, owing to the distance from the focus of the earthquake, type of focal mechanism, local geological conditions, structural design of buildings, and the earthquake magnitude.

The text of this bulletin gives the intensity at locations where an earthquake was reported felt and summaries of the strongest effects. Each earthquake is further characterized by its maximum intensity, which is given in the text and in table 1. The word "FELT" in the maximum intensity columns of table 1 indicates that only minimal or sketchy information was available. This designation does not imply that the earthquake was felt at a low intensity level, but indicates that the available data are not sufficient for assigning a intensity value.

Although the 1931 Modified Mercalli Intensity Scale is in many instances inadequate for present-day requirements, the scale has been the guide used by the USGS and will continue to be so until a new scale has been devised and has been accepted in the engineering and seismological communities.

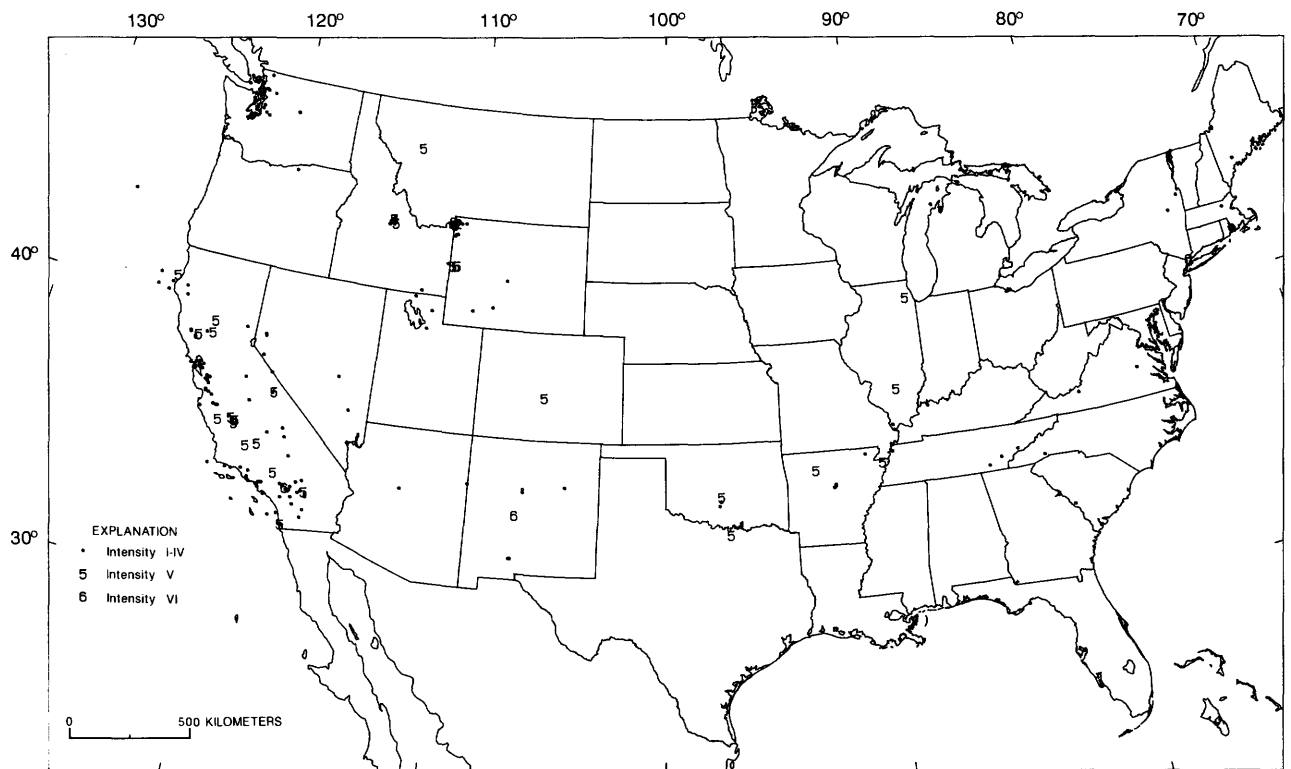
#### Modified Mercalli Intensity Scale of 1931

Adapted from Sieberg's Mercalli-Cancani scale, modified and condensed.

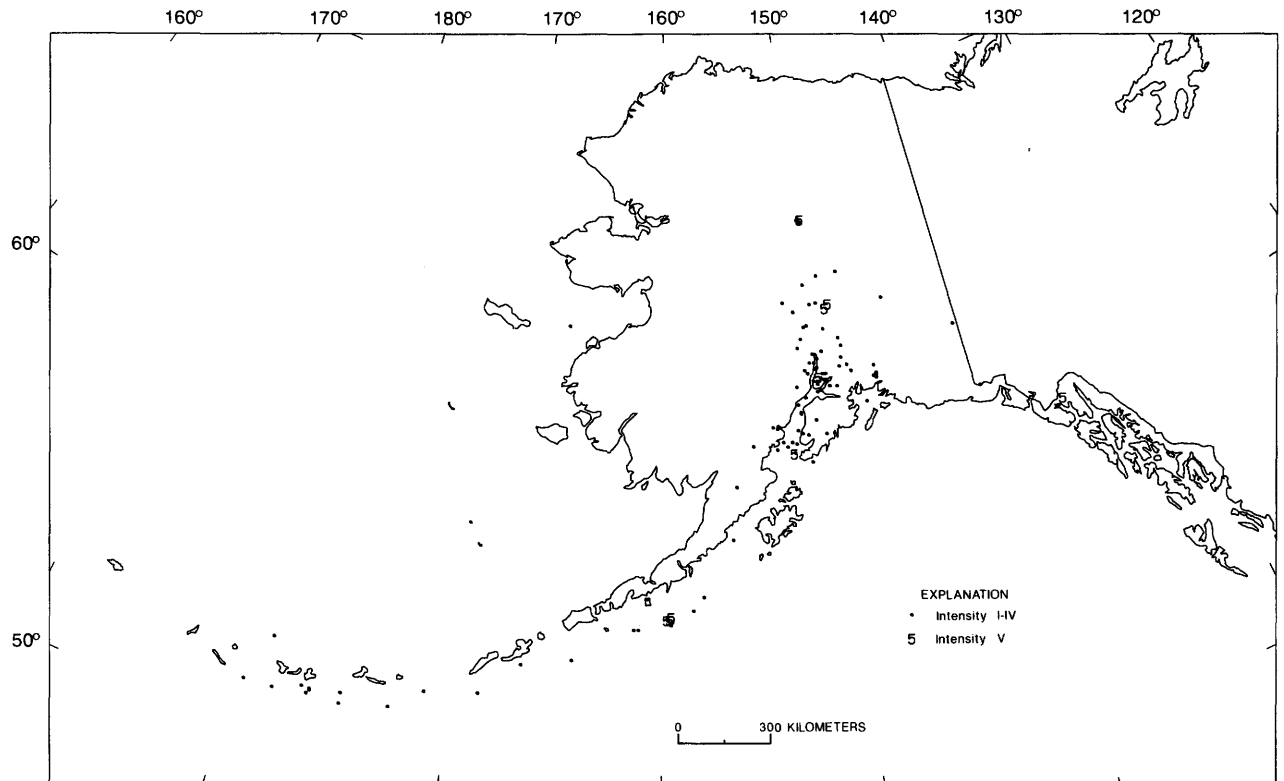
I— Not felt—or, except rarely under especially favorable circumstances. Under certain conditions, at and outside the boundary of the area in which a great shock is felt: sometimes birds, animals, reported uneasy or disturbed; sometimes dizziness or nausea experienced; sometimes trees, structures, liquids, bodies of water, may sway—doors may swing, very, slowly.

II— Felt indoors by few, especially on upper floors, or by sensitive, or nervous persons. Also, as in grade I, but often more noticeably: sometimes hanging objects may swing, especially when delicately suspended; sometimes trees, structures, liquids, bodies of water, may sway, doors may swing, very slowly; sometimes birds, animals, reported uneasy or disturbed; sometimes dizziness or nausea experienced.

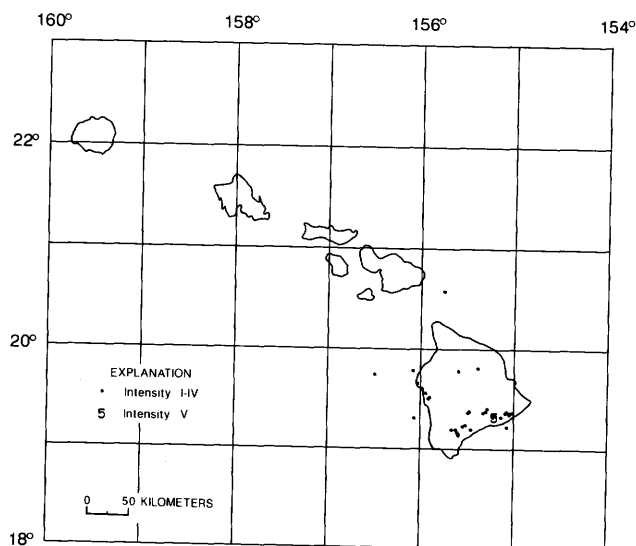
III— Felt indoors by several, motion usually rapid vibration. Sometimes not recognized to be an earthquake at first. Duration estimated in some cases. Vibration like that due to passing of light, or lightly loaded trucks, or heavy trucks some distance away. Hanging objects may swing slightly. Movements may be appreciable on upper levels of tall structures. Rocked standing motor cars slightly.



**Figure 6.** Earthquakes in the conterminous United States that were felt or caused damage in 1985. The intensities denote maximum observed intensity plotted at the epicenter.



**Figure 7.** Earthquakes in Alaska that were felt or caused damage in 1985. The intensities denote maximum observed intensity plotted at the epicenter.



**Figure 8.** Earthquakes in Hawaii that were felt or caused damage in 1985. The intensities denote maximum observed intensity plotted at the epicenter.

#### IV— Felt indoors by many, outdoors by few.

Awakened few, especially light sleepers. Frightened no one, unless apprehensive from previous experience. Vibration like that due to passing of heavy or heavily loaded trucks. Sensation like heavy body striking building or falling of heavy objects inside. Rattling of dishes, windows, doors; glassware and crockery clink and clash. Creaking of walls, frame, especially in the upper range of this grade.

Hanging objects swung in numerous instances. Disturbed liquids in open vessels slightly. Rocked standing motor cars noticeably.

V— Felt indoors by practically all, outdoors by many or most: outdoors direction estimated. Awakened many, or most. Frightened few—slight excitement, a few ran outdoors. Buildings trembled throughout. Broke dishes, glassware, to some extent. Cracked windows—in some cases, but not generally. Overturned vases, small or unstable objects, in many instances, with occasional fall. Hanging objects, doors, swing generally or considerably. Knocked pictures against walls, or swung them out of place. Opened, or closed, doors, shutters, abruptly. Pendulum clocks stopped, started or ran fast, or slow. Moved small objects, furnishings, the latter to slight extent. Spilled liquids in small amounts from well-filled open containers. Trees, bushes, shaken slightly.

VI— Felt by all, indoors and outdoors. Frightened many, excitement general, some alarm, many ran outdoors. Awakened all. Persons made to move unsteadily. Trees, bushes, shaken slightly to moderately. Liquid set in strong motion. Small bells rang—church, chapel, school, etc. Damage slight in poorly built buildings. Fall of plaster in small amount. Cracked plaster somewhat, especially fine

cracks in chimneys in some instances. Broke dishes, glassware, in considerable quantity, also some windows. Fall of knickknacks, books, pictures. Overturned furniture in many instances. Moved furnishings of moderately heavy kind.

VII— Frightened all—general alarm, all ran outdoors. Some, or many, found it difficult to stand. Noticed by persons driving motor cars. Trees and bushes shaken moderately to strongly. Waves on ponds, lakes, and running water. Water turbid from mud stirred up. Incav-ing to some extent of sand or gravel stream banks. Rang large church bells, etc. Suspended objects made to quiver. Damage negligible in buildings of good design and construction, slight to moderate in well-built ordinary buildings, considerable in poorly built or badly designed buildings, adobe houses, old walls (especially where laid up without mortar), spires, etc. Cracked chimneys to considerable extent, walls to some extent. Fall of plaster in considerable to large amount, also some stucco. Broke numerous windows, furniture to some extent. Shook down loosened brickwork and tiles. Broke weak chimneys at the roofline (sometimes damaging roofs). Fall of cornices from towers and high buildings. Dislodged bricks and stones. Overturned heavy furniture, with damage from breaking. Damage considerable to concrete irrigation ditches.

VIII— Fright general—alarm approaches panic. Disturbed persons driving motor cars. Trees shaken strongly—branches, trunks, broken off, especially palm trees. Ejected sand and mud in small amounts. Changes: temporary, permanent; in flow of springs and wells; dry wells renewed flow; in temperature of spring and well waters. Damage slight in structures (brick) built especially to withstand earthquakes. Considerable in ordinary substantial buildings, partial collapse: racked, tumbled down, wooden houses in some cases; threw out panel walls in frame structures, broke off decayed piling. Fall of walls. Cracked, broke, solid stone walls seriously. Wet ground to some extent, also ground on steep slopes. Twisting, fall, of chimneys, columns, monuments, also factory stacks, towers. Moved conspicuously, overturned, very heavy furniture.

IX— Panic general. Cracked ground conspicuously. Damage considerable in (masonry) structures built especially to withstand earthquakes: Threw out of plumb some wood-frame houses built especially to withstand earthquakes; great in substantial (masonry) buildings, some collapse in large part; or wholly shifted frame buildings off foundations, racked frames; serious to reservoirs; underground pipes sometimes broken.

X— Cracked ground, especially when loose and wet, up to widths of several inches; fissures up to a yard in width ran parallel to canal and stream banks. Landslides



considerable from river banks and steep coasts. Shifted sand and mud horizontally on beaches and flat land. Changed level of water in wells. Threw water on banks of canals, lakes, rivers, etc. Damage serious to dams, dikes, embankments. Severe to well-built wooden structures and bridges, some destroyed. Developed dangerous cracks in excellent brick walls. Destroyed most masonry and frame structures, also their foundations. Bent railroad rails slightly. Tore apart, or crushed endwise, pipe lines buried in earth. Open cracks and broad wavy folds in cement pavements and asphalt road surfaces.

**XI—** Disturbances in ground many and widespread varying with ground material. Broad fissures, earth slumps, and land slips in soft, wet ground. Ejected water in large amounts charged with sand and mud. Caused sea-waves ("tidal" waves) of significant magnitude. Damage severe to wood frame structures, especially near shock centers. Great to dams, dikes, embankments often for long distances. Few, if any (masonry) structures remained standing. Destroyed large well-built bridges by the wrecking of supporting piers, or pillars. Affected yielding wooden bridges less. Bent railroad rails greatly, and thrust them endwise. Put pipe lines buried in earth completely out of service.

**XII—** Damage total—practically all works of construction damaged greatly or destroyed. Disturbances in ground great and varied, numerous shearing cracks. Landslides, falls of rock of significant character, slumping of river banks, etc., numerous and extensive. Wrenched loose, tore off, large rock masses. Fault slips in firm rock, with notable horizontal and vertical offset displacements. Water channels, surface and underground, disturbed and modified greatly. Dammed lakes, produced waterfalls, deflected rivers, etc. Waves seen on ground surfaces (actually seen, probably, in some cases). Distorted lines of sight.

## COLLABORATORS

Active cooperation in earthquake investigations in the United States is provided by several seismological collaborators. The following served as collaborators to the USGS during 1985:

Alaska.—Staff of NOAA—Alaska Tsunami Warning Center, Palmer.  
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 Wyoming.—R.A. Hutchinson, National Park Service, Yellowstone National Park.

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## EARTHQUAKE DESCRIPTIONS

All United States and Puerto Rico earthquakes that were reported felt in 1985 are listed in this section alphabetically by State and chronologically within each State. The origin time of each earthquake is given in Universal Coordinated Time (UTC). Time is expressed continuously from midnight to midnight, or 0 to 24 hours.

Sources of noninstrumental information (macroseismic data) in this publication include questionnaire canvasses conducted by the USGS, newspaper articles, bulletins of the Seismological Society of America, and special earthquake reports of other organizations. Instrumental data are provided by the USGS/NEIC, other government agencies, and universities that operate seismic networks.

Roman numerals in the earthquake descriptions refer to the Modified Mercalli Intensity Scale of 1931. Where more than one degree of earthquake intensity is reported from a town, the town is assigned the highest intensity reported. All earthquake questionnaires or press reports that do not contain enough detail from which to assign an intensity are listed as "Felt."

The following codes are used to indicate sources for hypocenters, magnitudes, intensities and (or) felt data:

- (BK) University of California, Berkeley;
- (BU) Montana Bureau of Mines and Geology, Butte;
- (DE) Delaware Geological Survey, Newark;
- (EE) Engdahl, E. R., Billington, S., and Kisslinger, C., 1989, *Journal of Geophysical Research*, v. 94, no. B11, p. 15,481-15,498.
- (EN) Department of Energy, Washington, D.C.;
- (EP) Geophysics Division, Geological Survey of Canada, Ottawa, Ontario;
- (GM) U.S. Geological Survey, Menlo Park, Calif.;
- (GP) U.S. Geological Survey, Pasadena, Calif.;
- (GS) U.S. Geological Survey, Golden, Colo.;
- (GT) Georgia Institute of Technology, Atlanta;
- (HV) Hawaiian Volcano Observatory, U.S. Geological Survey, Hawaii National Park;
- (LD) Lamont-Doherty Geological Observatory, Palisades, N.Y.;
- (PM) Alaska Palmer Observatory, NOAA, Palmer, Alaska;
- (PS) California Institute of Technology, Pasadena;
- (RN) University of Nevada, Reno;
- (SC) University of South Carolina, Columbia;
- (SL) St. Louis University, St. Louis, Mo.;
- (TC) Tennessee Earthquake Information Center, Memphis;

- (TU) Oklahoma Geological Survey, Leonard;
- (UU) University of Utah, Salt Lake City;
- (VP) Virginia Polytechnic Institute and State University, Blacksburg;
- (WA) University of Washington, Seattle;
- (WO) Weston Observatory, Weston, Mass.;
- (N) Normal depth = 33 km.

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### ALASKA

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#### 2 January (GS) Alaska Peninsula area

Origin time: 05 32 49.1

Epicenter: 55.428N., 157.835W.

Depth: 33 km

Magnitude: 5.6<sub>m</sub>(GS), 5.6<sub>S</sub>(GS), 6.1<sub>M</sub><sub>L</sub>(PM), 5.9<sub>M</sub><sub>S</sub>(BK)

Intensity III: Perryville.

Felt: Chignik (PM), Sand Point (PM).

#### 9 January (GM) Prince William Sound

Origin time: 19 28 21.2

Epicenter: 60.289N., 140.744W.

Depth: 15 km

Magnitude: 5.7<sub>m</sub><sub>b</sub>(GS), 5.1<sub>M</sub><sub>S</sub>(GS), 5.4<sub>M</sub><sub>L</sub>(PM)

Felt along the Alaska Highway from Beaver Creek to Whitehorse (EP).

Intensity IV:

United States—

Alaska—Yakutat.

Intensity III:

United States—

Alaska—Cape Yakataga.

Felt:

Canada—

Yukon Territory—Burwash Landing, Haines Junction, Whitehorse (press report).

#### 11 January (EE) Andreanof Islands, Aleutian Islands

Origin time: 09 03 33.0

Epicenter: 51.534N., 175.233W.

Depth: 37 km

Magnitude: 5.2<sub>m</sub><sub>b</sub>(GS)

Intensity IV: Adak Island.

#### 15 January (GM) Southern Alaska

Origin time: 03 21 27.6

Epicenter: 61.364N., 150.352W.

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**ALASKA—Continued**

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Depth: 52 km  
Magnitude: 3.5M<sub>L</sub>(PM)  
Intensity II: Knik (PM), Anchorage (PM).

**17 January (GS) Kenai Peninsula**  
Origin time: 19 22 16.0  
Epicenter: 60.325N., 150.757W.  
Depth: 60 km  
Magnitude: 4.6m<sub>b</sub>(GS), 4.5M<sub>L</sub>(PM)  
Intensity IV: Ninilchik.  
Intensity III: Homer, Moose Pass, Tyonek.  
Felt: Anchorage (PM), Kenai (PM), Seward (PM).

**27 January (GM) Kenai Peninsula**  
Origin time: 01 47 13.9  
Epicenter: 59.938N., 151.357W.  
Depth: 46 km  
Magnitude: 3.8M<sub>L</sub>(PM)  
Intensity IV: Homer.

**3 February (GM) Southern Alaska**  
Origin time: 19 10 58.9  
Epicenter: 61.544N., 150.147W.  
Depth: 57 km  
Magnitude: 3.3M<sub>L</sub>(PM)  
Felt: Anchorage (PM), Eagle River (PM), Palmer (PM),  
Wasilla (PM).

**4 February (GS) Central Alaska**  
Origin time: 15 10 38.3  
Epicenter: 63.536N., 149.222W.  
Depth: 16 km  
Magnitude: 4.5m<sub>b</sub>(GS), 4.3M<sub>L</sub>(PM)  
Intensity V:  
Healy— Furniture on rollers moved; items shook off  
shelves; earth noise was heard.  
Intensity IV: Cantwell (PM).  
Felt: Fairbanks (PM), Nenana (PM), Willow (PM).

**13 February (GM) Southern Alaska**  
Origin time: 15 59 54.3  
Epicenter: 61.856N., 150.329W.  
Depth: 9 km  
Magnitude: 3.9M<sub>L</sub>(PM)  
Intensity IV: Kashwitna (PM), Willow (PM).  
Intensity III: Wasilla (PM).  
Intensity II: Anchorage (PM), Palmer (PM).

**13 February (GS) Andreanof Islands, Aleutian Islands**  
Origin time: 17 58 27.3  
Epicenter: 51.186N., 179.753W.  
Depth: 44 km  
Magnitude: 5.4m<sub>b</sub>(GS), 5.1M<sub>S</sub>(GS), 4.9M<sub>L</sub>(PM)  
Intensity III: Adak (PM).

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**ALASKA—Continued**

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**13 February (GM) Cook Inlet**  
Origin time: 21 50 16.2  
Epicenter: 59.640N., 152.656W.  
Depth: 85 km  
Magnitude: None computed.  
Intensity II: Homer (PM).

**14 February (GS) Central Alaska**  
Origin time: 05 04 02.2  
Epicenter: 66.196N., 150.148W.  
Depth: 10 km  
Magnitude: 5.0m<sub>b</sub>(GS), 5.0M<sub>S</sub>(GS), 5.4M<sub>L</sub>(PM),  
5.0M<sub>D</sub>(BK)  
Intensity III: Fairbanks, Minto, Stevens Village.  
Intensity II: Wiseman.

**14 February (GM) Southern Alaska**  
Origin time: 13 09 28.4  
Epicenter: 61.840N., 150.412W.  
Depth: 55 km  
Magnitude: 3.8M<sub>L</sub>(PM)  
Intensity II: Anchorage (PM), Big Lake (PM), Willow (PM).

**14 February (GS) Eastern Alaska**  
Origin time: 22 02 44.7  
Epicenter: 63.526N., 145.364W.  
Depth: 5 km  
Magnitude: 3.4M<sub>L</sub>(PM)  
Intensity II: Pump Station Ten— Alaska Pipeline (PM).

**17 February (GM) Southern Alaska**  
Origin time: 14 53 41.4  
Epicenter: 61.624N., 149.775W.  
Depth: 39 km  
Magnitude: 3.8M<sub>L</sub>(PM)  
Felt: Anchorage (PM), Palmer (PM).

**21 February (GS) Southern Alaska**  
Origin time: 07 43 26.1  
Epicenter: 62.747N., 151.089W.  
Depth: 98 km  
Magnitude: 4.6m<sub>b</sub>(GS)  
Intensity III: Talkeetna.  
Intensity II: Anchorage (PM), Willow (PM).

**22 February (GS) Alaska Peninsula area**  
Origin time: 20 38 46.1  
Epicenter: 54.476N., 161.211W.  
Depth: Normal

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**ALASKA—Continued**

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Magnitude: 5.3 $m_b$ (GS), 4.9 $M_S$ (GS), 5.1 $M_L$ (PM),  
4.9 $M_S$ (BK)

Intensity II: Cold Bay, King Cove, Sand Point.

**3 March (GS) Cook Inlet**

Origin time: 13 38 47.3

Epicenter: 59.783N., 152.872W.

Depth: 108 km

Magnitude: 4.8 $m_b$ (GS)

Intensity IV: Anchorage (PM), Clam Gulch (PM), Homer,  
Kalikfonski (PM), Kasilof, Kenai (PM), Port Graham.

Intensity III: Anchor Point, Girdwood (PM), Nikiski, Sol-  
dotna (PM), Whittier (PM).

Intensity II: Palmer (PM), Wasilla (PM).

**6 March (GM) Southern Alaska**

Origin time: 21 37 58.4

Epicenter: 61.505N., 150.624W.

Depth: 74 km

Magnitude: None computed.

Felt: Talkeetna (PM), Willow (PM).

**6 March (GM) Southern Alaska**

Origin time: 22 38 24.0

Epicenter: 61.997N., 150.449W.

Depth: 10 km

Magnitude: 4.1 $M_L$ (PM)

Felt: Anchorage (PM), Talkeetna (PM), Willow (PM).

**9 March (GS) Central Alaska**

Origin Time: 13 57 58.1

Epicenter: 66.261N., 150.240W.

Depth: 10 km

Magnitude: 4.6 $m_b$ (GS), 4.8 $M_L$ (PM)

Intensity III: Fairbanks.

**9 March (GS) Central Alaska**

Origin time: 14 08 04.3

Epicenter: 66.239N., 150.029W.

Depth: 12 km

Magnitude: 5.9 $m_b$ (GS), 6.0 $M_S$ (GS), 6.0 $M_L$ (PM),  
6.2 $M_S$ (BK)

Intensity V:

Bettles— A few small objects overturned and fell.

Fairbanks— A few windows cracked; a few glassware items  
or dishes broke; a few items shook off store shelves; a few  
small objects overturned and fell; buildings shook  
strongly; trees and bushes shook slightly; moving vehicles  
rocked slightly; vibration was strong; felt by many.

Intensity IV: Alyeksa Pump Station Six (PM), Ester, Fort Yu-  
kon, Manley Hot Springs, Stevens Village, Tanana,  
Wiseman.

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**ALASKA—Continued**

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Intensity III: Anaktuvuk Pass, Nenana, North Pole,  
Skwentna, Wasilla, Willow.

Intensity II: Huslia.

**9 March (GS) Central Alaska**

Origin time: 14 16 25.4

Epicenter: 66.291N., 150.116W.

Depth: 10 km

Magnitude: 5.3 $m_b$ (GS), 5.4 $M_L$ (PM)

Felt: Alyeksa Pump Station Six (PM), Bettles (PM), Fair-  
banks (PM).

**10 March (GS) Central Alaska**

Origin time: 13 30 29.5

Epicenter: 66.136N., 150.148W.

Depth: 10 km

Magnitude: 5.2 $m_b$ (GS), 4.9 $M_S$ (GS), 5.6 $M_L$ (PM).

Felt: Fairbanks (press report).

**16 March (GS) Central Alaska**

Origin time: 13 33 10.6

Epicenter: 66.175N., 150.046W.

Depth: 10 km

Magnitude: 4.4 $m_b$ (GS), 5.0 $M_L$ (PM)

Intensity III: Manley Hot Springs.

**20 March (GM) Southern Alaska**

Origin time: 03 18 20.9

Epicenter: 61.492N., 149.898W.

Depth: 43 km

Magnitude: 3.2 $M_L$ (PM)

Intensity II: Anchorage (PM).

**20 March (GM) Southern Alaska**

Origin time: 09 09 53.7

Epicenter: 60.220N., 153.100W.

Depth: 126 km

Magnitude: 4.1 $m_b$ (GS)

Intensity II: Nondalton (PM).

**20 March (GM) Southern Alaska**

Origin time: 23 27 23.7

Epicenter: 61.282N., 146.729W.

Depth: 29 km

Magnitude: 3.5 $M_L$ (PM)

Intensity IV: Valdez (PM).

**22 March (GM) Southern Alaska**

Origin time: 03 00 09.1

Epicenter: 61.494N., 149.916W.

Depth: 42 km

Magnitude: 3.1 $M_L$ (PM)

Intensity II: Anchorage (PM).

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**ALASKA—Continued**

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**23 March (EE) Andreanof Islands, Aleutian Islands**

Origin time: 21 35 15.1  
Epicenter: 52.633N., 178.896W.  
Depth: 238 km  
Magnitude: 5.0 $m_b$ (GS)  
Intensity III: Adak Island (PM).

**24 March (GM) Southern Alaska**

Origin time: 14 38 57.0  
Epicenter: 61.359N., 146.704W.  
Depth: 30 km  
Magnitude: 3.6 $M_L$ (PM)  
Intensity IV: Valdez (PM).  
Intensity III: Eagle River, Valdez.

**31 March (GM) Cook Inlet area**

Origin time: 13 42 05.0  
Epicenter: 60.110N., 151.946W.  
Depth: 68 km  
Magnitude: 3.9 $M_L$ (PM)  
Intensity III: Homer.

**16 April (GM) Southern Alaska**

Origin time: 14 32 31.1  
Epicenter: 61.446N., 149.826W.  
Depth: 47 km  
Magnitude: 2.7 $M_L$ (PM)  
Felt: Anchorage (PM).

**21 April (GM) Southern Alaska**

Origin time: 22 14 56.8  
Epicenter: 62.410N., 148.555W.  
Depth: 35 km  
Magnitude: 4.3 $M_L$ (PM)  
Intensity II: Palmer (PM).

**23 April (GS) Alaska Peninsula**

Origin time: 05 45 47.0  
Epicenter: 57.053N., 156.150W.  
Depth: 73 km  
Magnitude: 4.6 $m_b$ (GS), 4.2 $m_x$ (LD)  
Intensity III: Chignik Lake.

**24 April (GS) Alaska Peninsula area**

Origin time: 22 06 49.1  
Epicenter: 55.066N., 158.374W.  
Depth: Normal  
Magnitude: 4.9 $m_b$ (GS), 4.5 $M_S$ (GS), 5.1 $M_L$ (PM),  
4.6 $m_x$ (LD)  
Intensity III: Chignik Lake.

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**ALASKA—Continued**

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**1 May (GS) Alaska Peninsula area**

Origin time: 00 59 05.3  
Epicenter: 54.484N., 161.434W.  
Depth: Normal  
Magnitude: 5.2 $m_b$ (GS), 4.5 $M_S$ (GS), 5.2 $M_L$ (PM)  
Intensity IV: Cold Bay (PM).  
Intensity III: Sand Point (PM).

**2 May (GM) Kenai Peninsula**

Origin time: 07 47 51.9  
Epicenter: 61.147N., 150.400W.  
Depth: 45 km  
Magnitude: 3.2 $M_L$ (PM)  
Intensity II: Anchorage (PM).

**2 May (EE) Andreanof Islands, Aleutian Islands**

Origin time: 12 30 29.8  
Epicenter: 51.393N., 176.671W.  
Depth: 38 km  
Magnitude: 4.8 $m_b$ (GS)  
Intensity IV: Adak Island.

**3 May (GM) Southern Alaska**

Origin time: 23 40 02.6  
Epicenter: 62.137N., 150.187W.  
Depth: 61 km  
Magnitude: 3.4 $M_L$ (PM)  
Felt: Palmer (PM).

**9 May (GM) Eastern Alaska**

Origin time: 04 09 16.9  
Epicenter: 62.280N., 141.334W.  
Depth: 2 km  
Magnitude: 4.3 $m_b$ (GS), 3.8 $M_L$ (PM)  
Intensity IV:  
Canada—  
Yukon Territory— Beaver Creek (EP), Koidern (EP),  
White River Lodge (EP).  
Felt:  
Canada—  
Yukon Territory— Stewart River (EP).

**9 May (GS) Rat Islands, Aleutian Islands**

Origin time: 19 05 21.5  
Epicenter: 51.465N., 177.913E.  
Depth: Normal  
Magnitude: 5.7 $m_b$ (GS), 6.0 $M_S$ (GS), 6.2 $M_D$ (BK)

**9 May (GS) Rat Islands, Aleutian Islands**

Origin time: 19 14 07.7  
Epicenter: 51.302N., 178.024E.  
Depth: Normal  
Magnitude: 5.4 $m_b$ (GS), 6.0 $M_S$ (GS), 5.9 $M_D$ (BK)  
Intensity III: Adak Island.



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**ALASKA—Continued**

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**12 May (GS) Cook Inlet**

Origin time: 21 18 55.7

Epicenter: 59.405N., 152.340W.

Depth: 102 km

Magnitude: 4.5<sub>m<sub>b</sub></sub>(GS)

Intensity V:

Homer— Shaking was described as “quite” strong. Objects fell off tops of stereo speakers and a bird cage moved on the top of a refrigerator.

**20 May (GM) Prince William Sound**

Origin time: 13 54 31.4

Epicenter: 60.644N., 147.616W.

Depth: 30 km

Magnitude: 4.1<sub>m<sub>b</sub></sub>(GS), 4.4<sub>M<sub>L</sub></sub>(PM)

Intensity III: Cooper Landing.

Intensity II: Anchorage (PM), Valdez.

**24 May (EE) Andreanof Islands, Aleutian Islands**

Origin time: 22 04 45.4

Epicenter: 51.193N., 178.367W.

Depth: 33 km

Magnitude: 5.8<sub>m<sub>b</sub></sub>(GS), 5.8<sub>M<sub>S</sub></sub>(GS), 5.8<sub>M<sub>L</sub></sub>(PM),  
5.6<sub>M<sub>D</sub></sub>(BK)

Intensity III: Adak Island (PM).

**27 May (EE) Andreanof Islands, Aleutian Islands**

Origin time: 10 04 48.0

Epicenter: 51.433N., 176.678W.

Depth: Normal

Magnitude: 4.7<sub>m<sub>b</sub></sub>(GS), 4.5<sub>M<sub>L</sub></sub>(PM)

Intensity II: Adak Island (PM).

**30 May (GS) Southern Alaska**

Origin time: 16 54 58.7

Epicenter: 62.036N., 150.733W.

Depth: 89 km

Magnitude: 4.4<sub>m<sub>b</sub></sub>(GS)

Intensity IV: Swentna.

Intensity III: Willow.

Intensity II: Anchorage (PM).

**13 June (GS) Southern Alaska**

Origin time: 04 19 25.4

Epicenter: 63.641N., 148.990W.

Depth: Normal

Magnitude: 4.9<sub>m<sub>b</sub></sub>(GS), 4.7<sub>M<sub>L</sub></sub>(PM)

Intensity V:

Cantwell— A few small objects overturned; hanging pictures swung out of place; windows, doors, and dishes rattled loudly; people had difficulty standing or walking; felt by all.

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**ALASKA—Continued**

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Healey— A few small objects overturned and fell; trees and bushes shook slightly.

McKinley Park— Hanging pictures fell; many small objects overturned and fell; buildings shook strongly; trees and bushes shook moderately; the shaking was described as strong; felt by many.

Felt: Broad Pass (PM), Denali National Park Station (PM).

**20 June (GS) Southern Alaska**

Origin time: 08 50 33.2

Epicenter: 63.731N., 149.745W.

Depth: 120 km

Magnitude: 4.6<sub>m<sub>b</sub></sub>(GS)

Felt: Cantwell (PM), Denali National Park (PM).

**27 June (GS) Southern Alaska**

Origin time: 00 25 12.7

Epicenter: 63.734N., 150.162W.

Depth: 143 km

Magnitude: 4.8<sub>m<sub>b</sub></sub>(GS)

Intensity IV: Talkeetna.

**28 June (GM) Cook Inlet**

Origin time: 16 35 03.2

Epicenter: 59.618N., 153.246W.

Depth: 110 km

Magnitude: None computed.

Intensity II: Homer (PM).

**15 July (GS) Southern Alaska**

Origin time: 12 37 32.4

Epicenter: 63.111N., 150.813W.

Depth: 128 km

Magnitude: None computed.

Intensity III: Anchorage (PM).

**17 July (EE) Andreanof Islands, Aleutian Islands**

Origin time: 19 31 29.5

Epicenter: 51.443N., 172.883W.

Depth: 16 km

Magnitude: 5.5<sub>m<sub>b</sub></sub>(GS), 5.9<sub>M<sub>S</sub></sub>(GS), 5.4<sub>M<sub>L</sub></sub>(PM),  
5.7<sub>M<sub>D</sub></sub>(BK)

Intensity III: Atka (PM).

**19 July (EE) Andreanof Islands, Aleutian Islands**

Origin time: 12 47 59.4

Epicenter: 52.834N., 173.200W.

Depth: 124 km

Magnitude: 4.5<sub>m<sub>b</sub></sub>(GS)

Intensity III: Atka Island.

**30 July Southern Alaska**

Origin time: 04 20

Epicenter: Not located.

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**ALASKA—Continued**

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Depth: None computed.  
Magnitude: None computed.  
Intensity III: Port Alsworth.

**31 July (GS) Near Islands, Aleutian Islands**

Origin time: 07 37 54.6  
Epicenter: 52.404N., 173.487E.  
Depth: 46 km  
Magnitude: 5.7 $m_b$ (GS), 5.0 $M_S$ (GS)  
Intensity IV: Shemya Air Force Base.

**3 August (GS) Southern Alaska**

Origin time: 07 38 51.5  
Epicenter: 62.993N., 149.521W.  
Depth: 92 km  
Magnitude: 4.4 $m_b$ (GS)  
Intensity IV: Big Lake (PM), Cantwell, Denali State Park (PM), McKinley Park, Palmer (PM).  
Intensity III: Anchorage, Fairbanks, Cooper Landing, Moose Pass, Skwentna, Willow.  
Intensity II: Chugiak.

**3 August (GS) Cook Inlet**

Origin time: 16 45 40.3  
Epicenter: 59.724N., 152.122W.  
Depth: 92 km  
Magnitude: 4.4 $m_b$ (GS)  
Intensity IV: Homer.  
Felt: Anchor Point.

**7 August (GM) Southern Alaska**

Origin time: 03 54 31.9  
Epicenter: 61.789N., 148.892W.  
Depth: 13 km  
Magnitude: 3.5 $M_L$ (PM)  
Intensity II: Chickaloon (PM).

**7 August (GS) Southern Alaska**

Origin time: 23 16 44.9  
Epicenter: 61.272N., 149.617W.  
Depth: Normal  
Magnitude: 2.7 $M_L$ (PM)  
Intensity II: Anchorage (PM).

**8 August (GM) Southern Alaska**

Origin time: 09 24 19.7  
Epicenter: 60.289N., 153.356W.  
Depth: 160 km  
Magnitude: None computed.  
Felt: Homer (PM).

**8 August (GS) Southern Alaska**

Origin time: 21 15 01.3  
Epicenter: 62.036N., 148.681W.

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**ALASKA—Continued**

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Depth: 15 km  
Magnitude: 2.8 $M_L$ (PM)  
Felt: Chickaloon (PM).

**8 August (GS) Southern Alaska**

Origin time: 22 21 01.8  
Epicenter: 61.803N., 148.447W.  
Depth: 15 km  
Felt: Chickaloon (PM).

**9 August (GS) Near Islands, Aleutian Islands**

Origin time: 13 03 10.6  
Epicenter: 52.424N., 173.648E.  
Depth: 38 km  
Magnitude: 5.5 $m_b$ (GS), 4.9 $M_L$ (GS), 5.4 $M_L$ (PM)  
Intensity IV: Shemya Air Force Base.

**23 August (GM) Cook Inlet**

Origin time: 02 16 03.4  
Epicenter: 60.853N., 151.737W.  
Depth: 15 km  
Magnitude: 3.9 $m_b$ (GS), 3.8 $M_L$ (PM).  
Intensity III: Skwentna, Sterling.  
Intensity II: Chugiak, Cooper Landing.

**5 September (GM) Southern Alaska**

Origin time: 03 52 20.2  
Epicenter: 61.640N., 149.969W.  
Depth: 42 km  
Magnitude: 3.1 $M_L$ (PM)  
Intensity II: Anchorage (PM).

**9 September (GM) Southern Alaska**

Origin time: 22 53 48.9  
Epicenter: 61.736N., 150.953W.  
Depth: 78 km  
Magnitude: 4.3 $m_b$ (GS)  
Intensity III: Anchorage (PM).

**10 September (GM) Southern Alaska**

Origin time: 17 20 05.7  
Epicenter: 61.356N., 151.693W.  
Depth: 98 km  
Magnitude: 4.4 $m_b$ (GS)  
Intensity III: Anchorage (PM).  
Intensity II: Big Lake (PM), Palmer (PM).

**10 September (GM) Central Alaska**

Origin time: 17 21 39.4  
Epicenter: 64.319N., 150.427W.  
Depth: 61 km  
Magnitude: 4.4 $m_b$ (GS), 4.3 $M_L$ (PM)  
Intensity III: Fairbanks (PM).  
Intensity II: Anchorage (PM).

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**ALASKA—Continued**

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**15 September (GM) Southeastern Alaska**

Origin time: 01 28 16.7

Epicenter: 59.102N., 136.423W.

Depth: 2 km

Magnitude: 5.4m<sub>b</sub>(GS), 5.9M<sub>S</sub>(GS), 5.1M<sub>L</sub>(PM),  
5.4M<sub>L</sub>(EP)

Intensity V:

United States—

Alaska—

Glacier Bay (National Park Service Headquarters)—  
Some things fell off walls (press report).Gustavus— A few items shook off store shelves; a few  
small objects overturned and fell; hanging pictures  
swung out of place; trees and bushes shook moderately;  
standing vehicles rocked moderately; moving vehicles  
rocked slightly; vibration was strong; earth noise was  
loud; felt by all.Haines— Hanging pictures fell; a few glassware items or  
dishes broke; a few items shook off of store shelves;  
many small objects overturned and fell; trees and  
bushes shook moderately; standing and moving vehi-  
cles rocked slightly; felt by many.

Intensity IV:

United States—

Alaska— Auke Bay, Juneau, Pelican, Skagway.

Intensity III:

United States—

Alaska— Elfin Cove, Hoonah, Kake, Yakutat.

Felt:

Canada—

Yukon Territory— Carcross (EP), Haines Junction (EP),  
Whitehorse (EP).**15 September (GS) Western Alaska**

Origin time: 08 23 12.2

Epicenter: 63.330N., 166.146W.

Depth: 15 km

Magnitude: 4.5m<sub>b</sub>(GS), 4.2M<sub>L</sub>(PM)

Intensity III: Emmonak (PM).

**22 September (GM) Kenai Peninsula Alaska**

Origin time: 05 43 00.3

Epicenter: 59.108N., 151.320W.

Depth: 53 km

Magnitude: 4.6m<sub>b</sub>(GS)

Intensity IV: Homer.

**22 September (GM) Southern Alaska**

Origin time: 19 07 04.8

Epicenter: 61.164N., 150.214W.

Depth: 42 km

Magnitude: 3.1M<sub>L</sub>(PM)

Felt: Anchorage (PM).

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**ALASKA—Continued**

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**25 September (GS) Shumagin Islands**

Origin time: 16 29 19.7

Epicenter: 54.758N., 159.723W.

Depth: Normal

Magnitude: 4.8m<sub>b</sub>(GS), 4.4M<sub>L</sub>(PM), 4.4M<sub>D</sub>(LD)

Intensity II: Sand Point (PM).

**25 September (GS) Southern Alaska**

Origin time: 20 50 52.8

Epicenter: 59.763N., 154.601W.

Depth: 189 km

Magnitude: 4.6m<sub>b</sub>(GS)

Intensity IV: Kenai, Skwentna.

Intensity III: Cooper Landing, Homer, Soldotna (PM), Sut-  
ton.Intensity II: Anchorage (PM), Moose Pass, Palmer (PM),  
Seward (PM), Wasilla (press report).**29 September (GS) Near Islands, Aleutian Islands**

Origin time: 07 06 02.2

Epicenter: 52.260N., 173.685E.

Depth: Normal

Magnitude: 4.8m<sub>b</sub>(GS), 4.5M<sub>L</sub>(PM)

Intensity IV: Shemya Island (telegram).

**1 October (GS) Fox Islands, Aleutian Islands**

Origin time: 15 54 51.1

Epicenter: 52.296N., 168.856W.

Depth: Normal

Magnitude: 5.7m<sub>b</sub>(GS), 5.4M<sub>S</sub>(GS), 5.3M<sub>L</sub>(PM),  
5.4M<sub>D</sub>(BK)

Intensity III: Nikolski (PM).

**4 October (GS) Southern Alaska**

Origin time: 10 23 37.3

Epicenter: 61.340N., 146.891W.

Depth: Normal

Magnitude: 2.1M<sub>L</sub>(PM)

Felt: Epicentral area (PM).

**5 October (GM) Southern Alaska**

Origin time: 02 44 26.4

Epicenter: 61.236N., 149.233W.

Depth: 44 km

Magnitude: 3.8M<sub>L</sub>(PM)

Intensity III: Elmendorf Air Force Base.

Felt: Anchorage (PM), Eagle River (PM), Eklutna Lake  
(PM).**5 October (GS) Northwest Territories, Canada**

Origin time: 15 24 02.2

Epicenter: 62.237N., 124.266W.

Depth: 10 km

Magnitude: 6.5m<sub>b</sub>(GS), 6.6 M<sub>S</sub>(GS), 6.8M<sub>S</sub>(BK)  
6.2M<sub>S</sub>(PS)

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**ALASKA—Continued**

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Slight damage at Fort Liard, Fort Simpson, and Wrigley, Northwest Territories, Canada. Felt in parts of Alberta, British Columbia, Northwest Territories, and Yukon Territory, Canada. Also felt in parts of Alaska, United States. Landslides were observed in the epicentral region near the North Nahanni River (EP).

**Intensity IV:**

United States—

Alaska—Skagway.

**Felt:**

United States—

Alaska—Juneau (PM), Sitka (PM).

**9 October (GS) Cook Inlet**

Origin time: 04 07 42.6

Epicenter: 59.441N., 152.294W.

Depth: 98 km

Magnitude: 4.8 $m_b$ (GS)

Intensity IV: Homer.

**9 October (GS) Shumagin Islands**

Origin time: 09 33 32.4

Epicenter: 54.765N., 159.613W.

Depth: 30 km

Magnitude: 6.2 $m_b$ (GS), 6.6 $M_S$ (GS), 6.6 $M_S$ (BK)

**Intensity V:**

Chignik Lagoon—A few small objects overturned and fell; vibration was strong; earth noise was loud; felt by and awakened many.

Chignik Lake—A few small objects overturned and fell; buildings shook strongly; vibration was strong; earth noise was faint; felt by and awakened many.

Cold Bay—A few windows cracked; a few glassware items or dishes broke; hanging pictures swung out of place; a few small objects overturned and fell; buildings trembled moderately; windows, doors, and dishes rattled loudly; vibration was moderate to strong; felt by and awakened many.

Sand Point—Underground pipes broke; a few windows cracked; a few glassware or dishes broke; hanging pictures fell; hanging objects or doors swung violently; a few items were knocked off store shelves; a few small objects overturned and fell; buildings shook strongly; moving vehicles rocked moderately; vibration was strong; felt by and awakened many.

Intensity IV: False Pass, King Cove, Perryville, Port Heiden.

**12 October (GM) Cook Inlet**

Origin time: 18 45 04.7

Epicenter: 61.032N., 151.249W.

Depth: 77 km

Magnitude: None computed.

Intensity II: Anchorage (PM).

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**ALASKA—Continued**

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**19 October (GM) Southern Alaska**

Origin time: 12 43 19.2

Epicenter: 61.831N., 151.077W.

Depth: 8 km

Magnitude: 3.7 $M_L$ (PM)

Intensity II: Anchorage (PM).

**23 October (GM) Southern Alaska**

Origin time: 16 41 06.6

Epicenter: 62.273N., 150.413W.

Depth: 10 km

Magnitude: 3.7 $M_L$ (PM)

Intensity III: Talkeetna (PM), Trapper Creek.

Intensity II: Chase (PM).

**25 October (GS) Andreanof Islands, Aleutian Islands**

Origin time: 02 09 04.3

Epicenter: 52.072N., 171.350W.

Depth: Normal.

Magnitude: 5.6 $m_b$ (GS), 5.5 $M_S$ (GS), 5.6 $M_L$ (PM),  
5.6 $M_D$ (BK)

Intensity II: Nikolski (PM).

**26 October (GS) Fox Islands, Aleutian Islands**

Origin time: 03 41 22.0

Epicenter: 53.531N., 164.514W.

Depth: Normal

Magnitude: 4.8 $m_b$ (GS), 4.3 $M_S$ (GS), 4.2 $m_x$ (LD)

Intensity III: Cold Bay, False Pass.

**26 October (GS) Shumagin Islands**

Origin time: 15 59 36.0

Epicenter: 54.838N., 159.534W.

Depth: Normal

Magnitude: 5.6 $m_b$ (GS), 4.6 $M_S$ (GS), 5.3 $M_L$ (PM)

**Intensity V:**

Cold Bay—A few glassware items or dishes broke; a few small objects overturned and fell; hanging objects or doors swung moderately; windows, doors, and dishes rattled loudly.

Intensity IV: False Pass, Perryville.

Intensity II: Sand Point (PM).

**30 October (GS) Rat Islands, Aleutian Islands**

Origin time: 19 05 37.5

Epicenter: 51.801N., 175.533E.

Depth: Normal

Magnitude: 5.6 $m_b$ (GS), 5.4 $M_S$ (GS), 5.5 $M_L$ (PM)

Intensity II: Shemya (PM).

**31 October (GS) Fox Islands, Aleutian Islands**

Origin time: 19 33 06.5

Epicenter: 53.249N., 166.936W.

Depth: 30 km

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**ALASKA—Continued**

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Magnitude: 5.8 $m_b$ (GS), 5.7 $M_S$ (GS), 6.0 $M_D$ (LD),  
5.9 $M_D$ (BK)

Intensity IV: Akutan, Unalaska.

Intensity III: Cold Bay, False Pass.

Intensity II: Sand Point (PM).

**1 November (GS) Southern Alaska**

Origin time: 02 32 03.4

Epicenter: 63.132N., 150.580W.

Depth: 121 km

Magnitude: 4.4 $m_b$ (GS)

Intensity II: Talkeetna (PM).

**1 November (GS) Central Alaska**

Origin time: 23 08 15.9

Epicenter: 64.554N., 148.059W.

Depth: Normal

Magnitude: 3.9 $M_L$ (PM)

Intensity III: Fairbanks (PM).

**5 November (GS) Southern Alaska**

Origin time: 01 27 59.7

Epicenter: 62.531N., 151.380W.

Depth: 81 km

Magnitude: 5.1 $m_b$ (GS), 5.3 $M_D$ (BK)

Intensity IV: Talkeetna (PM).

Intensity III: Anchorage, Chugiak, Cooper Landing, Denali  
National Park (PM), Kasilof, Paxson, Skwentna, Sutton,  
Willow.

Intensity II: Fairbanks (PM), Palmer (PM).

Felt: Fort Richardson (PM).

**5 November (GM) Southern Alaska**

Origin time: 19 01 24.3

Epicenter: 62.305N., 149.852W.

Depth: 19 km

Magnitude: 3.7 $M_L$ (PM)

Intensity III: Big Lake (PM), Talkeetna (PM).

Intensity II: Palmer (PM).

**7 November (GM) Southern Alaska**

Origin time: 13 32 47.5

Epicenter: 61.657N., 146.783W.

Depth: 30 km

Magnitude: 3.7 $M_L$ (PM)

Intensity II: Chitna (PM), Kenny Lake (PM).

**9 November (GM) Kenai Peninsula**

Origin time: 15 26 20.3

Epicenter: 59.973N., 151.652W.

Depth: 53 km

Magnitude: None computed.

Intensity II: Homer (PM).

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**ALASKA—Continued**

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**13 November (GS) Cook Inlet**

Origin time: 09 38 41.2

Epicenter: 60.595N., 151.584W.

Depth: 79 km

Magnitude: 4.5 $m_b$ (GS)

Felt: Homer (PM), Kenai (PM).

**13 November (GS) Cook Inlet**

Origin time: 09 40 46.6

Epicenter: 60.585N., 151.622W.

Depth: 80 km

Magnitude: 4.3 $m_b$ (GS)

Felt: Homer (PM), Kenai (PM).

**14 November (GM) Southern Alaska**

Origin time: 20 48 52.3

Epicenter: 61.668N., 150.035W.

Depth: 7 km

Magnitude: 3.6 $M_L$ (PM)

Felt: Anchorage (PM).

**14 November (GS) Shumagin Islands**

Origin time: 22 17 44.5

Epicenter: 54.756N., 159.787W.

Depth: Normal

Magnitude: 5.5 $m_b$ (GS), 5.7 $M_S$ (GS), 5.7 $M_L$ (PM),  
5.9 $M_D$ (BK)

Intensity V:

Cold Bay—Buildings shook moderately; a few small objects  
overturned and fell; trees and bushes shook slightly; stand-  
ing and moving vehicles rocked slightly; vibration was  
moderate.

Intensity IV: Chignik Lagoon, King Cove, Sand Point (PM).

Intensity III: False Pass.

**15 November (GS) Shumagin Islands**

Origin time: 15 58 23.3

Epicenter: 54.719N., 159.493W.

Depth: Normal

Magnitude: 4.6 $m_b$ (GS), 4.3 $M_L$ (PM), 4.0 $M_D$ (LD)

Felt: Sand Point (PM).

**16 November (GS) Southeastern Alaska**

Origin time: 07 11 14.2

Epicenter: 58.943N., 136.846W.

Depth: 15 km

Magnitude: 4.2 $m_b$ (GS), 4.2  $M_L$ (PM), 4.6 $M_L$ (EP)

Intensity III: Juneau (PM).

Intensity II: Yukutat (PM).

**16 November (GS) Shumagin Islands**

Origin time: 11 33 48.7

Epicenter: 54.617N., 159.554W.

Depth: Normal



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**ALASKA—Continued**

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Magnitude: 4.5 $m_b$ (GS), 4.2 $M_L$ (PM), 3.7 $M_D$ (LD)  
Felt: Sand Point (PM).

**20 November (GM) Southern Alaska**

Origin time: 11 38 14.2  
Epicenter: 61.472N., 149.734W.  
Depth: 40 km  
Magnitude: 3.5 $M_L$ (PM)  
Felt: Anchorage (PM), Big Lake (PM), Eagle River (PM),  
Palmer (PM), Wasilla (PM).

**21 November (GM) Southern Alaska**

Origin time: 19 03 26.7  
Epicenter: 61.412N., 146.652W.  
Depth: 20 km  
Magnitude: 3.6 $M_L$ (PM)  
Felt: Valdez (PM).

**28 November (GM) Southern Alaska**

Origin time: 23 09 25.9  
Epicenter: 61.467N., 149.963W.  
Depth: 47 km  
Magnitude: 2.9 $M_L$ (PM)  
Felt: Palmer (PM).

**7 December (EE) Andreanof Islands, Aleutian Islands**

Origin time: 10 56 22.9  
Epicenter: 51.291N., 176.793W.  
Depth: 29 km  
Magnitude: 4.7 $m_b$ (GS), 3.9 $M_L$ (PM)  
Felt: Adak Island (PM).

**8 December (GM) Kenai Peninsula**

Origin time: 07 32 23.3  
Epicenter: 59.882N., 150.244W.  
Depth: 39 km  
Magnitude: 4.8 $m_b$ (GS), 4.2 $M_L$ (PM)  
Felt: Homer (PM), Seward (PM).

**11 December (EE) Andreanof Islands, Aleutian Islands**

Origin time: 11 03 42.3  
Epicenter: 51.240N., 175.164W.  
Depth: 20 km  
Magnitude: 4.4 $m_b$ (GS), 4.1 $M_L$ (PM)  
Intensity II: Adak Island (PM).

**14 December (GS) Southern Alaska**

Origin time: 13 50 09.7  
Epicenter: 58.577N., 155.771W.  
Depth: 147 km  
Magnitude: None computed.  
Felt: King Salmon Air Force Base (PM).

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**ALASKA—Continued**

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**17 December (GM) Southern Alaska**

Origin time: 04 10 59.9  
Epicenter: 61.604N., 148.178W.  
Depth: 25 km  
Magnitude: 3.5 $M_L$ (PM)  
Intensity II: Chickaloon (PM), Sutton (PM).

**19 December Central Alaska**

Origin time: 08 11  
Epicenter: Not located.  
Depth: None computed.  
Magnitude: None computed.  
Intensity III: Fairbanks.

**22 December (GS) Central Alaska**

Origin time: 08 02 59.6  
Epicenter: 64.538N., 149.430W.  
Depth: Normal  
Magnitude: 3.3 $M_L$ (PM)  
Intensity IV: Nenana (PM).  
Intensity III: Fairbanks (PM).

**23 December (GS) Northwest Territories, Canada**

Origin time: 05 16 03.3  
Epicenter: 62.222N., 124.239W.  
Depth: 6 km  
Magnitude: 6.4 $m_b$ (GS), 6.9 $M_S$ (GS), 6.6 $M_S$ (BK)

Felt intensity III–IV over large parts of Alberta, British Columbia, and Yukon Territory, Canada (EP). Also felt in the U.S. states of Alaska, Montana, North Dakota, and Washington.

Intensity V:

Canada—

Northwest Territories— Fort Simpson (EP), Nahanni Butte (EP), Wright (EP).

Intensity III:

United States—

Alaska— Juneau, Metlakatla.

Montana— Helena.

North Dakota— Grand Forks Air Force Base.

Washington— Camas.

Felt:

United States—

Washington— Spokane.

**24 December (GS) Southern Alaska**

Origin time: 14 44 27.8  
Epicenter: 63.878N., 151.934W.  
Depth: Normal  
Magnitude: 3.3 $M_L$ (PM)  
Intensity III: Lake Minchumina (PM).

**25 December (GS) Northwest Territories, Canada**

Origin time: 15 42 42.5  
Epicenter: 62.068N., 124.085W.

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**ALASKA—Continued**

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Depth: 10 km  
Magnitude: 5.7 $m_b$ (GS), 5.0 $M_s$ (GS)

Aftershock of the December 23, 1985, 05 16 03.3 UTC, earthquake. Felt at Fort Liard, Fort Simpson, Nahanni Butte, and Wrigley, Northwest Territories, Canada, and in parts of Alberta, British Columbia, and Yukon Territory, Canada.

Felt:  
United States—  
Alaska—Yakutat (EP).

**25 December (GM) Cook Inlet**

Origin time: 18 37 56.9  
Epicenter: 59.784N., 152.319W.  
Depth: 94 km  
Magnitude: 4.5 $m_b$ (GS)  
Intensity II: Anchor Point (PM), Homer (PM), Ninilchik (PM).

**28 December (EE) Andreanof Islands, Aleutian Islands**

Origin time: 04 38 34.5  
Epicenter: 51.474N., 177.078W.  
Depth: 48 km  
Magnitude: 5.3 $m_b$ (GS)  
Intensity III: Adak Island.

**30 December (GS) Southern Alaska**

Origin time: 12 41 02.7  
Epicenter: 61.541N., 150.340W.  
Depth: 62 km  
Magnitude: 5.5 $m_b$ (GS), 5.2 $M_L$ (PM)  
Intensity V:

Anchorage—A few windows cracked; glassware items or dishes broke; hanging pictures fell; a few items shook off store shelves; a few small objects overturned and fell; windows, doors, and dishes rattled loudly; buildings trembled moderately; vibration was moderate; earth noise was faint to moderate; felt by and awakened many.

Eagle River—A few small objects overturned and fell; vibration and earth noise were moderate; felt by and awakened many.

Intensity IV: Chugiak, Cooper Landing, Elmendorf Air Force Base, Fort Richardson, Girdwood, Kenai, Palmer (PM), Peters Creek (PM), Skwentna, Sutton, Tyonek, Wasilla (PM), Willow.

Intensity III: Seward (PM).

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**ALASKA—Continued**

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**30 December (GM) Southern Alaska**

Origin time: 14 00 31.2  
Epicenter: 61.455N., 150.297W.  
Depth: 54 km  
Magnitude: 3.0 $M_L$ (PM)  
Felt: Anchorage (PM).

**30 December (GM) Southern Alaska**

Origin time: 14 23 16.9  
Epicenter: 62.616N., 148.688W.  
Depth: 46 km  
Magnitude: 3.7 $M_L$ (PM)  
Intensity III: Talkeetna (PM).

**30 December (GS) Central Alaska**

Origin time: 20 13 20.3  
Epicenter: 63.592N., 151.298W.  
Depth: Normal  
Magnitude: 5.1 $m_b$ (GS), 4.5 $M_L$ (PM)  
Intensity III: Denali National Park (PM), McKinley Park (PM).

**31 December (GS) Kenai Peninsula**

Origin time: 02 05 02.2  
Epicenter: 59.780N., 152.313W.  
Depth: 38 km  
Magnitude: 4.6 $m_b$ (GS), 4.4 $M_L$ (PM)  
Intensity IV: Anchor Point (PM), Homer (PM).

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**ARIZONA**

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**30 January (GS) Western Arizona**

Origin time: 13 47 16.4  
Epicenter: 34.750N., 112.137W.  
Depth: 5 km  
Magnitude: 3.0 $M_L$ (GS)  
Intensity IV: Jerome.

**14 April (GS) Eastern Arizona**

Origin time: 21 48 00.2  
Epicenter: 35.174N., 109.071W.  
Depth: 5 km  
Magnitude: 3.3 $M_L$ (GS)  
Intensity III: Zuni.

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**ARKANSAS**

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**4 May (SL) Northeastern Arkansas**

Origin time: 07 07 12.5  
Epicenter: 36.270N., 90.770W.

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**ARKANSAS—Continued**

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Depth: 9 km  
Magnitude:  $3.1M_n(SL)$ ,  $2.7M_D(TC)$   
Intensity III: Biggers.

**6 September (GS) Northeastern Arkansas**

Origin time: 22 17 02.8  
Epicenter:  $35.809N.$ ,  $93.118W.$   
Depth: 10 km  
Magnitude:  $3.6M_n(GS)$ ,  $3.8M_n(TU)$

Felt over an area of about 12,000 km<sup>2</sup> of Arkansas and Missouri (fig. 9).

**Intensity V:**

**Arkansas—**

Deer— A few small objects fell; trees and bushes shook slightly; moving vehicles rocked slightly; vibration was described as moderate; felt by all.

Green Forest— One report of a cracked chimney; plaster sustained hairline cracks; windows, doors, dishes rattled loudly; felt by many.

Kingston— A few small objects overturned and fell; trees and bushes shook slightly; standing vehicles rocked slightly; felt by many.

Nail— A few small objects fell; felt by many.

Pyatt— Hanging pictures swung out of place; a few small objects overturned and fell.

**Intensity IV:**

Arkansas— Bass, Dogpatch, Everton, Gilbert (an underground water line broke), Harrison (press report), Hasty (press report), Huntsville, Jasper, Limestone, Mount Judea, Ozone, Parthenon, Pettigrew, Saint Paul, Tilly, Valley Springs, Vendor, Webster Grove.

**Intensity III:**

Arkansas— Alpena, Bee Branch, Bentonville, Bruno, Cleveland, Compton, Edgemont, Elkins, Eureka Springs, Garfield, Gravette, Hagarville, Jerusalem, Leslie, Marshall, Oark, Pindall, Saint Joe, Witter, Witts Springs, Woodland Heights (press report), Yellville.

Missouri— Eagle Rock.

**Intensity II:**

Arkansas— Omaha.

**Felt:**

Arkansas— Newnata.

**8 November (TC) Central Arkansas**

Origin time: 19 56 48.5  
Epicenter:  $35.223N.$ ,  $92.188W.$   
Depth: 4 km  
Magnitude:  $3.3M_n(TU)$ ,  $3.1M_D(TC)$   
Felt: Enola area (TC).

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**ARKANSAS—Continued**

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**20 November (TC) Central Arkansas**

Origin time: 11 28 53.2  
Epicenter:  $35.149N.$ ,  $92.265W.$   
Depth: 1 km  
Magnitude:  $2.3M_D(TC)$   
Felt: Naylor (TC).

**5 December (GS) Northeastern Arkansas**

Origin time: 22 59 41.2  
Epicenter:  $35.880N.$ ,  $89.990W.$   
Depth: 5 km  
Magnitude:  $3.5m_b(GS)$ ,  $3.9M_n(GS)$ ,  $3.5M_D(TC)$ ,  $4.0M_n(TU)$

**Intensity V:**

**Arkansas—**

Blytheville Air Force Base— Hairline cracks in plaster and drywall; a few windows cracked; a few small objects overturned and fell; hanging pictures swung out of place; felt by many.

**Intensity IV:**

Arkansas— Blytheville, Burdette, Joiner, Osceola, Tomato.  
Tennessee— Henning.

**Intensity III:**

Arkansas— Armorel, Dell, Driver, Keiser, Luxora, Riverdale, Wilson.

Missouri— Cooter.

Tennessee— Samburg.

**13 December (TC) Central Arkansas**

Origin time: 10 57 39.5  
Epicenter:  $35.172N.$ ,  $92.219W.$   
Depth: 3 km  
Magnitude:  $2.3M_D(TC)$ ,  $2.3M_n(TU)$   
Felt: Naylor (TC).

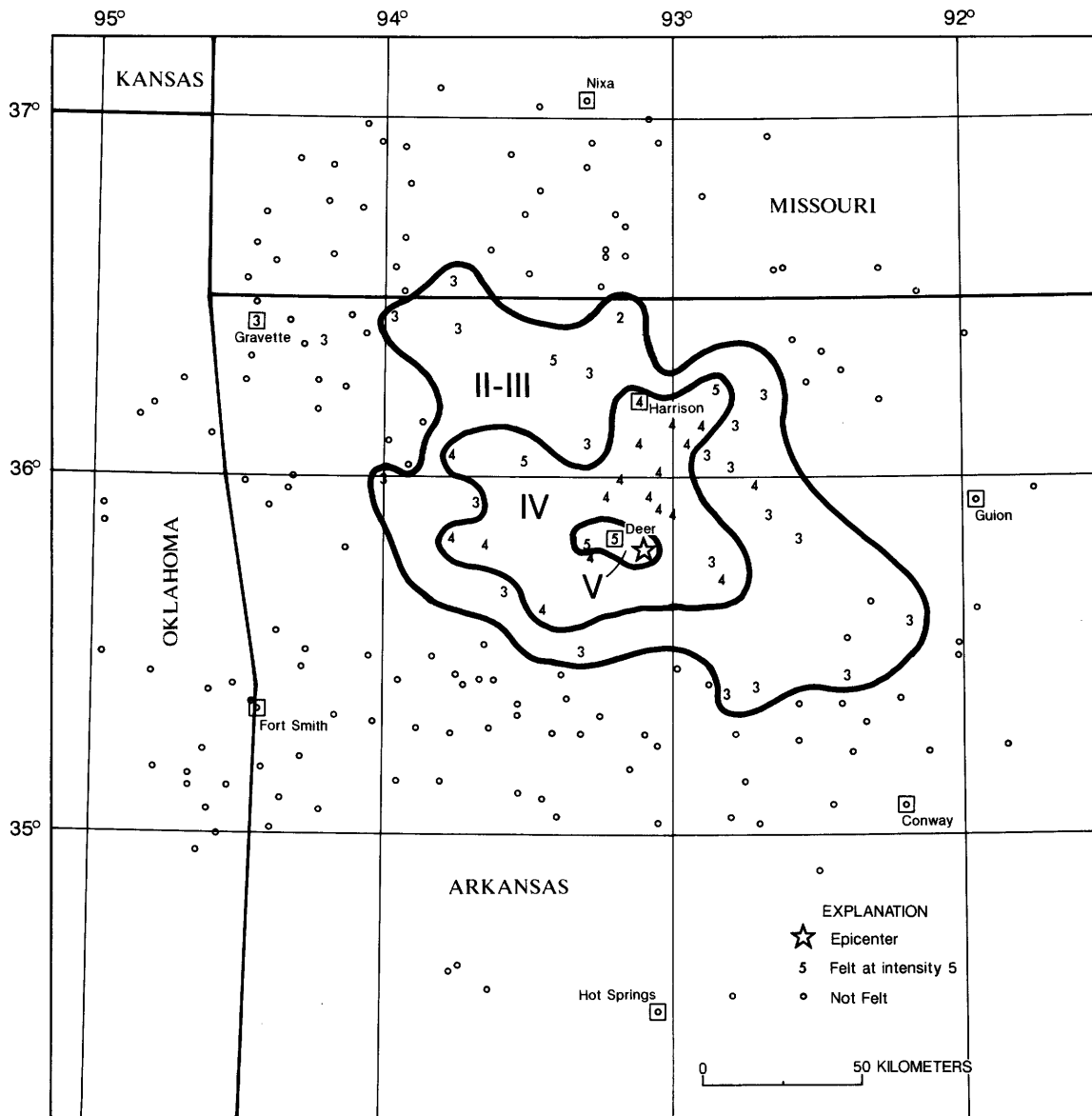
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**CALIFORNIA**

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**2 January (PS) Southern California**

Origin time: 05 24 58.2  
Epicenter:  $34.046N.$ ,  $116.528W.$   
Depth: 9 km  
Magnitude:  $3.8M_L(PS)$   
Intensity IV: Desert Hot Springs, Indio, Joshua Tree, Morongo Valley, North Palm Springs, Palm Springs (press report), Rancho Mirage, Yucca Valley.  
Intensity III: Moreno.



**Figure 9.** Isoseismal map for the northeastern Arkansas earthquake of 06 September 1985, 22 17 02.8 UTC. Roman numerals represents Modified Mercalli intensities between isoseismals; Arabic numerals represent intensities at specific sites; open circles represent not felt at specific sites.

#### CALIFORNIA—Continued

##### 3 January (BK) Owens Valley area

Origin time: 09 21 49.5

Epicenter: 37.448N., 118.645W.

Depth: 4 km

Magnitude: 4.1M<sub>L</sub>(BK), 3.9M<sub>L</sub>(PS), 3.8M<sub>L</sub>(RN)

Felt: Bishop (RN).

##### 3 January (BK) Central California

Origin time: 11 22 27.9

Epicenter: 36.178N., 120.303W.

#### CALIFORNIA—Continued

Depth: 10 km

Magnitude: 4.3m<sub>b</sub>(GS), 3.8M<sub>L</sub>(BK), 4.3M<sub>L</sub>(PS)

Intensity III: Lemoore Naval Air Station.

##### 6 January (BK) Central California

Origin time: 18 33 26.0

Epicenter: 36.590N., 121.235W.

Depth: 8 km

Magnitude: 3.5M<sub>L</sub>(BK), 3.8M<sub>L</sub>(PS), M<sub>0</sub>=03.0E21(BK)

Intensity III: Gonzales, Paicines.

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**CALIFORNIA—Continued**

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**10 January (BK) Central California**

Origin time: 05 47 54.9

Epicenter: 37.265N., 121.648W.

Depth: 5 km

Magnitude: 3.2M<sub>L</sub>(BK), M<sub>o</sub>=08.6E20(BK)

Intensity IV: San Jose (press report), Santa Cruz (press report).

**17 January (GS) California-Nevada State line area**

Origin time: 02 01 27.3

See Nevada listing.

**19 January (PS) Southern California**

Origin time: 00 30 15.1

Epicenter: 33.991N., 116.397W.

Depth: 3 km

Magnitude: 3.8M<sub>L</sub>(PS), 4.2M<sub>L</sub>(BK)

Intensity IV: Morongo Valley, Palm Springs (press report), Yucca Valley, (press report).

Felt: San Bernardino (PS), Palm Desert (PS).

**19 January (PS) Southern California**

Origin time: 16 08 50.6

Epicenter: 33.902N., 118.472W.

Depth: 9 km

Magnitude: 2.8M<sub>L</sub>(PS)

Felt: Culver City (PS).

**22 January (BK) Central California**

Origin time: 18 16 30.5

Epicenter: 37.672N., 122.482W.

Depth: 9 km

Magnitude: 2.6M<sub>L</sub>(BK), M<sub>o</sub>=02.3E20(BK)

Felt: Colma (BK), Daly City (BK), Pacifica (BK), San Francisco—Embarcadero (BK), South San Francisco (BK).

**23 January (BK) Central California**

Origin time: 01 10 00.9

Epicenter: 38.803N., 122.790W.

Depth: 4 km

Magnitude: 3.1M<sub>L</sub>(BK)

Felt: The Geysers (BK).

**24 January (BK) California-Nevada State line area**

Origin time: 11 27 21.6

Epicenter: 38.157N., 118.835W.

Depth: 8 km

Magnitude: 4.3m<sub>b</sub>(GS), 5.2M<sub>L</sub>(BK), 4.8M<sub>L</sub>(PS)M<sub>o</sub>=02.0E23(BK)

Felt in El Dorado, Mono, and Tuolumne Counties (BK).

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**CALIFORNIA—Continued**

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Intensity IV:

California—Bridgeport, June Lake, Lee Vining, Murphys.  
Nevada—Hawthorne.

Intensity III:

California—Placerville (a few awakened—press report).  
Nevada—Luning.

Intensity II:

California—Iowa Hill, Topaz.

Felt:

California—Russ Creek (BK), Sacramento (BK).

Nevada—Minden (BK), Reno (RN), Virginia City (RN).

**24 January (PS) Southern California**

Origin time: 23 25 32.3

Epicenter: 33.996N., 116.399W.

Depth: 2 km

Magnitude: 3.5M<sub>L</sub>(PS)

Intensity IV: Morongo Valley.

Intensity III: Desert Hot Springs.

Intensity II: Indio, North Palm Springs, Twentynine Palms.

Felt: Palm Desert (PS).

**25 January (PS) Southern California**

Origin time: 05 28 29.9

Epicenter: 33.990N., 116.399W.

Depth: 3 km

Magnitude: 3.6M<sub>L</sub>(PS)

Intensity IV: Twentynine Palms.

Intensity III: Desert Hot Springs, Morongo Valley.

Intensity II: Indio, North Palm Springs.

Felt: Palm Desert (PS).

**25 January (PS) Southern California**

Origin time: 13 50 12.8

Epicenter: 33.928N., 117.088W.

Depth: 14 km

Magnitude: 3.4M<sub>L</sub>(PS)

Intensity IV: Lakeview, Moreno, Riverside, and Sunnymead.

Intensity III: Grand Terrace, Moreno Valley, Morongo Valley, Rubidoux, Winchester.

Felt: Palm Springs (press report), San Bernardino (PS).

**26 January (PS) Southern California**

Origin time: 06 41 14.3

Epicenter: 34.198N., 119.027W.

Depth: 22 km

Magnitude: 3.3M<sub>L</sub>(PS)

Felt: Thousand Oaks (PS), Ventura (PS).

**4 February (PS) Off the coast of Baja California, Mexico**

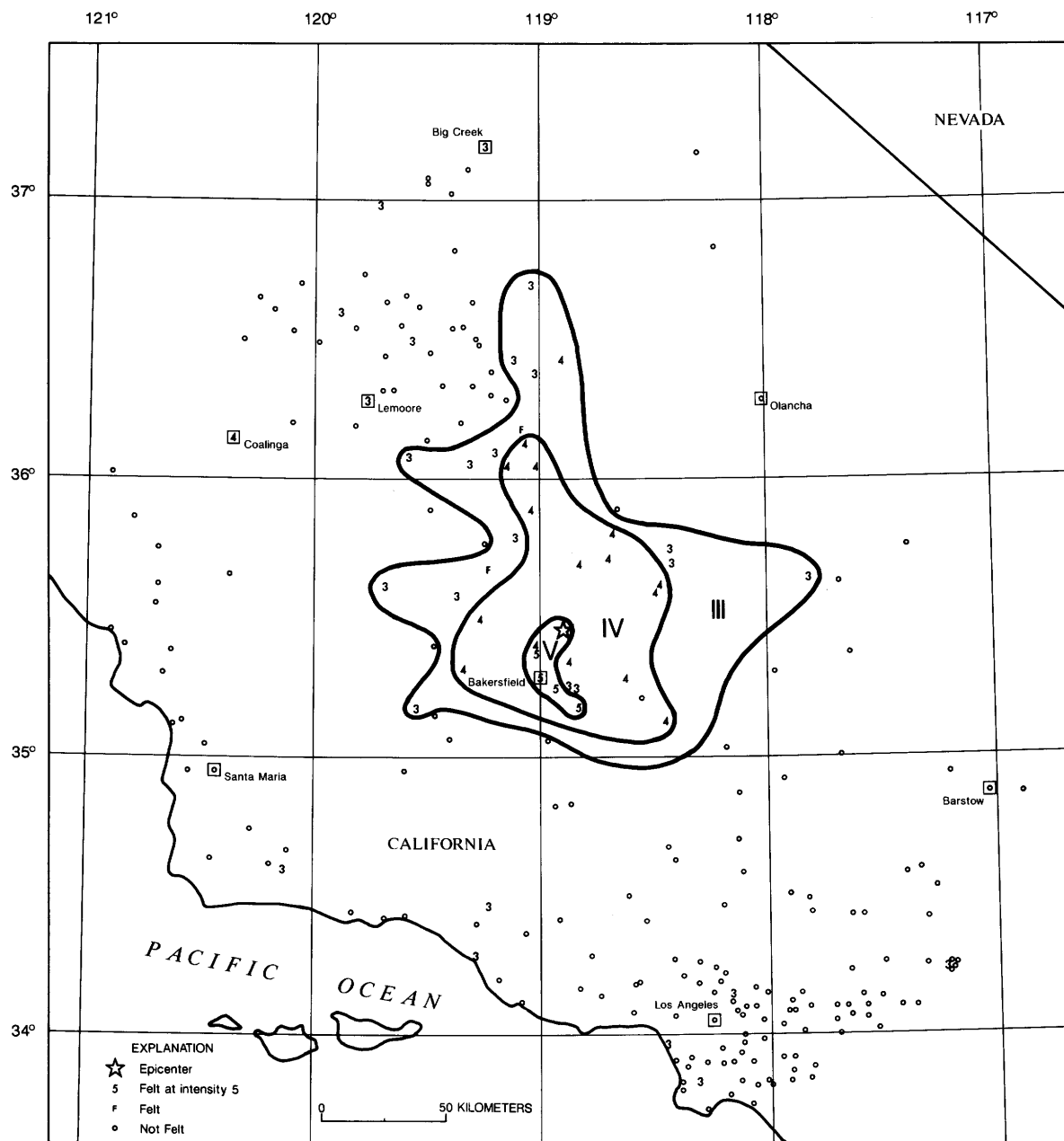
Origin time: 03 09 24.5

Epicenter: 32.354N., 117.950W.

Depth: 6 km

Magnitude: 3.8M<sub>L</sub>(PS)

Felt: San Diego area (PS).



**Figure 10.** Isoseismal map for the central California earthquake of 08 February 1985, 06 58 16.9 UTC. Roman numerals represent Modified Mercalli intensities between isoseismals; Arabic numerals represent intensities at specific sites; open circles represent not felt at specific sites.

#### CALIFORNIA—Continued

#### 8 February (PS) Central California

Origin time: 06 58 16.9

Epicenter: 35.452N., 118.898W.

Depth: 11 km

Magnitude: 4.6<sub>m</sub>(GS), 4.6<sub>L</sub>(PS), 5.0<sub>L</sub>(BK)

Felt over an area of about 15,000 km<sup>2</sup> (fig. 10).

#### CALIFORNIA—Continued

#### Intensity V:

Arvin— A few windows cracked; a few small objects overturned; trees and bushes shook; standing vehicles rocked slightly.

Bakersfield— Plaster and drywall sustained hairline cracks; a few windows cracked; a few glassware items broke; a few



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**CALIFORNIA—Continued**

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items shook off store shelves; a few small objects overturned and fell.

Delkern— Hanging pictures fell; a few small objects fell; buildings trembled strongly; standing vehicles rocked slightly.

Kern City— Plaster sustained hairline cracks; a few windows cracked; a few items shook off store shelves; a few small objects overturned and fell; buildings shook strongly; standing and moving vehicles rocked slightly; trees and bushes shook slightly.

Lamont— A few small objects overturned and fell; hanging pictures swung out of place; vibration was strong.

Intensity IV: Bodfish, Caliente, Coalinga, Ducor, Edison, Glennville, Lake Isabella, Oildale, Poplar, Porterville, Posey, Pumpkin Center, Shafter, Strathmore, Tehachapi, Three Rivers, Tupman, Woody.

Intensity III: Big Creek, Cedar Glen, Corcoran, DiGiorgio, Fellows, Friant, Inyokern, Kernville, Kingsburg, Lamont, Lemoncove, Lemoore, Lost Hills, Marina Del Rey, Miramonte, Ojai, Pasadena, Raisin, Richgrove, Solvang, Tipton, Torrance, Ventura, Wasco, Wofford Heights, Woodlake, Woodville.

Felt: Lindsay (press report), McFarland.

**10 February (PS) Southern California**

Origin time: 13 59 06.1

Epicenter: 33.876N., 116.276W.

Depth: 1 km

Magnitude: 3.6M<sub>L</sub>(PS)

Felt: Thousand Palms (PS), Indio (PS).

**11 February (BK) Central California**

Origin time: 07 26 47.2

Epicenter: 36.883N., 121.410W.

Depth: 8 km

Magnitude: 2.8M<sub>L</sub>(BK)

Felt: Hollister (BK).

**14 February (PS) Southern California**

Origin time: 23 22 22.3

Epicenter: 33.697N., 118.150W.

Depth: 3 km

Magnitude: 3.3M<sub>L</sub>(PS)

Intensity II: Long Beach (press report).

**15 February (PS) Southern California**

Origin time: 16 26 43.3

Epicenter: 34.148N., 117.478W.

Depth: 3 km

Magnitude: 3.0M<sub>L</sub>(PS)

Felt: Fontana (PS).

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**CALIFORNIA—Continued**

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**15 February (PS) Southern California**

Origin time: 23 26 26.6

Epicenter: 33.984N., 116.402W.

Depth: 2 km

Magnitude: 4.0M<sub>L</sub>(PS)

Intensity V:

Desert Hot Springs— A few items shook off store shelves; a few small objects overturned and fell; buildings shook strongly; felt by many.

Intensity IV: Thousand Palms.

Intensity III: Angelus Oaks, Palm Desert.

Intensity II: Indio.

Felt: Palm Springs area (PS).

**18 February (BK) Central California**

Origin time: 12 19 15.5

Epicenter: 37.757N., 122.155W.

Depth: 2 km

Magnitude: 2.0M<sub>L</sub>(BK)

Felt: Oakland (BK).

**19 February (PS) Southern California**

Origin time: 05 09 35.3

Epicenter: 34.159N., 116.982W.

Depth: 10 km

Magnitude: 3.3M<sub>L</sub>(PS)

Felt: Lake Arrowhead (PS).

**24 February (BK) Central California**

Origin time: 13 31 32.1

Epicenter: 36.397N., 121.842W.

Depth: 1 km

Magnitude: 3.5M<sub>L</sub>(BK), M<sub>o</sub>=01.1E21(BK)

Felt: North of Big Sur (BK), Carmel (BK).

**28 February (PS) Southern California**

Origin time: 04 42 08.5

Epicenter: 33.960N., 116.293W.

Depth: 10 km

Magnitude: 3.7M<sub>L</sub>(PS)

Intensity IV: Indio, Palm Springs, Thousand Palms.

Intensity III: Cabazon, Cathedral City, Desert Hot Springs.

Intensity II: Big Bear City, North Palm Springs.

**4 March (PS) Southern California**

Origin time: 05 12 03.8

Epicenter: 33.769N., 116.943W.

Depth: 12 km

Magnitude: 2.8M<sub>L</sub>(PS)

Felt: Hemet (PS).

**4 March (PS) Southern California**

Origin time: 11 51 10.8

Epicenter: 33.987N., 118.581W.

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**CALIFORNIA—Continued**

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Depth: 6 km  
Magnitude: 3.2M<sub>L</sub>(PS)  
Felt: Malibu (PS).  
Intensity III: Santa Monica (press report).

**5 March (PS) Southern California**

Origin time: 05 15 31.0  
Epicenter: 34.078N., 118.966W.  
Depth: 15 km  
Magnitude: 2.9M<sub>L</sub>(PS)  
Felt: Thousand Oaks (PS).

**6 March (BK) Central California**

Origin time: 01 52 25.0  
Epicenter: 38.945N., 122.683W.  
Depth: 2 km  
Magnitude: 3.5M<sub>L</sub>(BK), M<sub>0</sub>=01.0E22(BK)  
Intensity V:

Clearlake Highlands— A few windows cracked; a few glassware items or dishes broke; a few items shook off store shelves; a few small objects overturned and fell; felt by many.

Intensity IV: The region between Lower Lake and Kelseyville (BK).

**18 March (PS) Southern California**

Origin time: 07 43 08.6  
Epicenter: 33.980N., 118.580W.  
Depth: 6 km  
Magnitude: 2.7M<sub>L</sub>(PS)  
Felt: Santa Monica (PS).

**20 March (PS) Southern California**

Origin time: 03 52 29.8  
Epicenter: 33.049N., 116.399W.  
Depth: 6 km  
Magnitude: 3.3M<sub>L</sub>(PS)  
Felt: Barret Dam (PS).

**22 March (BK) Central California**

Origin time: 07 43 00.0  
Epicenter: 37.263N., 121.655W.  
Depth: 7 km  
Magnitude: 3.0M<sub>L</sub>(BK)  
Felt: Morgan Hill (press report).

**23 March (BK) Northern California**

Origin time: 14 55 22.2  
Epicenter: 39.008N., 123.058W.  
Depth: 5 km  
Magnitude: 2.6M<sub>L</sub>(BK)  
Intensity IV: Ukiah.

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**CALIFORNIA—Continued**

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**25 March (PS) Owens Valley area**

Origin time: 16 05 13.6  
Epicenter: 37.448N., 118.545W.  
Depth: 6 km  
Magnitude: 4.8m<sub>b</sub>(GS), 5.0M<sub>L</sub>(PS), 5.1M<sub>L</sub>(BK),  
M<sub>0</sub>=06.4E22(BK)

Intensity V:

California—

Tom's Place— Buildings shook strongly; walls creaked loudly; windows, doors, and dishes rattled loudly; felt by many.

Intensity IV:

California— Avery, Bass Lake, Benton, Big Creek, Bishop, El Portal, June Lake, Miramonte, Oakhurst, Tuolumne Meadows, Twain Harte.

Nevada— Dyer.

Intensity III:

California— Big Pine, Denair, Ducor, Dunlap, Friant, Kings Canyon National Park, Lemoncove, Mammoth Lakes, North Fork, Orange Cove, Prather, Raymond, Soulsbyville, Visalia, Wilseyville, Wishon.

Intensity II:

California— California Hot Springs, Raisin, Tuolumne.

Felt:

California— Fresno (BK), Jackson (BK), Shaver Lake, Sugar Pine (BK), Vallecito (BK).

**27 March (PS) Central California**

Origin time: 08 33 44.1  
Epicenter: 36.295N., 120.402W.  
Depth: 6 km  
Magnitude: 3.5M<sub>L</sub>(PS)  
Intensity III: Coalinga.

**30 March (BK) Central California**

Origin time: 22 52 00.4  
Epicenter: 38.820N., 122.815W.  
Depth: 5 km  
Magnitude: 3.3M<sub>L</sub>(BK), M<sub>0</sub>=04.2E21(BK)  
Intensity IV: Cobb, Geyserville, Loch Lomond.

**1 April (BK) Northern California**

Origin time: 14 09 21.1  
Epicenter: 39.118N., 122.318W.  
Depth: 2 km  
Magnitude: 3.2M<sub>L</sub>(BK)  
Intensity III: Clearlake Oaks, Williams.

**3 April (PS) Southern California**

Origin time: 04 04 49.8  
Epicenter: 34.378N., 119.035W.  
Depth: 28 km  
Magnitude: 4.0M<sub>L</sub>(PS), 4.0M<sub>L</sub>(BK)

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**CALIFORNIA—Continued**

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Intensity IV: Camarillo, Chatsworth, East Ventura, Hawthorne, Lebec, Ojai, Oxnard, Port Hueneme, Santa Barbara, Santa Paula, Simi Valley, Thousand Oaks, Van Nuys, Ventura.

Intensity III: Carpinteria, Cuyama, Ducor, Fellows, Fillmore, Frazier Park, Long Beach, Los Angeles, North Hollywood, Reseda, Saugus, Sherman Oaks, Studio City, Valermo.

Intensity II: Burbank, Loma Linda, Northridge, Wrightwood.

Felt: Corona, Montalvo.

**8 April (PS) Southern California**

Origin time: 01 09 33.1

Epicenter: 34.050N., 118.922W.

Depth: 13 km

Magnitude: 3.4M<sub>L</sub>(PS)

Intensity IV: Camarillo, Simi Valley, Thousand Oaks, Westlake Village.

Intensity III: Port Hueneme.

**8 April (BK) Central California**

Origin time: 08 03 25.5

Epicenter: 38.830N., 122.787W.

Depth: 6 km

Magnitude: 3.1M<sub>L</sub>(BK), M<sub>0</sub>=03.2E21(BK)

Felt: Northeast of Geyserville (press report).

**8 April (PS) Southern California**

Origin time: 13 20 24.9

Epicenter: 34.049N., 118.922W.

Depth: 13 km

Magnitude: 3.0M<sub>L</sub>(PS)

Felt: Thousand Oaks (PS).

**9 April (BK) Central California**

Origin time: 03 23 24.8

Epicenter: 36.212N., 120.278W.

Depth: 9 km

Magnitude: 3.7M<sub>L</sub>(BK), 3.7M<sub>L</sub>(PS)

Intensity V:

Coalinga— A few glassware items or dishes broke; a few small objects overturned and fell; windows, doors, dishes rattled loudly; buildings shook moderately; shaking was strong; felt by all and frightened many.

**9 April (BK) Central California**

Origin time: 18 52 58.3

Epicenter: 37.245N., 121.650W.

Depth: 6 km

Magnitude: 2.9M<sub>L</sub>(BK)

Felt: Morgan Hill (press report).

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**CALIFORNIA—Continued**

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**13 April (BK) Off the coast of Northern California**

Origin time: 15 05 02.1

Epicenter: 40.273N., 124.640W.

Depth: 16 km

Magnitude: 3.8M<sub>L</sub>(BK), M<sub>0</sub>=08.8E20(BK)

Felt: Ferndale (BK).

**18 April (BK) Northern California**

Origin time: 16 29 49.8

Epicenter: 39.112N., 122.027W.

Depth: 14 km

Magnitude: 3.8m<sub>b</sub>(GS), 3.7M<sub>L</sub>(BK), M<sub>0</sub>=02.0E22(BK)

Intensity V:

Arbuckle— A few small objects overturned and fell; felt by many.

Intensity IV: College City.

Intensity III: Grimes.

Intensity II: Williams.

**19 April (PS) Baja California, Mexico**

Origin time: 03 55 51.8

Epicenter: 32.167N., 116.954W.

Depth: 6 km

Magnitude: 3.8M<sub>L</sub>(PS)

Intensity IV:

United States—

California— La Mesa.

Intensity III:

United States—

California— Campo, El Cajon, Potrero.

Felt:

United States—

California— San Diego (PS).

**26 April (PS) Owens Valley area**

Origin time: 04 03 07.7

Epicenter: 37.431N., 118.622W.

Depth: 6 km

Magnitude: 4.2M<sub>L</sub>(PS), 4.1M<sub>L</sub>(BK)

Intensity III:

California— Bass Lake, Bishop, King Canyon National Park, Miramonte.

Nevada— Mina.

Intensity II:

California— Lemoncove.

Felt:

California— Mammoth Lakes (RN).

**27 April (BK) Central California**

Origin time: 11 38 57.6

Epicenter: 36.953N., 121.578W.

Depth: 8 km

Magnitude: 2.8M<sub>L</sub>(BK)

Intensity III: Gilroy (press report).

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**CALIFORNIA—Continued**

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**28 April (BK) Central California**

Origin time: 16 56 10.1  
Epicenter: 37.847N., 122.245W.  
Depth: 5 km  
Magnitude: 2.0M<sub>L</sub>(BK)  
Felt: Albany (BK).

**28 April (PS) Southern California**

Origin time: 22 23 53.7  
Epicenter: 34.016N., 117.043W.  
Depth: 12 km  
Magnitude: 3.1M<sub>L</sub>(PS)  
Felt: Yucaipa (PS).

**29 April (BK) Central California**

Origin time: 18 08 26.4  
Epicenter: 37.287N., 121.678W.  
Depth: 5 km  
Magnitude: 3.1M<sub>L</sub>(BK), M<sub>o</sub>=05.1E20(BK)  
Felt: Morgan Hill area (press report).

**4 May (PS) Mammoth Lakes area**

Origin time: 03 22 46.2  
Epicenter: 37.469N., 118.598W.  
Depth: 6 km  
Magnitude: 3.7m<sub>b</sub>(GS), 4.7M<sub>L</sub>(PS), 4.7M<sub>L</sub>(BK)  
Intensity IV: Kaweah, Lakeshore, Mammoth Lakes, Wawona.  
Intensity III: Auberry, El Portal, King Canyon National Park, Orange Cove, Sanger, Three Rivers, Tom's Place.  
Intensity II: Big Creek, Tollhouse.  
Felt: Visalia (BK).

**6 May (BK) Central California**

Origin time: 01 08 05.2  
Epicenter: 37.927N., 122.318W.  
Depth: 2 km  
Magnitude: 2.1M<sub>L</sub>(BK), M<sub>o</sub>=07.4E19(BK)  
Felt: El Cerrito (BK).

**6 May (PS) Central California**

Origin time: 23 14 33.0  
Epicenter: 35.297N., 119.345W.  
Depth: 24 km  
Magnitude: 4.4M<sub>L</sub>(PS), 4.4M<sub>L</sub>(BK)  
Intensity V:

Bakersfield— Some furniture moved in a home (press report); a few items shook off store shelves.  
Intensity IV: McKittrick, Tupman.  
Intensity III: Buttonwillow, Fellows, Hillcrest Center, Lebec, Maricopa, New Cuyama, Sequoia National Park, Santa Barbara, Summerland, Wofford Heights.  
Intensity II: Shafter, Tipton.

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**CALIFORNIA—Continued**

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**8 May (PS) Baja California, Mexico**

Origin time: 23 40 18.2  
Epicenter: 31.740N., 115.810W.  
Depth: 6 km  
Magnitude: 5.1m<sub>b</sub>(GS), 5.0M<sub>L</sub>(PS)  
Intensity III:  
United States—  
California— Calexico, Chula Vista, El Centro, Lakeside, National City, Ramona.  
Intensity II:  
United States—  
California— Lemon Grove.

**9 May (BK) Central California**

Origin time: 11 35 38.4  
Epicenter: 37.927N., 122.308W.  
Depth: 5 km  
Magnitude: 1.7M<sub>L</sub>(BK), M<sub>o</sub>=01.0E19(BK)  
Felt: El Cerrito (BK).

**10 May (GP) Off the coast of California**

Origin time: 15 47 59.3  
Epicenter: 34.391N., 120.899W.  
Depth: 6 km  
Magnitude: 3.8M<sub>L</sub>(PS), 3.8M<sub>L</sub>(BK)  
Intensity IV: Halcyon, Vandenberg Air Force Base.  
Intensity III: Santa Barbara, Santa Maria, Ventura.

**11 May (BK) Central California**

Origin time: 08 59 24.0  
Epicenter: 36.162N., 120.280W.  
Depth: 9 km  
Magnitude: 3.9m<sub>b</sub>(GS), 4.3M<sub>L</sub>(BK), 4.4M<sub>L</sub>(PS)  
M<sub>o</sub>=02.9E22(BK)  
Intensity IV: Coalinga (press report), Huron.  
Intensity III: Avenal.

**12 May (PS) Mammoth Lakes area**

Origin time: 15 28 46.3  
Epicenter: 37.474N., 118.569W.  
Depth: 6 km  
Magnitude: 3.7M<sub>L</sub>(PS), 3.7M<sub>L</sub>(BK), 3.9M<sub>L</sub>(RN)  
Felt: Mammoth Lakes (RN).

**14 May (PS) Southern California**

Origin time: 17 35 36.4  
Epicenter: 33.522N., 116.801W.  
Depth: 1 km  
Magnitude: 3.7M<sub>L</sub>(PS)  
Intensity IV: Aguanga, Anza.  
Intensity III: Big Bear City, Mira Loma, Riverside, Santa Ysabel.

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**CALIFORNIA—Continued**

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**22 May (BK) Northern California**

Origin time: 03 42 13.1  
Epicenter: 39.605N., 120.442W.  
Depth: 12 km  
Magnitude: 3.4M<sub>L</sub>(BK)  
Intensity IV: Calpine.  
Intensity III: Blairsden, Sierra City.

**23 May (BK) Central California**

Origin time: 11 45 39.3  
Epicenter: 38.798N., 122.813W.  
Depth: 4 km  
Magnitude: 4.1m<sub>b</sub>(GS), 3.0M<sub>L</sub>(BK)  
Felt: The Geysers (BK).

**25 May (PS) Southern California**

Origin time: 15 50 45.4  
Epicenter: 33.953N., 116.647W.  
Depth: 13 km  
Magnitude: 3.2M<sub>L</sub>(PS)  
Intensity IV: Desert Hot Springs, Palm Springs.  
Intensity III: Big Bear City, Fawnskin, Palm Desert, Thousand Palms.  
Intensity II: Rancho Mirage.

**28 May (BK) Western Nevada**

Origin time: 07 56 45.8

See Nevada listing.

**31 May (BK) Northern California**

Origin time: 15 07 27.5  
Epicenter: 39.105N., 122.028W.  
Depth: 10 km  
Magnitude: 2.7M<sub>L</sub>(BK)  
Intensity II: Williams.

**5 June (PS) Southern California**

Origin time: 18 10 05.6  
Epicenter: 33.341N., 116.328W.  
Depth: 12 km  
Magnitude: 3.7M<sub>L</sub>(PS), 3.6M<sub>D</sub>(GP)  
Intensity IV: Borrego Springs.  
Felt: Alpine.

**7 June (PS) Southern California**

Origin time: 18 06 14.4  
Epicenter: 34.393N., 120.105W.  
Depth: 2 km  
Magnitude: 3.6 M<sub>L</sub>(PS), 3.3M<sub>D</sub>(GP)  
Felt: Goleta (PS).

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**CALIFORNIA—Continued**

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**10 June (BK) Central California**

Origin time: 00 57 03.3  
Epicenter: 37.542N., 121.828W.  
Depth: 5 km  
Magnitude: 3.0M<sub>L</sub>(BK), M<sub>o</sub>=01.7E21(BK)  
Intensity III: Fremont.  
Intensity II: Sunol.

**10 June (PS) Southern California**

Origin time: 12 50 20.8  
Epicenter: 33.689N., 117.384W.  
Depth: 7 km  
Magnitude: 3.1M<sub>L</sub>(PS)  
Felt: Riverside (PS).

**13 June (BK) Central California**

Origin time: 06 58 04.5  
Epicenter: 37.390N., 121.800W.  
Depth: 0 km  
Magnitude: 2.3M<sub>L</sub>(BK)  
Felt: East San Jose (BK).

**14 June (BK) Central California**

Origin time: 11 24 03.1  
Epicenter: 36.162N., 120.268W.  
Depth: 9 km  
Magnitude: 3.4M<sub>L</sub>(BK), 3.9M<sub>L</sub>(PS)  
Intensity III: Huron, Raisin.  
Felt: Coalinga (BK).

**16 June (GP) Off the coast of Southern California**

Origin time: 10 26 58.8  
Epicenter: 32.960N., 117.821W.  
Depth: 6 km  
Magnitude: 3.9M<sub>L</sub>(PS), 3.8M<sub>D</sub>(GP)  
Intensity IV: San Juan Capistrano.

**18 June (GP) San Diego area**

Origin time: 00 12 55.1  
Epicenter: 32.679N., 117.149W.  
Depth: 6 km  
Magnitude: 3.9M<sub>D</sub>(GP), 3.9M<sub>L</sub>(PS)  
Intensity V:

Imperial Beach—A few dishes or glassware items broke; a few items shook off store shelves; a few small objects overturned and fell; trees and bushes shook slightly; shaking was moderate.

National City—Buildings shook strongly; moving vehicles rocked slightly; trees and bushes shook slightly; shaking was strong; felt by all.

Poway—A few windows cracked; a few glassware items or dishes broke; a few small objects overturned and fell; felt by many.

Intensity IV: Bonita, El Cajon, Escondido, Jamul, La Mesa, Lemon Grove, Lincoln Acres, North Island (Naval Air

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**CALIFORNIA—Continued**

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Station), La Jolla, Pacific Beach, Poway, San Diego, San Diego (Encanto), San Diego (Hillcrest—press report), San Diego (Lindbergh Field), San Diego (Naval Station), San Diego (Naval Training Center), San Diego (North Park), San Diego (Ocean Beach), San Diego (University City), Spring Valley.

Intensity III: Bonsall, Coronado (press report), Descanso, Lakeside, Mount Laguna, Oceanside, Point Loma, Santee, Solana Beach.

Intensity II: Campo.

Felt: Alpine.

**18 June (GP) Central California**

Origin time: 01 23 40.8

Epicenter: 35.227N., 117.321W.

Depth: 8 km

Magnitude: 3.8M<sub>D</sub>(GP), 3.8M<sub>L</sub>(PS)

Intensity III: Barstow, Hinkley.

**18 June (GP) San Diego area**

Origin time: 03 22 28.6

Epicenter: 32.677N., 117.153W.

Depth: 6 km

Magnitude: 4.0M<sub>D</sub>(GP), 4.0M<sub>L</sub>(PS)

Intensity V:

Poway—A few glassware items or dishes broke; a few small objects overturned and fell.

Intensity IV: Chula Vista, Coronado, El Cajon, Escondido, Imperial Beach, Lakeside, National City, Nestor, Oceanside, Point Loma (press report), San Diego, San Diego (Lindbergh Field), San Diego (Miramar Naval Air Station), San Diego (North Island Naval Air Station), Solana Beach.

Intensity III: Bonsall, Campo, San Diego (College Heights), San Diego (University City), Tecate.

Intensity II: Boulevard.

Felt: Alpine.

**18 June (GP) San Diego area**

Origin time: 04 28 14.9

Epicenter: 32.665N., 117.170W.

Depth: 6 km

Magnitude: 3.9M<sub>D</sub>(GP), 3.9M<sub>L</sub>(PS)

Intensity IV: San Diego (North Island Naval Air Station).

Intensity III: Julian.

Felt: San Diego (PS).

**18 June (PS) San Diego area**

Origin time: 21 51 38.8

Epicenter: 32.700N., 117.151W.

Depth: 9 km

Magnitude: 2.9M<sub>L</sub>(PS)

Felt: San Diego (PS).

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**CALIFORNIA—Continued**

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**19 June (PS) San Diego area**

Origin time: 11 20 39.2

Epicenter: 32.689N., 117.144W.

Depth: 8 km

Magnitude: 2.9M<sub>L</sub>(PS)

Felt: San Diego (PS).

**19 June (PS) San Diego area**

Origin time: 11 37 37.7

Epicenter: 32.689N., 117.146W.

Depth: 8 km

Magnitude: 2.9M<sub>L</sub>(PS)

Intensity III: North Island Naval Air Station.

Felt: San Diego (PS).

**20 June (PS) San Diego area**

Origin time: 11 56 38.8

Epicenter: 32.710N., 117.087W.

Depth: 0 km

Magnitude: 2.8M<sub>L</sub>(PS)

Felt: San Diego (press report).

**21 June (PS) Southern California**

Origin time: 00 50 59.2

Epicenter: 33.989N., 117.171W.

Depth: 14 km

Magnitude: 3.3M<sub>L</sub>(PS), 3.4M<sub>D</sub>(GP)

Intensity III: San Bernardino, Sunnymead.

Felt: Riverside (PS).

**21 June (PS) Southern California**

Origin time: 09 51 51.4

Epicenter: 33.091N., 117.439W.

Depth: 12 km

Magnitude: 3.4M<sub>L</sub>(PS), 3.3M<sub>D</sub>(GP)

Felt: Oceanside (PS), San Diego (press report).

**27 June (BK) Central California**

Origin time: 04 38 55.4

Epicenter: 36.510N., 121.118W.

Depth: 5 km

Magnitude: 3.4M<sub>L</sub>(BK), 3.8M<sub>L</sub>(PS), 3.4M<sub>D</sub>(GP)

Intensity III: Pinnacles National Monument.

**2 July (BK) Central California**

Origin time: 17 30 30.7

Epicenter: 36.982N., 119.638W.

Depth: 23 km

Magnitude: 3.2M<sub>L</sub>(BK), 3.5M<sub>L</sub>(PS)

Felt: Friant Dam (BK).

**2 July (BK) Northern California**

Origin time: 23 56 08.9

Epicenter: 40.822N., 124.348W.

Depth: 9 km

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**CALIFORNIA—Continued**

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Magnitude:  $3.4M_L$ (BK),  $M_o=01.1E21$ (BK)  
Intensity V:  
Samoa— A few small objects overturned and fell.  
Intensity IV: Fields Landing.  
Intensity III: Eureka.  
Felt: Friant Dam (BK).

**9 July (PS) Owens Valley area**

Origin time: 08 53 36.1  
Epicenter:  $37.426N.$ ,  $118.581W.$   
Depth: 6 km  
Magnitude:  $3.2M_L$ (PS)  
Felt: Bishop (press report).

**13 July (PS) Southern California**

Origin time: 04 16 29.9  
Epicenter:  $34.064N.$ ,  $118.300W.$   
Depth: 4 km  
Magnitude:  $2.4M_D$ (PS)  
Felt: Culver City (press report).

**13 July (PS) Southern California**

Origin time: 12 13 11.7  
Epicenter:  $32.706N.$ ,  $117.130W.$   
Depth: 6 km  
Magnitude:  $2.5M_D$ (PS)  
Felt: San Diego (press report).

**15 July (BK) Central California**

Origin time: 08 59 38.8  
Epicenter:  $37.268N.$ ,  $121.665W.$   
Depth: 7 km  
Magnitude:  $3.5M_L$ (BK),  $M_o=02.7E21$ (BK)  
Intensity IV: South San Jose.  
Felt: Evergreen (BK), Eastern San Jose (BK).

**18 July (PS) Southern California**

Origin time: 14 05 25.8  
Epicenter:  $34.421N.$ ,  $116.542W.$   
Depth: 6 km  
Magnitude:  $4.2M_L$ (PS),  $4.5M_L$ (BK)  
Intensity III: Fawnskin, Landers, Yucca Valley.  
Intensity II: San Bernardino.

**22 July (BK) Central California**

Origin time: 08 47 14.6  
Epicenter:  $37.868N.$ ,  $122.675W.$   
Depth: 6 km  
Magnitude:  $2.7M_L$ (BK),  $M_o=04.4E20$ (BK)  
Felt: Fairfax (BK), Larkspur (BK), Mill Valley (BK), Mount  
Tamalpais (BK), San Anselmo (BK), San Geronimo (BK),  
San Rafael (BK).

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**CALIFORNIA—Continued**

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**24 July (BK) Central California**

Origin time: 10 07 13.1  
Epicenter:  $37.722N.$ ,  $122.520W.$   
Depth: 8 km  
Magnitude:  $2.5M_L$ (BK),  $M_o=04.5E19$ (BK)  
Felt: Western part of San Francisco (BK).

**24 July (BK) Central California**

Origin time: 15 45 44.2  
Epicenter:  $36.192N.$ ,  $120.285W.$   
Depth: 9 km  
Magnitude:  $3.0M_L$ (BK),  $3.6M_L$ (PS)  
Intensity IV: Coalinga.

**26 July (BK) Central California**

Origin time: 04 20 41.8  
Epicenter:  $38.793N.$ ,  $122.795W.$   
Depth: 2 km  
Magnitude:  $3.8m_b$ (GS),  $3.5M_L$ (BK),  $M_o=07.3E21$ (BK)  
Felt: Cobb (BK).

**26 July (BK) Central California**

Origin time: 04 21 13.0  
Epicenter:  $38.800N.$ ,  $122.800W.$   
Depth: 2 km  
Magnitude:  $3.5M_L$ (BK),  $M_o=06.2E21$ (BK)  
Felt: Cobb (BK).

**30 July (BK) Northern California**

Origin time: 02 34 42.8  
Epicenter:  $39.583N.$ ,  $122.012W.$   
Depth: 16 km  
Magnitude:  $3.3M_L$ (BK)  
Intensity V:  
Ordbend— A few small objects overturned and fell; standing  
vehicles rocked slightly; felt by many.  
Intensity IV: Durham, Glenn.  
Intensity III: Biggs, Richvale.  
Felt: Chico (BK), Oroville (BK).

**30 July (BK) Off the coast of Northern California**

Origin time: 10 57 21.6  
Epicenter:  $40.373N.$ ,  $125.125W.$   
Depth: 3 km  
Magnitude:  $4.4m_b$ (GS),  $4.2M_L$ (BK),  $M_o=05.1E22$ (BK)  
Intensity III: Bayside, Fortuna, Rio Dell.  
Felt: Eureka (BK).

**1 August (BK) Central California**

Origin time: 00 04 08.1  
Epicenter:  $37.867N.$ ,  $122.238W.$   
Depth: 9 km  
Magnitude:  $2.3M_L$ (BK),  $M_o=01.8E10$ (BK)  
Felt: Berkeley (BK).

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**CALIFORNIA—Continued**

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**4 August (BK) Central California**

Origin time: 05 49 06.4

Epicenter: 37.870N., 122.243W.

Depth: 7 km

Magnitude: 2.3M<sub>L</sub>(BK), M<sub>o</sub>=01.4E19(BK)

Felt: Berkeley (BK).

**4 August (BK) Central California**

Origin time: 11 29 16.2

Epicenter: 36.122N., 120.138W.

Depth: 11 km

Magnitude: 4.7m<sub>b</sub>(GS), 4.7M<sub>L</sub>(BK), 4.3M<sub>L</sub>(PS)

M<sub>o</sub>=01.1E23(BK)

Intensity IV: Kings County (press report).

**August (BK) Central California**

Origin time: 12 01 57.0

Epicenter: 36.130N., 120.127W.

Depth: 11 km

Magnitude: 5.4m<sub>b</sub>(GS), 5.9M<sub>S</sub>(GS), 5.6M<sub>L</sub>(BK),

5.8M<sub>L</sub>(PS), M<sub>o</sub>=02.0E24(BK)

Six people were injured in Avenal where some houses and stores were damaged. Most of the damage included: partial porch collapses at two residences, cracked and broken chimneys, broken windows, and glassware items that broke when knocked off shelves in houses and stores.

More than 130 aftershocks with magnitudes above 1.0 were recorded in the 27 hours following this event. It was felt over an area of about 97,000 km<sup>2</sup> of the land area in California (fig. 11).

**Intensity VI:**

Avenal—Chimneys cracked (one brick chimney fell—press report); bricks fell from the tops of chimneys; sidewalks sustained large cracks; cinderblock foundations and walls cracked (press reports); plaster and drywall sustained large cracks; the ceiling of an adobe house fell (press reports); four water mains broke; a pipe in the water treatment plant shifted slightly; store windows broke—mostly on Kings Street (the older business district); objects shook off shelves in stores and households throughout the city; library books shook off shelves in the library; light furniture or small appliances overturned; hanging objects and doors swung violently; vibration was strong; earth noises were loud; people had difficulty standing and walking; felt by and awakened everyone.

Five miles NE of Avenal—Four adobe houses sustained many cracks in the walls and ceilings, parts of the ceilings fell, and concrete porches cracked. A heavy piano in one house was moved 3.5 in. away from the west wall. A large steel steam table (about 600 pounds) moved and twisted

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**CALIFORNIA—Continued**

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about 8 inches. One hundred feet of small cracks were observed in dry clay soil.

Kettleman City—Several water lines broke; a 6-inch transit pipe line carrying water was broken. In addition, a 6-inch cast-iron elbow in the water tank farm was broken and one of two 350,000-gallon water tanks that service the district was leaking from a hole in the bottom of the tank. One gas main broke (from press reports).

**Intensity V:**

The most common effects at the places listed below include: buildings shook moderately to strongly; a few small objects overturned and fell; felt by and awakened many.

Alpaugh—Plaster and drywall sustained hairline cracks; trees and bushes shook slightly.

Armona—Plaster and drywall sustained hairline cracks; a few windows cracked; a few glassware items or dishes broke; a few items shook off store shelves; hanging objects or doors swung moderately.

Bakersfield—Plaster and drywall sustained hairline cracks; a few windows cracked; hanging pictures fell; a few glassware items or dishes broke; hanging objects or doors swung moderately; trees and bushes shook slightly.

Bradley—Hanging objects swung violently.

Burrel—Trees and bushes shook strongly.

California Valley—Standing and moving vehicles rocked slightly.

Clovis—Plaster sustained hairline cracks. Hanging pictures swung out of place; trees and bushes shook slightly.

Coalinga—One waterline broke (press report); plaster sustained hairline cracks; a few glassware items or dishes broke.

Creston—Standing and moving vehicles rocked slightly; trees and bushes shook slightly.

Fellows—Cracks in sidewalks were enlarged; walls creaked loudly; windows, doors, and dishes rattled loudly; hanging objects or doors swung moderately; people had difficulty in standing or walking.

Fresno—Vibration described as moderate.

Firebaugh—Plaster sustained hairline cracks; hanging pictures swung out of place.

Friant—Windows, doors, and dishes rattled loudly.

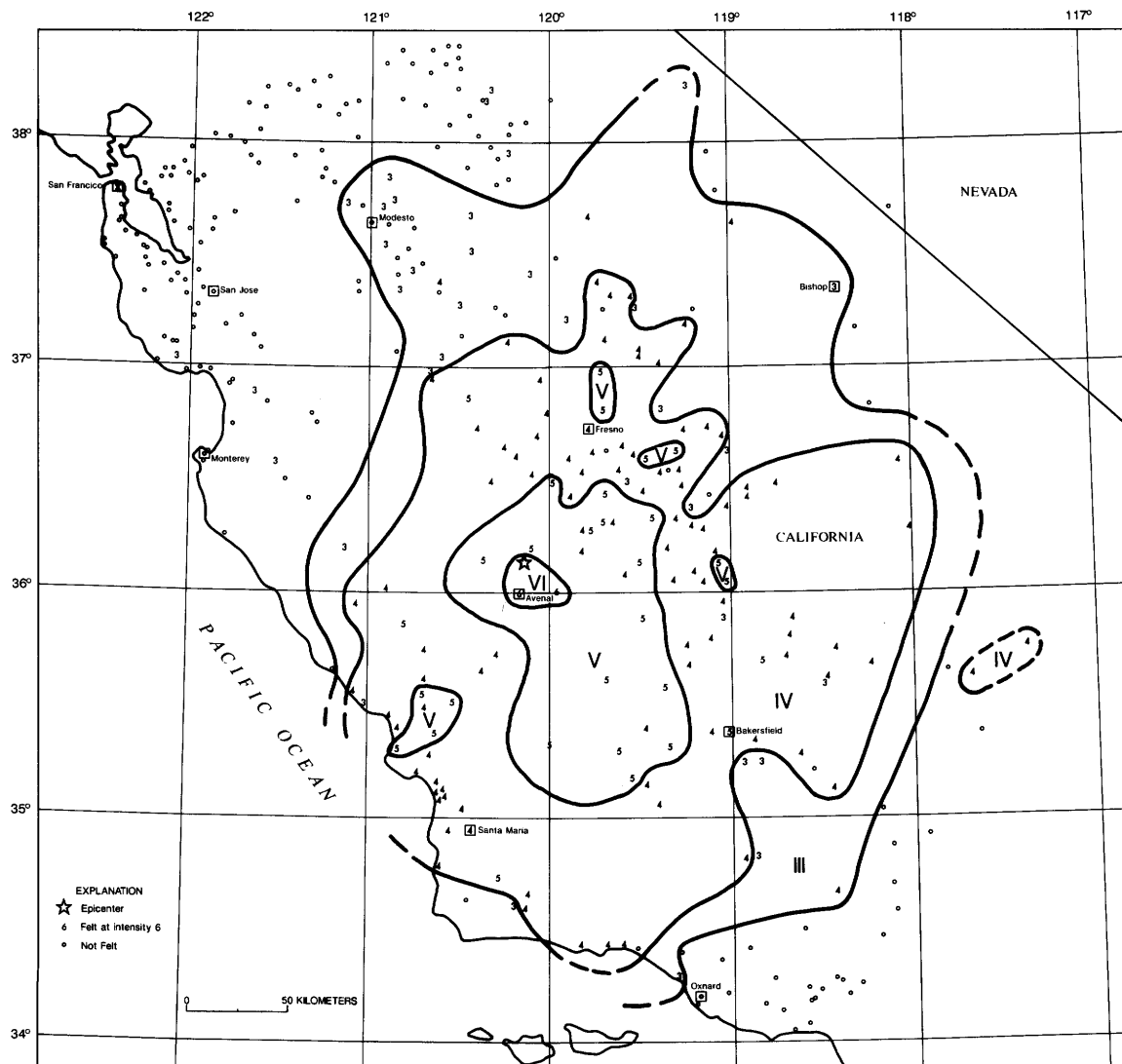
Goshen—Windows, doors, and dishes rattled loudly.

Huron—Windows, doors, and dishes rattled loudly; walls creaked loudly; hanging pictures swung out of place; a few items shook off store shelves.

Laton—Hanging pictures swung out of place; standing and moving vehicles rocked moderately; trees and bushes shook moderately.

Lemoore—Standing and moving vehicles rocked slightly; trees and bushes shook slightly.





**Figure 11.** Isoseismal map for the Avenal, California, earthquake of 04 August 1985, 12 01 57.0 UTC. Roman numerals represent Modified Mercalli intensities between isoseismals; Arabic numerals represent intensities at specific sites; open circles represent not felt at specific sites.

#### CALIFORNIA—Continued

**Lemoore Naval Air Station**— Stone or brick fences cracked; plaster sustained a few cracks; a few glassware items or dishes broke; standing vehicles rocked moderately; trees and bushes shook moderately.

**Los Alamos**— A few items shook off store shelves; standing vehicles rocked slightly.

**Los Osos**— Windows, doors, and dishes rattled loudly; hanging objects or doors swung slightly.

#### CALIFORNIA—Continued

**Lost Hills**— A few items shook off store shelves; windows, doors, and dishes rattled loudly; trees and bushes shook slightly; standing vehicles rocked slightly.

**McKittrick**.

**Orange Cove**— Plaster sustained hairline cracks; trees and bushes shook slightly.

**Porterville**— A foundation cracked; plaster and drywall sustained hairline cracks; standing vehicles rocked slightly; trees and bushes shook slightly.

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**CALIFORNIA—Continued**

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Reedley—A few windows cracked; a few glassware items or dishes broke.

Santa Margarita—Windows, doors, and dishes rattled loudly; standing vehicles rocked slightly; trees and bushes shook slightly.

Strathmore—Buildings trembled moderately; hanging objects or doors swung moderately.

Templeton—Windows, doors, and dishes rattled loudly; standing vehicles rocked slightly; trees and bushes shook slightly.

Tupman—Windows, doors, and dishes rattled loudly; standing vehicles rocked slightly; trees and bushes shook slightly.

Wasco—A few glassware items or dishes broke; buildings shook moderately.

Waukena—A few glassware items or dishes broke; windows, doors, and dishes rattled loudly; hanging objects or doors swung moderately; standing vehicles rocked slightly.

Woody—A few windows cracked; a few glassware items or dishes broke; standing and moving vehicles rocked slightly; trees and bushes shook slightly.

Intensity IV: Ahwahnee, Arroyo Grande, Atascadero, Auberry, Avila Beach, Bass Lake, Big Creek, Biola, Buttonwillow, Caliente, California Hot Springs, Cambria, Cantua Creek, Caruthers, Cayucos, Cholame, Chowchilla, Corcoran, Del Rey, Delano, Dinuba, Dunlap, Easton, Edison, El Portal, Exeter, Farmersville, Frazier Park, Fresno, Glennville, Goleta, Gonzales (press report), Greenacres, Grover City, Guadalupe, Halcyon, Hanford, Helm, Kaweah, Kerman, Kernville, Lake Hughes, Lake Isabella, Lemoncove, Lindsay, Lockwood, Lone Pine, Los Olivos, Madera, Mammoth Lakes, Maricopa, McFarland, Mendota, Miramonte, Morro Bay, Nipomo, O'Neals, Oakhurst, Oceano, Olancho, Onyx, Orosi, Parlier, Paso Robles, Pismo Beach, Poplar, Posey, Prather, Raisin, Richgrove, Ridgecrest, Riverdale, San Ardo, San Joaquin, San Luis Obispo (press report), San Miguel, Santa Barbara, Santa Maria, Selma, Sequoia National Park, Shandon, Soledad (press report), Solvang, South Dos Palos, Squaw Valley, Stratford, Summerland, Sunflower Valley (press report), Taft, Tehachapi, Terra Bella, Three Rivers, Tipton, Tollhouse, Tranquillity, Traver, Trona, Tulare, Vandenberg Air Force Base, Visalia, Winton, Woodville, Yettam.

Intensity III: Arnold, Aromas, Avery, Badger, Bishop, Bodfish, Bridgeport, Buellton, Catheys Valley, Chualar, Delhi, Di Giorgio, Dos Palos, Ducor, Harmony, Ivanhoe, Keyes, King City, Kingsburg, La Grange, Lamont, Lebec, Merced, Mount Hermon, North Fork, Oakdale, Piedra, Raymond, Ripon, Riverbank, Santa Rita Park, Snelling, Stevinson, Tuolumne, Valley Home, Ventura.

Intensity II: San Francisco.

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**CALIFORNIA—Continued**

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Felt: Carpinteria (press report), Newhall (press report), Sacramento (press report).

**4 August (BK) Central California**

Origin time: 15 15 40.5

Epicenter: 36.022N., 120.052W.

Depth: 12 km

Magnitude: 4.4 $m_b$ (GS), 4.1 $M_L$ (BK), 4.4 $M_L$ (PS),

$M_o=03.0E22$ (BK)

Felt: Coalinga (press report).

**5 August (BK) Central California**

Origin time: 14 45 39.0

Epicenter: 36.112N., 120.063W.

Depth: 8 km

Magnitude: 4.4 $m_b$ (GS), 4.3 $M_L$ (BK), 4.3 $M_L$ (PS),

$M_o=05.1E22$ (BK)

Intensity V:

Piedra (Pine Flat Lake)—A few items shook off store shelves; a few small objects overturned and fell; trees and bushes shook slightly.

Intensity IV: Avenal, California Valley, Easton, Lindsay, Woody.

Intensity III: Arroyo Grande, Atascadero, Fresno, Harmony, Huron, Lost Hills, McKittrick, Taft, Tollhouse, Woodville, Yettam.

Intensity II: Ducor, Raisin, Santa Rita Park, San Ardo, Shandon, Taft, Tupman.

Felt: Coalinga (BK), Exeter.

**7 August (BK) Central California**

Origin time: 00 16 04.5

Epicenter: 35.992N., 120.115W.

Depth: 11 km

Magnitude: 4.1 $m_b$ (GS), 4.3 $M_L$ (BK), 4.4 $M_L$ (PS),

$M_o=02.6E22$ (BK)

Intensity V:

Avenal—Plaster and drywall sustained hairline cracks. A few glassware items or dishes broke; a few small objects overturned; standing vehicles rocked slightly; trees and bushes shook slightly; felt by all.

**7 August (BK) Central California**

Origin time: 15 39 27.1

Epicenter: 37.945N., 122.053W.

Depth: 5 km

Magnitude: 2.1 $M_L$ (BK),  $M_o=03.3E19$ (BK)

Felt: Lafayette (press report), Martinez (press report), Pleasant Hill (press report).

**13 August (BK) Central California**

Origin time: 16 45 15.1

Epicenter: 37.847N., 122.220W.

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**CALIFORNIA—Continued**

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Depth: 5 km

Magnitude:  $3.1M_L(BK)$ ,  $M_o=01.2E20(BK)$

Intensity III: Berkeley, Concord, Oakland.

Felt: San Francisco (press report).

**16 August (PS) Central California**

Origin time: 01 51 21.2

Epicenter: 36.204N., 117.865W.

Depth: 5 km

Magnitude:  $4.5m_b(GS)$ ,  $4.2M_L(PS)$ ,  $4.3M_L(BK)$

Intensity IV: Lindsay.

Intensity III: Olancho, Ridgecrest, Woodville.

**19 August (BK) Central California**

Origin time: 21 43 16.5

Epicenter: 37.837N., 122.225W.

Depth: 2 km

Magnitude:  $2.6M_L(BK)$ ,  $M_o=05.2E19(BK)$

Felt: Berkeley (BK).

**20 August Southern California**

Origin time: 22 18

Epicenter: Not located.

Depth: None computed.

Magnitude: None computed.

Intensity III: North Island Naval Air Station.

**21 August Southern California**

Origin time: 01 01

Epicenter: Not located.

Depth: None computed.

Magnitude: None computed.

Intensity III: North Island Naval Air Station, San Clemente Island.

**22 August (GP) Central California**

Origin time: 00 21 44.1

Epicenter: 35.883N., 117.717W.

Depth: 6 km

Magnitude:  $4.3m_b(GS)$ ,  $4.6M_L(PS)$ ,  $4.7M_L(BK)$

Intensity IV: Trona, Onyx.

Intensity III: Barstow, Bodfish, Death Valley, Exeter, Mettler.

Intensity II: China Lake, Ridgecrest.

**27 August (BK) Owens Valley area**

Origin time: 03 04 06.8

Epicenter: 37.412N., 118.633W.

Depth: 6 km

Magnitude:  $4.5M_L(BK)$ ,  $4.1M_L(PS)$ ,  $M_o=01.9E22(BK)$

Intensity III: Badger, Bass Lake, Bishop, Dunlap.

Intensity II: North Fork.

Felt: Lake Sabrina (BK).

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**CALIFORNIA—Continued**

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**29 August (PS) Southern California**

Origin time: 07 59 08.7

Epicenter: 34.322N., 116.815W.

Depth: 6 km

Magnitude:  $3.8M_L(PS)$ ,  $4.4M_L(BK)$

Intensity IV: Big Bear City (press report).

Intensity III: San Bernardino (press report).

**2 September (BK) Northern California**

Origin time: 16 53 30.0

Epicenter: 40.582N., 123.750W.

Depth: 24 km

Magnitude:  $3.7M_L(BK)$ ,  $M_o=02.7E21(BK)$

Intensity III: Rio Dell.

**3 September (PS) Southern California**

Origin time: 02 58 52.0

Epicenter: 34.050N., 118.383W.

Depth: 5 km

Magnitude:  $2.6M_L(PS)$

Intensity III: Santa Monica (press report), West Hollywood (press report).

**4 September (BK) Central California**

Origin time: 06 00 46.7

Epicenter: 37.752N., 122.090W.

Depth: 6 km

Magnitude:  $3.1M_L(BK)$ ,  $M_o=01.3E21(BK)$

Intensity IV: Dublin (one report of hairline cracks in plaster).

Intensity III: Moraga, San Leandro (press report).

Felt: Daly City (press report), Martinez (press report), Oakland (press report), San Bruno (press report), San Francisco (press report), Sausalito (press report).

**7 September (BK) Central California**

Origin time: 17 27 30.5

Epicenter: 37.375N., 121.755W.

Depth: 5 km

Magnitude:  $3.0M_L(BK)$ ,  $M_o=03.7E20(BK)$

Felt: San Jose (BK).

**10 September (BK) Central California**

Origin time: 22 07 27.9

Epicenter: 37.715N., 122.535W.

Depth: 8 km

Magnitude:  $2.6M_L(BK)$ ,  $M_o=05.3E19(BK)$

Felt: Pacifica (BK), San Francisco (BK).

**14 September (GP) Southern California**

Origin time: 19 18 42.3

Epicenter: 34.407N., 119.794W.

Depth: 9 km

Magnitude:  $3.1M_L(GP)$ ,  $3.1M_L(PS)$

Intensity IV: Goleta, Santa Barbara.

Intensity III: East Ventura, Summerland.

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**CALIFORNIA—Continued**

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**19 September (GP) Southern California**

Origin time: 07 35 03.6

Epicenter: 34.460N., 119.377W.

Depth: 15 km

Magnitude: 3.4M<sub>L</sub>(GP), 3.3M<sub>L</sub>(PS)

Intensity IV: Santa Barbara, Summerland.

**20 September (GP) Southern California**

Origin time: 08 04 06.5

Epicenter: 34.389N., 119.796W.

Depth: 10 km

Magnitude: 3.1M<sub>L</sub>(GP), 3.0M<sub>L</sub>(PS)

Intensity IV:

Goleta— One report of a cracked foundation.

Intensity III: Santa Barbara, Summerland.

**24 September (BK) Central California**

Origin time: 07 21 30.2

Epicenter: 37.485N., 121.690W.

Depth: 8 km

Magnitude: 3.5M<sub>L</sub>(BK), M<sub>o</sub>=04.7E21(BK)

Felt from Morgan Hill to San Francisco (press report).

Intensity IV: Fremont.

Intensity III: Monte Sereno, San Jose.

Felt: Morgan Hill (press report), San Francisco (press report), San Leandro (BK).

**2 October (PS) Southern California**

Origin time: 23 44 12.4

Epicenter: 34.023N., 117.245W.

Depth: 15 km

Magnitude: 4.1m<sub>b</sub>(GS), 4.8M<sub>L</sub>(PS), 4.7M<sub>L</sub>(BK)Felt over an area of about 13,000 km<sup>2</sup> (fig. 12).

Intensity VI:

Grand Terrace— The fire station had minor cracks in the ceiling and some plaster fell (press report).

Lake Gregory Village— In a log home, one beam split and some other beams cracked (press report).

Intensity V:

Bell— Plaster sustained hairline cracks; a few small objects overturned; buildings shook moderately; moving vehicles rocked slightly; trees and bushes shook moderately.

Bryn Mawr— Windows, doors, and dishes rattled loudly; a few small objects overturned and fell; buildings shook moderately; vibration was strong; earth noise was loud; felt by all.

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**CALIFORNIA—Continued**

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Colton— A few glassware items or dishes broke; a few small objects overturned and fell; hanging objects or doors swung moderately; moving vehicles rocked slightly; trees and bushes shook slightly; vibration was moderate; felt by all.

Crestline— A large picture fell off a wall and broke the glass (press report).

Del Rosa— A few small objects fell; a few items shook off store shelves; vibration was described as moderate; felt by many.

Hesperia— A few windows cracked; a few items shook off store shelves; trees and bushes shook slightly; vibration was moderate; felt by many.

La Puente— Plaster sustained hairline cracks; a few windows cracked; a few glassware items or dishes broke; a few items shook off store shelves; trees and bushes shook slightly.

Loma Linda— Moving vehicles rocked slightly; vibration was moderate; earth noise was moderate; felt by all.

Moreno— A few small objects overturned; a few items shook off store shelves; vibration was moderate; earth noise was loud; felt by many.

Norton Air Force Base— People had difficulty walking or standing; vibration was strong.

Patton— Hanging pictures swung out of place; a few small objects overturned; vibration was strong; earth noise was moderate.

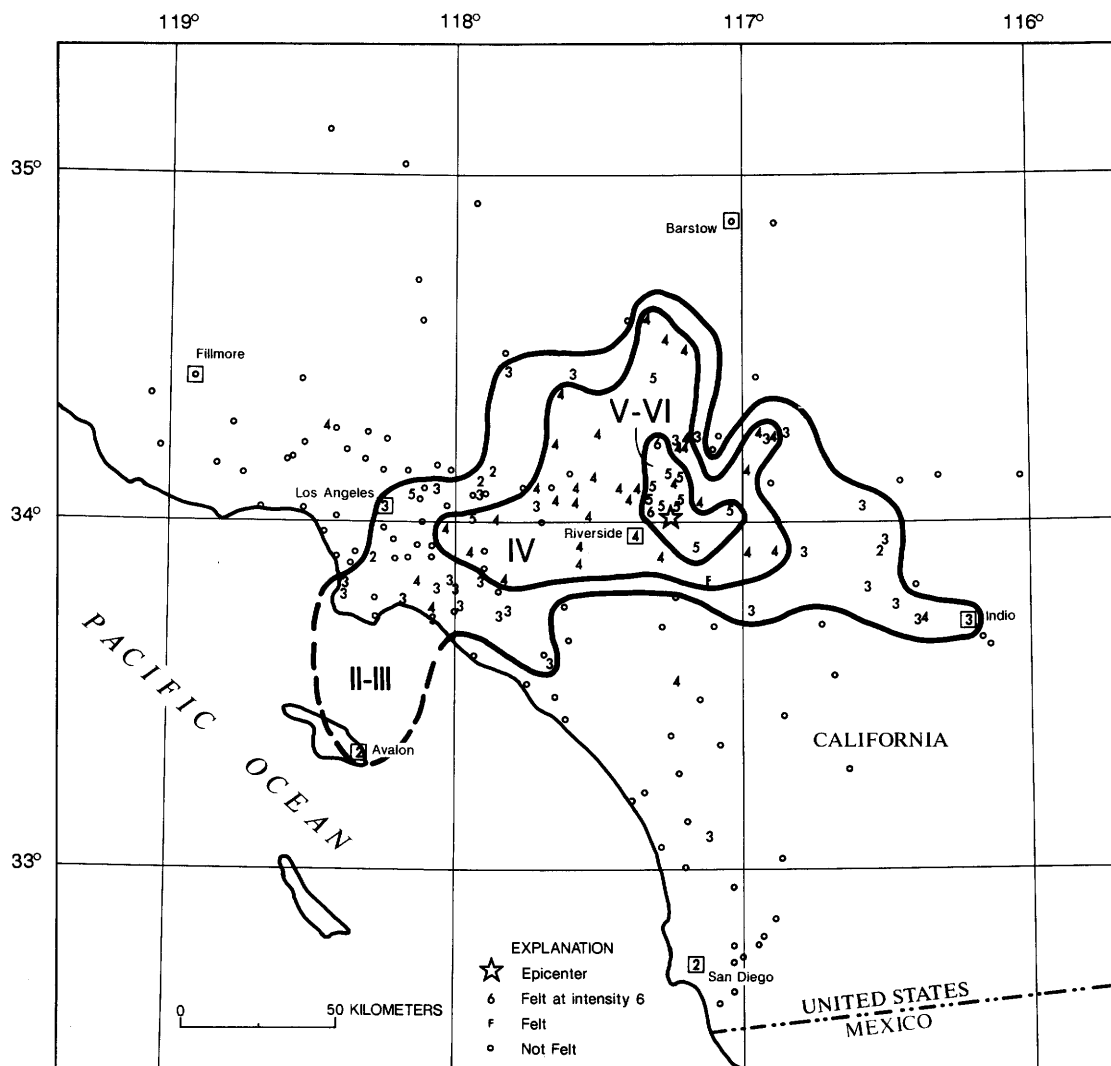
Redlands— A steel pole fell; items shook off shelves; plants were knocked to the ground at the Redlands Mall.

San Bernardino— At Alpha Beta on Marshall Boulevard and E Street some items fell from shelves. Several mannequins overturned at the Central City Mall (press report). Windows, doors, and dishes rattled loudly; walls creaked loudly; buildings shook moderately; vibration was strong; felt by all.

Yucaipa— Dishes and books shook off shelves (press report). Intensity IV:

Angelus Oaks, Apple Valley (press report), Arlington, Atwood, Banning, Beaumont, Bloomington, Claremont, Corona, Crest Park, Cucamonga, Etiwanda, Fawnskin, Fontana, Frontera, Guasti, Highland, La Habra, Lake Arrowhead, Lakewood, La Sierra, Lytle Creek, March Air Force Base, Mentone, Mira Loma, Mount Baldy, Murrieta, Norco, Ontario, Oro Grande, Palm Desert, Rialto, Rimforest, Riverside, San Fernando, Seal Beach, Sugarloaf, Twin Peaks, Victorville (press report), Walnut, Whittier, Wrightwood.

Intensity III: Anaheim (press report), Big Bear City, Big Bear Lake (press report), Cabazon, Cathedral City, Cedar Glen, Cypress, Desert Hot Springs, Escondido, Hemet, Indio, Long Beach, Los Alamitos, Los Angeles (press report), Midway City, Mission Viejo, Montclair, Morongo Valley, Palm Springs, Palos Verdes Peninsula, Phelan, Rancho,



**Figure 12.** Isoseismal map for the southern California earthquake of 02 October 1985, 23 44 12.4 UTC. Roman numerals represent Modified Mercalli intensities between isoseismals; Arabic numerals represent intensities at specific sites; open circles represent not felt at specific sites.

#### CALIFORNIA—Continued

Mirage, Redondo Beach, Rosemead, Santa Ana, Skyforest, Stanton, Surfside, Tustin, Valyermo, West Covina.

Intensity II: Azusa, Catalina Island (press report), Gardena, Glendra, North Palm Springs, San Diego (press report).

Felt: Lakeview.

#### 6 October (BK) Central California

Origin time: 00 18 08.8

Epicenter: 37.012N., 121.717W.

Depth: 9 km

#### CALIFORNIA—Continued

Magnitude:  $3.0M_L(BK)$ ,  $M_0=04.4E20(BK)$

Felt: Aptos (BK).

#### 6 October (BK) Central California

Origin time: 21 29 46.4

Epicenter: 38.938N., 123.028W.

Depth: 5 km

Magnitude:  $2.9M_L(BK)$

Felt: Lakeport (BK).

#### 7 October (BK) Central California

Origin time: 15 46 54.6

Epicenter: 37.270N., 121.630W.

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**CALIFORNIA—Continued**

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Depth: 7 km  
Magnitude:  $3.0M_L(BK)$ ,  $M_o=01.8E20(BK)$   
Felt: Morgan Hill (BK).

**8 October (BK) Central California**

Origin time: 22 17 43.2  
Epicenter: 36.168N., 120.235W.  
Depth: 11 km  
Magnitude:  $4.1M_L(BK)$ ,  $3.9M_L(PS)$ ,  $M_o=01.8E22(BK)$   
Intensity IV: Cantua Creek, Coalinga.  
Intensity III: Avenal.

**31 October (PS) Southern California**

Origin time: 19 55 04.0  
Epicenter: 34.473N., 117.892W.  
Depth: 3 km  
Magnitude:  $3.6M_L(PS)$   
Intensity V:  
San Dimas—Plaster and drywall sustained hairline cracks; trees and bushes shook moderately; moderate vibration felt by the postmaster while driving a car; standing vehicles rocked moderately; vibration was moderate; earth noise was moderate; felt by all.  
Valyermo—Plaster sustained hairline cracks; standing vehicles rocked slightly; trees and bushes shook slightly; vibration was moderate; earth noise was moderate.  
Intensity IV: Acton, Llano, Pearblossom.

**5 November (BK) Central California**

Origin time: 22 06 37.0  
Epicenter: 35.950N., 118.498W.  
Depth: 7 km  
Magnitude:  $3.5M_L(BK)$   
Felt: Along the Kern River—10 miles north of Lake Isabella (BK).

**8 November (BK) Off the coast of Northern California**

Origin time: 13 02 44.4  
Epicenter: 40.800N., 125.187W.  
Depth: 13 km  
Magnitude:  $4.1M_L(BK)$ ,  $M_o=07.8E21(BK)$   
Intensity III: Bayside, Honeydew.

**23 November (BK) Northern California**

Origin time: 07 27 25.3  
Epicenter: 40.263N., 123.673W.  
Depth: 19 km  
Magnitude:  $3.7M_L(BK)$ ,  $M_o=08.9E21(BK)$   
Intensity IV: Miranda.

**24 November (PS) Central California**

Origin time: 19 21 39.9  
Epicenter: 36.024N., 120.890W.  
Depth: 6 km

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**CALIFORNIA—Continued**

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Magnitude:  $4.5m_b(GS)$ ,  $4.0M_D(PS)$ ,  $4.5M_L(BK)$ ,  
 $M_o=05.0E21(BK)$

**Intensity V:**

San Ardo—Windows, doors, and dishes rattled loudly; walls creaked loudly; buildings trembled moderately; a few small objects overturned and fell.

Intensity IV: Bradley, Creston, north of Gonzales, King City, Lockwood,

Intensity III: Coalinga, Moss Landing, Pacific Grove, Templeton.

Intensity II: Carmel.

Felt: Paso Robles (press report), San Luis Obispo (press report).

**28 November (BK) Central California**

Origin time: 15 13 57.2  
Epicenter: 36.562N., 121.060W.  
Depth: 10 km  
Magnitude:  $4.4m_b(GS)$ ,  $4.4M_S(GS)$ ,  $4.6M_L(BK)$ ,  
 $4.9M_L(PS)$ ,  $M_o=09.8E22(BK)$

Intensity IV: Aptos, Big Sur, Carmel, Paicines, Santa Cruz, Tres Pinos.

Intensity III: Hollister, King City (press report), Morgan Hill, Salinas, Seaside.

Intensity II: Coalinga (press report), San Ardo.

Felt: Monterey (press report).

**29 November (BK) Central California**

Origin time: 02 03 35.9  
Epicenter: 38.025N., 122.242W.  
Depth: 7 km  
Magnitude:  $2.3M_L(BK)$ ,  $M_o=03.6E20(BK)$   
Felt: Martinez (BK), Pinole (BK).

**1 December (PS) Southern California**

Origin time: 17 35 18.3  
Epicenter: 34.154N., 117.319W.  
Depth: 6 km  
Magnitude:  $3.3M_D(PS)$   
Intensity III: Rialto (press report), San Bernardino (press report).

**4 December (BK) Central California**

Origin time: 18 55 19.0  
Epicenter: 37.265N., 121.663W.  
Depth: 6 km  
Magnitude:  $3.3M_L(BK)$ ,  $M_o=01.6E21(BK)$   
Felt: San Jose (BK).

**5 December (BK) off-the-coast of Northern California**

Origin time: 06 28 36.9  
Epicenter: 40.575N., 124.515W.  
Depth: 5 km  
Magnitude:  $3.6m_b(GS)$ ,  $4.2M_L(BK)$ ,  $M_o=04.1E21(BK)$   
Intensity II: Rio Dell.

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**CALIFORNIA—Continued**

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**9 December (BK) Central California**

Origin time: 00 47 07.7

Epicenter: 37.815N., 119.985W.

Depth: Normal

Magnitude: 2.8M<sub>L</sub>(BK)

Felt: Columbia (BK).

**10 December (BK) Central California**

Origin time: 23 25 08.7

Epicenter: 37.410N., 121.838W.

Depth: 1 km

Magnitude: 2.3M<sub>L</sub>(BK)

Felt: San Jose (Berryessa) (press report).

**13 December (BK) Central California**

Origin time: 18 37 44.0

Epicenter: 36.987N., 121.723W.

Depth: 8 km

Magnitude: 2.9M<sub>L</sub>(BK)

Felt in Santa Cruz County (press report).

**13 December (BK) Central California**

Origin time: 18 39 22.6

Epicenter: 37.010N., 121.722W.

Depth: 11 km

Magnitude: 3.4M<sub>L</sub>(BK), M<sub>0</sub>=02.3E21(BK)

Intensity III: Aptos, Morgan Hill.

Intensity II: La Selva Beach, Redwood Estates,  
Santa Cruz.

Felt: Gilroy (press report), San Jose (BK).

**19 December (PS) Southern California**

Origin time: 13 03 13.0

Epicenter: 34.050N., 118.483W.

Depth: 6 km

Magnitude: 2.8M<sub>L</sub>(PS)

Intensity III: Culver City, Venice.

Felt: El Segundo (telephone report), Marina Del Rey, Playa  
Del Rey (telephone report).

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**COLORADO**

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**16 March (GS) Central Colorado**

Origin time: 21 55 02.4

Epicenter: 38.558N., 105.850W.

Depth: 5 km

Magnitude: 3.2M<sub>L</sub>(GS)

Intensity V:

Salida—A few small objects overturned and fell; trees and  
bushes shook slightly; felt by many.

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**COLORADO—Continued**

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Intensity IV: Poncha Springs, Texas Creek.

Intensity III: Coaldale, Cotopaxi, Nathrop.

Intensity II: Howard.

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**CONNECTICUT**

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**19 October (LD) Southeastern New York**

Origin time: 10 07 40.3

See New York listing.

**21 October (LD) Southeastern New York**

Origin time: 10 37 15.2

See New York listing.

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**DELAWARE**

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**11 October (DE) Northern Delaware**

Origin time: 01 47 50.7

Epicenter: 39.768N., 75.559W.

Depth: None computed.

Magnitude: 1.9M<sub>D</sub>(DE)

Felt: Claymont (Indian Field area—press report), Wilmington—Alapocas Woods area (DE), Wilmington—Brandywine Hills (press report), Wilmington—Deerhurst (press report), Wilmington—North Hill (press report).

**20 October (DE) Northern Delaware**

Origin time: 07 55 26.6

Epicenter: 39.764N., 75.551W.

Depth: None computed.

Magnitude: 1.7M<sub>D</sub>(DE)

Felt: Wilmington area (DE).

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**HAWAII**

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**6 January (HV) Hawaii Island**

Origin time: 19 38 59.9

Epicenter: 19.372N., 155.479W.

Depth: 10 km

Magnitude: 3.0M<sub>L</sub>(HV)

Intensity II: Pahala (HV).

**15 January (HV) Hawaii Island**

Origin time: 21 39 25.9

Epicenter: 19.343N., 155.216W.

Depth: 9 km

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**HAWAII—Continued**

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Magnitude: 3.1M<sub>L</sub>(HV)  
Intensity II: Volcano (HV).

**22 February (HV) Hawaii Island**

Origin time: 05 48 29.4  
Epicenter: 19.328N., 155.211W.  
Depth: 9 km  
Magnitude: 5.0m<sub>b</sub>(GS), 4.8M<sub>L</sub>(HV)

This earthquake was felt by most residents on Hawaii Island, except those in North Kohala (press report).

**Intensity V:**

Hilo— A few loose rocks fell on the Hamakua Highway; hanging pictures swung out of place; a few dishes broke (press report); a few items shook off store shelves; a faint earth noise was heard; the vibration was described as moderate; felt by all and frightened many.

Ookala— A few small objects overturned and fell; felt by many.

Intensity IV: Hakalau, Hamakua, Hawi, Holualoa, Honokaa, Kailua-Kona, Kealahakua, Laupahoehoe, Naalehu, Ninole, Oalahakua, Paauhua, Pahala, Pahoa, Papaikou, Pepeekeo, Volcano.

Intensity III: Hawaiian Ocean View Estates (HV).

**26 February (HV) Hawaii Island**

Origin time: 04 27 46.4  
Epicenter: 19.787N., 156.073W.  
Depth: 11 km  
Magnitude: 3.9M<sub>L</sub>(HV)  
Intensity III: Kailua-Kona (HV).  
Intensity II: Pahala (HV).

**5 March (HV) Hawaii Island**

Origin time: 07 09 03.4  
Epicenter: 19.368N., 155.482W.  
Depth: 10 km  
Magnitude: 3.0M<sub>L</sub>(HV)  
Intensity II: Pahala (HV).

**11 March (HV) Hawaii Island**

Origin time: 18 21 45.0  
Epicenter: 19.349N., 155.039W.  
Depth: 8 km  
Magnitude: 3.4M<sub>L</sub>(HV)  
Intensity III: Hilo (HV), Puna District (HV).  
Intensity II: Volcano (HV).

**29 March (HV) Hawaii Island**

Origin time: 12 57 45.0  
Epicenter: 19.340N., 155.193W.  
Depth: 9 km  
Magnitude: 3.1M<sub>L</sub>(HV)  
Intensity II: Hilo (HV), Mountain View (HV).

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**HAWAII—Continued**

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**1 April (HV) Hawaii Island**

Origin time: 21 31 18.5  
Epicenter: 19.362N., 155.085W.  
Depth: 9 km  
Magnitude: 4.1M<sub>L</sub>(HV)  
Intensity IV: Hilo (HV), Puna District (HV).  
Intensity III: Volcano (HV), Hawaiian Volcano Observatory (HV).

**27 April (HV) Hawaii Island**

Origin time: 17 54 48.4  
Epicenter: 19.230N., 155.077W.  
Depth: 48 km  
Magnitude: 3.7M<sub>L</sub>(HV)  
Intensity II: Hilo (HV), Hawaiian Beaches (HV), Volcano (HV), Papaikou (HV), Hawaii Volcanoes National Park (HV).

**22 May (HV) Hawaii Island**

Origin time: 12 10 28.3  
Epicenter: 19.663N., 156.037W.  
Depth: 11 km  
Magnitude: 3.2M<sub>L</sub>(HV)  
Intensity III: Kailua-Kona (HV).

**23 May (HV) Hawaii Island**

Origin time: 08 36 54.6  
Epicenter: 19.192N., 155.618W.  
Depth: 9 km  
Magnitude: 3.6M<sub>L</sub>(HV)  
Intensity III: Pahala (HV).

**7 June (HV) Hawaii Island**

Origin time: 09 36 11.1  
Epicenter: 19.566N., 155.949W.  
Depth: 26 km  
Magnitude: 3.6M<sub>L</sub>(HV)  
Intensity III: Kailua-Kona (HV), Captain Cook (HV), Holualoa (HV).

**17 June (HV) Hawaii Island**

Origin time: 17 37 42.6  
Epicenter: 19.371N., 155.478W.  
Depth: 10 km  
Magnitude: 3.1M<sub>L</sub>(HV)  
Intensity II: Pahala (HV).

**30 June (HV) Hawaii Island**

Origin time: 21 12 24.0  
Epicenter: 19.374N., 155.298W.  
Depth: 27 km  
Magnitude: 3.9m<sub>b</sub>(GS), 4.2M<sub>L</sub>(HV)  
Intensity IV: Ainaloa (HV), Glenwood (HV), Hilo (HV), Pahoa (HV), Volcano (HV).



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**HAWAII—Continued**

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Intensity III: Ahualoa (HV), Honokaa (HV), Kailua-Kona (HV), Pahala (HV), Punaluu (HV).

**7 July (HV) Hawaii Island**

Origin time: 12 00 37.5

Epicenter: 19.169N., 155.599W.

Depth: 11 km

Magnitude: 4.0 $m_b$ (GS), 4.3 $M_L$ (HV)

Intensity IV: Naalehu (HV), Pahala (HV), Waiohinu (HV).

Intensity III: Hawaiian Ocean View Estates (HV).

Intensity II: Hilo (HV), Kona District (HV), Puna District (HV), Volcano (HV).

**7 July (HV) Hawaii Island**

Origin time: 12 06 40.9

Epicenter: 19.149N., 155.589W.

Depth: 7 km

Magnitude: 3.2 $M_L$ (HV)

Intensity III: Waiohinu (HV).

Intensity II: Pahala (HV).

**7 July (HV) Hawaii Island**

Origin time: 12 25 04.0

Epicenter: 19.144N., 155.587W.

Depth: 11 km

Magnitude: 3.6 $M_L$ (HV)

Intensity III: Waiohinu (HV).

Intensity II: Pahala (HV).

**7 July (HV) Hawaii Island**

Origin time: 16 09 15.2

Epicenter: 19.139N., 155.598W.

Depth: 11 km

Magnitude: 3.2 $M_L$ (HV)

Intensity III: Waiohinu (HV).

**7 July (HV) Hawaii Island**

Origin time: 16 28 32.1

Epicenter: 19.135N., 155.589W.

Depth: 11 km

Magnitude: 3.2 $M_L$ (HV)

Intensity III: Waiohinu (HV).

**11 July (HV) Hawaii Island**

Origin time: 07 20 08.4

Epicenter: 19.217N., 155.544W.

Depth: 10 km

Magnitude: 3.1 $M_L$ (HV)

Intensity III: Waiohinu (HV).

Intensity II: Pahala. (HV).

**25 July (HV) Hawaii Island**

Origin time: 15 34 13.6

Epicenter: 19.745N., 156.484W.

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**HAWAII—Continued**

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Depth: 35 km

Magnitude: 3.7 $M_L$ (HV)

Intensity II: Kona (HV).

**6 August (HV) Hawaii Island**

Origin time: 18 06 59.4

Epicenter: 19.202N., 155.455W.

Depth: 9 km

Magnitude: 3.2 $M_L$ (HV)

Intensity II: Pahala (HV).

**13 August (HV) Hawaii Island**

Origin time: 20 02 53.9

Epicenter: 19.194N., 155.658W.

Depth: 11 km

Magnitude: 3.5 $M_L$ (HV)

Intensity III: Hawaiian Ocean View Estates (HV).

**22 August (HV) Hawaii Island**

Origin time: 16 28 00.2

Epicenter: 19.309N., 156.070W.

Depth: 40 km

Magnitude: 4.2 $M_L$ (HV)

Intensity IV: Holualoa (HV).

Intensity III: Kailua-Kona (HV), Napoopoo (HV), Pahala (HV), Waiohinu (HV).

**3 September (HV) Hawaii Island**

Origin time: 05 51 12.4

Epicenter: 19.328N., 155.229W.

Depth: 10 km

Magnitude: 3.3 $M_L$ (HV)

Intensity III: Mountain View (HV), Volcano (HV).

Intensity II: Hilo (HV), Papaikou (HV).

**1 October (HV) Hawaii Island**

Origin time: 05 28 11.2

Epicenter: 19.804N., 155.384W.

Depth: 24 km

Magnitude: 3.0 $M_L$ (HV)

Intensity II: Hilo (HV).

**3 October (HV) Hawaii Island**

Origin time: 16 12 48.7

Epicenter: 19.783N., 155.595W.

Depth: 15 km

Magnitude: 3.7 $M_L$ (HV)

Intensity IV: Pohakuloa (press report).

Intensity III: Honokaa (HV), Kamuela (HV), Kukuihaele (HV), Waikalua (HV), Waimea (press report).

Intensity II: Hilo (HV).

**12 October (HV) Hawaii Island**

Origin time: 18 44 07.1

Epicenter: 19.363N., 155.330W.

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**HAWAII—Continued**

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Depth: 31 km  
Magnitude: 3.6M<sub>L</sub>(HV)  
Intensity III: Hawaiian Volcano Observatory (HV).

**15 October (HV) Hawaii Island**

Origin time: 05 13 40.9  
Epicenter: 19.347N., 155.049W.  
Depth: 9 km  
Magnitude: 3.1M<sub>L</sub>(HV)  
Intensity II: Hilo (HV).

**18 October (HV) Hawaii Island**

Origin time: 04 57 42.6  
Epicenter: 19.507N., 155.919W.  
Depth: 12 km  
Magnitude: 3.0M<sub>L</sub>(HV)  
Intensity III: Captain Cook (HV), Honaunau (HV),  
Kainaliu (HV).  
Intensity II: Keauhou (HV).

**14 November (HV) Hawaii Island**

Origin time: 06 01 55.3  
Epicenter: 19.406N., 155.284W.  
Depth: 19 km  
Magnitude: 3.0M<sub>L</sub>(HV)  
Intensity II: Mountain View (HV).

**12 December (HV) Maui Island area**

Origin time: 19 01 22.9  
Epicenter: 20.578N., 155.755W.  
Depth: 25 km  
Magnitude: 4.3m<sub>b</sub>(GS), 4.7M<sub>L</sub>(HV)  
Intensity IV:  
Hawaii Island—Hawi, Honaunau, Kamuela, Kohala District  
(HV), Papaalou, Papaikou.  
Maui Island—Hana (HV), Kahului, Makawao.  
Intensity III:  
Hawaii Island—Holualoa, Honokaa, Kamuela (HV),  
Laupahoehoe, Paauhau, Pepeekeo, Volcano.  
Lanai Island—Lanai City.  
Maui Island—Kahului, Kaunakakai.  
Intensity II:  
Hawaii Island—Hawaiian Volcano Observatory (HV), Hilo  
(HV), Ninole.  
Maui Island—Haleakala (HV), Kualapuu.  
Oahu Island—Aina Haina (HV), Honolulu—Punch Bowl  
(HV).  
Felt:  
Hawaii Island—Honolulu.  
Molokai Island (HV).

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**HAWAII—Continued**

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**12 December (HV) Hawaii Island**

Origin time: 21 18 39.3  
Epicenter: 19.516N., 155.907W.  
Depth: 12 km  
Magnitude: 4.0M<sub>L</sub>(HV)  
Intensity III: Captain Cook (HV), Kealahou (HV).  
Intensity II: Hawaiian Volcano Observatory (HV), Kailua-  
Kona (HV).

**13 December (HV) Hawaii Island**

Origin time: 08 17 44.5  
Epicenter: 19.363N., 155.044W.  
Depth: 9 km  
Magnitude: 3.4M<sub>L</sub>(HV)  
Intensity IV: Kalapana (HV).  
Intensity III: Hilo (HV), Mountain View (HV), Orchid-  
land (HV).  
Intensity II: Papaikou (HV).

**13 December (HV) Hawaii Island**

Origin time: 14 29 10.4  
Epicenter: 19.371N., 155.080W.  
Depth: 9 km  
Magnitude: 3.2M<sub>L</sub>(HV)  
Intensity III: Kalapana (HV).  
Intensity II: Hilo (HV), Papaikou (HV).

**13 December (HV) Hawaii Island**

Origin time: 23 20 57.4  
Epicenter: 19.328N., 155.129W.  
Depth: 9 km  
Magnitude: 4.0M<sub>L</sub>(HV)  
Intensity IV: Puna District (HV).  
Intensity II: Hilo (HV).

**23 December (HV) Hawaii Island**

Origin time: 16 38 35.1  
Epicenter: 19.357N., 155.012W.  
Depth: 9 km  
Magnitude: 3.2M<sub>L</sub>(HV)  
Intensity III: Hilo (PM).

**25 December (HV) Hawaii Island**

Origin time: 09 38 26.8  
Epicenter: 19.234N., 155.512W.  
Depth: 10 km  
Magnitude: 3.3M<sub>L</sub>(HV)  
Intensity III: Pahala (HV).

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**IDAHO**

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**18 January (GS) Central Idaho**

Origin time: 03 38 07.9

Epicenter: 44.703N., 114.151W.

Depth: 10 km

Magnitude: 3.7M<sub>L</sub>(GS), 3.7M<sub>L</sub>(BU)

Intensity III: Cobalt.

Intensity II: Ellis.

**6 February (GS) Central Idaho**

Origin time: 16 08 56.0

Epicenter: 44.489N., 114.336W.

Depth: 10 km

Magnitude: 3.8M<sub>L</sub>(GS), 4.4M<sub>L</sub>(BU)

Intensity III: Challis, Clayton.

**6 February (GS) Central Idaho**

Origin time: 18 13 54.2

Epicenter: 44.355N., 114.418W.

Depth: 10 km

Magnitude: 3.4M<sub>L</sub>(GS), 3.9M<sub>L</sub>(BU)

Felt: Challis (press report).

**6 February (GS) Central Idaho**

Origin time: 19 34 19.4

Epicenter: 44.551N., 114.176W.

Depth: 10 km

Magnitude: 4.7m<sub>b</sub>(GS), 4.8M<sub>D</sub>(BU)

Intensity V:

Idaho—

Clayton—A few items fell from store shelves; a few small objects fell; hanging objects or doors swung slightly; hanging pictures swung; buildings trembled slightly; walls creaked; windows, doors, and dishes rattled; felt by many.

Intensity IV:

Idaho— Challis (press report), May, Tendoy.

Intensity III:

Idaho— Carmen, Cobalt, Ellis, Lemhi, North Fork, Shoup.  
Montana— Wisdom.

Felt:

Idaho— Picabo.

**7 February (GS) Central Idaho**

Origin time: 02 14 04.4

Epicenter: 44.421N., 114.185W.

Depth: 10 km

Magnitude: 3.7M<sub>L</sub>(GS), 4.4M<sub>L</sub>(BU)

Felt: Challis (press report).

**11 February (GS) Central Idaho**

Origin time: 16 07 03.8

Epicenter: 44.457N., 114.233W.

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**IDAHO—Continued**

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Depth: 10 km

Magnitude: 3.8M<sub>L</sub>(GS), 4.2M<sub>L</sub>(BU)

Felt: Challis.

**25 February (GS) Central Idaho**

Origin time: 11 46 06.5

Epicenter: 44.501N., 114.190W.

Depth: 10 km

Magnitude: 3.3M<sub>L</sub>(GS), 3.3M<sub>L</sub>(BU)

Intensity II: Challis.

**17 March (GS) Central Idaho**

Origin time: 06 56 17.1

Epicenter: 44.553N., 114.182W.

Depth: 10 km

Magnitude: 4.5m<sub>b</sub>(GS), 4.7M<sub>D</sub>(BU).

Intensity V:

Challis— A few small objects overturned and fell; buildings shook moderately; windows, doors, and dishes rattled loudly; vibration was moderate; earth noise was loud; felt by many and awakened several.

May— Plaster sustained hairline cracks. Hanging objects or doors swung moderately; buildings shook moderately; vibration was moderate; earth noise was moderate; felt by all and awakened many.

Intensity IV: Carmen, Clayton, Cobalt, Ellis.

Intensity III: North Fork, Salmon, Warren.

Intensity II: Atlanta.

Felt: Campbell's Ferry (press report), Taylor Ranch (press report), Yellow Pine (press report).

**1 April (GS) Northwestern Montana**

Origin time: 09 13 14.2

See Montana listing.

**2 July (GS) Southeastern Idaho**

Origin time: 03 03 56.0

Epicenter: 43.255N., 111.154W.

Depth: 5 km

Magnitude: 4.0M<sub>L</sub>(GS), 3.7M<sub>L</sub>(UU)

Intensity IV:

Idaho— Palisades.

Intensity III:

Idaho— Felt, Irwin.

Wyoming— Alpine.

Intensity II:

Wyoming— Thayne.

Felt:

Wyoming— Jackson (press report), Palisades (press report).

**6 August (GS) Southeastern British Columbia**

Origin time: 13 53 31.3

Epicenter: 49.363N., 116.706W.

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**IDAHO—Continued**

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Depth: 5 km

Magnitude: 3.6M<sub>L</sub>(GS), 4.0M<sub>L</sub>(EP)

Intensity IV:

United States—

Idaho—Nordman.

Washington—Cusick.

Intensity III:

United States—

Washington—Ione, Newport, Metaline, Usk.

Felt:

United States—

Idaho—Porthill, Priest River.

Canada—

British Columbia—Creston, Trail.

**7 August (UU) Southwestern Idaho**

Origin time: 07 10 33.2

Epicenter: 42.108N., 112.322W.

Depth: 1 km

Magnitude: 2.8M<sub>L</sub>(UU), 2.5M<sub>L</sub>(GS)

Intensity III: Samaria (press report).

Felt: Malad City (UU).

**29 October (GS) Central Idaho**

Origin time: 21 30 34.6

Epicenter: 44.392N., 114.075W.

Depth: 5 km

Magnitude: 4.1M<sub>L</sub>(GS), 4.3M<sub>L</sub>(BU)

Intensity V:

May—A few items shook off store shelves; a few small objects overturned; standing and moving vehicles rocked slightly; trees and bushes shook moderately; vibration was moderate.

Intensity IV: Challis, Clayton.

**21 August (GS) Western Wyoming**

Origin time: 18 05 38.3

See Wyoming listing.

**22 August (GS) Western Wyoming**

Origin time: 06 17 39.7

See Wyoming listing.

**30 August (GS) Western Wyoming**

Origin time: 21 08 06.9

See Wyoming listing.

**7 September (GS) Western Wyoming**

Origin time: 03 47 29.2

See Wyoming listing.

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**ILLINOIS**

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**15 February (SL) Southern Illinois**

Origin time: 15 56 10.0

Epicenter: 37.230N., 89.330W.

Depth: 5 km

Magnitude: 3.3M<sub>n</sub>(SL)

Intensity IV:

Illinois—Chester.

Missouri—Old Appleton.

Intensity III:

Illinois—Colp, Tamms.

Intensity II:

Illinois—Belknap.

Felt:

Kentucky—Mayfield (SL).

**9 September (GS) Northeastern Illinois**

Origin time: 22 06 31.0

Epicenter: 41.848N., 88.014W.

Depth: 5 km

Magnitude: 3.0M<sub>n</sub>(GS)

Intensity V:

Chicago—A few windows cracked; a few glassware items or dishes broke; light furniture or small appliances overturned; a few items shook off store shelves; trees and bushes shook slightly.

Clarendon Hills—Plaster and drywall sustained hairline cracks; a few windows cracked; a few glassware items or dishes broke; a few objects overturned and fell; hanging pictures swung out of place.

Hinsdale—Drywall sustained hairline cracks; a few windows cracked; a few small objects fell; felt by many. At First and Grant Streets, a section of plaster fell from a second floor bedroom ceiling at one home (press report).

La Grange—Plaster and drywall sustained hairline cracks; hanging pictures swung out of place; standing vehicles rocked slightly; vibration was strong; felt by many.

Intensity IV: Brookfield, Countryside, La Grange Park, Lindenwood, Western Springs, Willowbrook (press report).

Intensity III: La Grange Highlands (press report), Villa Park.

Felt:

Edgbrook (SL), Winter Springs (SL).

**12 November Chicago area**

Origin time: 23 55

Epicenter: Not located.

Depth: None computed.

Magnitude: None computed.

Intensity III: Hinsdale (press report).

**29 December (GS) Southern Illinois**

Origin time: 08 56 56.3

Epicenter: 38.552N., 88.965W.

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**ILLINOIS—Continued**

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Depth: 5 km  
Magnitude:  $3.5M_n$ (GS),  $3.2M_n$ (SL),  $3.2M_D$ (TC)  
Intensity V:  
Dix— Hanging pictures fell; a few small objects overturned and fell; windows, doors, and dishes rattled loudly; vibration was moderate; felt by and awakened many.  
Intensity IV: Bluford, Hoffman, Hoyleton, Odin, Salem, Sandoval.  
Intensity III: Kell.  
Intensity II: Mt. Vernon, Walnut Hill.  
Felt: Centralia (SL), Iuka (SL).

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**INDIANA**

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**1 May (SL) Western Kentucky**  
Origin time: 01 16 27.8  
See Kentucky listing.

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**KENTUCKY**

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**1 May (SL) Western Kentucky**  
Origin time: 01 16 27.8  
Epicenter: 37.780N., 87.610W.  
Depth: 10 km  
Magnitude:  $2.9M_n$ (SL)  
Intensity III:  
Indiana— Evansville (press report), Poseyville.

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**MAINE**

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**12 April (WO) Western Maine**  
Origin time: 05 27 30.5  
Epicenter: 45.364N., 70.704W.  
Depth: 2 km  
Magnitude:  $3.1M_n$ (WO),  $3.5M_n$ (GS)  
Intensity III: Stratton.

**7 October (WO) Southwestern Maine**  
Origin time: 02 09 37.6  
Epicenter: 44.077N., 70.215W.  
Depth: 7 km  
Magnitude:  $2.3M_n$ (WO)  
Felt: Lewiston (press report).

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**MASSACHUSETTS**

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**15 October (WO) Eastern Massachusetts**  
Origin time: 20 00 38.4  
Epicenter: 42.528N., 71.471W.  
Depth: 13 km  
Magnitude:  $3.1M_n$ (WO),  $3.2M_n$ (LD)  
Intensity IV:  
Massachusetts— Andover (press report), Acton (press report), Boxborough (press report), Carlisle, Forge Village, Harwood, Lawrence (press report), North Billerica, North Chelmsford, Reading, Stow, Westford.  
Intensity III:  
Massachusetts— Haverhill, Lawrence, South Lancaster, West Newbury.  
New Hampshire— Nashua.  
Intensity II:  
Massachusetts— Harvard (press report), Pepperell, Still River.  
Felt:  
Massachusetts— Lowell.

**19 October (LD) Southeastern New York**  
Origin time: 10 07 40.3  
See New York listing.

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**MISSOURI**

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**15 February (SL) Southern Illinois**  
Origin time: 15 56 10.0  
See Illinois listing.

**6 September (GS) Northeastern Arkansas**  
Origin time: 22 17 02.8  
See Arkansas listing.

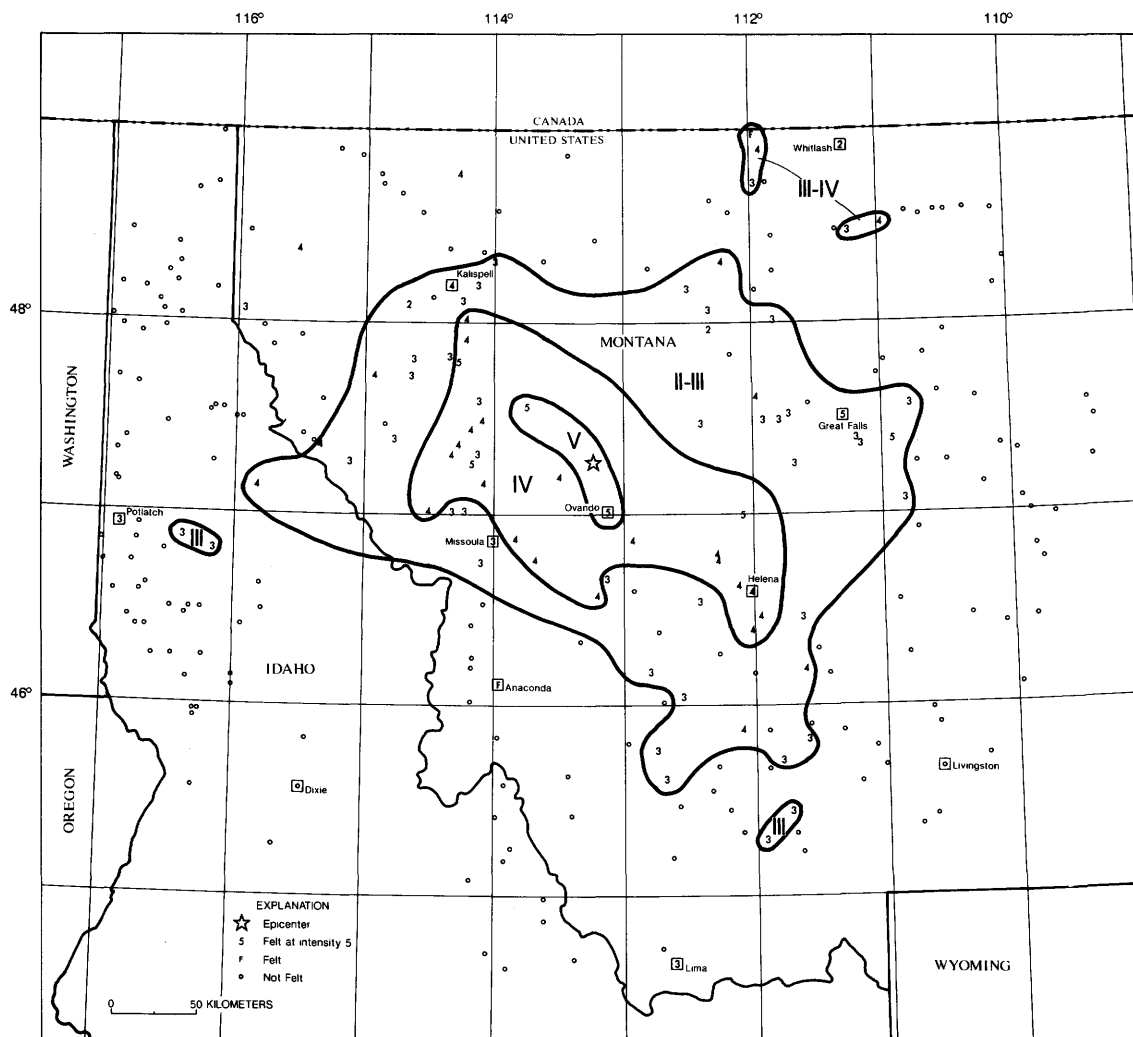
**5 December (GS) Northeastern Arkansas**  
Origin time: 22 59 41.2  
See Arkansas listing.

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**MONTANA**

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**6 February (GS) Central Idaho**  
Origin time: 19 34 19.4  
See Idaho listing.



**Figure 13.** Isoseismal map for the northwestern Montana earthquake of 01 April 1985, 09 13 14.2 UTC. Roman numerals represent Modified Mercalli intensities between isoseismals; Arabic numerals represent intensities at specific sites; open circles represent not felt at specific sites.

#### MONTANA—Continued

**1 March (UU) Yellowstone National Park**  
Origin time: 23 33 28.9

See Wyoming listing.

**1 March (UU) Yellowstone National Park**  
Origin time: 23 45 53.3

See Wyoming listing.

**1 April (GS) Northwestern Montana**  
Origin time: 09 13 14.2  
Epicenter: 47.276N., 113.233W.  
Depth: 10 km  
Magnitude: 4.8<sub>m</sub>(GS), 4.9 M<sub>D</sub>(BU)

#### MONTANA—Continued

Felt over an area of about 68,000 km<sup>2</sup> of Idaho and Montana (fig. 13).

**Intensity V:**  
Montana—

- Belt—** A few windows cracked; a few small objects overturned and fell; buildings shook strongly.
- Big Arm—** Small objects overturned and fell; hanging pictures swung out of place; felt by and awakened many.
- Condon—** A few items shook off store shelves; a few small objects overturned and fell; hanging pictures swung out of place; hanging objects or doors swung moderately; buildings trembled moderately; trees and bushes shook moderately; vibration was strong; earth noise was moderate; felt by and awakened many.

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**MONTANA—Continued**

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East Helena— A water pipe broke (press report).  
Great Falls— A few small objects fell; hanging pictures swung out of place; vibration was light; felt by many.  
Helena— Awakened a few (press report).  
Malmstrom Air Force Base (Great Falls)— A few windows cracked; a few small objects overturned and fell; vibration was moderate; felt by and awakened many.  
Ovando— Drywall sustained hairline cracks; a few small objects overturned; felt by and awakened many.  
Ravalli— Plaster sustained hairline cracks; hanging pictures fell; windows, doors, and dishes rattled loudly; felt by many.  
Wolf Creek— A few small objects overturned and fell; vibration was light; earth noise was moderate, awakened several.

**Intensity IV:**

Idaho— Avery.

Montana— Alberton, Arlee, Canyon Creek, Charlo, Chester, Clancy, Clinton, De Borgia, Dixon, Fairfield, Fort Harrison, Hall, Helena, Helmville, Jefferson City, Kalispell, Lakeside, Libby, Marysville, Milltown, Moiese, Polebridge, Radersburg, Rollins, Ronan, Seeley Lake, Sunburst, Superior, Valier, Whitehall.

**Intensity III:**

Idaho— Bovill, Elk River, Potlatch.

Montana— Augusta, Brady, Cascade, Creston, Divide, Drummond, Dupuyer, Elliston, Elmo, Fort Shaw, Frenchtown, Harrison, Heron, Highwood, Hungry Horse, Huson, Kevin, Lima, Lolo, Lonepine, Lothair, McAllister, Melrose, Missoula, Monarch, Niarada, Pablo, Paradise, Pendroy, Saint Ignatius, Saint Regis, Sand Coulee, Simms, Somers, Stockett, Sun River, Virginia City, Walkerville, Warmsprings, Willow Creek, Winston.

**Intensity II:**

Montana— Bynum, Marion, Whitlash.

**Felt:**

Montana— Anaconda (press report), Butte (press report), Sweetgrass.

**30 April (GS) Hebgen Lake area**

Origin time: 04 20 32.9

Epicenter: 44.588N., 111.269W.

Depth: 5 km

Magnitude: 3.6M<sub>L</sub>(GS), 3.8M<sub>L</sub>(BU)

**Intensity III:**

Montana— West Yellowstone.

**Intensity II:**

Wyoming— Madison Junction, Old Faithful.

**7 June (BU) Yellowstone National Park**

Origin time: 01 40 45.2

See Wyoming listing.

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**MONTANA—Continued**

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**18 August (GS) Yellowstone National Park**

Origin time: 00 42 45.3

See Wyoming listing.

**5 September (GS) Yellowstone National Park area**

Origin time: 03 59 26.3

Epicenter: 44.669N., 111.053W.

Depth: 5 km

Magnitude: 3.1M<sub>L</sub>(GS), 3.2M<sub>L</sub>(BU)

**Intensity II:**

Wyoming— Old Faithful.

**16 October (BU) Yellowstone National Park**

Origin time: 20 01 59.3

See Wyoming listing.

**16 October (BU) Yellowstone National Park**

Origin time: 23 36 00.4

See Wyoming listing

**16 October (BU) Yellowstone National Park**

Origin time: 23 59 17.9

See Wyoming listing.

**17 October (GS) Yellowstone National Park area**

Origin time: 00 08 43.2

Epicenter: 44.628N., 111.082W.

Depth: 5 km

Magnitude: 3.2M<sub>L</sub>(GS), 3.7M<sub>L</sub>(BU)

**Intensity III:**

Wyoming— Old Faithful.

**17 October (BU) Yellowstone National Park area**

Origin time: 00 18 36.9

See Wyoming listing.

**17 October (BU) Yellowstone National Park**

Origin time: 03 06 05.2

See Wyoming listing.

**17 October (GS) Yellowstone National Park area**

Origin time: 08 01 46.7

Epicenter: 44.635N., 111.056W.

Depth: 5 km

Magnitude: 3.3M<sub>L</sub>(GS), 3.9M<sub>L</sub>(BU)

**Intensity IV:**

Montana— West Yellowstone.

Wyoming— Old Faithful.

**17 October (GS) Yellowstone National Park area**

Origin time: 10 47 59.3

Epicenter: 44.646N., 111.076W.

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**MONTANA—Continued**

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Depth: 5 km  
Magnitude: 2.8M<sub>L</sub>(GS), 3.2M<sub>L</sub>(BU)  
Intensity III:

Montana— West Yellowstone.

Wyoming— Old Faithful.

**17 October (BU) Yellowstone National Park**

Origin time: 11 57 58.4

See Wyoming listing.

**17 October (GS) Yellowstone National Park area**

Origin time: 17 56 19.3

Epicenter: 44.627N., 111.084W.

Depth: 5 km

Magnitude: 2.8M<sub>L</sub>(GS), 3.3M<sub>L</sub>(BU)

Intensity III: West Yellowstone.

**17 October (GS) Yellowstone National Park area**

Origin time: 22 46 36.3

Epicenter: 44.637N., 111.060W.

Depth: 5 km

Magnitude: 3.2M<sub>L</sub>(GS), 3.7M<sub>L</sub>(BU)

Intensity III: West Yellowstone.

**18 October (GS) Yellowstone National Park area**

Origin time: 00 16 43.5

Epicenter: 44.620N., 111.056W.

Depth: 5 km

Magnitude: 3.2M<sub>L</sub>(GS), 3.6M<sub>L</sub>(BU)

Intensity III:

Wyoming— Madison Junction.

**18 October (GS) Yellowstone National Park area**

Origin time: 00 26 19.2

Epicenter: 44.652N., 111.052W.

Depth: 5 km

Magnitude: 3.0M<sub>L</sub>(GS), 3.5M<sub>L</sub>(BU)

Intensity III:

Montana— West Yellowstone.

Wyoming— Old Faithful.

**18 October (GS) Yellowstone National Park area**

Origin time: 19 23 22.2

Epicenter: 44.647N., 111.051W.

Depth: 5 km

Magnitude: 2.8M<sub>L</sub>(GS), 3.3M<sub>L</sub>(BU)

Intensity III:

Montana— West Yellowstone.

Wyoming— Old Faithful.

**19 October (GS) Yellowstone National Park area**

Origin time: 06 33 02.8

Epicenter: 44.658N., 111.063W.

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**MONTANA—Continued**

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Depth: 5 km  
Magnitude: 3.1M<sub>L</sub>(GS), 3.4M<sub>L</sub>(BU)  
Intensity III: West Yellowstone.

**19 October (GS) Yellowstone National Park area**

Origin time: 09 28 43.6

Epicenter: 44.631N., 111.078W.

Depth: 5 km

Magnitude: 3.2M<sub>L</sub>(GS), 3.6M<sub>L</sub>(BU)

Intensity IV: West Yellowstone.

**19 October (GS) Yellowstone National Park area**

Origin time: 09 45 16.3

Epicenter: 44.656N., 111.078W.

Depth: 5 km

Magnitude: 3.4M<sub>L</sub>(GS), 3.8M<sub>L</sub>(BU)

Intensity IV: West Yellowstone.

**19 October (GS) Yellowstone National Park area**

Origin time: 11 43 12.2

Epicenter: 44.634N., 111.096W.

Depth: 5 km

Magnitude: 2.7M<sub>L</sub>(GS), 3.1M<sub>L</sub>(BU)

Intensity III: West Yellowstone.

**19 October (BU) Hebgen Lake area**

Origin time: 12 00 10.5

Epicenter: 44.785N., 111.123W.

Depth: 1 km

Magnitude: 2.9M<sub>L</sub>(BU), 2.7M<sub>D</sub>(BU)

Intensity IV: West Yellowstone.

**19 October (BU) Yellowstone National Park**

Origin time: 12 45 53.5

See Wyoming listing.

**19 October (GS) Yellowstone National Park area**

Origin time: 12 47 49.7

Epicenter: 44.641N., 111.080W.

Depth: 5 km

Magnitude: 3.6 M<sub>L</sub>(GS), 4.1M<sub>L</sub>(BU)

Intensity IV: West Yellowstone.

**19 October (GS) Yellowstone National Park**

Origin time: 15 34 59.5

See Wyoming listing.

**19 October (GS) Yellowstone National Park**

Origin time: 16 32 35.6

See Wyoming listing.

**19 October (GS) Yellowstone National Park area**

Origin time: 16 45 06.6

Epicenter: 44.650N., 111.060W.



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**MONTANA—Continued**

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Depth: 5 km

Magnitude: 3.8M<sub>L</sub>(GS), 4.2M<sub>L</sub>(BU)

Intensity IV:

Montana— West Yellowstone.

Wyoming— Madison Junction.

**20 October (BU) Yellowstone National Park**

Origin time: 06 31 31.2

See Wyoming listing.

**22 October (BU) Yellowstone National Park**

Origin time: 09 54 43.7

See Wyoming listing.

**25 October (BU) Yellowstone National Park**

Origin time: 02 21 06.9

See Wyoming listing.

**29 October (GS) Yellowstone National Park area**

Origin time: 00 10 39.3

Epicenter: 44.628N., 111.082W.

Depth: 5 km

Magnitude: 3.0M<sub>L</sub>(GS), 3.5M<sub>L</sub>(BU)

Intensity II:

Wyoming— Old Faithful.

**9 November (BU) Yellowstone National Park**

Origin time: 11 38 19.0

See Wyoming listing.

**9 November (GS) Hebgen Lake area**

Origin time: 11 40 22.5

Epicenter: 44.766N., 111.145W.

Depth: 5 km

Magnitude: 4.1M<sub>L</sub>(GS), 4.2M<sub>L</sub>(BU)

Intensity V:

Montana—

West Yellowstone— A few small objects overturned and fell.

Intensity IV:

Montana—Norris, Pony.

Intensity III:

Montana— Springdale, Twin Bridges.

Wyoming— Alpine, Madison Junction, Old Faithful.

Intensity II:

Montana— Big Sky.

Felt:

Wyoming— Canyon Village, Ralston.

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**MONTANA—Continued**

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**9 November (GS) Hebgen Lake area**

Origin time: 11 46 25.7

Epicenter: 44.663N., 111.118W.

Depth: 5 km

Magnitude: 3.2M<sub>L</sub>(GS), 3.6M<sub>L</sub>(BU)

Intensity III:

Montana— West Yellowstone.

Wyoming— Madison Junction, Old Faithful.

**9 November (GS) Hebgen Lake area**

Origin time: 11 48 46.1

Epicenter: 44.662N., 111.104W.

Depth: 5 km

Magnitude: 3.1M<sub>L</sub>(GS), 3.4M<sub>L</sub>(BU)

Intensity III:

Montana— West Yellowstone.

Wyoming— Madison Junction.

Intensity II:

Wyoming— Old Faithful.

**9 November (GS) Yellowstone National Park area**

Origin time: 11 58 49.5

Epicenter: 44.653N., 111.052W.

Depth: 5 km

Magnitude: 4.0M<sub>L</sub>(GS), 4.2M<sub>D</sub>(BU)

Intensity V:

Montana—

West Yellowstone— Books fell off shelves.

Intensity IV:

Wyoming— Canyon Village, Madison Junction, Old Faithful.

**9 November (BU) Yellowstone National Park area**

Origin time: 12 20 21.2

Epicenter: 44.777N., 111.097W.

Depth: 14 km

Magnitude: 2.7M<sub>L</sub>(BU), 2.5M<sub>D</sub>(BU)

Intensity II: West Yellowstone.

**9 November (GS) Yellowstone National Park area**

Origin time: 13 09 15.2

Epicenter: 44.688N., 111.051W.

Depth: 5 km

Magnitude: 4.2M<sub>L</sub>(GS), 4.3M<sub>D</sub>(BU)

Intensity IV:

Montana— West Yellowstone (two wine bottles in a store shook off a shelf and broke).

Wyoming— Canyon Village, Madison Junction, Old Faithful.

Intensity III:

Montana— Gardiner.

Wyoming— Mammoth Hot Springs.

Intensity II:

Montana— Pray.

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**MONTANA—Continued**

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**9 November (BU) Yellowstone National Park**

Origin time: 14 35 57.9

See Wyoming listing.

**9 November (GS) Yellowstone National Park area**

Origin time: 15 19 58.3

Epicenter: 44.619N., 111.065W.

Depth: 5 km

Magnitude: 3.3M<sub>L</sub>(GS), 3.7M<sub>L</sub>(BU)

Intensity III:

Montana— West Yellowstone.

Wyoming— Old Faithful.

**9 November (GS) Hebgen Lake area**

Origin time: 16 36 41.0

Epicenter: 44.646N., 111.142W.

Depth: 1 km

Magnitude: 2.7M<sub>L</sub>(GS), 3.0M<sub>L</sub>(BU)

Intensity II: West Yellowstone.

**9 November (GS) Yellowstone National Park**

Origin time: 17 16 16.7

See Wyoming listing.

**10 November (GS) Yellowstone National Park area**

Origin time: 02 59 29.5

Epicenter: 44.611N., 111.076W.

Depth: 5 km

Magnitude: 2.8 M<sub>L</sub>(GS), 3.3M<sub>L</sub>(BU)

Intensity II: West Yellowstone.

**10 November (GS) Yellowstone National Park area**

Origin time: 05 52 16.4

Epicenter: 44.614N., 111.071W.

Depth: 5 km

Magnitude: 3.2M<sub>L</sub>(GS), 3.6M<sub>L</sub>(BU)

Intensity III: West Yellowstone.

**10 November (BU) Yellowstone National Park**

Origin time: 10 27 31.9

See Wyoming listing.

**10 November (GS) Yellowstone National Park area**

Origin time: 12 58 42.4

Epicenter: 44.624N., 111.098W.

Depth: 5 km

Magnitude: 2.8M<sub>L</sub>(GS), 3.3M<sub>L</sub>(BU)

Intensity III: West Yellowstone.

**10 November (GS) Yellowstone National Park area**

Origin time: 15 46 22.9

Epicenter: 44.696N., 111.075W.

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**MONTANA—Continued**

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Depth: 5 km

Magnitude: 3.1M<sub>L</sub>(GS), 3.3M<sub>L</sub>(BU)

Intensity II: West Yellowstone.

**10 November (BU) Yellowstone National Park**

Origin time: 19 30 38.8

See Wyoming listing.

**11 November (GS) Yellowstone National Park**

Origin time: 00 53 43.2

See Wyoming listing.

**11 November (BU) Yellowstone National Park**

Origin time: 01 26 09.5

See Wyoming listing.

**11 November (GS) Yellowstone, National Park area**

Origin time: 11 27 37.7

Epicenter: 44.613N., 111.094W.

Depth: 5 km

Magnitude: 2.8M<sub>L</sub>(GS), 3.1M<sub>L</sub>(BU)

Intensity II: West Yellowstone.

**11 November (GS) Yellowstone National Park**

Origin time: 14 10 01.6

See Wyoming listing.

**11 November (GS) Hebgen Lake area**

Origin time: 17 46 58.7

Epicenter: 44.612N., 111.118W.

Depth: 5 km

Magnitude: 3.0M<sub>L</sub>(GS), 3.3M<sub>L</sub>(BU)

Intensity II:

Wyoming— Madison Junction.

**12 November (BU) Yellowstone National Park**

Origin time: 07 22 35.8

See Wyoming listing.

**12 November (GS) Yellowstone National Park area**

Origin time: 17 54 28.6

Epicenter: 44.631N., 111.095W.

Depth: 5 km

Magnitude: 3.1M<sub>L</sub>(GS), 3.4M<sub>L</sub>(BU)

Intensity III: West Yellowstone.

**12 November (GS) Yellowstone National Park area**

Origin time: 23 51 12.3

Epicenter: 44.625N., 111.063W.

Depth: 5 km

Magnitude: 3.4M<sub>L</sub>(GS), 3.9M<sub>L</sub>(BU)

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**MONTANA—Continued**

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**Intensity III:**

Montana— West Yellowstone.

**Intensity II:**

Wyoming— Madison Junction.

**13 November (BU) Yellowstone National Park**

Origin time: 18 47 50.7

See Wyoming listing.

**13 November (BU) Yellowstone National Park**

Origin time: 18 52 51.7

See Wyoming listing.

**14 November (BU) Yellowstone National Park**

Origin time: 05 30 16.6

See Wyoming listing.

**15 November (GS) Yellowstone National Park area**

Origin time: 08 14 27.9

Epicenter: 44.628N., 111.051W.

Depth: 5 km

Magnitude: 3.2M<sub>L</sub>(GS), 3.8M<sub>L</sub>(BU)

**Intensity IV:**

Montana— West Yellowstone.

Wyoming— Madison Junction, Old Faithful.

**15 November (GS) Yellowstone National Park area**

Origin time: 15 16 06.2

Epicenter: 44.631N., 111.054W.

Depth: 5 km

Magnitude: 2.9M<sub>L</sub>(GS), 3.2M<sub>L</sub>(BU)

**Intensity II:**

Montana— West Yellowstone.

Wyoming— Old Faithful.

**15 November (GS) Yellowstone National Park**

Origin time: 17 51 35.1

See Wyoming listing.

**15 November (BU) Yellowstone National Park**

Origin time: 17 55 02.5

See Wyoming listing.

**15 November (GS) Yellowstone National Park**

Origin time: 20 51 09.8

See Wyoming listing.

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**MONTANA—Continued**

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**16 November (GS) Yellowstone National Park area**

Origin time: 01 50 10.0

Epicenter: 44.644N., 111.079W.

Depth: 5 km

Magnitude: 3.5M<sub>L</sub>(GS), 3.9M<sub>L</sub>(BU)

**Intensity IV:**

Montana— West Yellowstone.

Wyoming— Madison Junction.

**Intensity III:**

Wyoming— Old Faithful.

**16 November (GS) Yellowstone National Park area**

Origin time: 04 20 17.7

Epicenter: 44.646N., 111.087W.

Depth: 5 km

Magnitude: 3.0M<sub>L</sub>(GS), 3.4M<sub>L</sub>(BU)

Intensity II: West Yellowstone.

**16 November (GS) Yellowstone, National Park area**

Origin time: 22 04 47.8

Epicenter: 44.670N., 111.063W.

Depth: 5 km

Magnitude: 3.0M<sub>L</sub>(GS), 3.3M<sub>L</sub>(BU)

**Intensity III:**

Montana— West Yellowstone.

**Intensity II:**

Wyoming— Old Faithful.

**16 November (GS) Yellowstone National Park area**

Origin time: 23 15 09.4

Epicenter: 44.667N., 111.079W.

Depth: 5 km

Magnitude: 3.7M<sub>L</sub>(GS), 4.0M<sub>L</sub>(BU)

**Intensity IV:**

Montana— West Yellowstone.

**Intensity III:**

Wyoming— Madison Junction, Old Faithful.

**17 November (GS) Yellowstone National Park area**

Origin time: 06 46 05.4

Epicenter: 44.624N., 111.075W.

Depth: 5 km

Magnitude: 4.1M<sub>L</sub>(GS), 4.3M<sub>L</sub>(BU)

**Intensity IV:**

Montana— West Yellowstone.

**Intensity III:**

Wyoming— Old Faithful.

**19 November (BU) Yellowstone National Park area**

Origin time: 04 38 47.5

Epicenter: 44.739N., 111.063W.

Depth: 4 km

Magnitude: 2.8M<sub>L</sub>(BU), 2.4M<sub>D</sub>(BU)

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**MONTANA—Continued**

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Intensity II:  
Wyoming— Madison Junction.

**20 November (GS) Yellowstone National Park**  
Origin time: 14 55 56.1

See Wyoming listing.

**21 November Yellowstone National Park area**  
Origin time: 22 27  
Epicenter: Not located.  
Depth: None computed.  
Magnitude: None computed.  
Intensity III: West Yellowstone.

**22 November (GS) Yellowstone National Park**  
Origin time: 07 42 27.9

See Wyoming listing.

**23 November (BU) Yellowstone National Park**  
Origin time: 10 11 10.7

See Wyoming listing.

**25 November (GS) Yellowstone National Park area**  
Origin time: 16 09 03.0  
Epicenter: 44.631N., 111.074W.  
Depth: 5 km  
Magnitude: 3.5M<sub>L</sub>(GS), 3.9M<sub>L</sub>(BU)  
Intensity IV: West Yellowstone.

**25 November (GS) Yellowstone National Park area**  
Origin time: 16 53 03.8  
Epicenter: 44.612N., 111.071W.  
Depth: 5 km  
Magnitude: 3.5M<sub>L</sub>(GS), 3.6M<sub>L</sub>(BU)  
Intensity III: West Yellowstone.

**26 November (GS) Yellowstone National Park area**  
Origin time: 09 27 49.1  
Epicenter: 44.665N., 111.065W.  
Depth: 5 km  
Magnitude: 3.4M<sub>L</sub>(GS), 3.8M<sub>L</sub>(BU)  
Intensity III:  
Montana— West Yellowstone.  
Wyoming— Madison Junction, Old Faithful.

**26 November (GS) Yellowstone National Park**  
Origin time: 09 34 40.5

See Wyoming listing.

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**MONTANA—Continued**

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**26 November (GS) Yellowstone National Park**  
Origin time: 16 27 55.4

See Wyoming listing.

**29 November (BU) Yellowstone National Park**  
Origin time: 07 21 26.1

See Wyoming listing.

**29 November (BU) Yellowstone National Park**  
Origin time: 22 30 36.9

See Wyoming listing.

**1 December (GS) Hebgen Lake area**  
Origin time: 01 05 49.6  
Epicenter: 44.615N., 111.100W.  
Depth: 5 km  
Magnitude: 2.8M<sub>L</sub>(GS), 3.1M<sub>L</sub>(BU)  
Intensity II:  
Wyoming— Madison Junction.

**1 December (BU) Yellowstone National Park**  
Origin time: 01 08 54.1

See Wyoming listing.

**3 December (GS) Hebgen Lake area**  
Origin time: 05 08 20.9  
Epicenter: 44.584N., 111.105W.  
Depth: 5 km  
Magnitude: 2.7M<sub>L</sub>(GS), 3.0M<sub>L</sub>(BU)  
Intensity II: West Yellowstone.

**4 December (GS) Yellowstone National Park**  
Origin time: 06 37 51.8

See Wyoming listing.

**4 December (GS) Yellowstone National Park area**  
Origin time: 06 43 01.2  
Epicenter: 44.642N., 111.078W.  
Depth: 5 km  
Magnitude: 3.1M<sub>L</sub>(GS), 3.3M<sub>L</sub>(BU)  
Intensity III: West Yellowstone.

**4 December (GS) Yellowstone National Park**  
Origin time: 06 44 17.7

See Wyoming listing.

**4 December (BU) Yellowstone National Park**  
Origin time: 09 10 30.6

See Wyoming listing.

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**MONTANA—Continued**

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**4 December (BU) Yellowstone National Park**  
Origin time: 12 47 29.7

See Wyoming.

**4 December (BU) Yellowstone National Park**  
Origin time: 12 56 16.7

See Wyoming.

**4 December (GS) Yellowstone National Park area**  
Origin time: 14 28 55.9  
Epicenter: 44.626N., 111.062W.  
Depth: 5 km  
Magnitude: 2.9M<sub>L</sub>(GS), 3.4M<sub>L</sub>(BU)  
Intensity II:  
Wyoming— Madison Junction.

**4 December (GS) Yellowstone National Park area**  
Origin time: 17 01 55.3  
Epicenter: 44.628N., 111.076W.  
Depth: 5 km  
Magnitude: 3.1M<sub>L</sub>(GS), 3.5M<sub>L</sub>(BU)  
Intensity III:  
Montana— West Yellowstone.  
Wyoming— Madison Junction.

**5 December (GS) Yellowstone National Park area**  
Origin time: 20 34 43.0  
Epicenter: 44.634N., 111.080W.  
Depth: 5 km  
Magnitude: 3.0M<sub>L</sub>(GS), 3.3M<sub>L</sub>(BU)  
Intensity IV:  
Montana— West Yellowstone.  
Intensity III:  
Wyoming— Madison Junction.  
Intensity II:  
Wyoming— Old Faithful.

**9 December (GS) Yellowstone National Park area**  
Origin time: 21 38 57.0  
Epicenter: 44.635N., 111.069W.  
Depth: 5 km  
Magnitude: 3.1M<sub>L</sub>(GS), 3.6M<sub>L</sub>(BU)  
Intensity II: West Yellowstone.

**10 December (BU) Yellowstone National Park**  
Origin time: 04 13 12.3

See Wyoming listing.

**13 December (GS) Yellowstone National Park area**  
Origin time: 11 47 36.9  
Epicenter: 44.615N., 111.053W.  
Depth: 5 km

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**MONTANA—Continued**

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Magnitude: 2.8M<sub>L</sub>(GS), 3.4M<sub>L</sub>(BU)  
Intensity II: West Yellowstone.

**15 December (BU) Yellowstone National Park**  
Origin time: 01 42 04.6

See Wyoming listing.

**15 December (BU) Yellowstone National Park**  
Origin time: 02 01 52.4

See Wyoming listing.

**16 December (BU) Yellowstone National Park**  
Origin time: 02 56 33.2

See Wyoming listing.

**18 December (GS) Yellowstone National Park area**  
Origin time: 19 28 23.1  
Epicenter: 44.621N., 111.065W.  
Depth: 5 km  
Magnitude: 3.0M<sub>L</sub>(GS), 3.3M<sub>L</sub>(BU)  
Intensity III:  
Wyoming— Old Faithful.

**23 December (GS) Northwest Territories, Canada**  
Origin time: 05 16 03.3

See Alaska listing.

**27 December (GS) Yellowstone National Park**  
Origin time: 18 31 54.5

See Wyoming listing.

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**NEVADA**

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**9 January (GS) Southern Nevada**  
Origin time: 07 29 58.8  
Epicenter: 36.105N., 114.783W.  
Depth: 5 km  
Magnitude: 2.6M<sub>L</sub>(GS)  
Felt: Boulder City (press report).

**17 January (GS) California-Nevada State line area**  
Origin time: 02 01 27.3  
Epicenter: 38.741N., 119.416W.  
Depth: 11 km  
Magnitude: 3.8M<sub>L</sub>(BK), M<sub>o</sub>=07.3E21(BK)  
Intensity IV:  
California— Topaz.

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**NEVADA—Continued**

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**24 January (BK) California-Nevada State line area**

Origin time: 11 27 21.6

See California listing.

**15 March (EN) Southern Nevada**

Origin time: 16 31 00.096

Epicenter: 37.058N., 116.045W.

Depth: 0 km

Magnitude: 4.8<sub>m</sub>(GS), 4.6<sub>M</sub><sub>L</sub>(BK)

Nevada Test Site explosion "VAUGHN" at 37°03'29.06"N., 116°02'43.18"W., surface elevation 1238 m, depth of burial 427 m.

**23 March (EN) Southern Nevada**

Origin time: 18 30 00.082

Epicenter: 37.180N., 116.089W.

Depth: 0 km

Magnitude: 5.3<sub>m</sub>(GS), 5.1<sub>M</sub><sub>L</sub>(BK)

Nevada Test Site explosion "COTTAGE" at 37°10'47.91"N., 116°05'20.24"W., surface elevation 1389 m, depth of burial 515 m.

**25 March (PS) Owens Valley area**

Origin time: 16 05 13.6

See California listing.

**2 April (EN) Southern Nevada**

Origin time: 20 00 00.090

Epicenter: 37.095N., 116.032W.

Depth: 0 km

Magnitude: 5.7<sub>m</sub>(GS), 4.7<sub>M</sub><sub>S</sub>(GS), 5.6<sub>M</sub><sub>L</sub>(BK)

Nevada Test Site explosion "HERMOSA" at 37°05'41.31"N., 116°01'56.42"W., surface elevation 1278 m, depth of burial 640 m.

**2 April (GS) Southern Nevada**

Origin time: 20 39 12.5

Epicenter: 37.112N., 116.063W.

Depth: 0 km

Magnitude: 4.8<sub>m</sub>(GS), 4.7<sub>M</sub><sub>L</sub>(BK)

Collapse from explosion "HERMOSA".

**6 April (EN) Southern Nevada**

Origin time: 23 15 00.092

Epicenter: 37.201N., 116.207W.

Depth: 0 km

Magnitude: 4.8<sub>m</sub>(GS), 4.8<sub>M</sub><sub>L</sub>(BK)

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**NEVADA—Continued**

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Nevada Test Site explosion "MISTY RAIN" at 37°12'02.99"N., 116°12'25.82"W., working elevation 1850 m, tunnel shot.

**26 April (PS) Owens Valley area**

Origin time: 04 03 07.7

See California listing.

**2 May (EN) Southern Nevada**

Origin time: 15 20 00.083

Epicenter: 37.253N., 116.325W.

Depth: 0 km

Magnitude: 5.7<sub>m</sub>(GS), 5.5<sub>M</sub><sub>L</sub>(BK)

Nevada Test Site explosion "TOWANDA" at 37°15'12.26"N., 116°19'30.75"W., surface elevation 2112 m, depth of burial 661 m.

**28 May (BK) Western Nevada**

Origin time: 07 56 45.8

Epicenter: 39.510N., 119.478W.

Depth: 5 km

Magnitude: 3.5<sub>m</sub>(GS), 4.3<sub>M</sub><sub>L</sub>(BK)

Intensity IV:

Nevada— Silver City, Virginia City.

Intensity III:

California— Blairsden, Sattley, Sierra City.

Nevada— Dayton, Sparks, Wadsworth.

Felt:

Nevada— Carson City (press report), Lockwood (press report), Reno (press report), Yerington (press report).

**12 June (EN) Southern Nevada**

Origin time: 15 15 00.082

Epicenter: 37.248N., 116.489W.

Depth: 0 km

Magnitude: 5.5<sub>m</sub>(GS), 4.5<sub>M</sub><sub>S</sub>(GS), 5.4<sub>M</sub><sub>L</sub>(BK)

Nevada Test Site explosion "SALUT" at 37°14'52.28"N., 116° 29'20.60"W., surface elevation 1900 m, depth of burial 608 m.

**12 June (EN) Southern Nevada**

Origin time: 17 30 00.088

Epicenter: 37.088N., 116.084W.

Depth: 0 km

Magnitude: 4.4<sub>m</sub>(GS), 4.2<sub>M</sub><sub>L</sub>(BK)

Nevada Test Site explosion "VILLE" at 37°05'17.93"N., 116°05'02.17"W., surface elevation 1521 m, depth of burial 293 m.

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**NEVADA—Continued**

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**26 June (EN) Southern Nevada**

Origin time: 18 03 00.084

Epicenter: 37.124N., 116.122W.

Depth: 0 km

Magnitude: 4.3<sub>m<sub>b</sub></sub>(GS), 4.1<sub>M<sub>L</sub></sub>(BK)

Nevada Test Site explosion "MARIBO" at 37°07'26.75"N., 116°07'19.16"W., surface elevation 1379 m, depth of burial 381 m.

**25 July (EN) Southern Nevada**

Origin time: 14 00 00.088

Epicenter: 37.297N., 116.438W.

Depth: 0 km

Magnitude: 5.2<sub>m<sub>b</sub></sub>(GS), 5.2<sub>M<sub>L</sub></sub>(BK)

Nevada Test Site explosion "SERENA" at 37°17'50.11"N., 116°26'7.06"W., surface elevation 1969 m, depth of burial 597 m.

**17 August (EN) Southern Nevada**

Origin time: 16 25 00.087

Epicenter: 37.002N., 116.043W.

Depth: 0 km

Magnitude: 4.6<sub>m<sub>b</sub></sub>(GS), 4.3<sub>M<sub>L</sub></sub>(BK)

Nevada Test Site explosion "CHAMITA" at 37°00'08.28"N., 116°02'34.96"W., surface elevation 1208 m, depth of burial 332 m.

**3 September (RN) Western Nevada**

Origin time: 22 20 43.1

Epicenter: 39.460N., 119.468W.

Depth: 0 km

Magnitude: 3.0<sub>M<sub>L</sub></sub>(BK), 3.2<sub>M<sub>L</sub></sub>(RN)

Felt: 16 miles east of Sparks (RN).

**27 September (EN) Southern Nevada**

Origin time: 14 15 00.081

Epicenter: 37.090N., 116.002W.

Depth: 0 km

Magnitude: 4.6<sub>m<sub>b</sub></sub>(GS), 4.6<sub>M<sub>L</sub></sub>(BK)

Nevada Test Site explosion "PONIL" at 37°05'23.31"N., 116°00'06.36"W., surface elevation 1312 m, depth of burial 366 m.

**1 October (RN) Western Nevada**

Origin time: 18 15 12.5

Epicenter: 39.462N., 119.478W.

Depth: 6 km

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**NEVADA—Continued**

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Magnitude: 2.5<sub>M<sub>L</sub></sub>(RN)

Felt: Gooseberry Mine (near Mustang).

**2 October (GS) Central Nevada**

Origin time: 19 44 38.7

Epicenter: 38.461N., 115.682W.

Depth: 5 km

Magnitude: 3.5<sub>M<sub>L</sub></sub>(GS)

Intensity III: Tonopah.

Felt: Warm Springs.

**9 October (EN) Southern Nevada**

Origin time: 23 20 00.086

Epicenter: 37.210N., 116.210W.

Depth: 0 km

Magnitude: 4.2<sub>m<sub>b</sub></sub>(GS), 4.0<sub>M<sub>L</sub></sub>(BK)

Nevada Test Site explosion "DIAMOND BEECH" at 37°12'34.81"N., 116°12'36.32"W., working elevation 1852 m, tunnel shot.

**16 October (EN) Southern Nevada**

Origin time: 21 35 00.086

Epicenter: 37.110N., 116.121W.

Depth: 0 km

Magnitude: 4.6<sub>m<sub>b</sub></sub>(GS), 4.7<sub>M<sub>L</sub></sub>(BK)

Nevada Test Site explosion "ROQUEFORT" at 37°06'35.81"N., 116°07'16.97"W., surface elevation 1368 m, depth of burial 415 m.

**5 December (EN) Southern Nevada**

Origin time: 15 00 00.067

Epicenter: 37.053N., 116.045W.

Depth: 0 km

Magnitude: 5.7<sub>m<sub>b</sub></sub>(GS), 5.3<sub>M<sub>L</sub></sub>(BK)

Nevada Test Site explosion "KINIBITO" at 37°03'11.76"N., 116°02'43.33"W., surface elevation 1235 m, depth of burial 600 m.

**10 December (GS) Southern Nevada**

Origin time: 06 10 25.3

Epicenter: 37.290N., 115.012W.

Depth: 5 km

Magnitude: 3.7<sub>M<sub>L</sub></sub>(GS)

Felt: Alamo (press report).

**28 December (EN) Southern Nevada**

Origin time: 19 01 00.0

Epicenter: 37.238N., 116.473W.

Depth: 0 km

Magnitude: 5.3<sub>m<sub>b</sub></sub>(GS), 5.2<sub>M<sub>L</sub></sub>(BK)

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**NEVADA—Continued**

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Nevada Test Site explosion "GOLDSTONE" at 37°14'16.11"N., 116°28'21.88"W., surface elevation 194 m, depth of burial 500 m.

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**NEW HAMPSHIRE**

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**15 October (WO) Eastern Massachusetts**

Origin time: 20 00 38.4

See Massachusetts listing.

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**NEW JERSEY**

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**19 October (LD) Southeastern New York**

Origin time: 10 07 40.3

See New York listing.

**21 October (LD) Southeastern New York**

Origin time: 10 37 15.2

See New York listing.

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**NEW MEXICO**

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**5 June (GS) Southern New Mexico**

Origin time: 10 36 00.6

Epicenter: 32.562N., 106.916W.

Depth: 6 km

Magnitude: 2.9M<sub>L</sub>(GS)

Intensity IV: Radium Springs.

Intensity III: Leasburg (press report).

**16 July (GS) Central New Mexico**

Origin time: 06 18 06.0

Epicenter: 35.051N., 106.555W.

Depth: 5 km

Magnitude: 1.6M<sub>D</sub>(GS)

Felt: Albuquerque (press report).

**17 July (GS) Central New Mexico**

Origin time: 06 23 18.9

Epicenter: 35.164N., 106.542W.

Depth: 5 km

Magnitude: 1.9M<sub>D</sub>(GS)

Felt: Albuquerque (press report).

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**NEW MEXICO—Continued**

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**16 August (GS) Central New Mexico**

Origin time: 14 56 52.9

Epicenter: 34.130N., 106.832W.

Depth: 7 km

Magnitude: 4.1M<sub>L</sub>(GS)

Intensity VI:

Socorro—A brick building sustained a crack in the foundation; sidewalks sustained large cracks; plaster sustained hairline cracks; a few windows cracked; a few glassware items or dishes broke; felt by many.

Intensity V:

Lemitar—Windows, doors, and dishes rattled loudly; buildings shook moderately; hanging pictures fell; many small objects overturned and fell; the vibration was moderate; felt by all.

Intensity IV: Bingham, San Antonio.

Intensity III: La Joya, Magdalena.

**6 September (GS) Southern New Mexico**

Origin time: 05 22 46.2

Epicenter: 32.544N., 106.940W.

Depth: 5 km

Magnitude: 2.6M<sub>D</sub>(GS)

Felt: Leasburg (press report), Radium Springs (press report).

**15 December (GS) Eastern New Mexico**

Origin time: 07 14 52.2

Epicenter: 35.281N., 104.635W.

Depth: 5 km

Magnitude: 3.4M<sub>n</sub>(GS), 3.4M<sub>n</sub>(TU)

Intensity IV: Garita, Trementina, 8 km NNE of Trementina.

Felt: Trujillo, Variadero (Garita).

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**NEW YORK**

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**26 January (LD) Southeastern New York**

Origin time: 19 06 46.9

Epicenter: 40.993N., 73.828W.

Depth: 5 km

Magnitude: 2.2M<sub>D</sub>(LD)

Intensity IV: Yonkers (press report).

Intensity III: Ardsley (press report), Greenburgh (press report), Hastings-on-Hudson (press report), Scarsdale (press report), White Plains (press report).

**30 September (LD) Eastern New York**

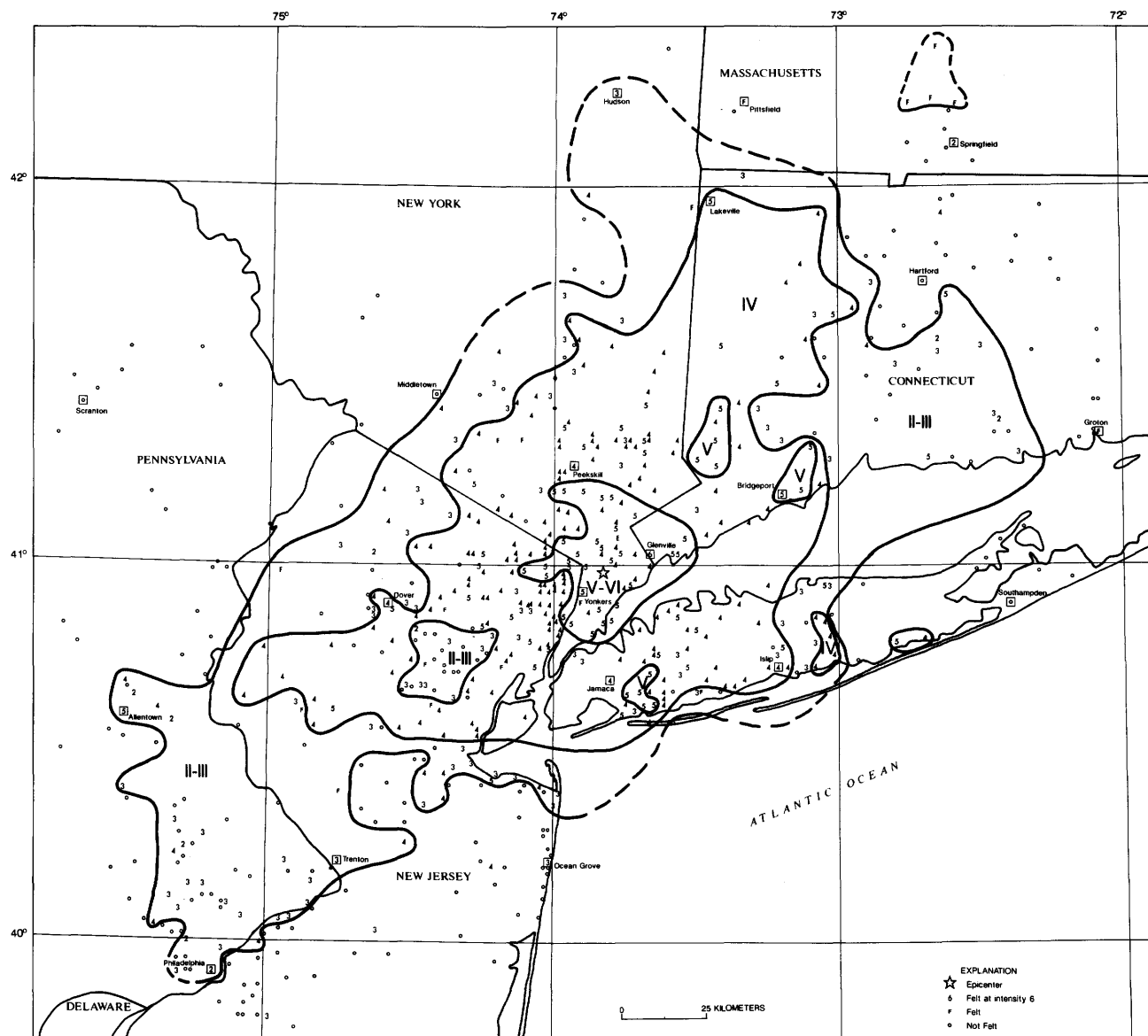
Origin time: 04 08 56.3

Epicenter: 43.420N., 73.541W.

Depth: 5 km

Magnitude: 2.7M<sub>D</sub>(LD)





**Figure 14.** Isoseismal map for the southeastern New York earthquake of 19 October, 1985, 10 07 40.3 UTC. Roman numerals represent Modified Mercalli intensities between isoseismals; Arabic numerals represent intensities at specific sites; open circles represent not felt at specific sites.

#### NEW YORK—Continued

Felt in several small communities near the southern tip of Lake George (press report).

Intensity IV: Cleverdale, Fort Ann.

Intensity II: Bakers Mills, Lake Luzerne, Stony Creek.

#### 19 October (LD) Southeastern New York

Origin time: 10 07 40.3

Epicenter: 40.983N., 73.829W.

Depth: 6 km

Magnitude: 3.6<sub>m</sub>(GS), 4.0<sub>M</sub>(LD), 4.0<sub>M</sub>(WO)

#### NEW YORK—Continued

Felt over an area of about 31,000 km<sup>2</sup> of Connecticut, Massachusetts, New Jersey, New York, and Pennsylvania (fig. 14).

#### Intensity VI:

Connecticut—

Glenville—Some windows broke out; a few small objects overturned and fell; window, doors, and dishes rattled loudly; buildings shook strongly; felt by all.

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## NEW YORK—Continued

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### New York—

Newburgh— Some windows broke out; plaster and drywall sustained hairline cracks; a few glassware items or dishes broke; hanging pictures swung out of place.

### Intensity V:

The most common effects at the places listed below include a few small objects overturned and fell, trees and bushes shook slightly, vibration was moderate to strong, felt by and awakened many.

### Connecticut—

Bethel— A few windows cracked; earth noise was moderate.

Bridgeport— A few dishes broke.

Georgetown.

Glastonbury— A few glassware items or dishes broke.

Guilford— Felt while driving (car in motion).

Lakeville— A few glassware items or dishes broke; trees and bushes shook slightly; noise was moderate.

New Milford— Plaster and drywall sustained hairline cracks; a few windows cracked; hanging pictures swung out of place; buildings trembled moderately; moving vehicles rocked slightly.

Old Greenwich— Earth noise was moderate.

Ridgefield— Hanging pictures swung out of place; standing vehicles rocked slightly.

Riverside— A few glassware items or dishes broke; a few items shook off store shelves; hanging pictures swung out of place.

Shelton— A few glassware items or dishes broke; a few windows cracked; a few items shook off store shelves; hanging pictures swung out of place; moving vehicles rocked slightly.

Southbury— Moving vehicles rocked slightly.

Stamford— Buildings trembled strongly; windows, doors, and dishes rattled loudly; standing vehicles rocked; earth noise was loud.

Stratford— Plaster and drywall sustained hairline cracks.

Terryville— A few glassware items or dishes broke; a few windows cracked; felt by and awakened all.

West Redding— A few windows cracked; hanging pictures swung out of place.

### New Jersey—

Caldwell— A few glassware items or dishes broke: a few windows cracked.

Dover— Light furniture overturned; a few items shook off store shelves; buildings trembled moderately; moving vehicles rocked slightly; felt by all.

Emerson— Hanging objects or doors swung moderately; buildings trembled strongly; windows, doors, and dishes rattled loudly; earth noise was loud.

Fort Lee— A few items shook off store shelves; a few windows cracked; moving vehicles rocked slightly; earth noise was loud.

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## NEW YORK—Continued

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Hazlet— A few windows cracked; hanging pictures swung out of place; buildings trembled moderately.

Ho-ho-kus— A few windows cracked; buildings trembled moderately; windows rattled loudly.

Jersey City— A few glassware items or dishes broke; noise was moderate.

Lincoln Park— Tombstones were displaced; a few items shook off store shelves; hanging objects or doors swung moderately; standing and moving vehicles rocked moderately.

Northvale.

Oakland— Plaster and drywall sustained hairline cracks; a few items shook off store shelves; moving vehicles rocked slightly; earth noise was loud.

Old Tappan.

Passaic— A few glassware items or dishes broke; a few windows cracked.

Pompton Lakes— A few glassware items or dishes broke; a few items shook off store shelves; earth noise was faint.

Secaucus— Hanging pictures swung out of place; buildings trembled moderately; windows, doors, and dishes rattled loudly; moving vehicles rocked slightly; earth noise was faint.

Union City— A few windows cracked; a few items shook off store shelves; windows, doors, and dishes rattled loudly; moving vehicles rocked slightly.

Whitehouse Station— It was felt by all.

### New York—

Armonk— Light furniture or small appliances overturned; a few windows cracked; a few glassware items or dishes broke.

Blauvelt— Standing vehicles rocked slightly; earth noise was moderate.

Bronx— A few windows cracked; a few glassware items or dishes broke; a few items shook off store shelves; buildings trembled moderately; windows, doors, and dishes rattled loudly; standing and moving vehicles rocked slightly.

Buchanan— A few glassware items or dishes broke; hanging pictures swung out of place; windows, doors, and dishes rattled loudly.

Carmel— People had difficulty standing or walking.

Cathedral— Windows, doors, and dishes rattled loudly.

Cedarhurst— A few windows cracked; a few items shook off store shelves; hanging pictures swung out of place; buildings trembled moderately; walls creaked loudly; windows, doors, and dishes rattled loudly; earth noise was loud.

Center Moriches— A few windows cracked; a few glassware items or dishes broke; noise was moderate.

Central Islip— A few glassware items or dishes broke; a few items shook off store shelves.

City Island— Buildings shook moderately.

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**NEW YORK—Continued**

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Commack.

Cornell Station (Bronx)— Vibration was strong.

Croton-On-Hudson— A foundation cracked; plaster and drywall sustained hairline cracks; a few windows cracked; a few items shook off store shelves; earth noise was moderate.

Far Rockaway— A few items shook off store shelves; a few windows cracked; moving vehicles rocked slightly.

Franklin Square— Buildings trembled strongly.

Garnerville.

Glenwood Landing— A few glassware items or dishes broke; felt by all.

Goldens Bridge— A few items shook off store shelves; buildings trembled moderately.

Greenwood Lake— A few windows cracked; buildings trembled moderately; standing and moving vehicles rocked slightly; vibration was light.

Hartsdale— Buildings trembled strongly; windows, doors, and dishes rattled loudly; people had difficulty standing or walking; vehicles rocked slightly; earth noise was loud; felt by and awakened all.

Hastings-On-Hudson— A few items shook off store shelves; hanging pictures swung out of place; buildings trembled moderately; standing vehicles rocked slightly; felt by all.

Haverstraw— A few windows cracked; hanging pictures swung out of place.

Highland Falls— A few glassware items or dishes broke.

Hub— Buildings trembled strongly; windows, doors, and dishes rattled loudly; earth noise was loud.

Irvington— People had difficulty standing or walking; felt by and awakened all.

Levittown— A few items shook off store shelves; buildings trembled moderately.

Mahopac Falls— A few items shook off store shelves; standing and moving vehicles rocked slightly.

Mamaroneck— A few windows cracked; hanging pictures fell; a few glassware items or dishes broke; a few items shook off store shelves; moving vehicles rocked slightly; felt by all.

Maryknoll.

Merrick— A few windows cracked; a few glassware items or dishes broke; a few items shook off store shelves; hanging pictures swung out of place; standing and moving vehicles rocked slightly; earth noise was moderate.

Mill Neck— Buildings trembled moderately.

Millwood— A few windows cracked; a few glassware items or dishes broke; earth noise was moderate.

Mineola— A few glassware items or dishes broke; a few windows cracked; buildings trembled moderately.

Mount Vernon— Plaster and drywall sustained hairline cracks; many items shook off store shelves; many small objects overturned and fell; hanging pictures swung out

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**NEW YORK—Continued**

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of place; windows, doors, and dishes rattled loudly; buildings trembled moderately; earth noise was loud; felt by all.

New Rochelle— Plaster sustained hairline cracks, felt by all.

New York City— A few windows cracked.

Oceanside— A few glassware items or dishes broke; a few items shook off store shelves; buildings trembled moderately; windows, doors, and dishes rattled loudly; standing and moving vehicles rocked slightly.

Piermont— A few windows cracked; a few glassware items or dishes broke; a few items shook off store shelves; buildings trembled moderately; windows, doors, and dishes rattled loudly; standing and moving vehicles rocked slightly; felt by all.

Pleasantville— A few items shook off store shelves; a few windows cracked; buildings trembled moderately; windows, doors, and dishes rattled loudly; noise was moderate; felt by all.

Port Jefferson Station— A few windows cracked; a few glassware items or dishes broke; a few items shook off store shelves; buildings trembled strongly; hanging objects or doors swung moderately; windows, doors, and dishes rattled loudly.

Somers— People had difficulty standing or walking; felt by and awakened all.

Syosset— Plaster sustained hairline cracks; a few windows cracked; a few glassware items or dishes broke; a few items shook off store shelves; hanging pictures swung out of place; standing and moving vehicles rocked slightly.

Tappan— A few windows cracked; buildings trembled moderately; windows, doors, and dishes rattled loudly; felt by and awakened all.

Tarrytown— Plaster sustained hairline cracks; buildings trembled moderately to strongly; walls creaked loudly; windows, doors, and dishes rattled loudly; people had difficulty standing and walking; earth noise was moderate to loud.

Tremont.

Triborough— A few windows cracked.

Valley Stream— Cinderblock foundation sustained hairline cracks; a few items shook off store shelves.

Wakefield— Plaster and drywall sustained hairline cracks; windows, doors, and dishes rattled loudly; standing and moving vehicles shook moderately; felt by and awakened all.

Westchester— hanging pictures swung out of place or fell; windows rattled loudly.

White Plains— Hanging pictures swung out of place; buildings trembled moderately; standing vehicles rocked slightly; felt by all.

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## NEW YORK—Continued

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Woodlawn—A few items shook off store shelves; buildings trembled moderately; standing and moving vehicles rocked slightly; earth noise was moderate; felt by all.

Yonkers—Hanging pictures fell; buildings trembled moderately; walls creaked loudly; windows, doors, and dishes rattled loudly; standing and moving vehicles rocked slightly; earth noise was moderate to loud; felt by all.

### Pennsylvania—

Allentown—A few merchandise items shook off store shelves; frightened several.

### Intensity IV:

Connecticut—Bristol, Danbury, Darien, Fairfield, Greens Farms, Hawleyville, Litchfield, Milford, Naugatuck, Norwalk, Plantsville, Redding Ridge, Torrington, Watertown, Wilton, Windsor Locks, Winsted.

New Jersey—Allendale, Avenel, Bergenfield, Bernardsville, Bloomfield, Bloomsbury, Bogota, Boonton, Bound Brook (press report), Brookside, Cedar Grove, Cliffside Park, Closter, Demarest (press report), Dumont (press report), Dunellen, Edgewater, Elizabeth, Elmwood Park (press report), Englewood, Fairfield (press report), Fairview, Franklin, Franklin Lakes, Hackensack, Haledon (press report), Hampton, Harrington Park, Harrison, Haskell, Hewitt, Hightstown, Hillsdale, Ironia, Keamy, Kenilworth, Lebanon (press report), Leonardo, Leonia, Little Falls, Long Valley, Metuchen, Midland Park, Milltown, Montvale, Mount Arlington, North Hunterdon, Mountain Lakes, Newfoundland, New Milford, New Vernon, North Bergen, Norwood, Oak Ridge, Oradell, Palisades Park, Palmyra, Paramus, Park Ridge, Pequannock, Pompton Plains, Port Reading, Ramsey (press report), Randolph, Ridgefield, Ringwood, River Edge, Rochelle Park, Roxbury (press report), Saddle Brook, Saddle River, Scotch Plains (press report), Sewaren, South River, Spotswood, Stanton (press report), Sussex, Tabor, Teaneck (press report), Tenafly, Towaco, Union, Waldwick, Wanaque, Wayne, West New York, Wharton, Wyckoff.

New York—Albertson, Ardsley, Ardsley-On-Hudson, Babylon, Baldwin, Bardonia, Bay Shore, Baychester, Bayville, Bear Mountain, Bedford, Bedford Hills, Briarcliff Manor, Centereach, Chappaqua, Chester, Commack, Congers, Copiague, Crompond, Croton Falls, East Islip, East Northport, East Norwich, East Rockaway, East White Plains, Elmsford, Farmingdale, Farmingville, Fishkill, Floral Park, Fordham, Fort Montgomery, Garrison, Granite Springs, Harrison, Hempstead, Hicksville, Hillburn, Holmes, Holtsville, Hopewell Junction, Huntington Station, Islip, Jamaica, Jefferson Valley, Katonah, Kings Park, Lake Carmel, Lake Peekskill, Larchmont, Lindendale, Lindenhurst, Locust Valley, Long Beach, Malverne, Massapequa Park, Milton, Mohegan Lake, Morris Park, Mount Kisco, Mountainville, New City, New

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## NEW YORK—Continued

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Hampton, New Hyde Park, North Salem, North White Plains, Nyack, Oakland Gardens, Patchogue, Pawling, Pearl River, Peekskill, Port Chester, Port Washington, Purchase, Purdy Station, Putnam Valley, Red Hook, Roosevelt, Roslyn Heights, Salisbury Mills, Sayville, Scarsdale (press report), Sea Cliff, Shenorock, Sloatsburg, Spring Valley, Staten Island, Stony Point, Thornwood, Throggs Neck, Tomkins Cove, Vails Gate, Verplanck, Waccabuc, Walden, Wappingers Falls, Warwick, West Farms, West Nyack, Westhampton Beach, Williston Park, Woodbury, Woodmere.

Pennsylvania—Bethlehem, Morrisville, Northampton, Telford, Wayne.

### Intensity III:

Connecticut—Botsford, Burlington, Canaan, Chester, East Hampton, Meriden, Middletown, Monroe, New Canaan, North Branford, Old Saybrook, Orange, Sandy Hook, Thomaston.

New Jersey—Berkeley Heights, Beverly, Clementon, Clinton, Denville, East Hanover, Fair Lawn, Garfield, Garwood, Gillette, Glen Ridge, Highland Lakes, Highlands, Jamesburg, Keansburg, Keasbey, Kenil, Keyport, Lodi, Lyndhurst, Millington, Newton, Ocean Grove, Orange, Raritan, Rockaway, Rumson, Sayreville, South Amboy, Stockholm, Succasunna, Trenton, Vernon, West Milford, Wrightstown.

New York—Arden, Astoria (press report), Cornwall, East Meadow, Elmwood Park, Florida, Flushing, Glenham, Highland, Hillside, Hudson, Islip Terrace, Lagrangeville, Lawrence, Marlboro, Maybrook, Mount Sinai, Nanuet, Oakdale, Ronkonkoma, Seaford, Smithtown, Stony Brook, Washingtonville, West Point, Westbury, Yorktown Heights.

Pennsylvania—Ambler, Blue Bell, Bristol, Chalfont, Cheltenham, Clifton Heights, Conshohocken, Cornwells Heights, East Greenville, Jenkintown, Levittown, Malvern, Newtown, Norristown, Philadelphia (press report), Souderton.

### Intensity II:

Connecticut—Cromwell, Deep River.

Massachusetts—Easthampton, Holyoke (press report), Northampton (press report), Pittsfield (press report), Springfield, Westfield (press report).

New Jersey—Morris Plains, Sparta.

Pennsylvania—Catasauqua, Hellertown, Lansdale, Narberth.

### Felt:

Connecticut—Groton, Hartford (press report).

New Jersey—Allerton (press report), Blairstown (press report), Hopewell, Lake Hiawatha, Newark, North Plainfield (press report), Watchung (press report).

New York—Central Valley, Massapequa, Millerton, Monroe, Riverdale (press report), Valhalla (press report).

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**NEW YORK—Continued**

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**21 October (LD) Southeastern New York**

Origin time: 10 37 15.2

Epicenter: 40.991N., 73.835W.

Depth: 5 km

Magnitude: 3.0M<sub>D</sub>(LD), 3.3M<sub>n</sub>(GS)

Felt over an area of about 5,300 km<sup>2</sup> of Connecticut, New Jersey, and New York (fig. 15).

**Intensity V:****New York—**

Ardasley—Knocked down some rakes and some coffee pots at Ardsley Hardware (press report); vibration was moderate; felt by all.

Blauvelt—A few small objects fell; a few windows cracked; felt by and awakened several.

Croton-On-Hudson—Plaster and dry wall sustained hairline cracks; light furniture or small appliances overturned; a few glassware items or dishes broke; many small objects fell; a few windows cracked; hanging pictures fell; a few items shook off store shelves; felt by all.

Dobbs Ferry—Vibration was strong; earth noise was loud.

Hastings-On-Hudson—A few small objects overturned and fell; hanging pictures swung out of place; buildings shook moderately; trees and bushes shook slightly; vibration was described as strong, felt by all.

Port Washington—Plaster sustained hairline cracks; buildings shook moderately; vibration was moderate; felt by all.

Riverdale—A few items shook off store shelves; a few glassware items or dishes broke; a few small objects overturned and fell; windows, doors, and dishes rattled loudly; vibration was moderate; earth noise was moderate; felt by many.

Sea Cliff—A few glassware items or dishes broke; a few small objects overturned and fell; buildings shook moderately; windows, doors, and dishes rattled loudly; trees and bushes shook slightly; felt by and awakened many.

West Nyack—Hanging pictures swung; buildings shook strongly, vibration was strong; felt by many.

Yonkers—Plaster sustained hairline cracks; a few windows cracked; a few glassware items or dishes broke; a few small objects overturned and fell; windows, doors, and dishes rattled loudly; vibration was strong; earth noise was loud; felt by and awakened many.

**Intensity IV:**

Connecticut—Cos Cob, Norwalk, Old Greenwich.

New Jersey—Bergenfield (press report), Bernardsville, Clark, Edgewater, Englewood (press report), Fort Lee, Haworth, Hazlet, Mahwah, Northvale, Old Tappan, Paramus, Passaic, Rahway, Wayne, Westwood, Woodbridge.

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**NEW YORK—Continued**

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New York—Armonk, East Norwich, Elmsford, Hartsdale, High Bridge, Hillburn, Irvington, Katonah, Larchmont, Long Island City, Mamaroneck, Mount Vernon, Newburgh, New Rochelle, New York City, Pearl River, Piermont, Pleasantville, Purchase, Queens Village, Roslyn Heights, Scarsdale (press report), Tappan, Tomkins Cove, Warwick, Westchester (press report), White Plains, Williams Bridge.

**Intensity III:**

Connecticut—Greens Farms, Riverside, Seymour.

New Jersey—Avenel (press report), Bogota, Caldwell, Cateret (press report), Closter, Colonia (press report), Cresskill, Denville, Dunellen, East Hanover, Elmwood Park, Englewood Cliffs, Fords (press report), Franklin Lakes, Holmdel (press report), Lodi, Metuchen (press report), Midland Park, Millburn, Montvale, Oakland, Palisades Park, Port Reading, Randolph, Raritan, Rochelle Park, Scotch Plains, Spotswood, Sussex, Tenaflly (press report), Union City, West Orange (press report), Wyckoff.

New York—Arden, Ardsley-On-Hudson, Coram, Flushing, Harrison, Highland Falls, Hopewell Junction, James, Maryknoll, Mill Neck, Milton, Mohegan Lake, Smithtown, Sound Beach, Valley Cottage, Verplanck, West Point, Woodlawn.

**Intensity II:**

Connecticut—Danbury, Georgetown.

New York—Thornwood.

**Felt:**

New Jersey—Cedar Grove, Hackensack (press report).

New York—Morris Park, North White Plains (press report), Pelham Manor (press report).

**30 October (LD) Eastern New York**

Origin time: 03 42 49.7

Epicenter: 42.931N., 74.112W.

Depth: 4 km

Magnitude: 2.7M<sub>n</sub>(GS), 2.7M<sub>D</sub>(LD)

Intensity IV: Fort Johnson, Hagaman.

Intensity III: Broadalbin, Fort Hunter, Rock City Falls, Tribes Hill.

Felt: Amsterdam.

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**NORTH CAROLINA**

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**19 March (TC) Western North Carolina**

Origin time: 00 02 05.8

Epicenter: 35.300N., 82.517W.

Depth: 10 km

Magnitude: 2.1M<sub>D</sub>(TC)

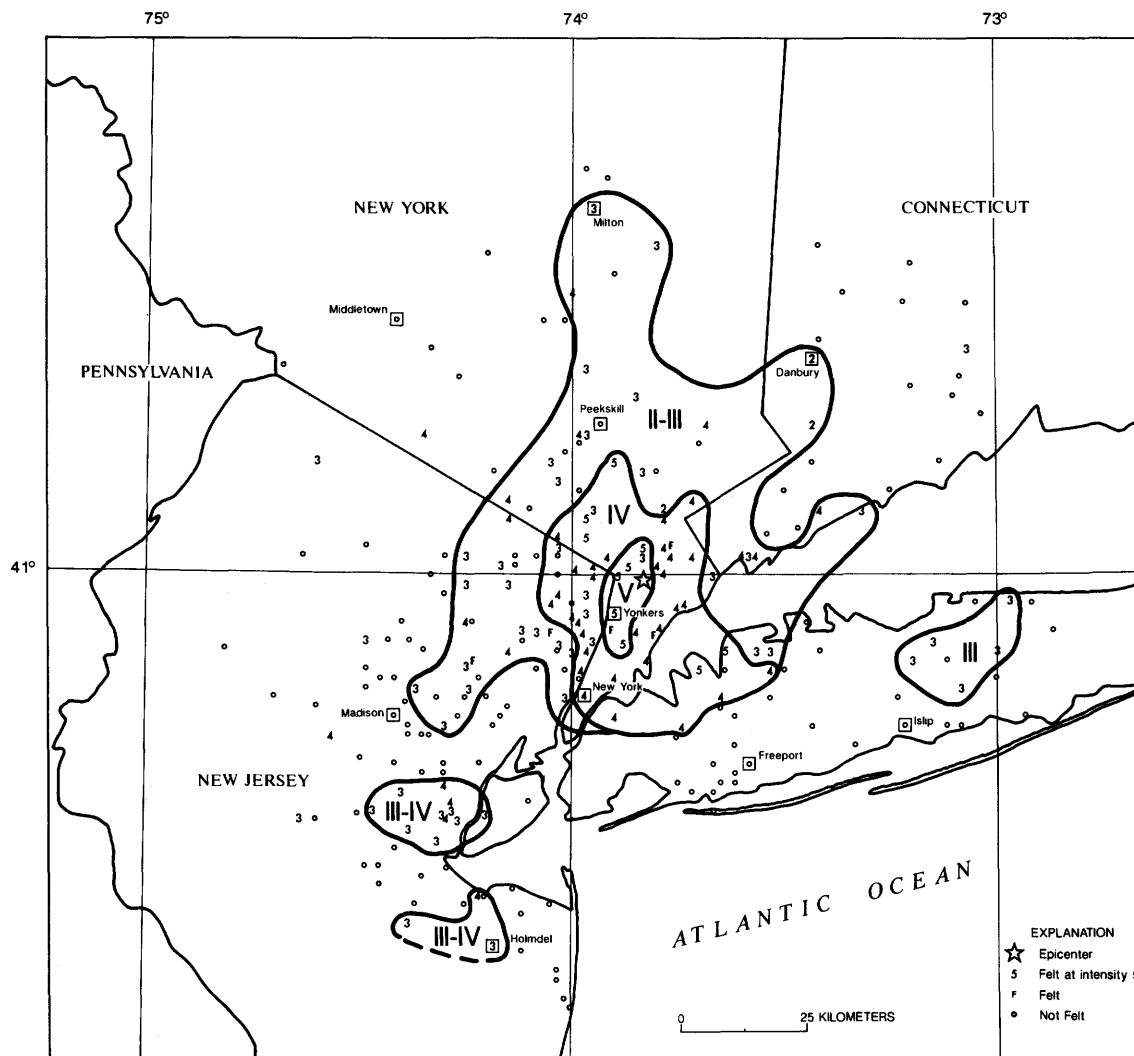


Figure 15. Isoseismal map for the southeastern New York earthquake of 21 October, 10 37 15.2 UTC. Roman numerals represent Modified Mercalli intensities between isoseismals; Arabic numerals represent intensities at specific sites; Open circles represent not felt at specific sites.

#### NORTH CAROLINA—Continued

Felt in western Henderson County (press report).

Intensity III: Hendersonville, Taylors.

Felt: Saluda (press report).

#### NORTH DAKOTA

23 December (GS) Northwest Territories, Canada

Origin time: 05 16 03.3

See Alaska listing.

#### OKLAHOMA

3 May (TU) Southern Oklahoma

Origin time: 07 33 40.4

Epicenter: 34.656N., 97.484W.

Depth: 5 km

Magnitude: 2.5M<sub>n</sub>(TU), 2.6M<sub>D</sub>(TU)

Intensity IV: Foster—5 km NNW (TU).

5 May (TU) Southern Oklahoma

Origin time: 01 39 30.8

Epicenter: 34.664N., 97.529W.

Depth: 5 km

Magnitude: 2.9M<sub>n</sub>(TU), 2.8M<sub>D</sub>(TU)

Felt: Maysville (TU).

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**OKLAHOMA—Continued**

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**5 May (TU) Southern Oklahoma**

Origin time: 02 16 02.6

Epicenter: 34.836N., 97.455W.

Depth: 5 km

Magnitude: 2.2M<sub>n</sub>(TU), 2.3M<sub>D</sub>(TU)

Felt: Maysville (TU).

**6 May (TU) Southern Oklahoma**

Origin time: 02 11 16.2

Epicenter: 34.969N., 97.482W.

Depth: 5 km

Magnitude: 2.3M<sub>n</sub>(TU), 2.4M<sub>D</sub>(TU)

Intensity V: Maysville–5 km WNW (TU).

Intensity II: Story–2 km NNW (TU).

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**OREGON**

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**10 February (WA) Southern Washington**

Origin time: 20 29 31.7

See Washington listing.

**13 March (GS) Off the coast of Oregon**

Origin time: 19 34 57.6

Epicenter: 43.510N., 127.561W.

Depth: 10 km

Magnitude: 6.1m<sub>b</sub>(GS), 6.3M<sub>S</sub>(GS)

Intensity III:

Oregon— Allegany, Cottage Grove, Creswell, Depoe Bay,  
Eugene (press report), Lorane, Portland, Powell Butte,  
Salem, Seal Rock, Veneta.

Washington— Forks, Lebam, Neilton, Ryderwood,  
Tokeland.

Intensity II:

Oregon— Camas Valley, Cornelius, Corvallis, Crawfordsville, Elkton, Vernonia.

Washington— Long Beach.

Felt:

Oregon— Coos Bay (press report), McMinnville (press report).

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**PENNSYLVANIA**

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**22 March Lancaster County, Pennsylvania**

Origin time: 02 35

Epicenter: Not located.

Depth: None computed.

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**PENNSYLVANIA—Continued**

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Magnitude: None computed.

Intensity III: Conestoga (press report), Pequea (press report).

**19 October (LD) Southeastern New York**

Origin time: 10 07 40.3

See New York listing.

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**PUERTO RICO**

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**18 March (GS) North of the Virgin Islands**

Origin time: 10 24 13.9

Epicenter: 18.824N., 64.951W.

Depth: 65 km

Magnitude: 4.0m<sub>b</sub>(GS)

Felt from San Juan, Puerto Rico to Saint Thomas,  
Virgin Islands (press report) and at Cayey, Puerto Rico.

**4 April (GS) Eastern Puerto Rico**

Origin time: 18 38 18.1

Epicenter: 18.164N., 66.062W.

Depth: Normal

Magnitude: None computed.

Felt south of Cayey.

**19 June (GS) Puerto Rico trench area**

Origin time: 15 19 06.7

Epicenter: 19.344N., 65.062W.

Depth: Normal

Magnitude: 4.6m<sub>b</sub>(GS)

Felt on Puerto Rico (telephone report).

**21 July (GS) Mona Passage**

Origin time: 13 10 35.0

Epicenter: 19.045N., 67.973W.

Depth: 35 km

Magnitude: 5.7m<sub>b</sub>(GS), 5.3M<sub>S</sub>(GS)

Felt in Puerto Rico and the Dominican Republic.

Intensity V:

Aguadilla— A few small objects overturned and fell; standing and moving vehicles rocked moderately.

Cidra— A few glassware items or dishes broke; a few small objects overturned and fell; a few windows cracked; moving vehicles rocked moderately.

Maricao— Rocked moving vehicles slightly; standing vehicles rocked moderately; felt by many.

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**PUERTO RICO—Continued**

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Quebradillas— Plaster sustained hairline cracks; a few windows cracked; a few glassware items or dishes broke; a few items shook off store shelves; a few small objects overturned and fell.

San Sebastian— Plaster sustained hairline cracks; a few windows cracked; a few glassware items or dishes broke; a few items shook off store shelves; a few small objects overturned and fell; standing and moving vehicles rocked slightly; felt by many.

Intensity IV: Angeles, Carolina, Cayey, Cobo Rojo, Fajardo, Hormigueros, Juana Diaz, Las Marias, Levittown, Loiza, Manati, Moca, Morovis, Naguabo, San Juan.

Intensity III: Barranquitas, Boqueron, Caguas, Corozal, Florida, Guanica, Gurabo, Lares, Mayaguez, Ponce, Rosario, Villalba.

Intensity II: Aguirre, Coamo, Hatillo, Luquillo.

**15 August (GS) North of the Virgin Islands**

Origin time: 01 33 02.8

Epicenter: 18.912N., 65.089W.

Depth: 54 km

Magnitude: 4.5 $m_b$ (GS)

Felt on Puerto Rico (press report).

Intensity IV: Saint Thomas Island, Virgin Islands (press report).

Intensity III: San Juan, Puerto Rico (press report).

**20 September (GS) Southwestern Puerto Rico**

Origin time: 19 22 19.0

Epicenter: 18.150N., 66.911W.

Depth: Normal

Magnitude: None computed.

Intensity IV: Maricao.

Intensity III: Ensenada.

Intensity II: Quebradillas, Lares.

**23 October (GS) Southeastern Puerto Rico**

Origin time: 01 07 27.4

Epicenter: 17.914N., 66.082W.

Depth: 10 km

Magnitude: None computed.

Intensity IV: Cayey (telegraph report), Cidra (telegraph report).

**29 October (GS) North of Puerto Rico**

Origin time: 06 12 15.5

Epicenter: 18.960N., 67.153W.

Depth: Normal

Magnitude: 4.2 $m_b$ (GS), 4.0 $M_S$ (GS)

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**PUERTO RICO—Continued**

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Intensity V:

Quebradillas— A few windows cracked; a few glassware items or dishes broke; a few small objects overturned and fell.

Intensity IV: Comerio, Fajardo.

Intensity III: Barceloneta, Camuy, Lares, Moca.

Felt: Carolina, Ponce (press report), San Juan (Isla Verde International Airport), Santurce (press report).

**29 November (GS) Eastern Puerto Rico**

Origin time: 16 11 15.8

Epicenter: 17.823N., 65.982W.

Depth: Normal

Magnitude: None computed.

Intensity III: Caguas (press report), Cayey (press report), Santurce (press report).

Intensity II: San Juan (in tall buildings—press report).

**29 December (GS) Eastern Dominican Republic**

Origin time: 03 22 12.8

Epicenter: 18.425N., 68.819W.

Depth: 133 km

Magnitude: 5.1 $m_b$ (GS)

Felt throughout Puerto Rico (press report).

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**SOUTH CAROLINA**

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**9 June (GS) Georgia–South Carolina State line area**

Origin time: 00 38 41.6

Epicenter: 33.244N., 81.669W.

Depth: 1 km

Magnitude: 2.7 $M_n$ (GS), 2.6 $M_D$ (SC)

This earthquake was felt and heard on the premises of the Savannah River Plant over an area of about 130 km<sup>2</sup> (Talwani and others, 1985).

Intensity III: Savannah River Plant (press report).

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**TENNESSEE**

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**7 February (SL) Northwestern Tennessee**

Origin time: 23 44 17.7

Epicenter: 36.280N., 89.450W.

Depth: 6 km

Magnitude: 2.3 $M_n$ (SL), 2.4 $M_D$ (TC)

Intensity II: Ridgely (TC).



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**TENNESSEE—Continued**

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**7 February (SL) Northwestern Tennessee**

Origin time: 23 44 35.2  
Epicenter: 36.280N., 89.450W.  
Depth: 8 km  
Magnitude: 2.8M<sub>n</sub>(SL)  
Intensity III: Ridgely (TC).

**20 April (TC) Eastern Tennessee**

Origin time: 04 21 03.2  
Epicenter: 35.488N., 84.564W.  
Depth: 12 km  
Magnitude: 2.5M<sub>D</sub>(TC), 2.5M<sub>D</sub>(GT)  
Felt: Athens (TC).

**12 July (TC) Southeastern Tennessee**

Origin time: 18 20 28.4  
Epicenter: 35.198N., 85.156W.  
Depth: 3 km  
Magnitude: 3.0M<sub>D</sub>(TC)  
Intensity IV: Hixson.  
Intensity III: Chattanooga.  
Felt: Sequoyah Nuclear Plant (TC).

**5 December (GS) Northeastern Arkansas**

Origin time: 22 59 41.2

See Arkansas listing.

**22 December (TC) Southeastern Tennessee**

Origin time: 00 56 05.0  
Epicenter: 35.701N., 83.720W.  
Depth: 13 km  
Magnitude: 3.3M<sub>D</sub>(TC), 3.1M<sub>D</sub>(GT)  
Felt: Gatlinburg (TC), Seamore (TC), Six Mile (TC),  
Townsend (TC), Walland (TC), Wildwood (TC).

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**TEXAS**

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**18 September (GS) Northern Texas**

Origin time: 15 54 04.6  
Epicenter: 33.548N., 97.051W.  
Depth: 5 km  
Magnitude: 3.3M<sub>n</sub>(GS), 3.3M<sub>n</sub>(TU)  
Intensity V:

Sanger— There was a report of broken underground pipes; plaster and drywall sustained hairline cracks; a few windows cracked; a few glassware items or dishes broke; a few items shook off store shelves; a few small objects overturned and fell; felt by many.

Intensity IV: Valley View.

Intensity III: Era, Gainesville, Muenster, Saint Jo.

Heard: Myra.

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**TEXAS—Continued**

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**19 September (GS) Michoacan, Mexico**

Origin time: 13 17 47.3  
Epicenter: 18.190N., 102.533W.  
Depth: 28 km  
Magnitude: 6.8m<sub>b</sub>(GS), 8.1M<sub>S</sub>(GS), 7.9M<sub>S</sub>(BK),  
7.9M<sub>S</sub>(PS)

This earthquake caused 9,500 deaths and about 30,000 injuries in Mexico City and several states in central Mexico. It was felt in Brownsville and McAllen, Texas, other cities in the Rio Grande Valley along the border between Texas and Mexico, and in tall buildings in Houston. A swell was observed in East Galveston Bay by a fisherman. Seiches occurred in swimming pools in Colorado, Idaho, New Mexico, and Texas. A report from McNeese State University, Lake Charles, Louisiana, stated that students in a chemistry laboratory could not "zero" their balances for 2 hours following the earthquake (press report).

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**UTAH**

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**26 January (UU) Northern Utah**

Origin time: 15 08 06.7  
Epicenter: 41.890N., 112.530W.  
Depth: 2 km  
Magnitude: 3.6M<sub>L</sub>(UU)  
Intensity III: Snowville.

**27 January (UU) Northern Utah**

Origin time: 10 46 49.6  
Epicenter: 41.890N., 112.537W.  
Depth: 2 km  
Magnitude: 3.3M<sub>L</sub>(UU)  
Intensity III: Portage.

**21 April (UU) Northern Utah**

Origin time: 23 00 20.7  
Epicenter: 40.755N., 111.847W.  
Depth: 5 km  
Magnitude: 1.8M<sub>L</sub>(UU)  
Intensity IV: Northeastern Salt Lake City, University of Utah campus (press report).

**21 October (UU) Northern Utah**

Origin time: 11 40 09.7  
Epicenter: 41.434N., 111.668W.  
Depth: 1 km  
Magnitude: 2.4M<sub>L</sub>(UU)  
Felt: Clearfield (UU), Ogden (UU).

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**VIRGINIA**

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**21 December (VP) Central Virginia**

Origin time: 10 12 04.9

Epicenter: 37.684N., 77.511W.

Depth: 1 km

Magnitude: 2.6M<sub>n</sub>(VP)

Intensity IV: Richmond (press report).

**10 June (VP) Western Virginia**

Origin time: 12 22 38.3

Epicenter: 37.248N., 80.485W.

Depth: 11 km

Magnitude: 3.2M<sub>n</sub>(VP), 2.9M<sub>D</sub>(TC)

Intensity IV: Blacksburg (VP).

Intensity III: Longshop (VP), Maybrook (VP).

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**WASHINGTON**

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**11 January (WA) Northwestern Washington**

Origin time: 13 07 57.1

Epicenter: 47.902N., 122.871W.

Depth: 21 km

Magnitude: 3.1M<sub>L</sub>(GS), 3.0M<sub>L</sub>(EP), 3.3M<sub>D</sub>(WA)

Intensity IV:

United States—

Washington—Bainbridge Island, Port Ludlow, Quilcene.

Intensity III: Brinnon, Poulsbo, Port Gamble.

Canada—

British Columbia—Victoria (EP).

United States—

Washington—Brinnon, Keyport, Port Gamble, Port Townsend, Poulsbo (WA).

**10 February (WA) Southern Washington**

Origin time: 20 29 31.7

Epicenter: 45.704N., 119.634W.

Depth: 18 km

Magnitude: 3.7M<sub>L</sub>(GS), 3.9M<sub>D</sub>(WA)

Intensity IV:

Oregon—Hermiston.

Washington—Ione.

Intensity III: Umatilla Army Depot.

**28 February (WA) Puget Sound area**

Origin time: 17 02 04.4

Epicenter: 47.493N., 122.586W.

Depth: 47 km

Magnitude: 3.7M<sub>D</sub>(WA), 2.9M<sub>L</sub>(EP)

Intensity IV: Bremerton (press report), Kitsap Peninsula (press report), Tracyton.

Intensity III: Lakebay, Seattle.

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**WASHINGTON—Continued**

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Felt: Port Orchard (press report), Gorst (press report), Sunny Slope (press report).

**5 March (WA) Northwest Washington**

Origin time: 14 14 10.8

Epicenter: 48.272N., 122.159W.

Depth: 15 km

Magnitude: 3.1M<sub>D</sub>(WA), 2.3M<sub>L</sub>(EP)

Felt: Arlington (WA).

**13 March (GS) Off the coast of Oregon**

Origin time: 19 34 57.6

See Oregon listing.

**18 March (WA) Puget Sound area**

Origin time: 17 15 55.3

Epicenter: 47.339N., 122.620W.

Depth: 53 km

Magnitude: 3.5M<sub>D</sub>(WA), 2.9M<sub>L</sub>(EP)

Intensity IV: Fall City (press report).

Intensity III: Kirkland, Tacoma.

**21 March (WA) Northwestern Washington**

Origin time: 02 39 21.7

Epicenter: 47.607N., 122.203W.

Depth: 8 km

Magnitude: 3.0M<sub>D</sub>(WA), 2.3M<sub>L</sub>(EP)

Intensity III: Bellevue, Mercer Island (press report), Renton (press report), Seattle (Capitol Hill) (press report).

**24 March (WA) Northwestern Washington**

Origin time: 16 55 03.8

Epicenter: 47.607N., 122.203W.

Depth: 3 km

Magnitude: 2.7M<sub>D</sub>(WA)

Felt: Mercer Island (WA).

**26 April (WA) Northwestern Washington**

Origin time: 10 32 29.2

Epicenter: 48.360N., 122.260W.

Depth: 18 km

Magnitude: 3.0M<sub>D</sub>(WA)

Intensity IV: Lyman, three miles west of Lyman.

**14 May (EP) Northwestern Washington**

Origin time: 06 21 58.0

Epicenter: 48.670N., 123.230W.

Depth: 21 km

Magnitude: 2.5M<sub>L</sub>(EP)Felt (III) on most of Saanich Peninsula, Canada.  
Also felt on some of the Gulf Islands (EP).

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**WASHINGTON—Continued**

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Intensity III:

Canada—

British Columbia— Sydney (EP), Victoria (EP).

**16 June (WA) Western Washington**

Origin time: 10 22 59.2

Epicenter: 47.434N., 121.826W.

Depth: 17 km

Magnitude: 3.1M<sub>D</sub>(WA), 3.4M<sub>L</sub>(GS)

Felt: North Bend (WA).

**6 July (WA) Northwestern Washington**

Origin time: 23 46 41.9

Epicenter: 47.725N., 122.226W.

Depth: 18 km

Magnitude: 3.1M<sub>D</sub>(WA), 2.6M<sub>L</sub>(EP).

Intensity III: Mercer Island.

**29 July (WA) Northwestern Washington**

Origin time: 21 05 29.3

Epicenter: 48.257N., 121.763W.

Depth: 3 km

Magnitude: 3.2M<sub>D</sub>(WA), 2.4M<sub>L</sub>(EP)

Intensity IV:

United States—

Washington— Jim Creek.

Felt:

Canada—

British Columbia— Victoria and vicinity (WA).

**30 July (WA) Northwestern Washington**

Origin time: 17 01 43.8

Epicenter: 48.393N., 123.295W.

Depth: 19 km

Magnitude: 3.1M<sub>L</sub>(GS), 3.3M<sub>D</sub>(WA)

Felt in Canada on Saanich Peninsula and southern Vancouver Island from Sooke to Sidney (EP).

Intensity IV:

Canada—

British Columbia— Victoria (EP).

**6 August (GS) Southeastern British Columbia**

Origin time: 13 53 31.3

See Idaho listing.

**25 September (WA) Northwestern Washington**

Origin time: 19 28 20.7

Epicenter: 47.495N., 122.025W.

Depth: 1 km

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**WASHINGTON—Continued**

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Magnitude: 2.2M<sub>D</sub>(WA)

Intensity III: Issaquah (press report).

**10 October (WA) Central Washington**

Origin time: 10 06 40.7

Epicenter: 47.749N., 120.265W.

Depth: 7 km

Magnitude: 2.6M<sub>L</sub>(GS), 3.2M<sub>D</sub>(WA)

Intensity IV: Chelan (press report).

Intensity III: Entiat (press report), Manson (press report).

**1 November (WA) Northwestern Washington**

Origin time: 19 37 00.9

Epicenter: 48.848N., 122.132W.

Depth: 2 km

Magnitude: 2.6M<sub>L</sub>(GS)

Intensity III: Bellingham.

**23 December (GS) Northwest Territories, Canada**

Origin time: 05 16 03.3

See Alaska listing.

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**WYOMING**

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**16 January (UU) Yellowstone National Park**

Origin time: 07 29 41.0

Epicenter: 44.780N., 110.405W.

Depth: 1 km

Magnitude: 3.4M<sub>L</sub>(GS), 3.6M<sub>L</sub>(BU)

Intensity III: Canyon Village.

**1 March (UU) Yellowstone National Park**

Origin time: 23 33 28.9

Epicenter: 44.797N., 110.773W.

Depth: 4 km

Magnitude: 3.6M<sub>L</sub>(GS), 4.0M<sub>L</sub>(BU)

Intensity IV:

Montana— Gardiner.

Wyoming— Mammoth Hot Springs.

Intensity III:

Wyoming— Canyon Village, Lake, Madison Junction.

**1 March (UU) Yellowstone National Park**

Origin time: 23 45 53.3

Epicenter: 44.798N., 110.775W.

Depth: 5 km

Magnitude: 3.9M<sub>L</sub>(GS), 4.3M<sub>L</sub>(BU)

Intensity IV:

Montana— Gardiner.

Wyoming— Mammoth Hot Springs.

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**WYOMING—Continued**

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Intensity III:

Wyoming— Madison Junction.

Intensity II:

Wyoming— Canyon Village, Lake, Old Faithful.

**2 March (BU) Yellowstone National Park**

Origin time: 04 19 10.3

Epicenter: 44.795N., 110.785W.

Depth: 5 km

Magnitude: 3.3M<sub>L</sub>(GS), 3.9M<sub>L</sub>(BU)

Intensity II: Madison Junction, Mammoth Hot Springs, Old Faithful.

**2 March (BU) Yellowstone National Park**

Origin time: 04 46 24.6

Epicenter: 44.791N., 110.783W.

Depth: 3 km

Magnitude: 3.0M<sub>L</sub>(GS), 3.3M<sub>L</sub>(BU)

Intensity II: Madison Junction, Mammoth Hot Springs, Old Faithful.

**5 March (GS) Yellowstone National Park**

Origin time: 20 30 40.0

Epicenter: 44.776N., 110.799W.

Depth: 5 km

Magnitude: 3.6M<sub>L</sub>(GS), 4.1M<sub>L</sub>(BU)

Intensity II: Mammoth Hot Springs.

**5 March (GS) Yellowstone National Park**

Origin time: 20 34 36.2

Epicenter: 44.767N., 110.683W.

Depth: 5 km

Magnitude: 3.2M<sub>L</sub>(BU)

Intensity II: Mammoth Hot Springs.

**11 March (UU) Western Wyoming**

Origin time: 06 42 31.9

Epicenter: 43.019N., 110.852W.

Depth: 6 km

Magnitude: 3.6M<sub>L</sub>(GS), 3.3M<sub>L</sub>(UU)

Intensity II: Daniel.

**20 March (UU) Southwestern Wyoming**

Origin time: 01 37 09.8

Epicenter: 41.613N., 109.622W.

Depth: 7 km

Magnitude: 2.9M<sub>D</sub>(UU)

Intensity IV: Trona Mine (underground).

**26 April (BU) Yellowstone National Park**

Origin time: 05 21 39.6

Epicenter: 44.799N., 110.824W.

Depth: 7 km

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**WYOMING—Continued**

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Magnitude: 3.3M<sub>L</sub>(GS), 3.5M<sub>L</sub>(BU)

Intensity II: Madison Junction, Old Faithful.

**30 April (GS) Hebgen Lake area**

Origin time: 04 20 32.9

See Montana listing.

**7 June (BU) Yellowstone National Park**

Origin time: 01 40 45.2

Epicenter: 44.782N., 111.024W.

Depth: 6 km

Magnitude: 3.5M<sub>L</sub>(GS), 3.6M<sub>L</sub>(BU)

Intensity II:

Montana— West Yellowstone.

Wyoming— Old Faithful.

**17 June (BU) Yellowstone National Park**

Origin time: 08 10 47.5

Epicenter: 44.780N., 111.031W.

Depth: 7 km

Magnitude: 3.5M<sub>L</sub>(GS), 4.1M<sub>L</sub>(BU)

Intensity III: Old Faithful.

**2 July (GS) Southeastern Idaho**

Origin time: 03 03 56.0

See Idaho listing.

**13 August (GS) Southern Wyoming**

Origin time: 20 57 00.8

Epicenter: 41.817N., 108.649W.

Depth: 5 km

Magnitude: 3.5M<sub>L</sub>(GS)

Intensity IV: Point of Rocks.

**16 August (GS) Central Wyoming**

Origin time: 06 05 22.6

Epicenter: 42.813N., 108.060W.

Depth: 10 km

Magnitude: 4.3M<sub>L</sub>(GS)

Intensity IV: Hudson, Jeffrey City, Lander, South Pass City.

Intensity III: Casper, Ethete, Hanna, Midwest, Point of Rocks, Rock Springs, Superior.

Intensity II: Basin, Edgerton, Hyattville.

**18 August (GS) Yellowstone National Park**

Origin time: 00 42 45.3

Epicenter: 44.644N., 111.015W.

Depth: 5 km

Magnitude: 3.3M<sub>L</sub>(GS), 3.6M<sub>L</sub>(BU)

Intensity II:

Montana— West Yellowstone.

Wyoming— Old Faithful.

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**WYOMING—Continued**

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**21 August (GS) Western Wyoming**

Origin time: 18 05 38.3

Epicenter: 43.168N., 110.781W.

Depth: 5 km

Magnitude: 4.8<sub>b</sub>(GS), 4.3<sub>M<sub>L</sub></sub>(UU)

This earthquake dislodged some rocks in the Snake River Canyon onto State Highway 26/89 (press report).

**Intensity V:**

Wyoming—

Alpine— Plaster and drywall sustained hairline cracks; a few items shook off store shelves; hanging pictures swung out of place; buildings shook moderately; vibration was strong.

**Intensity IV:**

Idaho— Driggs (press report), Palisades, Victor.

Wyoming— Alta (press report), Camp Creek Inn—south of Jackson (press report), Lander, Wilson.

**Intensity III:**

Idaho— Rexburg (press report), Sugar City (press report).

**Intensity II:**

Wyoming— Bondurant.

**Felt:**

Idaho— Swan Valley.

Wyoming— Bedford.

**22 August (GS) Western Wyoming**

Origin time: 06 17 39.7

Epicenter: 43.125N., 110.814W.

Depth: 5 km

Magnitude: 4.3<sub>b</sub>(GS), 4.3<sub>M<sub>L</sub></sub>(GS), 4.1<sub>M<sub>L</sub></sub>(UU)**Intensity III:**

Idaho— Driggs (press report).

Wyoming— Alpine, Alta (press report).

**30 August (GS) Western Wyoming**

Origin time: 21 08 06.9

Epicenter: 43.166N., 110.890W.

Depth: 5 km

Magnitude: 4.2<sub>b</sub>(GS), 4.3<sub>M<sub>L</sub></sub>(GS), 4.3<sub>M<sub>L</sub></sub>(UU)

Some loose rocks were dislodged in the Snake River Canyon (press report).

**Intensity V:**

Wyoming—

Alpine— Plaster and drywall sustained hairline cracks; trees and bushes shook strongly; vibration was strong.

**Felt:**

Idaho— Palisades (press report).

Wyoming— Jackson (press report).

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**WYOMING—Continued**

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**1 September Yellowstone National Park**

Origin time: 05 34

Epicenter: Not located.

Depth: None computed.

Magnitude: None computed.

Intensity II: Old Faithful.

**1 September Yellowstone National Park**

Origin time: 09 49

Epicenter: Not located.

Depth: None computed.

Magnitude: None computed.

Intensity II: Old Faithful.

**5 September (BU) Yellowstone National Park area**

Origin time: 03 59 26.3

See Montana listing.

**7 September (GS) Western Wyoming**

Origin time: 03 47 29.2

Epicenter: 43.156N., 110.724W.

Depth: 5 km

Magnitude: 4.6<sub>b</sub>(GS), 4.6<sub>M<sub>L</sub></sub>(GS), 4.6<sub>M<sub>L</sub></sub>(UU)

This earthquake caused a rockslide along State Highway 89 between Etna and Afton, Wyoming. Another rockslide caused a temporary closure of this same highway, in the Snake River Canyon, between Hoback Junction, Wyoming, and Alpine, Wyoming (press report).

**Intensity V:**

Wyoming—

Alpine— There was a report of a cracked foundation; plaster sustained hairline cracks; a few items shook off store shelves; vibration was strong; felt by all.

**Intensity IV:**

Idaho— Irwin, Palisades, Victor.

Wyoming— Wilson.

**Intensity III:**

Idaho— Swan Valley, Wayan.

Wyoming— Bondurant.

**Intensity II:**

Idaho— Rigby.

Wyoming— Old Faithful.

**Felt:**

Wyoming— Etna (press report), Grand Teton National Park (press report), Jackson (press report), Moose.

**19 September (GS) Yellowstone National Park**

Origin time: 17 25 35.6

Epicenter: 44.311N., 110.927W.

Depth: 5 km

Magnitude: 2.7<sub>M<sub>L</sub></sub>(GS), 3.0<sub>M<sub>L</sub></sub>(BU)

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**WYOMING—Continued**

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An intense local seismic swarm began near Old Faithful on September 19, 1985, at about 08: 00 hours MST (14: 00 UTC). About 25 of these earthquakes were felt—mostly at Old Faithful. An estimated 1,000 events were recorded at Old Faithful during a 16-hr period (R.A. Hutchison, National Park Service). The largest events are listed below.

Intensity III: Old Faithful.

**19 September (BU) Yellowstone National Park**

Origin time: 17 44 58.4

Epicenter: 44.351N., 110.815W.

Depth: 1 km

Magnitude: 2.9M<sub>L</sub>(BU)

Intensity IV: Old Faithful.

**19 September (GS) Western Wyoming**

Origin time: 23 26 54.9

Epicenter: 43.118N., 110.926W.

Depth: 8 km

Magnitude: 3.5M<sub>L</sub>(GS)

Felt: Alpine (press report).

**20 September (GS) Yellowstone National Park**

Origin time: 05 07 53.5

Epicenter: 44.349N., 110.919W.

Depth: 5 km

Magnitude: 2.9M<sub>L</sub>(GS), 3.2M<sub>D</sub>(BU)

Intensity IV: Old Faithful.

**29 September Yellowstone National Park**

Origin time: 01 05

Epicenter: Not located.

Depth: None computed.

Magnitude: None computed.

Intensity III: Old Faithful.

**10 October (BU) Yellowstone National Park**

Origin time: 16 49 12.8

Epicenter: 44.631N., 110.990W.

Depth: 3 km

Magnitude: 3.0M<sub>L</sub>(BU), 2.7M<sub>D</sub>(BU)

Intensity II: Old Faithful.

**16 October (BU) Yellowstone National Park**

Origin time: 20 01 59.3

Epicenter: 44.640N., 111.020W.

Depth: 5 km

Magnitude: 3.5M<sub>L</sub>(GS), 4.0M<sub>L</sub>(BU)

Old Faithful Geyser had an unusual sequence of eruptions on October 16, 1985. Following a routine 82-minute interval, Old Faithful erupted at 17: 19 MDT,

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**WYOMING—Continued**

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then erupted again at 18: 10 MDT, and again at 18: 23 MDT. The last interval of 13 minutes is the shortest to be recorded in 115 years; the shortest interval previously was 32 minutes (R.A. Hutchison, National Park Service).

Intensity IV:

Montana— West Yellowstone.

**16 October (BU) Yellowstone National Park**

Origin time: 23 36 00.4

Epicenter: 44.639N., 111.012W.

Depth: 5 km

Magnitude: 3.6M<sub>L</sub>(BU), 3.1M<sub>L</sub>(GS)

Intensity IV:

Montana— West Yellowstone.

Wyoming— Madison Junction.

**16 October (BU) Yellowstone National Park**

Origin time: 23 59 17.9

Epicenter: 44.643N., 111.016W.

Depth: 4 km

Magnitude: 3.6M<sub>L</sub>(GS), 4.2M<sub>L</sub>(BU)

Intensity IV:

Montana— West Yellowstone.

Wyoming— Madison Junction, Old Faithful.

**17 October (GS) Yellowstone National Park**

Origin time: 00 08 43.2

See Montana listing.

**17 October (BU) Yellowstone National Park**

Origin time: 00 18 36.9

Epicenter: 44.641N., 111.013W.

Depth: 7 km

Magnitude: 3.4M<sub>L</sub>(GS), 3.8M<sub>L</sub>(BU)

Intensity IV:

Montana— West Yellowstone.

Wyoming— Madison Junction, Old Faithful.

**17 October (BU) Yellowstone National Park**

Origin time: 01 11 46.9

Epicenter: 44.630N., 111.007W.

Depth: 3 km

Magnitude: 3.1M<sub>L</sub>(BU), 2.8M<sub>D</sub>(BU)

Intensity III: Old Faithful Ranger Station.

**17 October (BU) Yellowstone National Park**

Origin time: 03 06 05.2

Epicenter: 44.644N., 111.014W.

Depth: 5 km

Magnitude: 3.4M<sub>L</sub>(GS), 3.9M<sub>L</sub>(BU)

Intensity IV:

Montana— West Yellowstone.

Wyoming— Madison Junction.

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**WYOMING—Continued**

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Intensity III:  
Wyoming— Old Faithful.

**17 October (GS) Yellowstone National Park area**  
Origin time: 08 01 46.7

See Montana listing.

**17 October (GS) Yellowstone National Park area**  
Origin time: 10 47 59.3

See Montana listing.

**17 October (BU) Yellowstone National Park**  
Origin time: 11 57 58.4  
Epicenter: 44.643N., 111.015W.  
Depth: 4 km  
Magnitude: 3.8M<sub>L</sub>(BU)  
Intensity III:  
Montana— West Yellowstone.  
Wyoming— Old Faithful.

**18 October (GS) Yellowstone National Park area**  
Origin time: 00 16 43.5

See Montana listing.

**18 October (GS) Yellowstone National Park area**  
Origin time: 00 26 19.2

See Montana listing.

**18 October (GS) Yellowstone National Park area**  
Origin time 19 23 22.2

See Montana listing.

**19 October (BU) Yellowstone National Park**  
Origin time: 12 45 53.5  
Epicenter: 44.663N., 111.026W.  
Depth: 19 km  
Magnitude: 2.9M<sub>L</sub>(BU), 2.7M<sub>D</sub>(BU)  
Intensity III:  
Montana— West Yellowstone.  
Intensity II:  
Wyoming— Old Faithful.

**19 October (GS) Yellowstone National Park**  
Origin time: 15 34 59.5  
Epicenter: 44.655N., 111.006W.  
Depth: 5 km  
Magnitude: 4.1M<sub>L</sub>(GS), 3.9M<sub>D</sub>(BU)

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**WYOMING—Continued**

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Intensity V:  
Montana—  
West Yellowstone— Several items shook off top shelves in a grocery store; one piece of china fell from a cabinet top in one residence; a chair with caster wheels (occupied by a person) moved.

Intensity IV:  
Wyoming— Madison Junction, Old Faithful.  
Intensity III:  
Montana— Gardiner.

**19 October (GS) Yellowstone National Park**  
Origin time: 16 32 35.6  
Epicenter: 44.679N., 110.983W.  
Depth: 5 km  
Magnitude: 4.0M<sub>L</sub>(GS)  
Intensity IV:  
Wyoming— Madison Junction, Old Faithful.  
Intensity III:  
Montana— West Yellowstone.

**19 October (GS) Yellowstone National Park area**  
Origin time: 16 45 06.6

See Montana listing.

**20 October (BU) Yellowstone National Park**  
Origin time: 06 31 31.2  
Epicenter: 44.633N., 111.006W.  
Depth: 6 km  
Magnitude: 3.1M<sub>L</sub>(GS), 3.5M<sub>L</sub>(BU)  
Intensity III:  
Montana— West Yellowstone.

**22 October (BU) Yellowstone National Park**  
Origin time: 09 54 43.7  
Epicenter: 44.643N., 110.997W.  
Depth: 6 km  
Magnitude: 3.1M<sub>L</sub>(BU), 2.8M<sub>D</sub>(BU)  
Intensity II:  
Montana— West Yellowstone.

**25 October (BU) Yellowstone National Park**  
Origin time: 02 21 06.9  
Epicenter: 44.615N., 110.984W.  
Depth: 17 km  
Magnitude: 3.5M<sub>L</sub>(BU), 2.9M<sub>D</sub>(BU)  
Intensity II:  
Montana— West Yellowstone.

**29 October (GS) Yellowstone National Park area**  
Origin time: 00 10 39.3

See Montana listing.

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**WYOMING—Continued**

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**9 November (BU) Yellowstone National Park**

Origin time: 11 38 19.0

Epicenter: 44.662N., 111.027W.

Depth: 4 km

Magnitude: 4.8<sub>m</sub>(GS), 4.1<sub>D</sub>(BU)

This earthquake began another swarm of felt tremors similar to those on October 16, 1985. Only the larger ones are listed below.

**Intensity V:**

Montana—

West Yellowstone—Many reports of small objects knocked to the floors, overturned, and (or) broke in homes and grocery stores throughout the West Yellowstone Basin-Hebgen Lake-Duck Creek area; hanging pictures fell; books fell from shelves; felt by and awakened nearly everyone.

**Intensity IV:**

Montana—Gardiner, Norris, Pony.

Wyoming—Canyon Village, Madison Junction, Mammoth Hot Springs, Old Faithful.

**Intensity III:**

Montana—Bozeman, Jardine, Springdale, Twin Bridges.

Wyoming—Alpine, Tom Miner Basin.

**Intensity II:**

Montana—Big Sky.

**Felt:**

Wyoming—Ralston.

**9 November (GS) Hebgen Lake area**

Origin time: 11 40 22.5

See Montana listing.

**9 November (GS) Hebgen Lake area**

Origin time: 11 46 25.7

See Montana listing.

**9 November (GS) Hebgen Lake area**

Origin time: 11 48 46.1

See Montana listing.

**9 November (GS) Yellowstone National Park area**

Origin time: 11 58 49.5

See Montana listing.

**9 November (GS) Yellowstone National Park area**

Origin time: 13 09 15.2

See Montana listing.

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**WYOMING—Continued**

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**9 November (BU) Yellowstone National Park**

Origin time: 14 35 57.9

Epicenter: 44.702N., 111.027W.

Depth: 18 km

Magnitude: 2.8<sub>M</sub><sub>L</sub>(BU)**Intensity II:**

Montana—West Yellowstone.

**9 November (GS) Yellowstone National Park area**

Origin time: 15 19 58.3

See Montana listing.

**9 November (GS) Yellowstone National Park**

Origin time: 17 16 16.7

Epicenter: 44.652N., 111.042W.

Depth: 5 km

Magnitude: 3.3<sub>M</sub><sub>L</sub>(GS), 3.7<sub>M</sub><sub>L</sub>(BU)**Intensity III:**

Montana—West Yellowstone.

Wyoming—Old Faithful.

**10 November (BU) Yellowstone National Park**

Origin time: 10 27 31.9

Epicenter: 44.645N., 111.015W.

Depth: 9 km

Magnitude: 2.8<sub>M</sub><sub>L</sub>(GS), 3.1<sub>M</sub><sub>L</sub>(BU)**Intensity III:**

Wyoming—West Yellowstone.

**Intensity II:**

Montana—Gardiner.

**10 November (BU) Yellowstone National Park**

Origin time: 19 30 38.8

Epicenter: 44.644N., 111.021W.

Depth: 6 km

Magnitude: 2.8<sub>M</sub><sub>L</sub>(BU), 2.7<sub>M</sub><sub>D</sub>(BU)**Intensity II:**

Montana—West Yellowstone.

**11 November (GS) Yellowstone National Park**

Origin time: 00 53 43.2

Epicenter: 44.637N., 110.964W.

Depth: 5 km

Magnitude: 3.0<sub>M</sub><sub>L</sub>(GS), 3.4<sub>M</sub><sub>L</sub>(BU)**Intensity III:**

Montana—West Yellowstone.

**11 November (BU) Yellowstone National Park**

Origin time: 01 26 09.5

Epicenter: 44.650N., 111.001W.

Depth: 1 km

Magnitude: 3.4<sub>M</sub><sub>L</sub>(GS), 3.4<sub>M</sub><sub>L</sub>(BU)**Intensity III:**

Montana—West Yellowstone.



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**WYOMING—Continued**

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**11 November (GS) Yellowstone National Park**

Origin time: 14 10 01.6

Epicenter: 44.612N., 111.022W.

Depth: 5 km

Magnitude: 2.8M<sub>L</sub>(GS), 3.4M<sub>L</sub>(BU)

Intensity III:

Montana— West Yellowstone.

**11 November (GS) Hebgen Lake area**

Origin time: 17 46 58.7

See Montana listing.

**12 November (BU) Yellowstone National Park**

Origin time: 07 22 35.8

Epicenter: 44.641N., 111.016W.

Depth: 8 km

Magnitude: 3.0M<sub>L</sub>(GS), 3.3M<sub>L</sub>(BU)

Intensity III:

Montana— West Yellowstone.

**12 November (GS) Yellowstone National Park area**

Origin time: 23 51 12.3

See Montana listing.

**13 November (BU) Yellowstone National Park**

Origin time: 18 47 50.7

Epicenter: 44.670N., 110.996W.

Depth: 8 km

Magnitude: 3.5M<sub>L</sub>(BU), 3.0M<sub>D</sub>(BU)

Intensity II:

Montana— West Yellowstone.

**13 November (BU) Yellowstone National Park**

Origin time: 18 52 51.7

Epicenter: 44.630N., 111.026W.

Depth: 8 km

Magnitude: 3.7M<sub>L</sub>(BU), 3.3M<sub>D</sub>(BU)

Intensity III:

Montana— West Yellowstone.

**14 November (BU) Yellowstone National Park**

Origin time: 05 30 16.6

Epicenter: 44.650N., 111.005W.

Depth: 8 km

Magnitude: 3.7M<sub>L</sub>(BU), 3.2M<sub>D</sub>(BU)

Intensity III:

Montana— West Yellowstone.

Wyoming— Madison Junction.

Intensity II:

Wyoming— Old Faithful.

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**WYOMING—Continued**

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**15 November (GS) Yellowstone National Park area**

Origin time: 08 14 27.9

See Montana listing.

**15 November (GS) Yellowstone National Park area**

Origin time: 15 16 06.2

See Montana listing.

**15 November (GS) Yellowstone National Park**

Origin time: 17 51 35.1

Epicenter: 44.652N., 111.040W.

Depth: 5 km

Magnitude: 3.5M<sub>L</sub>(GS), 3.9M<sub>L</sub>(BU)

Intensity IV:

Montana— West Yellowstone.

Wyoming— Madison Junction.

Intensity III:

Wyoming— Old Faithful.

**15 November (BU) Yellowstone National Park**

Origin time: 17 55 02.5

Epicenter: 44.686N., 111.015W.

Depth: 5 km

Magnitude: 2.9M<sub>L</sub>(BU), 2.7M<sub>D</sub>(BU)

Felt: Hebgen Lake (BU).

**15 November (GS) Yellowstone National Park**

Origin time: 20 51 09.8

Epicenter: 44.605N., 111.020W.

Depth: 5 km

Magnitude: 2.8M<sub>L</sub>(GS), 3.1M<sub>L</sub>(BU)

Intensity III:

Montana— West Yellowstone.

Wyoming— Madison Junction.

**16 November (GS) Yellowstone National Park area**

Origin time: 01 50 10.0

See Montana listing.

**16 November (GS) Yellowstone National Park area**

Origin time: 22 04 47.8

See Montana listing.

**16 November (GS) Yellowstone National Park area**

Origin time: 23 15 09.4

See Montana listing.

**17 November (GS) Yellowstone National Park area**

Origin time: 06 46 05.4

See Montana listing.

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**WYOMING—Continued**

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**17 November (BU) Yellowstone National Park**

Origin time: 06 50 20.9

Epicenter: 44.650N., 110.998W.

Depth: 7 km

Magnitude: 3.1M<sub>L</sub>(GS), 3.5M<sub>L</sub>(BU)

Intensity II: Old Faithful.

**17 November (BU) Yellowstone National Park**

Origin time: 16 34 18.2

Epicenter: 44.634N., 110.991W.

Depth: 7 km

Magnitude: 2.8M<sub>L</sub>(GS), 3.1M<sub>L</sub>(BU)

Intensity III: Old Faithful.

**19 November (BU) Yellowstone National Park**

Origin time: 04 38 47.5

See Montana listing.

**20 November (GS) Yellowstone National Park**

Origin time: 14 55 56.1

Epicenter: 44.631N., 110.980W.

Depth: 5 km

Magnitude: 3.5M<sub>L</sub>(GS), 3.9M<sub>L</sub>(BU)

Intensity II:

Montana— West Yellowstone.

**20 November (BU) Yellowstone National Park**

Origin time: 15 14 59.7

Epicenter: 44.631N., 110.995W.

Depth: 8 km

Magnitude: 3.1M<sub>L</sub>(BU), 3.0M<sub>D</sub>(BU)

Intensity II: Madison Junction.

**22 November (GS) Yellowstone National Park**

Origin time: 07 42 27.9

Epicenter: 44.623N., 110.990W.

Depth: 5 km

Magnitude: 3.1M<sub>L</sub>(GS), 3.5M<sub>L</sub>(BU)

Intensity III:

Montana— West Yellowstone.

Wyoming— Old Faithful.

**23 November (BU) Yellowstone National Park**

Origin time: 10 11 10.7

Epicenter: 44.717N., 111.047W.

Depth: 14 km

Magnitude: 2.8M<sub>L</sub>(BU), 2.7M<sub>D</sub>(BU)

Intensity II:

Montana— West Yellowstone.

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**WYOMING—Continued**

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**26 November (GS) Yellowstone National Park area**

Origin time: 09 27 49.1

See Montana listing.

**26 November (GS) Yellowstone National Park**

Origin time: 09 34 40.5

Epicenter: 44.647N., 111.045W.

Depth: 5 km

Magnitude: 4.4M<sub>L</sub>(GS), 4.0M<sub>D</sub>(BU)

Intensity IV:

Montana— West Yellowstone.

Wyoming— Madison Junction, Old Faithful.

**26 November (GS) Yellowstone National Park**

Origin time: 16 27 55.4

Epicenter: 44.661N., 111.036W.

Depth: 5 km

Magnitude: 3.4M<sub>L</sub>(GS), 3.8M<sub>L</sub>(BU)

Intensity III:

Montana— West Yellowstone.

Intensity II:

Wyoming— Old Faithful.

**29 November (GS) Yellowstone National Park**

Origin time: 06 11 02.1

Epicenter: 44.650N., 111.037W.

Depth: 5 km

Magnitude: 3.1M<sub>L</sub>(GS), 3.3M<sub>L</sub>(BU)

Intensity II: Madison Junction.

**29 November (BU) Yellowstone National Park**

Origin time: 07 21 26.1

Epicenter: 44.695N., 111.045W.

Depth: 16 km

Magnitude: 3.4M<sub>L</sub>(GS), 3.8M<sub>L</sub>(BU)

Intensity III:

Montana— West Yellowstone.

Wyoming— Madison Junction.

**29 November (BU) Yellowstone National Park**

Origin time: 22 30 36.9

Epicenter: 44.657N., 111.011W.

Depth: 8 km

Magnitude: 3.4M<sub>L</sub>(GS), 3.7M<sub>L</sub>(BU)

Intensity III:

Montana— West Yellowstone.

Wyoming— Madison Junction.

Intensity II:

Wyoming— Old Faithful.

**1 December (GS) Hebgen Lake area**

Origin time: 01 05 49.6

See Montana listing.

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**WYOMING—Continued**

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**1 December (BU) Yellowstone National Park**

Origin time: 01 08 54.1

Epicenter: 44.631N., 111.017W.

Depth: 8 km

Magnitude: 3.8M<sub>L</sub>(GS), 3.9M<sub>L</sub>(BU)

Intensity IV:

Montana— West Yellowstone.

Wyoming— Madison Junction.

Intensity III:

Wyoming— Old Faithful.

**4 December (GS) Yellowstone National Park**

Origin time: 06 37 51.8

Epicenter: 44.671N., 111.004W.

Depth: 5 km

Magnitude: 4.1m<sub>b</sub>(GS), 4.2M<sub>L</sub>(GS), 4.3M<sub>D</sub>(BU)

Intensity IV:

Montana— West Yellowstone.

Wyoming— Madison Junction, Old Faithful.

Intensity III:

Wyoming— Mammoth Hot Springs.

Intensity II:

Wyoming— Canyon Village.

**4 December (GS) Yellowstone National Park**

Origin time: 06 44 17.7

Epicenter: 44.629N., 111.047W.

Depth: 5 km

Magnitude: 3.5M<sub>L</sub>(GS), 3.9M<sub>L</sub>(BU)

Intensity IV:

Montana— West Yellowstone.

Intensity III:

Wyoming— Madison Junction, Old Faithful.

**4 December (BU) Yellowstone National Park**

Origin time: 09 10 30.6

Epicenter: 44.624N., 110.991W.

Depth: 4 km

Magnitude: 2.8M<sub>L</sub>(GS), 3.1M<sub>L</sub>(BU)

Intensity III:

Montana— West Yellowstone.

Wyoming— Madison Junction.

**4 December (BU) Yellowstone National Park**

Origin time: 12 47 29.7

Epicenter: 44.652N., 111.027W.

Depth: 5 km

Magnitude: 3.9M<sub>L</sub>(GS), 4.1M<sub>L</sub>(BU)

Intensity IV:

Montana— West Yellowstone.

Wyoming— Madison Junction, Old Faithful.

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**WYOMING—Continued**

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**4 December (BU) Yellowstone National Park**

Origin time: 12 56 16.7

Epicenter: 44.634N., 110.993W.

Depth: 5 km

Magnitude: 3.5M<sub>L</sub>(GS), 3.8M<sub>L</sub>(BU)

Intensity III:

Montana— West Yellowstone.

Intensity II:

Wyoming— Madison Junction.

**4 December (BU) Yellowstone National Park**

Origin time: 14 12 41.2

Epicenter: 44.642N., 111.009W.

Depth: 3 km

Magnitude: 2.8M<sub>L</sub>(GS), 3.3M<sub>L</sub>(BU)

Intensity II: Madison Junction.

**4 December (GS) Yellowstone National Park area**

Origin time: 14 28 55.9

See Montana listing.

**4 December (GS) Yellowstone National Park area**

Origin time: 17 01 55.3

See Montana listing.

**5 December (GS) Yellowstone National Park area**

Origin time: 20 34 43.0

See Montana listing.

**10 December (BU) Yellowstone National Park**

Origin time: 04 13 12.3

Epicenter: 44.641N., 110.991W.

Depth: 8 km

Magnitude: 2.9M<sub>L</sub>(GS), 3.4M<sub>L</sub>(BU)

Intensity III:

Montana— West Yellowstone.

**15 December (BU) Yellowstone National Park**

Origin time: 01 42 04.6

Epicenter: 44.624N., 110.993W.

Depth: 6 km

Magnitude: 3.7M<sub>L</sub>(GS), 4.1M<sub>L</sub>(BU)

Intensity IV:

Montana— West Yellowstone.

Intensity III:

Wyoming— Madison Junction.

**15 December (BU) Yellowstone National Park**

Origin time: 02 01 52.4

Epicenter: 44.647N., 110.992W.

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**WYOMING—Continued**

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Depth: 7 km

Magnitude: 2.7M<sub>L</sub>(GS), 3.0M<sub>L</sub>(BU)

Intensity II:

Montana— West Yellowstone.

**16 December (BU) Yellowstone National Park**

Origin time: 02 56 33.2

Epicenter: 44.639N., 111.014W.

Depth: 6 km

Magnitude: 3.1M<sub>L</sub>(GS), 3.7M<sub>L</sub>(BU)

Intensity II:

Montana— West Yellowstone.

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**WYOMING—Continued**

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**18 December (GS) Yellowstone National Park area**

Origin time: 19 28 23.1

See Montana listing.

**27 December (GS) Yellowstone National Park**

Origin time: 18 31 54.5

Epicenter: 44.602N., 111.048W.

Depth: 5 km

Magnitude: 3.2M<sub>L</sub>(GS), 3.5M<sub>L</sub>(BU)

Intensity IV:

Montana— West Yellowstone.

Intensity III:

Wyoming— Madison Junction.

Table 1. *Summary of United States earthquakes for 1985*

The following codes are used to indicate sources of hypocenters and (or) magnitudes and local times:

(BK) University of California, Berkeley;	(TC) Tennessee Earthquake Information Center, Memphis;
(BU) Montana Bureau of Mines and Geology, Butte;	(TU) Oklahoma Geological Survey, Leonard;
(DE) Delaware Geological Survey, Newark;	(UU) University of Utah, Salt Lake City;
(EE) Engdahl, E. R., Billington, S., and Kisslinger, C., 1989, Journal of Geophysical Research, v. 94, no. B11, p. 15,481–15,498.	(VP) Virginia Polytechnic Institute and State University, Blacksburg;
(EN) Department of Energy, Washington, D.C.;	(WA) University of Washington, Seattle;
(EP) Geophysics Division, Geological Survey of Canada, Ottawa, Ontario;	(WO) Weston Observatory, Weston, Mass.;
(GM) U.S. Geological Survey, Menlo Park, Calif.;	(AST) Alaska Standard Time;
(GP) U.S. Geological Survey, Pasadena, Calif.;	(CST) Central Standard Time;
(GS) U.S. Geological Survey, Golden, Colo.;	(EST) Eastern Standard Time;
(HV) Hawaiian Volcano Observatory, U.S. Geological Survey, Hawaii National Park;	(HST) Hawaii Standard Time;
(LD) Lamont-Doherty Geological Observatory, Palisades, N.Y.;	(MST) Mountain Standard Time;
(PM) Alaska Palmer Observatory, NOAA, Palmer, Alaska;	(PST) Pacific Standard Time;
(PS) California Institute of Technology, Pasadena;	(YST) Yukon Standard Time;
(RN) University of Nevada, Reno;	(UTC) Coordinated Universal Time;
(SL) St. Louis University, St. Louis, Mo.;	(N) Normal depth = 33 km;
	FELT—Not enough data available to assign an intensity;
	Dashes— (—) indicate information is not available.

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time			
	(UTC)							Source	m <sub>b</sub>	M <sub>s</sub>		Local	Date	hr	zone
	hr	min	sec												
ALASKA															
JAN.	1	08 41 55.2	59.137N.	153.879W.	19	GM	—	—	—	—	DEC.	31	23:41	YST	
JAN.	2	03 24 26.7	60.238N.	153.065W.	124	GM	—	—	—	—	JAN.	1	18:24	YST	
JAN.	2	05 32 49.1	55.428N.	157.835W.	33	GS	5.6	5.6	6.1ML(PM)	III	JAN.	1	20:32	YST	
JAN.	2	08 10 57.1	58.496N.	155.899W.	171	GS	4.4	—	—	—	JAN.	1	23:10	YST	
JAN.	2	15 50 07.7	62.326N.	151.168W.	88	GM	—	—	—	—	JAN.	2	06:50	YST	
JAN.	2	22 52 53.4	53.063N.	165.982W.	40	LD	—	—	3.4mx(LD)	—	JAN.	2	12:52	YST	
JAN.	2	23 08 29.2	53.490N.	171.531W.	235	GS	4.8	—	—	—	JAN.	2	13:08	AST	
JAN.	3	13 46 53.0	59.817N.	153.345W.	130	GM	—	—	—	—	JAN.	3	04:46	YST	
JAN.	4	11 35 16.4	61.606N.	151.014W.	73	GM	—	—	—	—	JAN.	4	02:35	YST	
JAN.	4	18 08 03.5	58.626N.	155.962W.	187	GS	—	—	—	—	JAN.	4	09:08	YST	
JAN.	5	08 19 03.4	60.057N.	150.092W.	39	GM	—	—	—	—	JAN.	4	23:19	YST	
JAN.	5	23 54 23.1	59.800N.	153.504W.	125	GM	—	—	—	—	JAN.	5	14:54	YST	
JAN.	6	01 08 57.5	63.015N.	150.750W.	143	GS	—	—	—	—	JAN.	5	16:08	YST	
JAN.	6	01 23 25.1	59.973N.	152.783W.	95	GM	—	—	—	—	JAN.	5	16:23	YST	
JAN.	6	05 12 45.7	58.652N.	154.320W.	16	GS	—	—	3.7ML(PM)	—	JAN.	5	20:12	YST	
JAN.	6	17 04 46.4	54.397N.	166.180W.	131	GS	5.1	—	5.2mx(LD)	—	JAN.	6	07:04	AST	
JAN.	6	21 41 52.1	63.159N.	150.628W.	140	GS	—	—	—	—	JAN.	6	12:41	YST	
JAN.	7	15 51 25.6	60.995N.	152.104W.	99	GM	—	—	—	—	JAN.	7	06:51	YST	
JAN.	7	18 54 08.9	62.538N.	149.350W.	62	GM	—	—	—	—	JAN.	7	09:54	YST	
JAN.	8	03 31 26.2	59.381N.	153.265W.	108	GM	—	—	—	—	JAN.	7	18:31	YST	
JAN.	8	04 45 35.8	62.567N.	151.271W.	113	GS	—	—	—	—	JAN.	7	19:45	YST	
JAN.	8	21 06 09.3	51.219N.	177.923E.	57	GS	4.5	—	4.2ML(PM)	—	JAN.	8	11:06	AST	
JAN.	9	19 28 21.2	60.289N.	140.744W.	15	GM	5.7	5.1	5.4ML(PM)	IV	JAN.	9	10:28	YST	
JAN.	9	19 30 51.9	60.256N.	140.751W.	14	GM	—	—	—	—	JAN.	9	10:30	YST	
JAN.	9	19 34 22.0	60.261N.	140.760W.	14	GM	—	—	—	—	JAN.	9	10:34	YST	
JAN.	9	23 42 41.1	63.878N.	149.123W.	9	GM	—	—	—	—	JAN.	9	14:42	YST	

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
ALASKA-Continued														
JAN.	10	07 02 26.3	62.317N.	149.593W.	57	GM	—	—	—	—	JAN.	9	22:02	YST
JAN.	10	09 40 49.1	60.246N.	140.691W.	18	GM	—	—	3.1ML(EP)	—	JAN.	10	00:40	YST
JAN.	10	15 44 02.2	51.526N.	177.579W.	33	GS	—	—	—	—	JAN.	10	05:44	AST
JAN.	10	15 44 10.8	62.810N.	149.506W.	88	GS	—	—	—	—	JAN.	10	06:44	YST
JAN.	10	17 14 42.1	61.286N.	146.888W.	31	GM	—	—	—	—	JAN.	10	08:14	YST
JAN.	10	20 59 19.3	59.976N.	152.361W.	75	GM	—	—	—	—	JAN.	10	11:59	YST
JAN.	10	21 45 45.6	59.380N.	151.271W.	42	GM	—	—	—	—	JAN.	10	12:45	YST
JAN.	11	09 03 33.0	51.534N.	175.233W.	37	EE	5.2	—	—	IV	JAN.	10	23:03	AST
JAN.	11	12 28 28.3	59.843N.	152.241W.	71	GM	—	—	—	—	JAN.	11	03:28	YST
JAN.	11	13 38 13.8	63.240N.	152.193W.	33	GS	—	—	3.0ML(PM)	—	JAN.	11	04:38	YST
JAN.	11	18 19 53.9	59.668N.	153.008W.	99	GM	—	—	—	—	JAN.	11	09:19	YST
JAN.	11	20 04 07.9	63.104N.	150.429W.	42	GS	4.1	—	4.1ML(PM)	—	JAN.	11	11:04	YST
JAN.	11	20 30 17.8	60.123N.	152.078W.	58	GM	—	—	—	—	JAN.	11	11:30	YST
JAN.	12	22 56 46.5	62.143N.	150.915W.	75	GM	—	—	—	—	JAN.	12	13:56	YST
JAN.	13	16 51 59.9	64.580N.	152.194W.	10	GS	—	—	3.0ML(PM)	—	JAN.	13	07:51	YST
JAN.	13	22 02 37.9	57.965N.	156.039W.	142	GM	—	—	—	—	JAN.	13	13:02	YST
JAN.	14	05 10 35.4	52.364N.	179.812W.	213	GS	5.0	—	—	—	JAN.	13	19:10	AST
JAN.	14	10 01 05.0	59.905N.	151.536W.	69	GM	—	—	—	—	JAN.	14	01:01	YST
JAN.	14	16 01 55.1	60.210N.	152.526W.	90	GM	—	—	—	—	JAN.	14	07:01	YST
JAN.	14	23 07 29.9	51.649N.	171.895W.	33	GS	4.5	—	—	—	JAN.	14	13:07	AST
JAN.	15	03 21 27.6	61.364N.	150.352W.	52	GM	—	—	3.5ML(PM)	II	JAN.	14	18:21	YST
JAN.	16	04 45 06.7	66.827N.	153.449W.	15	GS	—	—	3.8ML(PM)	—	JAN.	15	19:45	YST
JAN.	16	10 52 22.3	59.101N.	137.692W.	15	GM	—	—	3.3ML(PM)	—	JAN.	16	01:52	YST
JAN.	16	14 28 59.1	60.050N.	152.690W.	95	GM	—	—	—	—	JAN.	16	05:28	YST
JAN.	17	19 22 16.0	60.325N.	150.757W.	60	GS	4.6	—	4.5ML(PM)	IV	JAN.	17	10:22	YST
JAN.	17	19 27 21.1	60.277N.	150.772W.	44	GM	—	—	4.2ML(PM)	—	JAN.	17	10:27	YST
JAN.	19	15 43 01.7	60.598N.	151.352W.	66	GM	—	—	—	—	JAN.	19	06:43	YST
JAN.	20	04 29 15.3	62.552N.	151.031W.	92	GM	—	—	—	—	JAN.	19	19:29	YST
JAN.	21	02 35 50.1	61.706N.	151.489W.	78	GM	—	—	—	—	JAN.	20	17:35	YST
JAN.	22	09 32 38.2	62.269N.	151.170W.	84	GM	—	—	—	—	JAN.	22	00:32	YST
JAN.	24	05 25 49.0	59.417N.	152.647W.	67	GM	—	—	—	—	JAN.	23	20:25	YST
JAN.	24	13 30 00.3	60.445N.	151.443W.	50	GM	—	—	—	—	JAN.	24	04:30	YST
JAN.	24	17 50 01.0	60.379N.	151.558W.	50	GM	—	—	—	—	JAN.	24	08:50	YST
JAN.	25	02 49 27.7	59.590N.	152.938W.	90	GM	—	—	—	—	JAN.	24	17:49	YST
JAN.	25	05 00 34.9	66.477N.	148.756W.	30	GS	—	—	3.8ML(PM)	—	JAN.	24	20:00	YST
JAN.	25	17 04 45.9	59.822N.	153.300W.	112	GM	—	—	—	—	JAN.	25	08:04	YST
JAN.	26	01 30 30.6	59.864N.	152.637W.	79	GM	—	—	—	—	JAN.	25	16:30	YST
JAN.	27	01 47 13.9	59.938N.	151.357W.	46	GM	—	—	3.8ML(PM)	IV	JAN.	26	16:47	YST
JAN.	27	08 16 48.8	53.329N.	164.590W.	12	LD	—	—	3.7mx(LD)	—	JAN.	26	23:16	YST
JAN.	27	15 39 59.8	60.042N.	152.686W.	85	GM	—	—	—	—	JAN.	27	06:39	YST
JAN.	27	21 18 24.9	62.159N.	150.183W.	56	GM	—	—	—	—	JAN.	27	12:18	YST
JAN.	28	04 16 54.5	53.486N.	163.529W.	33	GS	4.5	—	3.5mx(LD)	—	JAN.	27	19:16	YST
JAN.	28	11 24 25.8	62.942N.	150.981W.	113	GS	—	—	—	—	JAN.	28	02:24	YST
JAN.	28	19 37 54.8	54.283N.	161.631W.	3	LD	—	—	3.4mx(LD)	—	JAN.	28	10:37	YST
JAN.	29	01 01 22.1	59.356N.	152.810W.	66	GM	—	—	—	—	JAN.	28	16:01	YST
JAN.	29	06 46 00.8	59.198N.	152.496W.	77	GM	—	—	—	—	JAN.	28	21:46	YST
JAN.	30	13 13 38.6	52.141N.	170.577W.	57	GS	4.7	4.4	4.5ML(PM)	—	JAN.	30	03:13	AST
JAN.	30	20 44 24.8	56.330N.	153.330W.	33	GS	4.7	—	—	—	JAN.	30	11:44	YST

Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>g</sub>	Local		Date	hr	zone
	hr	min	sec											
ALASKA—Continued														
JAN.	30	21 49 47.1	62.380N.	150.751W.	74	GM	—	—	—	—	JAN.	30	12:49	YST
JAN.	31	03 15 34.4	59.847N.	152.622W.	72	GM	—	—	—	—	JAN.	30	18:15	YST
JAN.	31	07 13 56.8	63.158N.	150.555W.	125	GS	—	—	—	—	JAN.	30	22:13	YST
JAN.	31	16 48 42.9	51.325N.	173.678E.	33	GS	5.0	—	4.6ML(PM)	—	JAN.	31	06:48	AST
FEB.	1	09 10 10.5	59.833N.	153.571W.	144	GM	—	—	—	—	FEB.	1	00:10	YST
FEB.	1	21 51 39.6	60.014N.	152.757W.	91	GM	—	—	—	—	FEB.	1	12:51	YST
FEB.	2	06 33 11.4	52.127N.	170.919W.	33	GS	4.5	—	—	—	FEB.	1	20:33	AST
FEB.	2	08 48 54.2	63.590N.	149.984W.	33	GS	—	—	3.3ML(PM)	—	FEB.	1	23:48	YST
FEB.	2	13 13 49.0	61.670N.	152.173W.	116	GM	—	—	—	—	FEB.	2	04:13	YST
FEB.	2	22 08 16.6	58.022N.	145.740W.	0	GM	—	—	—	—	FEB.	2	13:08	YST
FEB.	3	19 10 58.9	61.544N.	150.147W.	57	GM	—	—	3.3ML(PM)	FELT	FEB.	3	10:10	YST
FEB.	3	21 13 34.6	62.554N.	151.236W.	86	GS	—	—	—	—	FEB.	3	12:13	YST
FEB.	3	22 17 49.4	59.881N.	153.363W.	119	GM	—	—	—	—	FEB.	3	13:17	YST
FEB.	4	15 10 38.3	63.536N.	149.222W.	16	GS	4.5	—	4.3ML(PM)	V	FEB.	4	06:10	YST
FEB.	4	23 58 46.7	53.085N.	165.570W.	31	LD	—	—	3.0mx(LD)	—	FEB.	4	13:58	AST
FEB.	7	00 44 16.6	59.896N.	152.773W.	94	GM	—	—	—	—	FEB.	6	15:44	YST
FEB.	7	09 27 43.7	51.370N.	173.772W.	20	EE	5.3	4.8	—	—	FEB.	6	23:27	AST
FEB.	7	09 46 13.0	53.086N.	166.922W.	33	GS	4.4	—	4.7mx(LD)	—	FEB.	6	23:46	AST
FEB.	8	03 06 24.7	51.066N.	178.180W.	25	EE	4.8	—	4.6ML(PM)	—	FEB.	7	17:06	AST
FEB.	8	13 39 17.0	61.580N.	151.908W.	113	GM	—	—	—	—	FEB.	8	04:39	YST
FEB.	9	03 38 46.4	59.922N.	153.460W.	135	GM	—	—	—	—	FEB.	8	18:38	YST
FEB.	10	12 10 32.1	61.688N.	150.170W.	46	GM	—	—	3.0ML(PM)	—	FEB.	10	03:10	YST
FEB.	10	13 53 43.2	63.534N.	149.110W.	83	GS	—	—	—	—	FEB.	10	04:53	YST
FEB.	10	21 14 26.5	61.868N.	150.992W.	66	GM	—	—	—	—	FEB.	10	12:14	YST
FEB.	11	13 16 00.0	51.286N.	172.943W.	33	GS	4.4	—	—	—	FEB.	11	03:16	AST
FEB.	11	18 59 52.6	58.244N.	154.667W.	90	GS	4.7	—	—	—	FEB.	11	09:59	YST
FEB.	11	20 36 30.9	53.926N.	170.130W.	232	GS	4.7	—	—	—	FEB.	11	10:36	AST
FEB.	12	00 47 52.3	62.202N.	151.086W.	74	GM	—	—	—	—	FEB.	11	15:47	YST
FEB.	12	15 50 37.5	62.560N.	149.135W.	61	GM	—	—	—	—	FEB.	12	06:50	YST
FEB.	12	22 09 38.3	60.189N.	152.460W.	94	GM	—	—	—	—	FEB.	12	13:09	YST
FEB.	13	15 59 54.3	61.856N.	150.329W.	9	GM	—	—	3.9ML(PM)	IV	FEB.	13	06:59	YST
FEB.	13	17 58 27.3	51.186N.	179.753W.	44	GS	5.4	5.1	4.9ML(PM)	III	FEB.	13	07:58	AST
FEB.	13	18 09 11.7	60.399N.	153.174W.	135	GM	—	—	—	—	FEB.	13	09:09	YST
FEB.	13	21 50 16.2	59.640N.	152.656W.	85	GM	—	—	—	II	FEB.	13	12:50	YST
FEB.	14	05 04 02.2	66.196N.	150.148W.	10	GS	5.0	5.0	5.4ML(PM)	III	FEB.	13	20:04	YST
FEB.	14	13 09 28.4	61.840N.	150.412W.	55	GM	—	—	3.8ML(PM)	II	FEB.	14	04:09	YST
FEB.	14	17 02 04.7	66.169N.	149.952W.	10	GS	—	—	3.8ML(PM)	—	FEB.	14	08:02	YST
FEB.	14	17 07 12.0	66.160N.	150.007W.	10	GS	—	—	4.1ML(PM)	—	FEB.	14	08:07	YST
FEB.	14	17 40 50.8	66.192N.	150.082W.	10	GS	—	—	4.4ML(PM)	—	FEB.	14	08:40	YST
FEB.	14	19 22 28.6	66.298N.	149.857W.	10	GS	—	—	3.4ML(PM)	—	FEB.	14	10:22	YST
FEB.	14	21 53 59.9	66.180N.	150.106W.	10	GS	—	—	3.4ML(PM)	—	FEB.	14	12:53	YST
FEB.	14	22 02 44.7	63.526N.	145.364W.	5	GS	—	—	3.4ML(PM)	II	FEB.	14	13:02	YST
FEB.	14	23 07 01.7	66.142N.	150.026W.	10	GS	4.1	—	4.3ML(PM)	—	FEB.	14	14:07	YST
FEB.	14	23 10 33.4	66.338N.	149.896W.	10	GS	—	—	3.9ML(PM)	—	FEB.	14	14:10	YST
FEB.	15	01 45 36.2	66.190N.	150.034W.	10	GS	—	—	3.8ML(PM)	—	FEB.	14	16:45	YST
FEB.	15	02 08 37.5	62.144N.	151.448W.	88	GM	—	—	—	—	FEB.	14	17:08	YST
FEB.	15	03 06 41.5	60.175N.	152.738W.	101	GM	—	—	—	—	FEB.	14	18:06	YST
FEB.	15	04 16 15.9	66.142N.	150.028W.	10	GS	—	—	3.6ML(PM)	—	FEB.	14	19:16	YST

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
				( <sup>o</sup> )	( <sup>o</sup> )	(km)	Source							
ALASKA—Continued														
FEB. 15	15	06 38	17.2	63.962N.	148.572W.	33	GS	—	—	2.4ML(PM)	—	FEB. 14	21:38	YST
FEB. 15	15	10 09	48.9	61.524N.	151.462W.	75	GM	—	—	—	—	FEB. 15	01:09	YST
FEB. 15	15	12 47	57.0	66.189N.	150.100W.	10	GS	—	—	4.1ML(PM)	—	FEB. 15	03:47	YST
FEB. 15	15	13 42	44.7	61.913N.	147.306W.	31	GM	—	—	2.5ML(PM)	—	FEB. 15	04:42	YST
FEB. 16	16	09 32	55.7	51.201N.	179.609W.	55	GS	5.0	—	—	—	FEB. 15	23:32	AST
FEB. 16	16	21 18	10.0	61.546N.	151.645W.	79	GM	—	—	—	—	FEB. 16	12:18	YST
FEB. 17	17	06 12	16.2	58.678N.	154.449W.	25	GM	—	—	3.4ML(PM)	—	FEB. 16	21:12	YST
FEB. 17	17	14 53	41.4	61.624N.	149.775W.	39	GM	—	—	3.8ML(PM)	FELT	FEB. 17	05:53	YST
FEB. 17	17	15 53	26.1	66.228N.	150.033W.	10	GS	—	—	3.1ML(PM)	—	FEB. 17	06:53	YST
FEB. 17	17	21 47	06.7	66.283N.	149.889W.	10	GS	—	—	3.7ML(PM)	—	FEB. 17	12:47	YST
FEB. 18	18	07 24	27.7	60.006N.	152.141W.	79	GM	—	—	—	—	FEB. 17	22:24	YST
FEB. 18	18	17 21	51.3	62.087N.	151.866W.	99	GM	—	—	—	—	FEB. 18	08:21	YST
FEB. 19	19	00 01	54.4	66.239N.	150.180W.	10	GS	—	—	3.5ML(PM)	—	FEB. 18	15:01	YST
FEB. 19	19	04 17	20.1	66.474N.	149.823W.	10	GS	—	—	3.3ML(PM)	—	FEB. 18	19:17	YST
FEB. 19	19	07 23	09.0	66.362N.	149.829W.	10	GS	—	—	3.6ML(PM)	—	FEB. 18	22:23	YST
FEB. 19	19	08 37	42.2	53.328N.	164.701W.	33	GS	4.5	—	4.5ML(PM)	—	FEB. 18	23:37	YST
FEB. 19	19	13 22	30.7	62.246N.	150.846W.	70	GM	—	—	—	—	FEB. 19	04:22	YST
FEB. 19	19	17 51	00.5	62.200N.	150.374W.	50	GM	—	—	—	—	FEB. 19	08:51	YST
FEB. 20	20	01 51	40.4	63.825N.	146.599W.	33	GS	—	—	2.8ML(PM)	—	FEB. 19	16:51	YST
FEB. 20	20	07 24	11.6	61.714N.	150.153W.	44	GM	—	—	—	—	FEB. 19	22:24	YST
FEB. 21	21	07 43	26.1	62.747N.	151.089W.	98	GS	4.6	—	—	III	FEB. 20	22:43	YST
FEB. 22	22	01 37	31.7	61.055N.	151.171W.	64	GM	—	—	—	—	FEB. 21	16:37	YST
FEB. 22	22	13 13	47.0	61.681N.	151.181W.	75	GM	—	—	—	—	FEB. 22	04:13	YST
FEB. 22	22	20 38	46.1	54.476N.	161.211W.	33	GS	5.3	4.9	5.1ML(PM)	III	FEB. 22	11:38	YST
FEB. 23	23	04 25	31.9	60.160N.	153.196W.	122	GM	—	—	—	—	FEB. 22	19:25	YST
FEB. 23	23	08 57	21.1	59.890N.	153.192W.	110	GM	—	—	—	—	FEB. 22	23:57	YST
FEB. 24	24	17 37	37.0	61.018N.	152.393W.	110	GM	—	—	—	—	FEB. 24	08:37	YST
FEB. 24	24	22 29	36.4	65.840N.	150.293W.	10	GS	—	—	3.7ML(PM)	—	FEB. 24	13:29	YST
FEB. 24	24	22 48	07.7	52.242N.	174.837W.	204	GS	3.9	—	—	—	FEB. 24	12:48	AST
FEB. 25	25	04 25	09.1	59.914N.	152.601W.	86	GM	—	—	—	—	FEB. 24	19:25	YST
FEB. 25	25	15 56	25.0	61.020N.	150.900W.	56	GM	—	—	—	—	FEB. 25	06:56	YST
FEB. 26	26	00 06	39.5	62.438N.	153.244W.	14	GM	—	—	4.0ML(PM)	—	FEB. 25	15:06	YST
FEB. 26	26	01 02	56.3	58.848N.	154.129W.	106	GM	—	—	—	—	FEB. 25	16:02	YST
FEB. 26	26	17 54	00.0	67.075N.	146.414W.	33	GS	—	—	3.8ML(PM)	—	FEB. 26	08:54	YST
FEB. 27	27	07 35	26.0	61.370N.	141.470W.	18	EP	—	—	3.1ML(EP)	—	FEB. 26	22:35	YST
FEB. 28	28	09 21	01.1	59.888N.	153.237W.	112	GM	—	—	—	—	FEB. 28	00:21	YST
MAR. 1	1	21 49	06.6	62.557N.	149.818W.	90	GS	—	—	—	—	MAR. 1	12:49	YST
MAR. 1	1	23 08	44.1	59.060N.	151.160W.	69	GM	—	—	—	—	MAR. 1	14:08	YST
MAR. 2	2	00 27	11.4	60.349N.	152.418W.	90	GM	—	—	—	—	MAR. 1	15:27	YST
MAR. 2	2	09 46	20.1	60.007N.	152.224W.	88	GM	—	—	—	—	MAR. 2	00:46	YST
MAR. 2	2	12 49	58.7	60.280N.	152.923W.	129	GM	—	—	—	—	MAR. 2	03:49	YST
MAR. 3	3	05 52	27.0	60.183N.	153.526W.	177	GM	—	—	—	—	MAR. 2	20:52	YST
MAR. 3	3	10 59	14.2	57.626N.	156.634W.	107	GM	—	—	—	—	MAR. 3	01:59	YST
MAR. 3	3	13 38	47.3	59.783N.	152.872W.	108	GS	4.8	—	—	IV	MAR. 3	04:38	YST
MAR. 4	4	08 28	43.0	60.118N.	153.048W.	116	GM	—	—	—	—	MAR. 3	23:28	YST
MAR. 5	5	11 41	43.6	58.385N.	153.288W.	62	GM	4.1	—	4.0ML(PM)	—	MAR. 5	02:41	YST
MAR. 5	5	14 01	02.3	45.665N.	178.802E.	33	GS	5.3	5.7	—	—	MAR. 5	04:01	AST
MAR. 5	5	18 10	45.1	60.114N.	148.465W.	15	GM	—	—	3.2ML(PM)	—	MAR. 5	09:10	YST



Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time			
	(UTC)							Source	m <sub>b</sub>	M <sub>s</sub>		Local	Date	hr	zone
	hr	min	sec												
ALASKA—Continued															
MAR. 5	18	16	35.6	63.248N.	149.109W.	128	GS	—	—	—	—	MAR. 5	09:16	YST	
MAR. 5	19	06	36.7	62.683N.	149.519W.	37	GM	—	—	3.3ML(PM)	—	MAR. 5	10:06	YST	
MAR. 6	01	39	26.4	62.734N.	149.415W.	33	GS	—	—	3.3ML(PM)	—	MAR. 5	16:39	YST	
MAR. 6	04	33	14.6	60.011N.	151.518W.	46	GM	—	—	—	—	MAR. 5	19:33	YST	
MAR. 6	21	37	58.4	61.505N.	150.624W.	74	GM	—	—	—	FELT	MAR. 6	12:37	YST	
MAR. 6	22	38	24.0	61.997N.	150.449W.	10	GM	—	—	4.1ML(PM)	FELT	MAR. 6	13:38	YST	
MAR. 8	18	14	57.4	60.284N.	152.351W.	89	GM	—	—	—	—	MAR. 8	09:14	YST	
MAR. 9	05	00	42.7	63.072N.	150.996W.	129	GS	4.5	—	—	—	MAR. 8	20:00	YST	
MAR. 9	13	57	58.1	66.261N.	150.240W.	10	GS	4.6	—	4.8ML(PM)	III	MAR. 9	04:57	YST	
MAR. 9	14	08	04.3	66.239N.	150.029W.	12	GS	5.9	6.0	6.0ML(PM)	V	MAR. 9	05:08	YST	
MAR. 9	14	16	25.4	66.291N.	150.116W.	10	GS	5.3	—	5.4ML(PM)	FELT	MAR. 9	05:16	YST	
MAR. 9	15	46	57.0	66.176N.	150.114W.	10	GS	4.5	—	—	—	MAR. 9	06:46	YST	
MAR. 9	16	11	10.3	66.223N.	150.111W.	10	GS	—	—	3.5ML(PM)	—	MAR. 9	07:11	YST	
MAR. 9	16	17	49.4	66.235N.	150.058W.	10	GS	—	—	3.8ML(PM)	—	MAR. 9	07:17	YST	
MAR. 9	16	21	21.2	66.335N.	149.795W.	10	GS	4.4	4.8	4.4ML(PM)	—	MAR. 9	07:21	YST	
MAR. 9	16	44	02.5	66.153N.	150.166W.	10	GS	—	—	3.4ML(PM)	—	MAR. 9	07:44	YST	
MAR. 9	16	49	06.9	66.284N.	149.966W.	10	GS	—	—	4.3ML(PM)	—	MAR. 9	07:49	YST	
MAR. 9	17	37	08.5	66.184N.	150.061W.	10	GS	—	—	3.7ML(PM)	—	MAR. 9	08:37	YST	
MAR. 9	18	03	15.3	66.285N.	149.908W.	10	GS	—	—	3.9ML(PM)	—	MAR. 9	09:03	YST	
MAR. 9	18	40	59.9	66.337N.	149.845W.	10	GS	—	—	4.1ML(PM)	—	MAR. 9	09:40	YST	
MAR. 9	20	15	16.0	66.259N.	150.071W.	10	GS	—	—	3.7ML(PM)	—	MAR. 9	11:15	YST	
MAR. 9	20	26	01.3	66.227N.	150.074W.	10	GS	—	—	3.7ML(PM)	—	MAR. 9	11:26	YST	
MAR. 9	21	37	01.8	66.354N.	150.044W.	10	GS	—	—	4.1ML(PM)	—	MAR. 9	12:37	YST	
MAR. 9	22	34	47.7	66.148N.	150.196W.	10	GS	4.8	—	4.7ML(PM)	—	MAR. 9	13:34	YST	
MAR. 10	00	28	54.2	66.162N.	150.091W.	10	GS	—	—	3.4ML(PM)	—	MAR. 9	15:28	YST	
MAR. 10	01	21	43.1	66.229N.	149.916W.	10	GS	—	—	3.6ML(PM)	—	MAR. 9	16:21	YST	
MAR. 10	01	25	26.9	66.179N.	150.019W.	10	GS	—	—	3.4ML(PM)	—	MAR. 9	16:25	YST	
MAR. 10	03	58	19.8	66.286N.	149.948W.	10	GS	—	—	4.4ML(PM)	—	MAR. 9	18:58	YST	
MAR. 10	05	40	11.5	66.121N.	149.862W.	10	GS	—	—	3.2ML(PM)	—	MAR. 9	20:40	YST	
MAR. 10	05	48	57.9	66.248N.	150.000W.	10	GS	—	—	3.3ML(PM)	—	MAR. 9	20:48	YST	
MAR. 10	06	15	13.2	66.319N.	149.693W.	10	GS	—	—	4.0ML(PM)	—	MAR. 9	21:15	YST	
MAR. 10	09	12	58.2	66.242N.	150.003W.	10	GS	—	—	3.6ML(PM)	—	MAR. 10	00:12	YST	
MAR. 10	10	19	07.9	66.505N.	149.500W.	10	GS	—	—	—	—	MAR. 10	01:19	YST	
MAR. 10	11	52	57.6	66.236N.	149.950W.	10	GS	—	—	3.6ML(PM)	—	MAR. 10	02:52	YST	
MAR. 10	12	10	48.5	66.255N.	149.966W.	10	GS	—	—	4.3ML(PM)	—	MAR. 10	03:10	YST	
MAR. 10	13	30	29.5	66.136N.	150.148W.	10	GS	5.2	4.9	5.6ML(PM)	FELT	MAR. 10	04:30	YST	
MAR. 10	13	53	46.8	66.031N.	150.214W.	10	GS	—	—	3.8ML(PM)	—	MAR. 10	04:53	YST	
MAR. 10	14	27	02.0	66.278N.	150.195W.	10	GS	—	—	3.8ML(PM)	—	MAR. 10	05:27	YST	
MAR. 10	17	19	13.5	66.169N.	150.032W.	10	GS	—	—	3.9ML(PM)	—	MAR. 10	08:19	YST	
MAR. 10	19	16	38.5	66.280N.	150.021W.	10	GS	—	—	4.2ML(PM)	—	MAR. 10	10:16	YST	
MAR. 10	23	05	24.6	66.187N.	150.018W.	10	GS	—	—	4.4ML(PM)	—	MAR. 10	14:05	YST	
MAR. 10	23	08	24.6	66.260N.	150.009W.	10	GS	4.1	—	—	—	MAR. 10	14:08	YST	
MAR. 11	08	09	00.2	60.124N.	153.344W.	139	GM	—	—	—	—	MAR. 10	23:09	YST	
MAR. 11	08	41	58.0	66.201N.	150.093W.	10	GS	—	—	3.3ML(PM)	—	MAR. 10	23:41	YST	
MAR. 11	09	43	40.8	66.120N.	150.076W.	10	GS	—	—	3.2ML(PM)	—	MAR. 11	00:43	YST	
MAR. 11	10	02	53.0	66.143N.	149.990W.	10	GS	—	—	3.2ML(PM)	—	MAR. 11	01:02	YST	
MAR. 11	15	35	58.0	66.197N.	149.904W.	10	GS	—	—	3.1ML(PM)	—	MAR. 11	06:35	YST	
MAR. 12	02	05	10.1	66.512N.	149.758W.	10	GS	—	—	3.5ML(PM)	—	MAR. 11	17:05	YST	

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
ALASKA—Continued														
MAR. 12	03	59	50.3	60.323N.	152.434W.	93	GM	—	—	—	—	MAR. 11	18:59	YST
MAR. 12	05	01	52.2	66.112N.	150.332W.	10	GS	—	—	3.2ML(PM)	—	MAR. 11	20:01	YST
MAR. 12	06	24	41.9	62.684N.	152.060W.	119	GM	—	—	—	—	MAR. 11	21:24	YST
MAR. 12	06	41	08.9	58.588N.	156.040W.	199	GM	—	—	—	—	MAR. 11	21:41	YST
MAR. 12	08	45	38.1	66.349N.	149.848W.	10	GS	—	—	3.4ML(PM)	—	MAR. 11	23:45	YST
MAR. 12	10	15	42.3	66.105N.	149.940W.	10	GS	—	—	—	—	MAR. 12	01:15	YST
MAR. 12	11	23	40.6	66.247N.	149.944W.	10	GS	—	—	3.6ML(PM)	—	MAR. 12	02:23	YST
MAR. 12	13	32	15.2	66.242N.	150.089W.	10	GS	—	—	—	—	MAR. 12	04:32	YST
MAR. 12	17	41	40.6	61.320N.	149.764W.	43	GM	—	—	—	—	MAR. 12	08:41	YST
MAR. 12	18	06	01.3	66.398N.	149.845W.	10	GS	—	—	3.4ML(PM)	—	MAR. 12	09:06	YST
MAR. 12	20	12	30.6	66.311N.	149.947W.	10	GS	—	—	4.1ML(PM)	—	MAR. 12	11:12	YST
MAR. 12	20	22	35.9	66.302N.	149.986W.	10	GS	—	—	3.9ML(PM)	—	MAR. 12	11:22	YST
MAR. 12	20	56	39.0	60.099N.	152.740W.	89	GM	—	—	—	—	MAR. 12	11:56	YST
MAR. 12	22	06	38.0	66.161N.	150.051W.	10	GS	—	—	4.4ML(PM)	—	MAR. 12	13:06	YST
MAR. 13	06	11	19.1	51.075N.	179.066W.	25	EE	4.8	—	5.1ML(PM)	—	MAR. 12	20:11	AST
MAR. 13	10	00	27.3	66.186N.	150.107W.	10	GS	—	—	3.9ML(PM)	—	MAR. 13	01:00	YST
MAR. 13	10	03	31.0	66.280N.	149.962W.	10	GS	—	—	3.9ML(PM)	—	MAR. 13	01:03	YST
MAR. 13	12	42	11.1	66.196N.	150.077W.	10	GS	3.9	—	4.0ML(PM)	—	MAR. 13	03:42	YST
MAR. 13	22	43	13.2	66.292N.	150.013W.	10	GS	—	—	3.5ML(PM)	—	MAR. 13	13:43	YST
MAR. 14	14	53	20.2	62.968N.	179.775E.	33	GS	4.4	—	—	—	MAR. 14	04:53	AST
MAR. 14	22	22	51.8	61.401N.	147.216W.	30	GM	—	—	—	—	MAR. 14	13:22	YST
MAR. 15	04	50	31.9	64.048N.	142.033W.	33	GS	—	—	4.0ML(PM)	—	MAR. 14	19:50	YST
MAR. 15	05	42	20.1	66.141N.	149.974W.	10	GS	—	—	3.2ML(PM)	—	MAR. 14	20:42	YST
MAR. 15	13	33	06.8	66.018N.	149.918W.	10	GS	—	—	—	—	MAR. 15	04:33	YST
MAR. 15	23	31	06.8	66.348N.	149.824W.	10	GS	—	—	3.3ML(PM)	—	MAR. 15	14:31	YST
MAR. 16	13	33	10.6	66.175N.	150.046W.	10	GS	4.4	—	5.0ML(PM)	III	MAR. 16	04:33	YST
MAR. 16	19	25	02.4	62.681N.	150.769W.	121	GM	—	—	—	—	MAR. 16	10:25	YST
MAR. 16	22	37	23.1	58.603N.	139.696W.	30	GM	—	—	2.5ML(EP)	—	MAR. 16	13:37	YST
MAR. 17	01	14	24.9	66.270N.	150.057W.	10	GS	—	—	3.0ML(PM)	—	MAR. 16	16:14	YST
MAR. 17	02	19	43.3	66.163N.	150.005W.	10	GS	—	—	3.4ML(PM)	—	MAR. 16	17:19	YST
MAR. 17	08	59	14.4	60.088N.	140.415W.	14	GM	—	—	3.4ML(EP)	—	MAR. 16	23:59	YST
MAR. 17	09	43	54.8	61.295N.	147.321W.	20	GM	—	—	—	—	MAR. 17	00:43	YST
MAR. 17	10	39	38.8	59.010N.	153.044W.	71	GM	—	—	—	—	MAR. 17	01:39	YST
MAR. 17	11	05	17.1	66.238N.	149.977W.	10	GS	—	—	3.5ML(PM)	—	MAR. 17	02:05	YST
MAR. 17	15	15	05.9	60.078N.	152.773W.	107	GM	—	—	—	—	MAR. 17	06:15	YST
MAR. 17	19	50	33.7	59.961N.	152.548W.	92	GM	—	—	—	—	MAR. 17	10:50	YST
MAR. 17	21	00	36.4	66.166N.	149.888W.	10	GS	—	—	3.3ML(PM)	—	MAR. 17	12:00	YST
MAR. 17	21	16	25.5	63.021N.	150.827W.	156	GM	—	—	—	—	MAR. 17	12:16	YST
MAR. 17	22	09	46.4	61.712N.	151.877W.	101	GM	—	—	—	—	MAR. 17	13:09	YST
MAR. 18	03	52	48.2	66.192N.	150.195W.	10	GS	—	—	3.3ML(PM)	—	MAR. 17	18:52	YST
MAR. 18	12	55	27.1	60.059N.	152.818W.	109	GM	—	—	—	—	MAR. 18	03:55	YST
MAR. 18	15	07	46.0	62.274N.	151.144W.	76	GM	—	—	—	—	MAR. 18	06:07	YST
MAR. 18	23	25	24.7	61.127N.	151.156W.	66	GM	—	—	—	—	MAR. 18	14:25	YST
MAR. 19	01	18	51.5	51.606N.	176.191E.	33	GS	4.3	—	4.5ML(PM)	—	MAR. 18	15:18	AST
MAR. 19	21	36	56.2	66.170N.	150.357W.	10	GS	—	—	3.3ML(PM)	—	MAR. 19	12:36	YST
MAR. 20	03	18	20.9	61.492N.	149.898W.	43	GM	—	—	3.2ML(PM)	II	MAR. 19	18:18	YST
MAR. 20	03	29	07.5	60.360N.	152.120W.	92	GM	—	—	—	—	MAR. 19	18:29	YST
MAR. 20	09	09	53.7	60.220N.	153.100W.	126	GM	4.1	—	—	II	MAR. 20	00:09	YST

Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
ALASKA—Continued														
MAR. 20	12	10	32.7	59.382N.	152.932W.	97	GM	—	—	—	—	MAR. 20	03:10	YST
MAR. 20	15	05	00.3	61.498N.	149.902W.	45	GM	—	—	—	—	MAR. 20	06:05	YST
MAR. 20	23	27	23.7	61.282N.	146.729W.	29	GM	—	—	3.5ML(PM)	IV	MAR. 20	14:27	YST
MAR. 21	03	46	06.5	66.235N.	150.052W.	10	GS	4.3	—	4.5ML(PM)	—	MAR. 20	18:46	YST
MAR. 21	17	29	58.0	62.164N.	151.568W.	100	GM	—	—	—	—	MAR. 21	08:29	YST
MAR. 22	00	55	41.7	66.301N.	149.841W.	10	GS	—	—	3.6ML(PM)	—	MAR. 21	15:55	YST
MAR. 22	03	00	09.1	61.494N.	149.916W.	42	GM	—	—	3.1ML(PM)	II	MAR. 21	18:00	YST
MAR. 22	06	14	07.3	51.220N.	179.566E.	33	GS	4.9	—	—	—	MAR. 21	20:14	AST
MAR. 22	12	13	36.2	62.542N.	149.893W.	65	GM	—	—	—	—	MAR. 22	03:13	YST
MAR. 23	02	53	57.7	66.153N.	150.042W.	10	GS	—	—	—	—	MAR. 22	17:53	YST
MAR. 23	03	56	59.6	66.217N.	149.965W.	10	GS	—	—	3.4ML(PM)	—	MAR. 22	18:56	YST
MAR. 23	06	39	15.2	59.828N.	153.410W.	122	GM	—	—	—	—	MAR. 22	21:39	YST
MAR. 23	13	14	57.9	66.042N.	150.123W.	10	GS	—	—	4.0ML(PM)	—	MAR. 23	04:14	YST
MAR. 23	16	38	31.9	60.119N.	152.903W.	117	GM	—	—	—	—	MAR. 23	07:38	YST
MAR. 23	21	35	15.1	52.633N.	178.896W.	238	EE	5.0	—	—	III	MAR. 23	11:35	AST
MAR. 24	09	11	58.6	67.883N.	163.164W.	33	GS	—	—	3.2ML(PM)	—	MAR. 24	00:11	YST
MAR. 24	14	38	57.0	61.359N.	146.704W.	30	GM	—	—	3.6ML(PM)	IV	MAR. 24	05:38	YST
MAR. 24	17	49	57.6	50.935N.	179.172W.	20	EE	4.9	—	5.0ML(PM)	—	MAR. 24	07:49	AST
MAR. 25	20	26	25.6	53.436N.	164.821W.	10	LD	—	—	3.1mx(LD)	—	MAR. 25	11:26	YST
MAR. 26	07	43	57.9	61.450N.	150.640W.	68	GM	—	—	—	—	MAR. 25	22:43	YST
MAR. 26	08	00	45.5	53.517N.	165.316W.	12	LD	—	—	3.2mx(LD)	—	MAR. 25	22:00	AST
MAR. 26	19	32	46.8	66.205N.	150.028W.	10	GS	—	—	4.3ML(PM)	—	MAR. 26	10:32	YST
MAR. 27	03	20	09.7	66.239N.	150.057W.	10	GS	—	—	3.9ML(PM)	—	MAR. 26	18:20	YST
MAR. 27	06	37	10.0	59.681N.	152.804W.	100	GM	—	—	—	—	MAR. 26	21:37	YST
MAR. 27	15	39	36.1	61.169N.	151.321W.	69	GM	—	—	—	—	MAR. 27	06:39	YST
MAR. 27	18	53	31.2	52.018N.	169.438W.	33	GS	—	—	—	—	MAR. 27	08:53	AST
MAR. 28	02	24	03.9	60.740N.	150.974W.	55	GM	—	—	—	—	MAR. 27	17:24	YST
MAR. 28	03	06	51.2	60.755N.	152.560W.	121	GM	—	—	—	—	MAR. 27	18:06	YST
MAR. 28	10	13	56.3	61.770N.	151.833W.	109	GM	—	—	—	—	MAR. 28	01:13	YST
MAR. 28	15	49	00.9	66.200N.	149.990W.	10	GS	—	—	4.3ML(PM)	—	MAR. 28	06:49	YST
MAR. 29	18	43	58.5	54.025N.	163.032W.	24	LD	—	—	3.4mx(LD)	—	MAR. 29	09:43	YST
MAR. 30	02	30	01.8	51.902N.	174.025W.	33	GS	4.4	—	—	—	MAR. 29	16:30	AST
MAR. 30	14	53	38.2	61.224N.	152.081W.	122	GM	—	—	—	—	MAR. 30	05:53	YST
MAR. 31	04	57	00.1	50.315N.	179.187W.	33	GS	4.4	—	3.9ML(PM)	—	MAR. 30	18:57	AST
MAR. 31	05	30	52.4	59.733N.	152.940W.	91	GM	—	—	—	—	MAR. 30	20:30	YST
MAR. 31	07	04	34.4	60.472N.	146.323W.	29	GM	—	—	—	—	MAR. 30	22:04	YST
MAR. 31	08	04	23.2	61.553N.	147.127W.	28	GM	—	—	3.6ML(PM)	—	MAR. 30	23:04	YST
MAR. 31	13	42	05.0	60.110N.	151.946W.	68	GM	—	—	3.9ML(PM)	III	MAR. 31	04:42	YST
MAR. 31	15	58	16.9	61.040N.	152.898W.	163	GS	4.3	—	—	—	MAR. 31	06:58	YST
APR. 1	02	14	31.7	66.238N.	150.080W.	10	GS	4.4	—	4.7ML(PM)	—	MAR. 31	17:14	YST
APR. 1	14	30	25.4	65.795N.	155.302W.	10	GS	—	—	4.1ML(PM)	—	APR. 1	05:30	YST
APR. 1	14	37	27.4	65.818N.	155.236W.	10	GS	4.3	—	4.8ML(PM)	—	APR. 1	05:37	YST
APR. 1	16	27	41.5	65.820N.	155.337W.	10	GS	—	—	4.3ML(PM)	—	APR. 1	07:27	YST
APR. 1	19	39	47.5	65.857N.	155.456W.	10	GS	—	—	4.2ML(PM)	—	APR. 1	10:39	YST
APR. 2	07	59	03.8	59.668N.	153.063W.	97	GM	—	—	—	—	APR. 1	22:59	YST
APR. 2	10	18	36.8	58.924N.	152.289W.	73	GM	—	—	—	—	APR. 2	01:18	YST
APR. 2	11	32	11.7	65.885N.	155.479W.	10	GS	—	—	4.0ML(PM)	—	APR. 2	02:32	YST
APR. 2	19	32	03.8	60.474N.	147.702W.	26	GM	—	—	—	—	APR. 2	10:32	YST

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time			
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone	
	hr	min	sec												
				( <sup>o</sup> )	( <sup>o</sup> )	(km)	Source								
ALASKA—Continued															
APR.	3	02 28 13.6	60.984N.	151.131W.	68	GM	—	—	—	—	APR.	2	17:28	YST	
APR.	4	02 14 45.6	60.466N.	147.719W.	24	GM	—	—	—	—	APR.	3	17:14	YST	
APR.	4	02 25 11.9	66.126N.	150.020W.	10	GS	3.9	—	4.0ML(PM)	—	APR.	3	17:25	YST	
APR.	4	03 32 13.2	62.263N.	149.104W.	45	GM	—	—	3.1ML(PM)	—	APR.	3	18:32	YST	
APR.	4	09 47 20.5	62.283N.	150.973W.	95	GM	—	—	—	—	APR.	4	00:47	YST	
APR.	4	18 34 41.9	59.802N.	152.782W.	85	GM	—	—	—	—	APR.	4	09:34	YST	
APR.	4	19 06 52.8	66.208N.	149.978W.	10	GS	—	—	—	—	APR.	4	10:06	YST	
APR.	4	21 35 57.6	59.830N.	152.952W.	92	GM	—	—	—	—	APR.	4	12:35	YST	
APR.	5	06 41 28.1	59.935N.	153.322W.	127	GM	—	—	—	—	APR.	4	21:41	YST	
APR.	5	13 00 13.6	66.263N.	150.040W.	10	GS	—	—	4.2ML(PM)	—	APR.	5	04:00	YST	
APR.	5	13 29 04.8	61.884N.	149.297W.	44	GM	—	—	—	—	APR.	5	04:29	YST	
APR.	5	17 52 13.8	60.770N.	151.894W.	83	GM	—	—	—	—	APR.	5	08:52	YST	
APR.	5	18 07 14.4	52.113N.	170.988E.	33	GS	4.5	—	—	—	APR.	5	08:07	AST	
APR.	6	16 40 26.7	52.141N.	170.184W.	33	GS	4.5	—	—	—	APR.	6	06:40	AST	
APR.	6	17 55 46.8	61.743N.	150.964W.	79	GM	—	—	—	—	APR.	6	08:55	YST	
APR.	7	10 06 56.0	65.016N.	166.447W.	15	GS	—	—	4.2ML(PM)	—	APR.	7	00:06	AST	
APR.	7	16 24 00.5	60.277N.	150.754W.	46	GM	4.1	—	3.9ML(PM)	—	APR.	7	07:24	YST	
APR.	7	16 48 07.5	63.020N.	150.999W.	137	GM	—	—	—	—	APR.	7	07:48	YST	
APR.	9	06 25 08.1	60.716N.	150.242W.	45	GM	—	—	—	—	APR.	8	21:25	YST	
APR.	9	10 24 19.0	66.430N.	149.746W.	10	GS	—	—	3.6ML(PM)	—	APR.	9	01:24	YST	
APR.	9	14 40 10.2	60.358N.	150.853W.	41	GM	—	—	3.4ML(PM)	—	APR.	9	05:40	YST	
APR.	9	17 00 53.2	61.646N.	150.896W.	68	GM	—	—	—	—	APR.	9	08:00	YST	
APR.	9	19 08 35.7	59.833N.	150.955W.	52	GM	—	—	—	—	APR.	9	10:08	YST	
APR.	10	09 58 24.1	66.044N.	150.264W.	10	GS	—	—	3.9ML(PM)	—	APR.	10	00:58	YST	
APR.	10	20 34 17.9	66.328N.	149.921W.	10	GS	—	—	3.6ML(PM)	—	APR.	10	11:34	YST	
APR.	11	02 49 05.1	59.494N.	152.570W.	70	GM	—	—	—	—	APR.	10	17:49	YST	
APR.	11	05 28 58.9	60.668N.	149.436W.	39	GM	—	—	—	—	APR.	10	20:28	YST	
APR.	11	08 33 34.3	59.961N.	152.098W.	60	GM	—	—	—	—	APR.	10	23:33	YST	
APR.	11	15 59 07.4	60.967N.	147.639W.	21	GM	—	—	—	—	APR.	11	06:59	YST	
APR.	11	21 17 05.8	60.094N.	152.816W.	103	GM	—	—	—	—	APR.	11	12:17	YST	
APR.	12	01 18 54.2	61.003N.	149.819W.	40	GM	—	—	—	—	APR.	11	16:18	YST	
APR.	12	02 33 39.5	60.027N.	147.202W.	27	GM	4.6	—	3.7ML(PM)	—	APR.	11	17:33	YST	
APR.	13	03 51 32.6	52.001N.	170.094W.	33	GS	4.5	—	—	—	APR.	12	17:51	AST	
APR.	13	13 05 45.1	60.375N.	152.490W.	98	GM	—	—	—	—	APR.	13	04:05	YST	
APR.	13	13 55 26.6	66.058N.	150.152W.	10	GS	—	—	4.1ML(PM)	—	APR.	13	04:55	YST	
APR.	13	16 46 03.7	54.854N.	163.872W.	33	GS	5.0	—	3.8mx(LD)	—	APR.	13	07:46	YST	
APR.	14	00 47 53.4	60.130N.	152.782W.	114	GM	—	—	—	—	APR.	13	15:47	YST	
APR.	14	09 14 36.9	66.344N.	149.826W.	10	GS	—	—	—	—	APR.	14	00:14	YST	
APR.	14	14 26 55.8	60.327N.	150.003W.	56	GM	—	—	—	—	APR.	14	05:26	YST	
APR.	15	02 28 41.2	58.958N.	152.306W.	65	GM	—	—	—	—	APR.	14	17:28	YST	
APR.	15	04 07 47.5	55.264N.	156.548W.	33	GS	5.0	4.0	4.8ML(PM)	—	APR.	14	19:07	YST	
APR.	16	04 54 40.5	60.077N.	152.595W.	80	GM	—	—	—	—	APR.	15	19:54	YST	
APR.	16	09 11 52.4	60.272N.	153.328W.	155	GM	—	—	—	—	APR.	16	00:11	YST	
APR.	16	14 03 53.4	59.597N.	153.025W.	89	GM	—	—	—	—	APR.	16	05:03	YST	
APR.	16	14 32 31.1	61.446N.	149.826W.	47	GM	—	—	2.7ML(PM)	FELT	APR.	16	05:32	YST	
APR.	16	17 03 12.7	61.173N.	151.492W.	71	GM	—	—	—	—	APR.	16	08:03	YST	
APR.	17	05 45 18.4	60.039N.	153.258W.	118	GM	—	—	—	—	APR.	16	20:45	YST	
APR.	17	06 07 47.6	66.429N.	149.678W.	10	GS	—	—	3.8ML(PM)	—	APR.	16	21:07	YST	

Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
ALASKA—Continued														
APR. 17	23	25	05.0	60.258N.	153.640W.	175	GM	—	—	—	—	APR. 17	14:25	YST
APR. 18	02	35	40.2	61.377N.	151.819W.	99	GM	—	—	—	—	APR. 17	17:35	YST
APR. 18	06	16	51.2	56.255N.	156.678W.	23	GS	4.5	—	—	—	APR. 17	21:16	YST
APR. 19	02	16	49.3	61.159N.	152.351W.	115	GM	—	—	—	—	APR. 18	17:16	YST
APR. 19	03	57	48.6	53.592N.	163.997W.	5	LD	—	—	3.0mx(LD)	—	APR. 18	18:57	YST
APR. 19	09	23	13.8	51.165N.	178.626E.	67	GS	4.2	—	—	—	APR. 18	23:23	AST
APR. 19	21	36	03.7	66.354N.	149.780W.	10	GS	—	—	3.4ML(PM)	—	APR. 19	12:36	YST
APR. 20	12	45	49.6	61.941N.	146.915W.	28	GM	—	—	—	—	APR. 20	03:45	YST
APR. 21	00	13	18.9	51.145N.	169.436W.	33	GS	4.8	—	—	—	APR. 20	14:13	AST
APR. 21	15	04	51.3	55.793N.	154.441W.	33	GS	4.8	4.8	4.8ML(PM)	—	APR. 21	06:04	YST
APR. 21	15	25	04.5	55.545N.	154.415W.	33	GS	—	—	—	—	APR. 21	06:25	YST
APR. 21	15	25	15.1	55.618N.	154.515W.	33	GS	5.2	4.8	5.3ML(PM)	—	APR. 21	06:25	YST
APR. 21	15	47	00.2	55.729N.	154.428W.	33	GS	4.8	4.7	4.6ML(PM)	—	APR. 21	06:47	YST
APR. 21	16	43	50.4	55.793N.	154.511W.	33	GS	4.5	—	—	—	APR. 21	07:43	YST
APR. 21	19	00	40.6	66.039N.	150.137W.	10	GS	—	—	3.2ML(PM)	—	APR. 21	10:00	YST
APR. 21	19	26	57.8	55.778N.	154.500W.	33	GS	4.5	—	—	—	APR. 21	10:26	YST
APR. 21	20	06	02.3	61.485N.	149.947W.	57	GM	—	—	—	—	APR. 21	11:06	YST
APR. 21	21	33	00.6	60.145N.	153.096W.	132	GM	—	—	—	—	APR. 21	12:33	YST
APR. 21	22	14	56.8	62.410N.	148.555W.	35	GM	—	—	4.3ML(PM)	II	APR. 21	13:14	YST
APR. 22	16	11	27.3	60.090N.	152.595W.	91	GM	—	—	—	—	APR. 22	07:11	YST
APR. 22	17	50	19.7	60.910N.	151.751W.	84	GM	—	—	—	—	APR. 22	08:50	YST
APR. 22	18	02	05.6	62.232N.	151.240W.	81	GM	—	—	—	—	APR. 22	09:02	YST
APR. 22	20	41	24.1	59.773N.	153.407W.	135	GS	4.5	—	—	—	APR. 22	11:41	YST
APR. 23	05	45	47.0	57.053N.	156.150W.	73	GS	4.6	—	4.2mx(LD)	III	APR. 22	20:45	YST
APR. 23	06	01	54.6	59.340N.	153.395W.	99	GM	—	—	—	—	APR. 22	21:01	YST
APR. 23	06	06	47.8	60.181N.	152.208W.	66	GM	—	—	—	—	APR. 22	21:06	YST
APR. 23	06	32	04.8	59.316N.	144.764W.	30	GM	4.2	—	3.8ML(PM)	—	APR. 22	21:32	YST
APR. 23	19	08	35.4	61.268N.	146.121W.	22	GM	—	—	—	—	APR. 23	10:08	YST
APR. 23	21	24	08.0	59.366N.	153.609W.	123	GM	—	—	—	—	APR. 23	12:24	YST
APR. 24	09	33	05.1	63.194N.	150.714W.	150	GS	—	—	—	—	APR. 24	00:33	YST
APR. 24	17	17	48.6	60.146N.	153.299W.	138	GM	—	—	—	—	APR. 24	08:17	YST
APR. 24	17	46	15.7	60.672N.	152.119W.	83	GM	—	—	—	—	APR. 24	08:46	YST
APR. 24	22	06	49.1	55.066N.	158.374W.	33	GS	4.9	4.5	5.1ML(PM)	III	APR. 24	13:06	YST
APR. 25	01	13	14.5	59.980N.	153.173W.	113	GM	—	—	—	—	APR. 24	16:13	YST
APR. 25	02	41	51.3	61.819N.	150.816W.	65	GM	4.1	—	4.2ML(PM)	—	APR. 24	17:41	YST
APR. 26	01	17	01.9	66.258N.	150.065W.	10	GS	—	—	3.9ML(PM)	—	APR. 25	16:17	YST
APR. 26	02	48	57.1	60.233N.	152.552W.	95	GM	—	—	—	—	APR. 25	17:48	YST
APR. 26	06	10	21.8	62.233N.	148.562W.	45	GM	—	—	—	—	APR. 25	21:10	YST
APR. 26	23	23	40.3	58.117N.	154.554W.	105	GS	4.7	—	—	—	APR. 26	14:23	YST
APR. 27	04	00	52.1	60.255N.	152.679W.	103	GM	—	—	—	—	APR. 26	19:00	YST
APR. 27	20	24	23.4	52.722N.	172.328W.	129	EE	4.9	—	—	—	APR. 27	10:24	AST
APR. 28	04	56	55.6	51.384N.	173.378W.	20	EE	4.5	—	4.3ML(PM)	—	APR. 27	18:56	AST
APR. 28	10	12	20.8	60.152N.	153.213W.	133	GM	—	—	—	—	APR. 28	01:12	YST
APR. 28	14	48	36.9	62.326N.	147.934W.	41	GM	—	—	—	—	APR. 28	05:48	YST
APR. 28	23	10	37.9	62.098N.	149.443W.	51	GM	—	—	—	—	APR. 28	14:10	YST
APR. 28	23	12	44.3	59.861N.	153.398W.	126	GM	—	—	—	—	APR. 28	14:12	YST
APR. 29	07	05	30.9	60.632N.	151.941W.	80	GM	—	—	—	—	APR. 28	22:05	YST
APR. 29	17	46	31.6	51.469N.	173.329W.	20	EE	4.6	—	—	—	APR. 29	07:46	AST

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
ALASKA—Continued														
APR. 30	05	19	43.7	53.965N.	156.690W.	4	LD	—	—	3.7mx(LD)	—	APR. 29	20:19	YST
APR. 30	05	38	20.2	66.275N.	150.042W.	10	GS	—	—	3.5ML(PM)	—	APR. 29	20:38	YST
MAY 1	00	59	05.3	54.484N.	161.434W.	33	GS	5.2	4.5	5.2ML(PM)	IV	APR. 30	15:59	YST
MAY 1	08	55	37.2	60.674N.	152.274W.	90	GM	—	—	—	—	APR. 30	23:55	YST
MAY 2	07	47	51.9	61.147N.	150.400W.	45	GM	—	—	3.2ML(PM)	II	MAY 1	22:47	YST
MAY 2	12	30	29.8	51.393N.	176.671W.	38	EE	4.8	—	—	IV	MAY 2	02:30	AST
MAY 2	20	12	39.6	59.968N.	153.418W.	135	GM	—	—	—	—	MAY 2	11:12	YST
MAY 3	07	12	15.6	61.772N.	150.738W.	60	GM	—	—	—	—	MAY 2	22:12	YST
MAY 3	09	10	46.8	61.518N.	146.417W.	31	GM	—	—	—	—	MAY 3	00:10	YST
MAY 3	10	00	43.6	55.982N.	156.227W.	30	LD	—	—	3.2mx(LD)	—	MAY 3	01:00	YST
MAY 3	10	04	53.5	63.419N.	145.621W.	33	GS	—	—	3.6ML(PM)	—	MAY 3	01:04	YST
MAY 3	12	07	33.8	58.214N.	148.787W.	28	GS	4.7	—	4.5ML(PM)	—	MAY 3	03:07	YST
MAY 3	13	35	39.4	64.269N.	150.398W.	33	GS	—	—	3.8ML(PM)	—	MAY 3	04:35	YST
MAY 3	15	47	21.3	52.505N.	169.478W.	33	GS	4.2	—	—	—	MAY 3	05:47	AST
MAY 3	20	26	47.5	53.607N.	166.697W.	25	LD	—	—	3.9mx(LD)	—	MAY 3	10:26	AST
MAY 3	23	40	02.6	62.137N.	150.187W.	61	GM	—	—	3.4ML(PM)	FELT	MAY 3	14:40	YST
MAY 4	04	18	31.2	56.439N.	151.997W.	33	GS	4.5	—	4.2ML(PM)	—	MAY 3	19:18	YST
MAY 6	01	06	10.7	66.243N.	149.921W.	10	GS	—	—	3.5ML(PM)	—	MAY 5	16:06	YST
MAY 6	06	07	44.9	59.766N.	150.562W.	36	GM	—	—	—	—	MAY 5	21:07	YST
MAY 6	21	01	58.5	66.241N.	150.055W.	10	GS	—	—	3.6ML(PM)	—	MAY 6	12:01	YST
MAY 7	08	38	31.1	60.234N.	153.068W.	120	GM	—	—	—	—	MAY 6	23:38	YST
MAY 8	04	01	47.4	66.275N.	150.069W.	10	GS	—	—	3.5ML(PM)	—	MAY 7	19:01	YST
MAY 8	13	10	47.4	60.012N.	152.400W.	79	GM	—	—	—	—	MAY 8	04:10	YST
MAY 8	14	00	32.3	61.724N.	151.373W.	74	GM	—	—	—	—	MAY 8	05:00	YST
MAY 8	18	07	12.4	53.188N.	164.617W.	9	LD	—	—	3.1mx(LD)	—	MAY 8	09:07	YST
MAY 8	23	14	01.6	53.935N.	165.002W.	42	GS	4.6	—	5.1ML(PM)	—	MAY 8	13:14	AST
MAY 9	00	42	25.0	63.292N.	152.738W.	33	GS	—	—	3.1ML(PM)	—	MAY 8	15:42	YST
MAY 9	03	39	15.3	61.864N.	150.812W.	65	GM	—	—	—	—	MAY 8	18:39	YST
MAY 9	04	09	16.9	62.280N.	141.334W.	2	GM	4.3	—	3.8ML(PM)	IV	MAY 8	19:09	YST
MAY 9	09	42	30.4	66.177N.	149.904W.	10	GS	—	—	—	—	MAY 9	00:42	YST
MAY 9	19	05	21.5	51.465N.	177.913E.	33	GS	5.7	6.0	—	III	MAY 9	09:05	AST
MAY 9	19	14	07.7	51.302N.	178.024E.	33	GS	5.4	6.0	—	III	MAY 9	09:14	AST
MAY 9	19	27	57.0	51.298N.	177.977E.	33	GS	4.8	—	—	—	MAY 9	09:27	AST
MAY 9	19	49	14.1	51.184N.	178.009E.	33	GS	4.6	—	—	—	MAY 9	09:49	AST
MAY 11	12	12	49.2	62.478N.	151.246W.	87	GM	—	—	—	—	MAY 11	03:12	YST
MAY 11	21	29	54.5	59.928N.	151.072W.	64	GM	—	—	—	—	MAY 11	12:29	YST
MAY 12	20	51	34.7	62.645N.	151.098W.	94	GM	—	—	—	—	MAY 12	11:51	YST
MAY 12	21	18	55.7	59.405N.	152.340W.	102	GS	4.5	—	—	V	MAY 12	12:18	YST
MAY 13	08	49	03.2	51.466N.	175.760E.	33	GS	5.4	4.8	—	—	MAY 12	22:49	AST
MAY 13	10	21	29.0	66.261N.	149.995W.	10	GS	—	—	3.3ML(PM)	—	MAY 13	01:21	YST
MAY 13	10	25	23.6	66.177N.	150.041W.	10	GS	—	—	3.4ML(PM)	—	MAY 13	01:25	YST
MAY 13	10	55	04.0	66.381N.	149.863W.	10	GS	—	—	3.4ML(PM)	—	MAY 13	01:55	YST
MAY 13	10	59	18.9	51.390N.	175.703E.	33	GS	4.8	—	—	—	MAY 13	00:59	AST
MAY 13	21	07	50.8	58.778N.	154.700W.	133	GM	—	—	—	—	MAY 13	12:07	YST
MAY 14	10	19	51.5	63.100N.	150.462W.	113	GS	—	—	—	—	MAY 14	01:19	YST
MAY 15	03	00	55.9	66.400N.	149.934W.	10	GS	—	—	3.2ML(PM)	—	MAY 14	18:00	YST
MAY 15	10	33	25.8	57.341N.	150.701W.	37	GM	—	—	—	—	MAY 15	01:33	YST
MAY 15	19	02	39.0	66.505N.	149.928W.	10	GS	—	—	3.5ML(PM)	—	MAY 15	10:02	YST

Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time (UTC)			Latitude (°)	Longitude (°)	Depth (km)	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	hr	min	sec					m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
ALASKA—Continued														
MAY 15	21	51	34.4	55.051N.	162.056W.	68	GS	4.6	—	—	—	MAY 15	12:51	YST
MAY 16	23	07	43.4	58.845N.	154.030W.	121	GM	—	—	—	—	MAY 16	14:07	YST
MAY 17	12	34	06.4	53.415N.	165.960W.	33	GS	4.7	—	—	—	MAY 17	02:34	AST
MAY 17	16	53	55.4	61.494N.	149.906W.	53	GM	—	—	—	—	MAY 17	07:53	YST
MAY 18	03	56	17.6	66.416N.	149.901W.	10	GS	—	—	3.7ML(PM)	—	MAY 17	18:56	YST
MAY 18	18	03	58.2	59.530N.	153.732W.	126	GM	—	—	—	—	MAY 18	09:03	YST
MAY 18	22	06	56.1	58.507N.	154.592W.	10	GM	4.3	—	4.0ML(PM)	—	MAY 18	13:06	YST
MAY 19	07	17	39.0	61.718N.	150.846W.	60	GM	—	—	3.0ML(PM)	—	MAY 18	22:17	YST
MAY 20	07	46	29.0	59.976N.	153.527W.	139	GM	—	—	—	—	MAY 19	22:46	YST
MAY 20	08	11	32.8	66.171N.	150.079W.	10	GS	—	—	2.6ML(PM)	—	MAY 19	23:11	YST
MAY 20	13	54	31.4	60.644N.	147.616W.	30	GM	4.1	—	4.4ML(PM)	III	MAY 20	04:54	YST
MAY 20	21	31	19.2	66.082N.	150.350W.	10	GS	—	—	2.6ML(PM)	—	MAY 20	12:31	YST
MAY 20	22	12	32.6	60.430N.	152.061W.	71	GM	—	—	—	—	MAY 20	13:12	YST
MAY 21	01	13	06.0	55.113N.	160.473W.	59	GS	4.8	—	4.3ML(PM)	—	MAY 20	16:13	YST
MAY 21	05	50	00.5	57.291N.	153.788W.	111	GM	—	—	—	—	MAY 20	20:50	YST
MAY 21	09	37	43.4	58.234N.	137.244W.	35	GM	—	—	—	—	MAY 21	00:37	YST
MAY 21	16	07	32.1	61.378N.	151.483W.	78	GM	—	—	—	—	MAY 21	07:07	YST
MAY 21	16	39	47.4	59.732N.	152.918W.	92	GM	—	—	—	—	MAY 21	07:39	YST
MAY 21	22	20	48.2	53.815N.	166.890W.	71	GS	5.1	—	—	—	MAY 21	12:20	AST
MAY 22	14	27	24.7	53.696N.	163.217W.	13	LD	—	—	3.0mx(LD)	—	MAY 22	05:27	YST
MAY 22	14	38	16.4	58.919N.	154.294W.	130	GM	—	—	—	—	MAY 22	05:38	YST
MAY 22	15	38	38.3	63.328N.	147.168W.	44	GM	—	—	—	—	MAY 22	06:38	YST
MAY 22	20	33	16.1	62.216N.	148.405W.	40	GM	—	—	—	—	MAY 22	11:33	YST
MAY 23	00	25	22.4	60.196N.	153.141W.	125	GM	—	—	—	—	MAY 22	15:25	YST
MAY 23	02	09	51.0	66.259N.	149.887W.	10	GS	—	—	—	—	MAY 22	17:09	YST
MAY 23	12	00	17.2	66.254N.	149.874W.	10	GS	—	—	—	—	MAY 23	03:00	YST
MAY 23	12	48	55.4	59.338N.	153.729W.	120	GM	—	—	—	—	MAY 23	03:48	YST
MAY 24	00	11	43.1	61.016N.	151.994W.	90	GM	—	—	—	—	MAY 23	15:11	YST
MAY 24	06	08	22.9	58.116N.	151.135W.	46	GM	—	—	—	—	MAY 23	21:08	YST
MAY 24	12	41	05.0	53.515N.	166.672W.	100	GS	4.6	—	—	—	MAY 24	02:41	AST
MAY 24	22	04	45.4	51.193N.	178.367W.	33	EE	5.8	5.8	5.8ML(PM)	III	MAY 24	12:04	AST
MAY 26	08	16	44.3	61.244N.	147.293W.	26	GM	—	—	3.6ML(PM)	—	MAY 25	23:16	YST
MAY 26	17	12	00.8	62.056N.	148.027W.	35	GM	—	—	—	—	MAY 26	08:12	YST
MAY 26	17	14	55.2	62.099N.	148.027W.	35	GM	—	—	3.4ML(PM)	—	MAY 26	08:14	YST
MAY 26	19	29	08.7	61.379N.	152.334W.	119	GM	—	—	—	—	MAY 26	10:29	YST
MAY 27	10	04	48.0	51.433N.	176.678W.	33	EE	4.7	—	4.5ML(PM)	II	MAY 27	00:04	AST
MAY 28	05	45	09.9	60.152N.	151.447W.	42	GM	—	—	—	—	MAY 27	20:45	YST
MAY 28	07	54	37.7	58.638N.	151.138W.	3	GM	—	—	—	—	MAY 27	22:54	YST
MAY 28	08	51	04.0	60.031N.	140.830W.	5	GM	—	—	2.8ML(EP)	—	MAY 27	23:51	YST
MAY 28	11	37	39.5	61.851N.	151.118W.	82	GM	—	—	—	—	MAY 28	02:37	YST
MAY 28	12	08	37.1	60.467N.	152.044W.	78	GM	—	—	—	—	MAY 28	03:08	YST
MAY 28	17	11	33.6	66.276N.	149.950W.	10	GS	—	—	4.0ML(PM)	—	MAY 28	08:11	YST
MAY 29	02	51	58.4	51.124N.	178.407W.	33	GS	4.6	—	—	—	MAY 28	16:51	AST
MAY 29	13	38	57.3	60.102N.	152.558W.	75	GM	—	—	—	—	MAY 29	04:38	YST
MAY 30	12	04	43.7	60.360N.	145.986W.	27	GM	—	—	3.4ML(PM)	—	MAY 30	03:04	YST
MAY 30	16	54	58.7	62.036N.	150.733W.	89	GS	4.4	—	—	IV	MAY 30	07:54	YST
MAY 30	18	39	22.3	53.855N.	163.526W.	0	LD	—	—	3.1mx(LD)	—	MAY 30	09:39	YST
MAY 30	22	17	34.2	60.548N.	149.722W.	60	GM	—	—	—	—	MAY 30	13:17	YST

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
				(°)	(°)	(km)	Source							
ALASKA—Continued														
MAY	31	02 42 07.9	60.419N.	152.079W.	83	GM	—	—	—	—	MAY	30	17:42	YST
MAY	31	11 39 00.7	66.212N.	149.959W.	10	GS	—	—	3.6ML(PM)	—	MAY	31	02:39	YST
MAY	31	23 39 04.3	52.179N.	172.032E.	33	GS	4.4	—	—	—	MAY	31	13:39	AST
MAY	31	23 57 15.4	53.286N.	164.869W.	3	LD	—	—	3.2mx(LD)	—	MAY	31	14:57	YST
JUNE	1	01 08 43.7	61.654N.	151.813W.	94	GM	—	—	—	—	MAY	31	16:08	YST
JUNE	1	19 08 20.5	63.812N.	149.296W.	81	GS	—	—	—	—	JUNE	1	10:08	YST
JUNE	2	04 55 55.2	66.101N.	150.037W.	10	GS	—	—	3.6ML(PM)	—	JUNE	1	19:55	YST
JUNE	2	08 42 41.1	61.681N.	150.904W.	74	GM	—	—	—	—	JUNE	1	23:42	YST
JUNE	2	09 46 06.1	66.149N.	150.054W.	10	GS	—	—	3.9ML(PM)	—	JUNE	2	00:46	YST
JUNE	2	23 02 38.4	60.412N.	152.564W.	103	GM	—	—	—	—	JUNE	2	14:02	YST
JUNE	3	18 22 10.4	55.631N.	160.898W.	113	LD	—	—	3.1mx(LD)	—	JUNE	3	09:22	YST
JUNE	5	06 52 58.0	66.919N.	154.613W.	33	GS	—	—	3.6ML(PM)	—	JUNE	4	21:52	YST
JUNE	5	21 46 21.0	61.291N.	146.746W.	30	GM	—	—	—	—	JUNE	5	12:46	YST
JUNE	6	01 26 27.5	64.005N.	148.861W.	33	GS	—	—	3.2ML(PM)	—	JUNE	5	16:26	YST
JUNE	6	15 41 47.0	58.430N.	133.400W.	18	EP	—	—	3.1ML(EP)	—	JUNE	6	06:41	YST
JUNE	6	20 25 30.6	59.330N.	152.368W.	60	GM	—	—	—	—	JUNE	6	11:25	YST
JUNE	7	05 54 47.0	58.210N.	133.520W.	18	EP	—	—	3.1ML(EP)	—	JUNE	6	20:54	YST
JUNE	7	08 20 14.6	59.444N.	153.043W.	95	GM	—	—	—	—	JUNE	6	23:20	YST
JUNE	7	12 30 44.8	60.260N.	146.365W.	8	GM	—	—	3.4ML(PM)	—	JUNE	7	03:30	YST
JUNE	7	13 32 17.9	51.084N.	178.042W.	33	GS	5.1	—	—	—	JUNE	7	03:32	AST
JUNE	7	21 04 37.2	57.242N.	155.585W.	64	GS	4.5	—	4.5ML(PM)	—	JUNE	7	12:04	YST
JUNE	8	03 05 36.0	58.210N.	133.570W.	18	EP	—	—	3.1ML(EP)	—	JUNE	7	18:05	YST
JUNE	8	10 05 21.5	53.684N.	165.788W.	36	LD	—	—	4.0mx(LD)	—	JUNE	8	00:05	AST
JUNE	8	17 37 28.5	62.292N.	151.337W.	83	GM	—	—	—	—	JUNE	8	08:37	YST
JUNE	9	01 22 59.4	63.060N.	150.411W.	116	GS	4.1	—	—	—	JUNE	8	16:22	YST
JUNE	9	11 23 17.9	60.084N.	152.608W.	98	GS	4.5	—	—	—	JUNE	9	02:23	YST
JUNE	9	22 34 57.4	52.311N.	170.609W.	79	GS	4.5	—	—	—	JUNE	9	12:34	AST
JUNE	10	07 22 50.1	53.337N.	165.340W.	10	LD	—	—	3.3mx(LD)	—	JUNE	9	21:22	AST
JUNE	10	19 15 05.7	59.824N.	152.910W.	92	GM	—	—	—	—	JUNE	10	10:15	YST
JUNE	12	02 30 31.8	61.498N.	146.433W.	28	GM	—	—	—	—	JUNE	11	17:30	YST
JUNE	12	12 45 33.7	62.348N.	149.043W.	46	GM	—	—	—	—	JUNE	12	03:45	YST
JUNE	13	04 19 25.4	63.641N.	148.990W.	33	GS	4.9	—	4.7ML(PM)	V	JUNE	12	19:19	YST
JUNE	13	10 21 53.0	61.101N.	151.179W.	65	GM	—	—	—	—	JUNE	13	01:21	YST
JUNE	15	05 30 00.8	60.147N.	153.177W.	115	GM	—	—	—	—	JUNE	14	20:30	YST
JUNE	15	15 23 44.0	60.071N.	153.304W.	125	GM	—	—	—	—	JUNE	15	06:23	YST
JUNE	15	18 49 52.5	59.101N.	147.768W.	42	GM	—	—	3.3ML(PM)	—	JUNE	15	09:49	YST
JUNE	15	22 17 34.6	59.803N.	139.136W.	15	GM	—	—	3.0ML(EP)	—	JUNE	15	13:17	YST
JUNE	16	13 51 28.4	60.287N.	153.053W.	138	GM	—	—	—	—	JUNE	16	04:51	YST
JUNE	18	00 23 55.5	59.832N.	152.492W.	69	GM	—	—	—	—	JUNE	17	15:23	YST
JUNE	18	18 58 31.6	61.451N.	151.754W.	90	GM	—	—	—	—	JUNE	18	09:58	YST
JUNE	18	21 23 26.9	53.052N.	162.084W.	7	LD	—	—	3.0mx(LD)	—	JUNE	18	12:23	YST
JUNE	18	22 03 54.0	63.827N.	149.162W.	33	GS	—	—	3.2ML(PM)	—	JUNE	18	13:03	YST
JUNE	19	12 52 40.8	59.262N.	145.718W.	25	GM	—	—	—	—	JUNE	19	03:52	YST
JUNE	19	18 18 58.1	60.162N.	152.543W.	101	GM	—	—	—	—	JUNE	19	09:18	YST
JUNE	19	18 33 17.1	60.141N.	153.640W.	177	GM	—	—	—	—	JUNE	19	09:33	YST
JUNE	20	08 50 33.2	63.731N.	149.745W.	120	GS	4.6	—	—	FELT	JUNE	19	23:50	YST
JUNE	20	21 30 13.7	60.221N.	152.598W.	96	GM	—	—	—	—	JUNE	20	12:30	YST
JUNE	22	02 27 23.7	59.770N.	153.111W.	88	GM	—	—	—	—	JUNE	21	17:27	YST



Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time (UTC)			Latitude (°)	Longitude (°)	Depth (km)	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	hr	min	sec					m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
ALASKA—Continued														
JUNE 22	08	10	16.8	58.199N.	151.459W.	45	GM	—	—	—	—	JUNE 21	23:10	YST
JUNE 22	08	26	17.9	63.741N.	146.145W.	33	GS	—	—	2.9ML(PM)	—	JUNE 21	23:26	YST
JUNE 22	12	06	13.6	61.624N.	146.409W.	26	GM	—	—	3.7ML(PM)	—	JUNE 22	03:06	YST
JUNE 22	16	08	13.3	62.111N.	150.833W.	72	GM	—	—	—	—	JUNE 22	07:08	YST
JUNE 22	16	30	19.9	61.592N.	151.596W.	77	GM	—	—	—	—	JUNE 22	07:30	YST
JUNE 23	05	00	41.4	58.101N.	155.876W.	27	GM	—	—	—	—	JUNE 22	20:00	YST
JUNE 23	17	41	33.7	62.489N.	148.895W.	43	GM	—	—	—	—	JUNE 23	08:41	YST
JUNE 23	19	31	30.6	62.226N.	154.802W.	16	GM	—	—	3.7ML(PM)	—	JUNE 23	10:31	YST
JUNE 26	12	44	58.0	54.973N.	160.438W.	55	GS	4.7	—	4.4ML(PM)	—	JUNE 26	03:44	YST
JUNE 26	13	42	59.8	59.412N.	153.444W.	102	GM	—	—	—	—	JUNE 26	04:42	YST
JUNE 26	17	49	52.8	62.623N.	151.078W.	95	GM	—	—	—	—	JUNE 26	08:49	YST
JUNE 27	00	25	12.7	63.734N.	150.162W.	143	GS	4.8	—	—	IV	JUNE 26	15:25	YST
JUNE 27	03	28	21.3	62.405N.	150.921W.	80	GM	—	—	—	—	JUNE 26	18:28	YST
JUNE 27	06	25	33.0	60.462N.	143.202W.	23	GM	—	—	3.3ML(EP)	—	JUNE 26	21:25	YST
JUNE 27	12	12	13.7	61.774N.	147.760W.	31	GM	—	—	—	—	JUNE 27	03:12	YST
JUNE 27	14	35	06.4	56.966N.	156.982W.	97	GS	4.7	—	—	—	JUNE 27	05:35	YST
JUNE 27	17	27	48.0	59.896N.	153.452W.	126	GM	—	—	—	—	JUNE 27	08:27	YST
JUNE 27	23	55	24.8	60.124N.	147.662W.	30	GM	—	—	—	—	JUNE 27	14:55	YST
JUNE 28	04	19	10.8	58.598N.	137.667W.	17	GM	—	—	2.6ML(EP)	—	JUNE 27	19:19	YST
JUNE 28	04	42	55.6	57.480N.	155.835W.	115	GM	—	—	—	—	JUNE 27	19:42	YST
JUNE 28	05	04	39.7	61.526N.	150.809W.	70	GM	—	—	—	—	JUNE 27	20:04	YST
JUNE 28	06	23	55.9	60.072N.	152.892W.	100	GM	—	—	—	—	JUNE 27	21:23	YST
JUNE 28	07	50	26.7	62.485N.	148.258W.	42	GM	—	—	—	—	JUNE 27	22:50	YST
JUNE 28	16	35	03.2	59.618N.	153.246W.	110	GM	—	—	—	II	JUNE 28	07:35	YST
JUNE 29	01	30	32.9	63.500N.	151.262W.	33	GS	—	—	3.2ML(PM)	—	JUNE 28	16:30	YST
JUNE 29	03	39	33.6	53.438N.	169.520W.	33	GS	4.1	—	—	—	JUNE 28	17:39	AST
JUNE 29	11	11	15.5	61.087N.	150.252W.	42	GM	—	—	—	—	JUNE 29	02:11	YST
JUNE 29	15	39	30.3	54.999N.	156.720W.	38	LD	—	—	3.0mx(LD)	—	JUNE 29	06:39	YST
JUNE 29	18	22	43.7	59.912N.	153.513W.	135	GM	—	—	—	—	JUNE 29	09:22	YST
JUNE 29	21	55	51.0	60.141N.	151.451W.	46	GM	—	—	3.8ML(PM)	—	JUNE 29	12:55	YST
JUNE 29	22	19	05.8	62.275N.	149.630W.	58	GM	—	—	—	—	JUNE 29	13:19	YST
JUNE 30	01	10	50.1	66.041N.	150.308W.	10	GS	—	—	3.1ML(PM)	—	JUNE 29	16:10	YST
JUNE 30	05	02	21.0	59.050N.	136.840W.	18	EP	—	—	3.0ML(EP)	—	JUNE 29	20:02	YST
JUNE 30	05	02	21.0	59.050N.	136.840W.	18	EP	—	—	3.0ML(EP)	—	JUNE 29	20:02	YST
JUNE 30	23	54	09.1	59.885N.	152.797W.	91	GM	—	—	—	—	JUNE 30	14:54	YST
JULY 1	20	12	14.0	60.102N.	153.207W.	129	GM	—	—	—	—	JULY 1	11:12	YST
JULY 2	01	42	48.6	66.215N.	150.041W.	10	GS	—	—	3.7ML(PM)	—	JULY 1	16:42	YST
JULY 2	13	01	17.9	63.455N.	151.259W.	33	GS	—	—	3.7ML(PM)	—	JULY 2	04:01	YST
JULY 3	02	12	06.7	58.496N.	151.200W.	74	GM	—	—	—	—	JULY 2	17:12	YST
JULY 3	11	05	36.2	62.938N.	148.056W.	44	GM	—	—	—	—	JULY 3	02:05	YST
JULY 3	18	29	23.9	60.823N.	147.046W.	22	GM	—	—	—	—	JULY 3	09:29	YST
JULY 3	22	26	26.7	62.569N.	151.301W.	84	GM	—	—	—	—	JULY 3	13:26	YST
JULY 4	02	41	06.9	60.335N.	150.030W.	42	GM	—	—	—	—	JULY 3	17:41	YST
JULY 4	13	57	19.9	61.266N.	150.482W.	45	GM	—	—	—	—	JULY 4	04:57	YST
JULY 4	18	03	05.4	59.397N.	146.622W.	10	GM	—	—	—	—	JULY 4	09:03	YST
JULY 5	02	13	25.3	61.246N.	149.348W.	36	GM	—	—	—	—	JULY 4	17:13	YST
JULY 5	14	22	59.0	58.370N.	133.490W.	18	EP	—	—	3.1ML(EP)	—	JULY 5	05:22	YST
JULY 5	18	02	41.3	51.570N.	173.497W.	30	EE	4.9	—	—	—	JULY 5	08:02	AST

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
				( <sup>o</sup> )	( <sup>o</sup> )	(km)	Source							
ALASKA—Continued														
JULY	5	18 33 02.0	65.853N.	154.274W.	10	GS	—	—	—	—	JULY	5	09:33 YST	
JULY	5	18 33 10.4	59.829N.	153.482W.	123	GM	—	—	—	—	JULY	5	09:33 YST	
JULY	5	23 46 01.7	62.032N.	150.777W.	64	GM	—	—	—	—	JULY	5	14:46 YST	
JULY	6	09 08 54.2	59.649N.	145.759W.	14	GM	—	—	3.2ML(PM)	—	JULY	6	00:08 YST	
JULY	6	15 47 08.0	58.410N.	133.420W.	18	EP	—	—	3.0ML(EP)	—	JULY	6	06:47 YST	
JULY	6	19 12 02.0	58.360N.	133.490W.	18	EP	—	—	3.2ML(EP)	—	JULY	6	10:12 YST	
JULY	6	19 24 45.0	58.450N.	133.400W.	18	EP	—	—	3.2ML(EP)	—	JULY	6	10:24 YST	
JULY	7	04 34 52.5	60.894N.	150.036W.	43	GM	—	—	—	—	JULY	6	19:34 YST	
JULY	7	06 47 04.0	58.330N.	133.500W.	18	EP	—	—	3.0ML(EP)	—	JULY	6	21:47 YST	
JULY	7	10 45 36.7	61.180N.	151.520W.	75	GM	—	—	—	—	JULY	7	01:45 YST	
JULY	7	15 27 57.0	58.310N.	133.540W.	18	EP	—	—	3.3ML(EP)	—	JULY	7	06:27 YST	
JULY	7	23 11 34.7	53.296N.	163.385W.	13	LD	—	—	3.5mx(LD)	—	JULY	7	14:11 YST	
JULY	8	03 04 03.0	60.262N.	153.594W.	171	GM	—	—	—	—	JULY	7	18:04 YST	
JULY	9	16 22 28.2	54.650N.	156.714W.	11	LD	—	—	3.2mx(LD)	—	JULY	9	07:22 YST	
JULY	10	14 55 54.3	51.183N.	177.962E.	33	GS	4.8	—	4.1ML(PM)	—	JULY	10	04:55 AST	
JULY	10	20 20 33.2	60.141N.	152.526W.	88	GM	—	—	—	—	JULY	10	11:20 YST	
JULY	10	23 27 23.6	53.211N.	164.680W.	13	LD	—	—	3.5mx(LD)	—	JULY	10	14:27 YST	
JULY	11	13 53 11.5	51.809N.	171.279W.	33	GS	4.6	—	—	—	JULY	11	03:53 AST	
JULY	11	22 09 36.9	59.952N.	152.679W.	78	GM	—	—	—	—	JULY	11	13:09 YST	
JULY	12	03 52 47.0	53.466N.	164.946W.	33	GS	4.7	—	4.5ML(PM)	—	JULY	11	18:52 YST	
JULY	13	13 39 01.5	61.452N.	151.251W.	64	GM	—	—	—	—	JULY	13	04:39 YST	
JULY	14	04 22 03.9	53.470N.	164.184W.	13	LD	—	—	3.0mx(LD)	—	JULY	13	19:22 YST	
JULY	14	07 11 40.4	52.714N.	172.037E.	33	GS	4.6	—	—	—	JULY	13	21:11 AST	
JULY	14	19 07 15.5	65.613N.	151.443W.	10	GS	—	—	4.3ML(PM)	—	JULY	14	10:07 YST	
JULY	15	05 27 33.9	51.168N.	178.806E.	33	GS	5.2	—	—	—	JULY	14	19:27 AST	
JULY	15	12 37 32.4	63.111N.	150.813W.	128	GS	—	—	—	III	JULY	15	03:37 YST	
JULY	16	06 40 56.7	61.133N.	152.293W.	6	GM	—	—	—	—	JULY	15	21:40 YST	
JULY	16	14 58 53.5	52.000N.	174.202E.	33	GS	4.8	—	4.3ML(PM)	—	JULY	16	04:58 AST	
JULY	16	18 13 43.4	53.249N.	164.819W.	13	LD	4.5	—	4.0mx(LD)	—	JULY	16	09:13 YST	
JULY	17	19 31 29.5	51.443N.	172.883W.	16	EE	5.5	5.9	5.4ML(PM)	III	JULY	17	09:31 AST	
JULY	17	19 53 09.9	61.113N.	150.072W.	47	GM	—	—	—	—	JULY	17	10:53 YST	
JULY	17	21 32 56.2	60.310N.	152.722W.	108	GM	—	—	—	—	JULY	17	12:32 YST	
JULY	18	17 25 33.7	59.901N.	153.233W.	115	GM	—	—	—	—	JULY	18	08:25 YST	
JULY	19	08 30 44.6	66.066N.	150.170W.	10	GS	—	—	3.7ML(PM)	—	JULY	18	23:30 YST	
JULY	19	12 47 59.4	52.834N.	173.200W.	124	EE	4.5	—	—	—	JULY	19	02:47 AST	
JULY	19	19 09 15.2	51.360N.	172.701W.	20	EE	4.9	—	—	—	JULY	19	09:09 AST	
JULY	20	14 02 35.7	60.744N.	150.459W.	50	GM	—	—	—	—	JULY	20	05:02 YST	
JULY	20	16 04 29.0	61.579N.	151.039W.	70	GM	—	—	—	—	JULY	20	07:04 YST	
JULY	21	00 12 01.3	60.172N.	153.181W.	131	GM	—	—	—	—	JULY	20	15:12 YST	
JULY	21	10 58 36.3	60.661N.	152.144W.	84	GM	—	—	—	—	JULY	21	01:58 YST	
JULY	22	01 24 28.0	59.449N.	152.479W.	73	GM	—	—	—	—	JULY	21	16:24 YST	
JULY	22	07 08 05.3	60.764N.	151.890W.	79	GM	—	—	—	—	JULY	21	22:08 YST	
JULY	22	09 18 35.7	58.482N.	154.806W.	104	GM	—	—	—	—	JULY	22	00:18 YST	
JULY	23	15 54 38.0	58.380N.	133.490W.	18	EP	—	—	3.1ML(EP)	—	JULY	23	06:54 YST	
JULY	23	18 58 39.0	58.400N.	133.440W.	18	EP	—	—	3.4ML(EP)	—	JULY	23	08:58 YST	
JULY	24	12 30 42.0	58.340N.	133.540W.	18	EP	—	—	3.3ML(EP)	—	JULY	24	03:30 YST	
JULY	24	15 01 57.0	58.330N.	133.520W.	18	EP	—	—	3.3ML(EP)	—	JULY	24	06:01 YST	
JULY	25	09 26 45.0	58.390N.	133.470W.	18	EP	—	—	3.1ML(EP)	—	JULY	25	00:26 YST	

Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time			
	(UTC)							Source	m <sub>b</sub>	M <sub>s</sub>		Local	Date	hr	zone
	hr	min	sec												
				(°)	(°)	(km)									
ALASKA—Continued															
JULY 25	14	50	36.0	58.380N.	133.480W.	18	EP	—	—	3.0ML(EP)	—	JULY 25	05:50	YST	
JULY 25	16	46	38.0	52.848N.	166.721W.	33	GS	4.6	—	4.3ML(PM)	—	JULY 25	07:46	AST	
JULY 25	19	55	06.5	65.493N.	148.507W.	10	GS	—	—	3.1ML(PM)	—	JULY 25	10:55	YST	
JULY 25	20	31	10.0	58.380N.	133.450W.	18	EP	—	—	3.2ML(EP)	—	JULY 25	11:31	YST	
JULY 26	01	13	10.0	58.400N.	133.460W.	18	EP	—	—	3.2ML(EP)	—	JULY 25	16:13	YST	
JULY 26	07	04	27.4	52.776N.	166.620W.	33	GS	5.1	4.3	4.5ML(PM)	—	JULY 25	21:04	AST	
JULY 27	01	17	32.3	60.723N.	152.322W.	92	GM	—	—	—	—	JULY 26	16:17	YST	
JULY 27	02	59	07.7	60.216N.	152.513W.	99	GM	—	—	—	—	JULY 26	17:59	YST	
JULY 27	05	46	35.6	61.054N.	151.419W.	69	GM	—	—	—	—	JULY 26	20:46	YST	
JULY 28	00	27	44.2	59.618N.	152.830W.	84	GM	—	—	—	—	JULY 27	15:27	YST	
JULY 28	02	44	20.8	53.026N.	166.720W.	33	GS	4.6	—	—	—	JULY 27	16:44	AST	
JULY 30	03	23	50.4	55.463N.	158.371W.	23	LD	—	—	3.0mx(LD)	—	JULY 29	18:23	YST	
JULY 30	11	13	38.6	62.132N.	149.606W.	55	GM	—	—	3.0ML(PM)	—	JULY 30	02:13	YST	
JULY 30	21	44	02.8	61.806N.	149.566W.	47	GM	—	—	—	—	JULY 30	12:44	YST	
JULY 31	07	37	54.6	52.404N.	173.487E.	46	GS	5.7	5.0	—	IV	JULY 30	21:37	AST	
JULY 31	14	07	57.4	65.723N.	149.980W.	10	GS	—	—	3.6ML(PM)	—	JULY 31	05:07	YST	
JULY 31	15	36	37.2	60.209N.	152.605W.	96	GM	—	—	—	—	JULY 31	06:36	YST	
AUG. 2	02	42	27.3	58.984N.	154.204W.	124	GM	—	—	—	—	AUG. 1	17:42	YST	
AUG. 2	03	06	52.7	61.726N.	150.844W.	69	GM	—	—	—	—	AUG. 1	18:06	YST	
AUG. 2	10	22	31.6	60.077N.	152.950W.	107	GM	—	—	—	—	AUG. 2	01:22	YST	
AUG. 2	13	41	43.7	60.154N.	141.030W.	8	GM	4.2	—	4.1ML(PM)	—	AUG. 2	04:41	YST	
AUG. 3	07	38	51.5	62.993N.	149.521W.	92	GS	4.4	—	—	IV	AUG. 2	22:38	YST	
AUG. 3	16	45	40.3	59.724N.	152.122W.	92	GS	4.4	—	—	IV	AUG. 3	07:45	YST	
AUG. 4	09	12	50.7	59.596N.	152.818W.	100	GM	—	—	—	—	AUG. 4	00:12	YST	
AUG. 4	17	00	55.7	53.135N.	156.702W.	36	LD	—	—	3.5mx(LD)	—	AUG. 4	08:00	YST	
AUG. 5	03	12	09.5	61.225N.	150.276W.	47	GM	—	—	—	—	AUG. 4	18:12	YST	
AUG. 5	20	16	11.7	53.682N.	163.180W.	19	LD	—	—	3.5mx(LD)	—	AUG. 5	11:16	YST	
AUG. 5	21	32	50.6	60.573N.	147.483W.	17	GM	—	—	—	—	AUG. 5	12:32	YST	
AUG. 7	03	17	32.6	53.620N.	164.958W.	33	GS	4.8	—	4.0mx(LD)	—	AUG. 6	18:17	YST	
AUG. 7	03	54	31.9	61.789N.	148.892W.	13	GM	—	—	3.5ML(PM)	II	AUG. 6	18:54	YST	
AUG. 7	12	42	31.9	59.362N.	153.396W.	119	GM	—	—	—	—	AUG. 7	03:42	YST	
AUG. 7	16	55	22.3	61.559N.	151.647W.	85	GM	—	—	—	—	AUG. 7	07:55	YST	
AUG. 7	23	11	40.8	61.179N.	149.488W.	41	GM	—	—	—	—	AUG. 7	14:11	YST	
AUG. 7	23	16	44.9	61.272N.	149.617W.	33	GS	—	—	2.7ML(PM)	II	AUG. 7	14:16	YST	
AUG. 8	08	42	35.6	62.049N.	151.363W.	77	GM	—	—	—	—	AUG. 7	23:42	YST	
AUG. 8	09	24	19.7	60.289N.	153.356W.	160	GM	—	—	—	FELT	AUG. 8	00:24	YST	
AUG. 8	18	33	02.2	59.059N.	137.191W.	27	GM	—	—	3.1ML(EP)	—	AUG. 8	09:33	YST	
AUG. 8	21	15	01.3	62.036N.	148.681W.	15	GS	—	—	2.8ML(PM)	FELT	AUG. 8	12:15	YST	
AUG. 8	21	38	45.0	58.465N.	154.739W.	0	GM	—	—	3.7ML(PM)	—	AUG. 8	12:38	YST	
AUG. 8	22	21	01.8	61.803N.	148.447W.	15	GS	—	—	2.6ML(PM)	FELT	AUG. 8	13:21	YST	
AUG. 9	00	06	38.3	58.370N.	155.138W.	20	GM	—	—	—	—	AUG. 8	15:06	YST	
AUG. 9	01	33	23.6	53.857N.	163.687W.	7	LD	—	—	3.3mx(LD)	—	AUG. 8	16:33	YST	
AUG. 9	03	06	57.9	55.148N.	162.279W.	1	LD	—	—	3.0mx(LD)	—	AUG. 8	18:06	YST	
AUG. 9	04	17	50.2	58.413N.	154.971W.	33	GM	—	—	—	—	AUG. 8	19:17	YST	
AUG. 9	13	03	10.6	52.424N.	173.648E.	38	GS	5.5	4.9	5.4ML(PM)	IV	AUG. 9	03:03	AST	
AUG. 9	22	32	25.6	59.911N.	152.892W.	104	GM	—	—	—	—	AUG. 9	13:32	YST	
AUG. 10	06	29	49.3	59.955N.	153.075W.	100	GM	—	—	—	—	AUG. 9	21:29	YST	
AUG. 10	18	44	34.0	60.470N.	143.310W.	18	EP	—	—	3.1ML(EP)	—	AUG. 10	09:44	YST	

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time		
	(UTC)													
	hr	min	sec	( <sup>o</sup> )	( <sup>o</sup> )	(km)	Source	m <sub>b</sub>	M <sub>s</sub>	Local				
ALASKA—Continued														
AUG. 11	00	33	55.9	62.272N.	151.035W.	77	GM	—	—	—	—	AUG. 10	15:33	YST
AUG. 11	17	24	05.4	60.152N.	152.800W.	105	GM	—	—	—	—	AUG. 11	08:24	YST
AUG. 12	02	33	38.1	53.340N.	165.656W.	27	LD	—	—	3.9mx(LD)	—	AUG. 11	16:33	AST
AUG. 12	13	23	04.2	53.043N.	164.936W.	14	LD	—	—	3.9mx(LD)	—	AUG. 12	04:23	YST
AUG. 12	14	01	51.2	59.642N.	153.017W.	95	GM	—	—	—	—	AUG. 12	05:01	YST
AUG. 12	14	21	00.0	51.801N.	167.622W.	33	GS	4.7	—	—	—	AUG. 12	04:21	AST
AUG. 12	17	39	25.0	61.882N.	151.762W.	109	GM	—	—	—	—	AUG. 12	08:39	YST
AUG. 13	03	08	54.0	59.741N.	153.550W.	121	GM	—	—	—	—	AUG. 12	18:08	YST
AUG. 13	09	54	48.4	60.925N.	152.023W.	84	GM	—	—	—	—	AUG. 13	00:54	YST
AUG. 13	21	29	41.2	59.417N.	146.724W.	28	GM	—	—	3.2ML(PM)	—	AUG. 13	12:29	YST
AUG. 14	10	36	27.7	61.450N.	151.312W.	70	GM	4.2	—	3.7ML(PM)	—	AUG. 14	01:36	YST
AUG. 14	15	47	30.2	62.045N.	149.781W.	50	GM	—	—	—	—	AUG. 14	06:47	YST
AUG. 15	05	39	14.7	59.621N.	152.780W.	86	GM	—	—	—	—	AUG. 14	20:39	YST
AUG. 16	19	57	37.2	54.633N.	161.132W.	17	LD	—	—	3.0mx(LD)	—	AUG. 16	10:57	YST
AUG. 16	20	03	05.6	52.474N.	165.427W.	33	GS	4.3	—	—	—	AUG. 16	10:03	AST
AUG. 18	07	13	39.6	60.769N.	147.705W.	35	GM	—	—	—	—	AUG. 17	22:13	YST
AUG. 18	10	06	45.7	52.663N.	170.580W.	33	GS	4.5	—	—	—	AUG. 18	00:06	AST
AUG. 18	15	27	35.8	62.021N.	150.951W.	82	GM	—	—	—	—	AUG. 18	06:27	YST
AUG. 18	17	51	36.5	68.577N.	144.835W.	10	GS	—	—	3.4ML(EP)	—	AUG. 18	08:51	YST
AUG. 20	00	19	20.7	58.955N.	152.680W.	98	GM	—	—	—	—	AUG. 19	15:19	YST
AUG. 21	22	24	41.6	62.253N.	149.318W.	53	GM	—	—	—	—	AUG. 21	13:24	YST
AUG. 21	22	40	25.0	61.398N.	149.919W.	41	GM	—	—	—	—	AUG. 21	13:40	YST
AUG. 22	13	21	05.0	60.000N.	141.060W.	10	EP	—	—	3.0ML(EP)	—	AUG. 22	04:21	YST
AUG. 22	16	13	26.1	53.752N.	163.579W.	33	GS	4.9	—	4.1mx(LD)	—	AUG. 22	07:13	YST
AUG. 23	02	16	03.4	60.853N.	151.737W.	15	GM	3.9	—	3.8ML(PM)	III	AUG. 22	17:16	YST
AUG. 23	07	04	55.4	51.392N.	174.887W.	33	GS	4.5	—	—	—	AUG. 22	21:04	AST
AUG. 23	09	21	13.7	52.900N.	167.976W.	52	GS	4.4	—	—	—	AUG. 22	23:21	AST
AUG. 23	09	43	01.8	51.380N.	174.718W.	33	GS	3.8	—	—	—	AUG. 22	23:43	AST
AUG. 23	09	43	42.1	51.450N.	174.996W.	33	GS	4.7	—	—	—	AUG. 22	23:43	AST
AUG. 23	10	10	58.1	51.247N.	174.857W.	20	EE	4.7	—	—	—	AUG. 23	00:10	AST
AUG. 23	10	52	35.0	51.239N.	174.937W.	20	EE	4.8	—	—	—	AUG. 23	00:52	AST
AUG. 23	11	03	53.1	51.101N.	174.819W.	20	EE	4.8	—	—	—	AUG. 23	01:03	AST
AUG. 23	11	16	03.0	51.189N.	174.856W.	20	EE	4.8	—	—	—	AUG. 23	01:16	AST
AUG. 23	22	19	45.8	61.172N.	151.363W.	68	GM	—	—	—	—	AUG. 23	13:19	YST
AUG. 24	11	15	21.0	58.300N.	133.520W.	18	EP	—	—	3.1ML(EP)	—	AUG. 24	02:15	YST
AUG. 25	22	37	04.9	51.524N.	171.310E.	33	GS	4.5	—	—	—	AUG. 25	12:37	AST
AUG. 26	09	06	04.6	51.239N.	178.977W.	30	EE	4.8	—	—	—	AUG. 25	23:06	AST
AUG. 27	06	40	08.1	59.489N.	152.658W.	88	GM	—	—	—	—	AUG. 26	21:40	YST
AUG. 27	07	24	22.0	58.380N.	133.440W.	18	EP	—	—	3.4ML(EP)	—	AUG. 26	22:24	YST
AUG. 27	13	52	18.7	62.354N.	149.784W.	56	GM	—	—	—	—	AUG. 27	04:52	YST
AUG. 27	15	14	46.0	61.850N.	147.645W.	30	GM	—	—	3.0ML(PM)	—	AUG. 27	06:14	YST
AUG. 27	16	03	50.2	55.173N.	164.470W.	256	LD	—	—	3.3mx(LD)	—	AUG. 27	07:03	YST
AUG. 27	23	40	12.0	62.659N.	151.377W.	97	GM	—	—	—	—	AUG. 27	14:40	YST
AUG. 28	01	00	14.2	61.555N.	149.840W.	46	GM	—	—	—	—	AUG. 27	16:00	YST
AUG. 28	21	27	10.4	61.146N.	151.119W.	64	GM	—	—	—	—	AUG. 28	12:27	YST
AUG. 29	04	23	53.0	58.340N.	133.500W.	18	EP	—	—	3.1ML(EP)	—	AUG. 28	19:23	YST
AUG. 29	10	45	26.0	58.340N.	133.480W.	18	EP	—	—	3.2ML(EP)	—	AUG. 29	01:45	YST
AUG. 29	21	10	31.2	52.941N.	163.602W.	14	LD	—	—	3.1mx(LD)	—	AUG. 29	12:10	YST

Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
ALASKA—Continued														
AUG. 30	17	31	11.9	53.097N.	172.629E.	33	GS	5.1	5.0	5.6ML(PM)	—	AUG. 30	07:31	AST
AUG. 30	17	55	55.1	53.194N.	173.757E.	33	GS	3.9	—	4.3ML(PM)	—	AUG. 30	07:55	AST
AUG. 31	00	20	29.7	59.490N.	152.962W.	84	GM	—	—	—	—	AUG. 30	15:20	YST
AUG. 31	06	58	38.0	60.180N.	140.943W.	10	GM	—	—	4.3ML(PM)	—	AUG. 30	21:58	YST
AUG. 31	23	04	36.1	59.844N.	152.476W.	86	GM	—	—	—	—	AUG. 31	14:04	YST
SEPT. 1	21	42	38.2	61.550N.	151.022W.	73	GM	—	—	—	—	SEPT. 1	12:42	YST
SEPT. 2	07	11	08.9	54.508N.	160.886W.	5	LD	—	—	3.4mx(LD)	—	SEPT. 1	22:11	YST
SEPT. 2	10	55	17.1	60.015N.	153.397W.	122	GM	—	—	—	—	SEPT. 2	01:55	YST
SEPT. 2	12	04	33.9	60.460N.	152.106W.	82	GM	—	—	—	—	SEPT. 2	03:04	YST
SEPT. 4	14	06	33.8	61.340N.	151.242W.	67	GM	—	—	—	—	SEPT. 4	05:06	YST
SEPT. 5	03	52	20.2	61.640N.	149.969W.	42	GM	—	—	3.1ML(PM)	II	SEPT. 4	18:52	YST
SEPT. 5	09	58	53.6	59.406N.	152.825W.	69	GM	—	—	—	—	SEPT. 5	00:58	YST
SEPT. 5	12	28	19.6	60.036N.	153.645W.	159	GM	—	—	—	—	SEPT. 5	03:28	YST
SEPT. 5	14	13	33.5	66.429N.	149.740W.	10	GS	—	—	—	—	SEPT. 5	05:13	YST
SEPT. 5	16	43	40.1	51.990N.	178.446W.	15	EE	4.5	—	4.4ML(PM)	—	SEPT. 5	06:43	AST
SEPT. 7	15	19	59.0	59.935N.	153.110W.	102	GM	—	—	—	—	SEPT. 7	06:19	YST
SEPT. 7	17	13	44.2	62.393N.	151.127W.	82	GM	—	—	—	—	SEPT. 7	08:13	YST
SEPT. 8	18	36	57.0	62.495N.	151.436W.	96	GM	—	—	—	—	SEPT. 8	09:36	YST
SEPT. 9	20	36	59.6	61.705N.	151.103W.	74	GM	—	—	—	—	SEPT. 9	11:36	YST
SEPT. 9	22	08	33.9	54.657N.	163.631W.	113	LD	—	—	3.7mx(LD)	—	SEPT. 9	13:08	YST
SEPT. 9	22	53	48.9	61.736N.	150.953W.	78	GM	4.3	—	—	III	SEPT. 9	13:53	YST
SEPT. 10	17	20	05.7	61.356N.	151.693W.	98	GM	4.4	—	—	III	SEPT. 10	08:20	YST
SEPT. 10	17	21	39.4	64.319N.	150.427W.	61	GS	4.4	—	4.3ML(PM)	III	SEPT. 10	08:21	YST
SEPT. 11	08	20	37.8	62.967N.	149.082W.	55	GM	—	—	—	—	SEPT. 10	23:20	YST
SEPT. 11	08	46	30.8	60.034N.	153.064W.	99	GM	—	—	—	—	SEPT. 10	23:46	YST
SEPT. 12	15	17	05.9	62.566N.	151.341W.	89	GM	—	—	—	—	SEPT. 12	06:17	YST
SEPT. 13	14	41	39.7	62.170N.	150.409W.	60	GM	—	—	—	—	SEPT. 13	05:41	YST
SEPT. 14	08	04	52.5	51.403N.	179.259E.	33	GS	4.8	—	—	—	SEPT. 13	22:04	AST
SEPT. 14	10	09	54.6	50.529N.	178.864E.	33	GS	4.4	—	—	—	SEPT. 14	00:09	AST
SEPT. 14	14	30	38.7	61.978N.	149.829W.	54	GM	—	—	—	—	SEPT. 14	05:30	YST
SEPT. 15	00	40	28.8	60.226N.	141.019W.	10	GM	—	—	3.7ML(EP)	—	SEPT. 14	15:40	YST
SEPT. 15	01	28	16.7	59.102N.	136.423W.	2	GM	5.4	5.9	5.1ML(PM)	V	SEPT. 14	16:28	YST
SEPT. 15	02	33	21.8	56.333N.	156.153W.	85	LD	—	—	3.5mx(LD)	—	SEPT. 14	17:33	YST
SEPT. 15	03	11	52.0	59.190N.	136.290W.	18	EP	—	—	3.3ML(EP)	—	SEPT. 14	18:11	YST
SEPT. 15	08	23	12.2	63.330N.	166.146W.	15	GS	4.5	—	4.2ML(PM)	III	SEPT. 14	22:23	AST
SEPT. 15	12	24	50.4	62.915N.	149.579W.	45	GM	—	—	—	—	SEPT. 15	03:24	YST
SEPT. 16	12	48	52.3	59.701N.	152.226W.	90	GM	—	—	—	—	SEPT. 16	03:48	YST
SEPT. 16	14	20	42.0	62.264N.	150.777W.	55	GM	—	—	—	—	SEPT. 16	05:20	YST
SEPT. 17	03	33	50.4	60.143N.	152.414W.	75	GM	—	—	—	—	SEPT. 16	18:33	YST
SEPT. 17	08	06	17.0	58.400N.	133.480W.	18	EP	—	—	3.3ML(EP)	—	SEPT. 16	23:06	YST
SEPT. 17	19	52	45.8	63.091N.	149.512W.	114	GS	—	—	—	—	SEPT. 17	10:52	YST
SEPT. 18	00	32	21.9	54.870N.	160.282W.	35	LD	—	—	3.3mx(LD)	—	SEPT. 17	15:32	YST
SEPT. 18	13	49	51.0	60.265N.	141.883W.	8	GM	—	—	3.4ML(EP)	—	SEPT. 18	04:49	YST
SEPT. 18	21	58	28.5	53.875N.	163.106W.	7	LD	—	—	3.0mx(LD)	—	SEPT. 18	12:58	YST
SEPT. 18	22	42	09.1	59.695N.	152.592W.	77	GM	—	—	—	—	SEPT. 18	13:42	YST
SEPT. 19	06	53	21.9	61.715N.	151.525W.	88	GM	—	—	—	—	SEPT. 18	21:53	YST
SEPT. 19	08	34	53.5	51.500N.	179.400W.	33	GS	4.6	—	—	—	SEPT. 18	22:34	AST
SEPT. 19	20	48	42.2	62.156N.	151.692W.	98	GM	—	—	—	—	SEPT. 19	11:48	YST

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time			
	(UTC)							Source	m <sub>b</sub>	M <sub>s</sub>		Local	Date	hr	zone
	hr	min	sec												
ALASKA—Continued															
SEPT. 20	05	02	01.7	64.797N.	146.720W.	33	GS	—	—	—	—	SEPT. 19	20:02	YST	
SEPT. 21	05	59	16.2	59.788N.	153.335W.	108	GM	—	—	—	—	SEPT. 20	20:59	YST	
SEPT. 22	05	43	00.3	59.108N.	151.320W.	53	GM	4.6	—	—	IV	SEPT. 21	20:43	YST	
SEPT. 22	17	33	20.1	51.005N.	178.988E.	33	GS	4.6	—	—	—	SEPT. 22	07:33	AST	
SEPT. 22	19	07	04.8	61.164N.	150.214W.	42	GM	—	—	3.1ML(PM)	FELT	SEPT. 22	10:07	YST	
SEPT. 22	22	04	13.6	62.541N.	150.168W.	79	GM	—	—	—	—	SEPT. 22	13:04	YST	
SEPT. 23	05	37	21.3	52.284N.	169.518W.	33	GS	4.9	4.8	—	—	SEPT. 22	19:37	AST	
SEPT. 23	06	18	28.9	60.521N.	151.209W.	54	GM	—	—	—	—	SEPT. 22	21:18	YST	
SEPT. 23	10	06	25.4	60.488N.	147.305W.	21	GM	—	—	—	—	SEPT. 23	01:06	YST	
SEPT. 24	01	37	39.3	62.188N.	151.122W.	77	GM	—	—	—	—	SEPT. 23	16:37	YST	
SEPT. 24	02	13	58.1	67.533N.	157.518W.	33	GS	3.9	—	3.9ML(PM)	—	SEPT. 23	17:13	YST	
SEPT. 24	10	17	35.7	62.431N.	151.468W.	89	GM	—	—	—	—	SEPT. 24	01:17	YST	
SEPT. 25	16	29	19.7	54.758N.	159.723W.	33	GS	4.8	—	4.4ML(PM)	II	SEPT. 25	07:29	YST	
SEPT. 25	20	50	52.8	59.763N.	154.601W.	189	GS	4.6	—	—	IV	SEPT. 25	11:50	YST	
SEPT. 26	06	43	01.0	60.365N.	153.519W.	166	GM	—	—	—	—	SEPT. 25	21:43	YST	
SEPT. 26	10	10	28.5	62.040N.	151.956W.	102	GM	—	—	—	—	SEPT. 26	01:10	YST	
SEPT. 26	15	50	27.5	62.304N.	151.402W.	90	GM	—	—	—	—	SEPT. 26	06:50	YST	
SEPT. 27	02	51	35.0	58.450N.	133.410W.	18	EP	—	—	3.2ML(EP)	—	SEPT. 26	17:51	YST	
SEPT. 27	12	15	47.1	59.590N.	153.489W.	114	GM	—	—	—	—	SEPT. 27	03:15	YST	
SEPT. 27	20	22	20.0	58.370N.	133.520W.	18	EP	—	—	3.2ML(EP)	—	SEPT. 27	11:22	YST	
SEPT. 27	20	41	52.0	58.370N.	133.510W.	18	EP	—	—	3.1ML(EP)	—	SEPT. 27	11:41	YST	
SEPT. 28	09	01	50.0	62.205N.	150.953W.	66	GM	—	—	3.8ML(PM)	—	SEPT. 28	00:01	YST	
SEPT. 28	23	03	32.3	60.322N.	152.888W.	125	GM	—	—	—	—	SEPT. 28	14:03	YST	
SEPT. 29	07	06	02.2	52.260N.	173.685E.	33	GS	4.8	—	4.5ML(PM)	IV	SEPT. 28	21:06	AST	
SEPT. 29	17	22	41.7	64.260N.	151.169W.	10	GS	—	—	3.4ML(PM)	—	SEPT. 29	08:22	YST	
SEPT. 29	19	04	44.2	62.542N.	151.543W.	96	GM	—	—	—	—	SEPT. 29	10:04	YST	
SEPT. 30	09	46	07.1	58.467N.	155.831W.	136	GM	—	—	—	—	SEPT. 30	00:46	YST	
SEPT. 30	10	01	34.2	52.299N.	169.299W.	33	GS	4.7	4.3	—	—	SEPT. 30	00:01	AST	
SEPT. 30	20	08	57.0	61.863N.	149.842W.	46	GM	—	—	2.8ML(PM)	—	SEPT. 30	11:08	YST	
OCT. 1	01	58	29.0	52.257N.	176.125W.	126	EE	4.6	—	—	—	SEPT. 30	15:58	AST	
OCT. 1	15	54	51.1	52.296N.	168.856W.	33	GS	5.7	5.4	5.3ML(PM)	III	OCT. 1	05:54	AST	
OCT. 1	16	31	59.5	50.577N.	176.506E.	33	GS	4.9	—	—	—	OCT. 1	06:31	AST	
OCT. 1	17	01	42.8	52.516N.	168.881W.	33	GS	4.9	—	—	—	OCT. 1	07:01	AST	
OCT. 2	07	49	52.8	52.349N.	168.783W.	33	GS	4.8	—	5.3ML(PM)	—	OCT. 1	21:49	AST	
OCT. 2	09	46	14.7	58.360N.	154.960W.	33	GS	4.5	—	—	—	OCT. 2	00:46	YST	
OCT. 3	05	03	15.0	58.390N.	133.500W.	18	EP	—	—	3.5ML(EP)	—	OCT. 2	20:03	YST	
OCT. 3	05	04	08.0	58.360N.	133.500W.	18	EP	—	—	3.4ML(EP)	—	OCT. 2	20:04	YST	
OCT. 3	12	12	46.0	58.350N.	133.550W.	18	EP	—	—	3.2ML(EP)	—	OCT. 3	03:12	YST	
OCT. 3	14	40	12.0	58.380N.	133.510W.	18	EP	—	—	3.4ML(EP)	—	OCT. 3	05:40	YST	
OCT. 4	02	08	30.9	52.260N.	168.642W.	33	GS	4.8	—	—	—	OCT. 3	16:08	AST	
OCT. 4	10	23	37.3	61.340N.	146.891W.	33	GS	—	—	2.1ML(PM)	FELT	OCT. 4	01:23	YST	
OCT. 4	16	31	50.4	52.181N.	169.263W.	33	GS	4.5	—	—	—	OCT. 4	06:31	AST	
OCT. 4	16	45	54.6	52.100N.	169.378W.	33	GS	4.9	—	4.8ML(PM)	—	OCT. 4	06:45	AST	
OCT. 5	02	44	26.4	61.236N.	149.233W.	44	GM	—	—	3.8ML(PM)	III	OCT. 4	17:44	YST	
OCT. 5	17	12	33.1	61.700N.	151.340W.	80	GM	—	—	—	—	OCT. 5	08:12	YST	
OCT. 6	18	52	15.5	61.383N.	146.835W.	22	GM	—	—	—	—	OCT. 6	09:52	YST	
OCT. 6	21	28	34.9	60.134N.	153.251W.	141	GM	—	—	—	—	OCT. 6	12:28	YST	
OCT. 7	23	02	45.8	49.686N.	178.631E.	33	GS	—	—	—	—	OCT. 7	13:02	AST	

Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center Source	Magnitude			Max. inten- sity	Local time			
	(UTC)							m <sub>b</sub>	M <sub>g</sub>	Local		Date	hr	zone	
	hr	min	sec												
ALASKA—Continued															
OCT.	8	11	36	08.5	63.652N.	149.297W.	130	GS	—	—	—	—	OCT.	8	02:36 YST
OCT.	8	13	24	14.5	53.321N.	164.347W.	33	GS	4.9	—	4.1mx(LD)	—	OCT.	8	04:24 YST
OCT.	9	04	07	42.6	59.441N.	152.294W.	98	GS	4.8	—	—	IV	OCT.	8	19:07 YST
OCT.	9	09	00	58.8	53.647N.	163.263W.	33	GS	4.9	—	4.5ML(PM)	—	OCT.	9	00:00 YST
OCT.	9	09	33	32.4	54.765N.	159.613W.	30	GS	6.2	6.6	—	V	OCT.	9	00:33 YST
OCT.	9	12	56	27.3	61.383N.	151.897W.	104	GM	—	—	—	—	OCT.	9	03:56 YST
OCT.	9	14	16	18.9	54.892N.	159.498W.	33	GS	5.0	—	4.3ML(PM)	—	OCT.	9	05:16 YST
OCT.	9	14	29	54.3	60.385N.	150.125W.	40	GM	—	—	—	—	OCT.	9	05:29 YST
OCT.	10	06	41	46.9	61.549N.	150.620W.	61	GM	—	—	—	—	OCT.	9	21:41 YST
OCT.	10	10	04	32.7	61.417N.	152.188W.	113	GM	—	—	—	—	OCT.	10	01:04 YST
OCT.	10	18	32	00.6	62.005N.	148.551W.	36	GM	—	—	—	—	OCT.	10	09:32 YST
OCT.	10	22	12	42.8	54.809N.	159.552W.	26	LD	—	—	3.3mx(LD)	—	OCT.	10	13:12 YST
OCT.	10	22	52	59.7	54.878N.	159.725W.	33	GS	4.9	—	5.0ML(PM)	—	OCT.	10	13:52 YST
OCT.	11	06	23	13.1	63.331N.	149.835W.	86	GS	—	—	—	—	OCT.	10	21:23 YST
OCT.	11	18	19	04.5	54.790N.	159.396W.	26	LD	—	—	3.0mx(LD)	—	OCT.	11	09:19 YST
OCT.	12	15	58	29.9	59.983N.	142.190W.	5	GM	—	—	3.1ML(EP)	—	OCT.	12	06:58 YST
OCT.	12	18	45	04.7	61.032N.	151.249W.	77	GM	—	—	—	II	OCT.	12	09:45 YST
OCT.	12	18	59	41.0	53.309N.	162.636W.	12	LD	—	—	3.2mx(LD)	—	OCT.	12	09:59 YST
OCT.	12	19	12	13.8	61.024N.	151.232W.	70	GM	—	—	—	—	OCT.	12	10:12 YST
OCT.	12	21	16	53.5	60.918N.	147.558W.	21	GM	—	—	3.2ML(PM)	—	OCT.	12	12:16 YST
OCT.	12	21	31	29.2	61.127N.	151.148W.	64	GM	—	—	—	—	OCT.	12	12:31 YST
OCT.	13	00	52	39.5	60.001N.	149.718W.	54	GM	—	—	—	—	OCT.	12	15:52 YST
OCT.	14	20	56	27.2	54.671N.	159.481W.	25	LD	—	—	3.5mx(LD)	—	OCT.	14	11:56 YST
OCT.	15	08	41	15.9	59.163N.	137.029W.	0	GM	—	—	—	—	OCT.	14	23:41 YST
OCT.	15	08	41	21.0	58.890N.	138.190W.	18	EP	—	—	3.2ML(EP)	—	OCT.	14	23:41 YST
OCT.	17	07	28	30.4	59.798N.	153.623W.	111	GM	—	—	—	—	OCT.	16	22:28 YST
OCT.	17	14	38	12.8	61.325N.	147.649W.	25	GM	—	—	3.2ML(PM)	—	OCT.	17	05:38 YST
OCT.	17	18	27	20.1	63.204N.	150.467W.	65	GM	—	—	—	—	OCT.	17	09:27 YST
OCT.	17	18	36	53.0	62.495N.	151.206W.	75	GM	—	—	—	—	OCT.	17	09:36 YST
OCT.	17	23	20	54.3	62.257N.	147.640W.	38	GM	—	—	—	—	OCT.	17	14:20 YST
OCT.	18	08	05	45.0	60.087N.	153.508W.	145	GM	—	—	—	—	OCT.	17	23:05 YST
OCT.	18	17	43	48.3	60.241N.	150.410W.	49	GM	—	—	—	—	OCT.	18	08:43 YST
OCT.	18	20	12	39.5	52.750N.	168.156W.	33	GS	4.8	—	—	—	OCT.	18	10:12 AST
OCT.	18	23	22	33.4	54.682N.	159.521W.	27	LD	—	—	3.1mx(LD)	—	OCT.	18	14:22 YST
OCT.	19	03	31	35.9	59.727N.	153.670W.	111	GM	—	—	—	—	OCT.	18	18:31 YST
OCT.	19	10	53	20.7	63.113N.	150.412W.	104	GM	—	—	—	—	OCT.	19	01:53 YST
OCT.	19	12	43	19.2	61.831N.	151.077W.	8	GM	—	—	3.7ML(PM)	II	OCT.	19	03:43 YST
OCT.	19	13	24	35.4	63.298N.	150.450W.	88	GM	—	—	—	—	OCT.	19	04:24 YST
OCT.	19	14	53	26.1	61.578N.	149.779W.	40	GM	—	—	2.9ML(PM)	—	OCT.	19	05:53 YST
OCT.	19	15	52	09.0	53.938N.	165.060W.	39	LD	—	—	3.2mx(LD)	—	OCT.	19	05:52 AST
OCT.	19	22	44	11.8	61.314N.	152.283W.	126	GM	—	—	—	—	OCT.	19	13:44 YST
OCT.	21	15	48	51.1	62.506N.	151.062W.	77	GM	—	—	—	—	OCT.	21	06:48 YST
OCT.	21	20	53	18.2	54.650N.	159.602W.	29	LD	4.4	—	3.6mx(LD)	—	OCT.	21	11:53 YST
OCT.	22	02	37	05.0	59.980N.	140.950W.	18	EP	—	—	3.2ML(EP)	—	OCT.	21	17:37 YST
OCT.	22	07	52	58.3	54.086N.	162.455W.	7	LD	—	—	3.0mx(LD)	—	OCT.	21	22:52 YST
OCT.	23	01	28	15.8	54.702N.	159.709W.	30	LD	4.4	—	4.4ML(PM)	—	OCT.	22	16:28 YST
OCT.	23	02	37	35.3	59.358N.	152.159W.	35	GM	—	—	—	—	OCT.	22	17:37 YST
OCT.	23	05	02	50.2	58.575N.	153.965W.	81	GM	—	—	—	—	OCT.	22	20:02 YST

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
ALASKA—Continued														
OCT. 23	16	41	06.6	62.273N.	150.413W.	10	GM	—	—	3.7ML(PM)	III	OCT. 23	07:41	YST
OCT. 24	01	57	30.8	61.235N.	151.902W.	88	GM	—	—	—	—	OCT. 23	16:57	YST
OCT. 24	02	13	12.5	54.252N.	164.380W.	64	GS	4.8	—	4.3mx(LD)	—	OCT. 23	17:13	YST
OCT. 24	05	05	24.8	62.408N.	151.282W.	84	GM	—	—	—	—	OCT. 23	20:05	YST
OCT. 24	06	44	36.8	51.354N.	179.338E.	33	GS	4.8	—	4.3ML(PM)	—	OCT. 23	20:44	AST
OCT. 24	09	35	42.5	59.286N.	153.847W.	123	GM	—	—	—	—	OCT. 24	00:35	YST
OCT. 24	22	25	40.9	63.262N.	145.092W.	33	GS	—	—	3.5ML(PM)	—	OCT. 24	13:25	YST
OCT. 24	23	29	41.0	51.215N.	175.234W.	33	GS	4.6	—	—	—	OCT. 24	13:29	AST
OCT. 25	02	09	04.3	52.072N.	171.350W.	33	GS	5.6	5.5	5.6ML(PM)	II	OCT. 24	16:09	AST
OCT. 26	03	41	22.0	53.531N.	164.514W.	33	GS	4.8	4.3	4.2mx(LD)	III	OCT. 25	18:41	YST
OCT. 26	04	55	45.9	52.349N.	175.441E.	85	GS	4.5	—	—	—	OCT. 25	18:55	AST
OCT. 26	15	59	36.0	54.838N.	159.534W.	33	GS	5.6	4.6	5.3ML(PM)	V	OCT. 26	06:59	YST
OCT. 26	18	29	58.0	60.176N.	152.778W.	105	GM	—	—	—	—	OCT. 26	09:29	YST
OCT. 27	07	33	48.2	62.677N.	149.147W.	57	GM	—	—	—	—	OCT. 26	22:33	YST
OCT. 27	08	49	58.1	54.811N.	160.210W.	33	LD	—	—	3.1mx(LD)	—	OCT. 26	23:49	YST
OCT. 27	19	03	40.4	58.490N.	154.319W.	83	GS	5.4	—	—	—	OCT. 27	10:03	YST
OCT. 28	04	06	31.8	54.795N.	159.441W.	25	LD	—	—	3.4mx(LD)	—	OCT. 27	19:06	YST
OCT. 28	06	15	45.5	49.318N.	171.664E.	33	GS	4.5	—	—	—	OCT. 27	20:15	AST
OCT. 28	08	28	22.9	61.828N.	151.083W.	81	GM	—	—	—	—	OCT. 27	23:28	YST
OCT. 28	11	14	48.0	60.571N.	152.804W.	114	GM	—	—	—	—	OCT. 28	02:14	YST
OCT. 28	14	04	25.0	60.225N.	141.192W.	0	GM	4.3	—	4.1ML(EP)	—	OCT. 28	05:04	YST
OCT. 28	17	55	48.6	66.129N.	150.191W.	10	GS	—	—	3.5ML(PM)	—	OCT. 28	08:55	YST
OCT. 30	05	23	48.8	54.435N.	162.930W.	86	LD	—	—	3.5mx(LD)	—	OCT. 29	20:23	YST
OCT. 30	19	05	37.5	51.801N.	175.533E.	33	GS	5.6	5.4	5.5ML(PM)	II	OCT. 30	09:05	AST
OCT. 31	06	56	10.0	60.656N.	151.848W.	76	GM	—	—	—	—	OCT. 30	21:56	YST
OCT. 31	16	11	53.9	60.146N.	153.081W.	127	GM	—	—	—	—	OCT. 31	07:11	YST
OCT. 31	18	32	42.2	60.611N.	150.386W.	46	GM	—	—	—	—	OCT. 31	09:32	YST
OCT. 31	19	33	06.5	53.249N.	166.936W.	30	GS	5.8	5.7	6.0mx(LD)	IV	OCT. 31	09:33	AST
OCT. 31	20	17	35.9	57.786N.	156.249W.	33	GS	4.7	—	—	—	OCT. 31	11:17	YST
OCT. 31	22	07	55.0	57.274N.	155.800W.	121	GS	—	—	—	—	OCT. 31	13:07	YST
OCT. 31	22	29	56.7	53.068N.	167.163W.	33	GS	4.6	—	—	—	OCT. 31	13:29	AST
NOV. 1	02	32	03.4	63.132N.	150.580W.	121	GS	4.4	—	—	II	OCT. 31	17:32	YST
NOV. 1	23	08	15.9	64.554N.	148.059W.	33	GS	—	—	3.9ML(PM)	III	NOV. 1	14:08	YST
NOV. 2	02	41	35.3	51.281N.	179.285E.	33	GS	5.1	—	—	—	NOV. 1	16:41	AST
NOV. 2	04	39	44.8	55.659N.	157.271W.	33	GS	4.8	—	4.4mx(LD)	—	NOV. 1	19:39	YST
NOV. 2	09	11	36.1	53.006N.	166.658W.	33	GS	3.8	—	—	—	NOV. 1	23:11	AST
NOV. 2	11	17	08.2	53.626N.	164.454W.	33	GS	4.7	—	3.5mx(LD)	—	NOV. 2	01:17	YST
NOV. 2	22	57	53.7	60.248N.	153.173W.	124	GM	—	—	—	—	NOV. 2	13:57	YST
NOV. 3	11	03	02.1	56.412N.	156.158W.	88	LD	—	—	3.1mx(LD)	—	NOV. 3	02:03	YST
NOV. 3	16	43	44.1	61.923N.	147.217W.	45	GM	—	—	—	—	NOV. 3	07:43	YST
NOV. 4	02	27	39.8	55.716N.	156.736W.	38	LD	—	—	3.7mx(LD)	—	NOV. 3	17:27	YST
NOV. 4	07	59	27.9	62.494N.	151.021W.	78	GM	—	—	—	—	NOV. 3	22:59	YST
NOV. 4	09	59	19.6	59.000N.	151.363W.	57	GM	—	—	—	—	NOV. 4	00:59	YST
NOV. 4	15	03	49.8	61.902N.	151.768W.	110	GM	—	—	—	—	NOV. 4	06:03	YST
NOV. 4	19	42	32.0	58.570N.	139.130W.	18	EP	—	—	3.1ML(EP)	—	NOV. 4	10:42	YST
NOV. 4	23	20	18.8	60.098N.	153.023W.	119	GM	—	—	—	—	NOV. 4	14:20	YST
NOV. 5	01	27	59.7	62.531N.	151.380W.	81	GS	5.1	—	—	IV	NOV. 4	16:27	YST
NOV. 5	19	01	24.3	62.305N.	149.852W.	19	GM	—	—	3.7ML(PM)	III	NOV. 5	10:01	YST



Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time			
	(UTC)							Source	m <sub>b</sub>	M <sub>s</sub>		Local	Date	hr	zone
	hr	min	sec												
ALASKA—Continued															
NOV. 5	22	41	51.9	60.991N.	151.624W.	76	GM	—	—	—	—	NOV. 5	13:41	YST	
NOV. 6	21	56	52.0	61.593N.	147.699W.	33	GM	—	—	—	—	NOV. 6	12:56	YST	
NOV. 7	12	13	52.9	62.786N.	150.975W.	131	GS	—	—	—	—	NOV. 7	03:13	YST	
NOV. 7	13	32	47.5	61.657N.	146.783W.	30	GM	—	—	3.7ML(PM)	II	NOV. 7	04:32	YST	
NOV. 8	11	06	34.8	59.493N.	152.638W.	77	GM	—	—	—	—	NOV. 8	02:06	YST	
NOV. 8	17	40	47.2	61.720N.	150.002W.	50	GM	—	—	—	—	NOV. 8	08:40	YST	
NOV. 9	15	26	20.3	59.973N.	151.652W.	53	GM	—	—	—	II	NOV. 9	06:26	YST	
NOV. 9	19	49	54.2	60.096N.	153.213W.	123	GM	—	—	—	—	NOV. 9	10:49	YST	
NOV. 10	09	14	00.8	58.541N.	156.229W.	178	GM	—	—	—	—	NOV. 10	00:14	YST	
NOV. 10	10	44	10.5	63.018N.	150.925W.	150	GS	—	—	—	—	NOV. 10	01:44	YST	
NOV. 10	12	37	31.3	62.426N.	151.299W.	60	GM	—	—	—	—	NOV. 10	03:37	YST	
NOV. 12	00	59	38.4	61.168N.	151.231W.	69	GM	—	—	—	—	NOV. 11	15:59	YST	
NOV. 12	02	48	32.6	55.420N.	162.110W.	154	LD	—	—	3.4mx(LD)	—	NOV. 11	17:48	YST	
NOV. 12	23	37	50.0	52.673N.	170.558W.	33	GS	4.7	—	—	—	NOV. 12	13:37	AST	
NOV. 13	09	38	41.2	60.595N.	151.584W.	79	GS	4.5	—	—	FELT	NOV. 13	00:38	YST	
NOV. 13	09	40	46.6	60.585N.	151.622W.	80	GS	4.3	—	—	FELT	NOV. 13	00:40	YST	
NOV. 13	09	42	32.8	60.558N.	151.638W.	66	GM	—	—	—	—	NOV. 13	00:42	YST	
NOV. 13	12	59	38.7	52.013N.	178.160E.	137	GS	4.9	—	—	—	NOV. 13	02:59	AST	
NOV. 13	13	02	01.2	54.388N.	164.211W.	122	LD	—	—	3.2mx(LD)	—	NOV. 13	04:02	YST	
NOV. 13	19	56	26.6	57.963N.	153.451W.	63	GM	—	—	—	—	NOV. 13	10:56	YST	
NOV. 14	00	39	36.3	60.235N.	153.164W.	145	GM	—	—	—	—	NOV. 13	15:39	YST	
NOV. 14	10	46	45.2	60.303N.	141.467W.	12	GM	—	—	3.5ML(EP)	—	NOV. 14	01:46	YST	
NOV. 14	15	29	23.5	60.188N.	153.356W.	139	GM	—	—	—	—	NOV. 14	06:29	YST	
NOV. 14	20	48	52.3	61.668N.	150.035W.	7	GM	—	—	3.6ML(PM)	FELT	NOV. 14	11:48	YST	
NOV. 14	22	17	44.5	54.756N.	159.787W.	33	GS	5.5	5.7	5.7ML(PM)	V	NOV. 14	13:17	YST	
NOV. 14	22	27	46.0	54.634N.	159.652W.	19	LD	—	—	3.4mx(LD)	—	NOV. 14	13:27	YST	
NOV. 14	23	39	26.9	54.793N.	159.717W.	33	GS	4.6	—	4.5ML(PM)	—	NOV. 14	14:39	YST	
NOV. 15	05	17	32.9	60.026N.	153.133W.	121	GM	—	—	—	—	NOV. 14	20:17	YST	
NOV. 15	15	58	23.3	54.719N.	159.493W.	33	GS	4.6	—	4.3ML(PM)	FELT	NOV. 15	06:58	YST	
NOV. 15	22	19	46.6	54.983N.	157.042W.	29	LD	—	—	3.4mx(LD)	—	NOV. 15	13:19	YST	
NOV. 15	23	22	02.7	54.694N.	159.690W.	24	LD	—	—	3.3mx(LD)	—	NOV. 15	14:22	YST	
NOV. 16	00	23	50.9	51.582N.	177.262E.	33	GS	5.4	4.9	—	—	NOV. 15	14:23	AST	
NOV. 16	00	46	53.1	54.671N.	159.550W.	27	LD	—	—	3.5mx(LD)	—	NOV. 15	15:46	YST	
NOV. 16	07	11	14.2	58.943N.	136.846W.	15	GS	4.2	—	4.2ML(PM)	II	NOV. 15	22:11	YST	
NOV. 16	11	33	48.7	54.617N.	159.554W.	33	GS	4.5	—	4.2ML(PM)	FELT	NOV. 16	02:33	YST	
NOV. 16	18	58	08.6	62.260N.	150.980W.	78	GM	—	—	—	—	NOV. 16	09:58	YST	
NOV. 16	21	21	29.3	59.324N.	153.146W.	98	GM	—	—	—	—	NOV. 16	12:21	YST	
NOV. 17	01	09	28.9	61.636N.	146.499W.	40	GM	—	—	—	—	NOV. 16	16:09	YST	
NOV. 17	04	11	49.6	58.977N.	152.769W.	38	GM	—	—	—	—	NOV. 16	19:11	YST	
NOV. 17	08	40	26.1	62.428N.	149.262W.	64	GM	—	—	—	—	NOV. 16	23:40	YST	
NOV. 17	22	40	55.0	62.770N.	150.418W.	85	GM	—	—	—	—	NOV. 17	13:40	YST	
NOV. 18	06	00	49.2	57.912N.	153.598W.	70	GM	—	—	—	—	NOV. 17	21:00	YST	
NOV. 18	19	44	03.0	59.916N.	153.146W.	117	GM	—	—	—	—	NOV. 18	10:44	YST	
NOV. 19	19	58	54.9	62.218N.	150.208W.	11	GM	—	—	3.4ML(PM)	—	NOV. 19	10:58	YST	
NOV. 20	11	38	14.2	61.472N.	149.734W.	40	GM	—	—	3.5ML(PM)	FELT	NOV. 20	02:38	YST	
NOV. 20	22	03	09.4	51.227N.	174.507W.	20	EE	5.1	—	—	—	NOV. 20	12:03	AST	
NOV. 21	04	35	48.3	59.947N.	152.870W.	94	GM	—	—	—	—	NOV. 20	19:35	YST	
NOV. 21	04	46	51.4	61.280N.	151.711W.	100	GM	—	—	—	—	NOV. 20	19:46	YST	

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time (UTC)			Latitude (°)	Longitude (°)	Depth (km)	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	hr	min	sec					m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
ALASKA—Continued														
NOV. 21	17	28	40.8	61.508N.	146.506W.	31	GM	—	—	—	—	NOV. 21	08:28	YST
NOV. 21	18	39	36.1	60.026N.	153.196W.	126	GM	—	—	—	—	NOV. 21	09:39	YST
NOV. 21	19	03	26.7	61.412N.	146.652W.	20	GM	—	—	3.6ML(PM)	FELT	NOV. 21	10:03	YST
NOV. 23	07	08	29.4	61.501N.	150.151W.	48	GM	—	—	—	—	NOV. 22	22:08	YST
NOV. 23	09	41	16.0	61.773N.	151.186W.	84	GM	—	—	—	—	NOV. 23	00:41	YST
NOV. 23	11	23	27.5	61.196N.	151.684W.	78	GM	—	—	—	—	NOV. 23	02:23	YST
NOV. 24	14	28	22.3	61.210N.	152.031W.	101	GM	—	—	—	—	NOV. 24	05:28	YST
NOV. 24	15	00	41.1	59.999N.	152.718W.	83	GM	—	—	—	—	NOV. 24	06:00	YST
NOV. 25	12	39	51.7	62.328N.	150.880W.	68	GM	—	—	—	—	NOV. 25	03:39	YST
NOV. 25	18	39	17.6	60.075N.	153.349W.	121	GM	—	—	—	—	NOV. 25	09:39	YST
NOV. 26	10	36	27.0	58.201N.	154.690W.	182	GM	—	—	—	—	NOV. 26	01:36	YST
NOV. 27	04	13	25.2	60.148N.	152.576W.	98	GM	—	—	—	—	NOV. 26	19:13	YST
NOV. 27	16	37	44.3	56.336N.	153.359W.	33	GS	4.6	—	—	—	NOV. 27	07:37	YST
NOV. 28	05	15	53.9	60.398N.	152.980W.	140	GM	—	—	—	—	NOV. 27	20:15	YST
NOV. 28	11	47	21.1	61.714N.	151.842W.	110	GM	—	—	—	—	NOV. 28	02:47	YST
NOV. 28	17	42	26.5	54.631N.	159.608W.	24	LD	—	—	3.2mx(LD)	—	NOV. 28	08:42	YST
NOV. 28	19	47	21.9	59.004N.	152.818W.	98	GM	—	—	—	—	NOV. 28	10:47	YST
NOV. 28	23	09	25.9	61.467N.	149.963W.	47	GM	—	—	2.9ML(PM)	FELT	NOV. 28	14:09	YST
NOV. 30	04	51	43.1	62.353N.	148.656W.	52	GM	—	—	—	—	NOV. 29	19:51	YST
DEC. 1	01	37	01.6	51.326N.	174.461W.	20	EE	4.8	—	—	—	NOV. 30	15:37	AST
DEC. 1	03	05	48.3	66.149N.	150.004W.	10	GS	—	—	3.6ML(PM)	—	NOV. 30	18:05	YST
DEC. 1	05	32	18.6	58.878N.	150.660W.	90	GM	—	—	—	—	NOV. 30	20:32	YST
DEC. 1	08	45	11.9	49.924N.	179.989E.	33	GS	4.5	—	—	—	NOV. 30	22:45	AST
DEC. 2	08	23	34.8	62.254N.	149.258W.	44	GM	—	—	—	—	DEC. 1	23:23	YST
DEC. 2	11	46	21.3	60.124N.	153.168W.	127	GM	—	—	—	—	DEC. 2	02:46	YST
DEC. 2	15	37	36.1	66.302N.	149.939W.	10	GS	—	—	3.3ML(PM)	—	DEC. 2	06:37	YST
DEC. 4	04	28	25.6	59.337N.	152.413W.	79	GM	—	—	—	—	DEC. 3	19:28	YST
DEC. 4	05	14	42.1	58.868N.	137.968W.	1	GM	—	—	3.2ML(PM)	—	DEC. 3	20:14	YST
DEC. 4	07	00	42.8	60.171N.	153.002W.	110	GM	—	—	—	—	DEC. 3	22:00	YST
DEC. 4	10	46	19.6	56.103N.	161.524W.	221	LD	—	—	3.1mx(LD)	—	DEC. 4	01:46	YST
DEC. 5	03	42	33.5	61.635N.	150.748W.	66	GM	—	—	—	—	DEC. 4	18:42	YST
DEC. 5	08	37	08.6	60.164N.	153.208W.	143	GM	—	—	—	—	DEC. 4	23:37	YST
DEC. 5	14	02	15.0	59.213N.	145.573W.	23	GM	—	—	2.8ML(PM)	—	DEC. 5	05:02	YST
DEC. 5	15	18	31.4	59.349N.	145.529W.	25	GM	—	—	3.4ML(PM)	—	DEC. 5	06:18	YST
DEC. 6	14	25	59.3	62.132N.	149.523W.	57	GM	—	—	—	—	DEC. 6	05:25	YST
DEC. 7	00	23	02.2	60.565N.	152.836W.	141	GM	—	—	—	—	DEC. 6	15:23	YST
DEC. 7	06	21	34.3	50.089N.	177.360W.	33	GS	4.3	—	—	—	DEC. 6	20:21	AST
DEC. 7	10	56	22.9	51.291N.	176.793W.	29	EE	4.7	—	3.9ML(PM)	FELT	DEC. 7	00:56	AST
DEC. 7	20	12	51.7	53.641N.	163.902W.	1	LD	4.8	—	3.7nix(LD)	—	DEC. 7	11:12	YST
DEC. 8	04	51	49.9	62.431N.	151.568W.	86	GM	—	—	—	—	DEC. 7	19:51	YST
DEC. 8	07	32	23.3	59.882N.	150.244W.	39	GM	4.8	—	4.2ML(PM)	FELT	DEC. 7	22:32	YST
DEC. 8	09	47	49.8	62.294N.	151.141W.	73	GM	—	—	—	—	DEC. 8	00:47	YST
DEC. 8	15	39	10.7	53.794N.	163.973W.	33	GS	4.8	—	4.0mx(LD)	—	DEC. 8	06:39	YST
DEC. 8	16	24	14.4	60.671N.	143.212W.	13	GM	—	—	3.6ML(PM)	—	DEC. 8	07:24	YST
DEC. 8	16	25	43.7	53.274N.	163.519W.	3	LD	—	—	3.3mx(LD)	—	DEC. 8	07:25	YST
DEC. 8	20	05	36.4	63.400N.	150.509W.	33	GS	—	—	3.2ML(PM)	—	DEC. 8	11:05	YST
DEC. 9	12	58	50.5	53.590N.	164.088W.	15	LD	—	—	3.3mx(LD)	—	DEC. 9	03:58	YST
DEC. 11	06	33	29.0	52.367N.	165.359W.	33	GS	4.4	—	—	—	DEC. 10	20:33	AST

Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>g</sub>	Local		Date	hr	zone
	hr	min	sec											
ALASKA—Continued														
DEC. 11	09	40	43.3	52.230N.	175.185W.	33	GS	4.5	—	3.9ML(PM)	—	DEC. 10	23:40	AST
DEC. 11	11	03	42.3	51.240N.	175.164W.	20	EE	4.4	—	4.1ML(PM)	II	DEC. 11	01:03	AST
DEC. 11	11	29	31.7	52.186N.	175.135W.	33	GS	4.3	—	3.8ML(PM)	—	DEC. 11	01:29	AST
DEC. 11	12	11	19.4	51.324N.	175.075W.	33	GS	4.5	—	3.7ML(PM)	—	DEC. 11	02:11	AST
DEC. 12	02	21	28.5	66.310N.	149.799W.	10	GS	—	—	3.5ML(PM)	—	DEC. 11	17:21	YST
DEC. 12	08	54	55.7	60.034N.	153.001W.	106	GM	—	—	—	—	DEC. 11	23:54	YST
DEC. 12	15	27	56.4	59.878N.	153.412W.	131	GM	—	—	—	—	DEC. 12	06:27	YST
DEC. 14	12	51	19.8	52.542N.	171.088W.	33	GS	4.7	—	—	—	DEC. 14	02:51	AST
DEC. 14	13	50	09.7	58.577N.	155.771W.	147	GS	—	—	—	FELT	DEC. 14	04:50	YST
DEC. 14	22	03	47.6	53.614N.	163.902W.	4	LD	—	—	3.0mx(LD)	—	DEC. 14	13:03	YST
DEC. 15	05	30	09.3	65.095N.	148.654W.	10	GS	—	—	3.4ML(PM)	—	DEC. 14	20:30	YST
DEC. 16	03	32	52.0	53.595N.	163.209W.	2	LD	—	—	3.0mx(LD)	—	DEC. 15	18:32	YST
DEC. 17	04	10	59.9	61.604N.	148.178W.	25	GM	—	—	3.5ML(PM)	II	DEC. 16	19:10	YST
DEC. 17	16	31	42.3	60.222N.	143.404W.	22	GM	—	—	3.1ML(EP)	—	DEC. 17	07:31	YST
DEC. 19	03	26	41.7	62.173N.	147.167W.	33	GM	—	—	—	—	DEC. 18	18:26	YST
DEC. 20	03	39	11.2	59.997N.	153.024W.	100	GM	—	—	—	—	DEC. 19	18:39	YST
DEC. 20	14	46	49.9	61.912N.	150.410W.	65	GM	—	—	3.1ML(PM)	—	DEC. 20	05:46	YST
DEC. 20	14	52	56.0	60.192N.	152.482W.	91	GM	—	—	—	—	DEC. 20	05:52	YST
DEC. 20	23	45	05.7	60.929N.	147.512W.	21	GM	—	—	—	—	DEC. 20	14:45	YST
DEC. 22	08	02	59.6	64.538N.	149.430W.	33	GS	—	—	3.3ML(PM)	IV	DEC. 21	23:02	YST
DEC. 22	09	43	00.9	59.090N.	153.231W.	66	GM	—	—	—	—	DEC. 22	00:43	YST
DEC. 22	22	12	38.6	53.291N.	174.946W.	90	EE	4.5	—	—	—	DEC. 22	12:12	AST
DEC. 23	00	45	38.7	64.821N.	152.265W.	33	GS	—	—	3.7ML(PM)	—	DEC. 22	15:45	YST
DEC. 24	14	44	27.8	63.878N.	151.934W.	33	GS	—	—	3.3ML(PM)	III	DEC. 24	05:44	YST
DEC. 25	18	37	56.9	59.784N.	152.319W.	94	GM	4.5	—	—	II	DEC. 25	09:37	YST
DEC. 25	20	15	04.6	53.921N.	163.557W.	6	LD	—	—	3.0mx(LD)	—	DEC. 25	11:15	YST
DEC. 26	03	29	16.6	60.708N.	151.937W.	86	GM	—	—	—	—	DEC. 25	18:29	YST
DEC. 26	10	28	33.2	54.745N.	159.415W.	29	LD	—	—	3.1mx(LD)	—	DEC. 26	01:28	YST
DEC. 26	15	07	11.6	60.258N.	153.370W.	170	GM	—	—	—	—	DEC. 26	06:07	YST
DEC. 26	17	47	03.6	58.453N.	151.827W.	127	GM	—	—	—	—	DEC. 26	08:47	YST
DEC. 27	17	52	28.5	60.021N.	153.764W.	164	GM	—	—	—	—	DEC. 27	08:52	YST
DEC. 28	04	38	34.5	51.474N.	177.078W.	48	EE	5.3	—	—	III	DEC. 27	18:38	AST
DEC. 28	07	44	38.2	56.580N.	156.509W.	59	GS	5.3	—	5.7mx(LD)	—	DEC. 27	22:44	YST
DEC. 29	09	17	16.3	59.787N.	153.034W.	88	GM	—	—	—	—	DEC. 29	00:17	YST
DEC. 29	16	40	17.2	62.328N.	150.416W.	63	GM	—	—	—	—	DEC. 29	07:40	YST
DEC. 29	18	39	35.0	58.400N.	133.450W.	18	EP	—	—	3.3ML(EP)	—	DEC. 29	09:39	YST
DEC. 29	21	10	38.8	53.933N.	165.367W.	114	LD	—	—	3.8mx(LD)	—	DEC. 29	11:10	AST
DEC. 29	21	10	40.1	54.280N.	165.378W.	132	GS	4.8	—	—	—	DEC. 29	11:10	AST
DEC. 30	05	14	08.6	62.107N.	154.316W.	12	GM	—	—	3.5ML(PM)	—	DEC. 29	20:14	YST
DEC. 30	06	06	14.7	59.791N.	153.751W.	140	GM	—	—	—	—	DEC. 29	21:06	YST
DEC. 30	09	46	36.6	62.835N.	149.775W.	108	GS	—	—	—	—	DEC. 30	00:46	YST
DEC. 30	12	41	02.7	61.541N.	150.340W.	62	GS	5.5	—	5.2ML(PM)	V	DEC. 30	03:41	YST
DEC. 30	14	00	31.2	61.455N.	150.297W.	54	GM	—	—	3.0ML(PM)	FELT	DEC. 30	05:00	YST
DEC. 30	14	07	16.3	62.304N.	150.772W.	63	GM	—	—	2.9ML(PM)	—	DEC. 30	05:07	YST
DEC. 30	14	23	16.9	62.616N.	148.688W.	46	GM	—	—	3.7ML(PM)	III	DEC. 30	05:23	YST
DEC. 30	14	35	37.9	61.455N.	150.306W.	55	GM	—	—	3.4ML(PM)	—	DEC. 30	05:35	YST
DEC. 30	20	13	20.3	63.592N.	151.298W.	33	GS	5.1	—	4.5ML(PM)	III	DEC. 30	11:13	YST
DEC. 31	02	05	02.2	59.780N.	152.313W.	38	GS	4.6	—	4.4ML(PM)	IV	DEC. 30	17:05	YST

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time (UTC)			Latitude (°)	Longitude (°)	Depth (km)	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	hr	min	sec					m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
ARIZONA														
JAN. 30	13	47	16.4	34.750N.	112.137W.	5	GS	—	—	3.0ML(GS)	IV	JAN. 30	06:47	MST
MAR. 30	18	34	59.4	32.487N.	114.012W.	6	PS	—	—	3.3ML(PS)	—	MAR. 30	10:34	PST
APR. 14	21	48	00.2	35.174N.	109.071W.	5	GS	—	—	3.3ML(GS)	III	APR. 14	14:48	MST
JULY 23	20	16	44.9	36.010N.	114.638W.	6	PS	—	—	3.6ML(PS)	—	JULY 23	12:16	PST
AUG. 12	21	50	46.6	35.976N.	114.644W.	5	GS	—	—	3.3ML(PS)	—	AUG. 12	13:50	PST
NOV. 16	12	06	48.3	36.088N.	114.653W.	5	GS	—	—	3.1ML(PS)	—	NOV. 16	04:06	PST
ARKANSAS														
JAN. 30	09	35	12.4	35.930N.	89.910W.	9	SL	—	—	3.0Mn(SL)	—	JAN. 30	03:35	CST
FEB. 12	03	30	52.1	35.860N.	89.940W.	7	SL	—	—	2.9Mn(SL)	—	FEB. 11	21:30	CST
FEB. 17	04	34	45.5	35.830N.	90.110W.	8	SL	—	—	2.6Mn(SL)	—	FEB. 16	22:34	CST
MAY 4	07	07	12.5	36.270N.	90.770W.	9	SL	—	—	3.1Mn(SL)	III	MAY 4	01:07	CST
AUG. 2	04	23	10.8	35.223N.	92.213W.	7	TC	—	—	2.7MD(TC)	—	AUG. 1	22:23	CST
SEPT. 6	22	17	02.8	35.809N.	93.118W.	10	GS	—	—	3.6Mn(GS)	V	SEPT. 6	16:17	CST
OCT. 7	10	44	35.9	35.917N.	91.730W.	8	TC	—	—	2.5MD(TC)	—	OCT. 7	04:44	CST
NOV. 8	19	56	48.5	35.223N.	92.188W.	4	TC	—	—	3.3Mn(TU)	FELT	NOV. 8	13:56	CST
NOV. 17	22	23	30.4	35.840N.	90.070W.	14	SL	—	—	2.5Mn(SL)	—	NOV. 17	16:23	CST
NOV. 20	11	28	53.2	35.149N.	92.265W.	1	TC	—	—	2.3MD(TC)	FELT	NOV. 20	05:28	CST
NOV. 26	02	30	24.3	35.223N.	92.346W.	4	TC	—	—	2.5MD(TC)	—	NOV. 25	20:30	CST
DEC. 5	22	59	41.2	35.880N.	89.990W.	5	GS	3.5	—	3.9Mn(GS)	V	DEC. 5	16:59	CST
DEC. 13	10	57	39.5	35.172N.	92.219W.	3	TC	—	—	2.3MD(TC)	FELT	DEC. 13	04:57	CST
DEC. 16	22	20	04.3	35.740N.	90.260W.	7	SL	—	—	2.7Mn(SL)	—	DEC. 16	16:20	CST
CALIFORNIA														
JAN. 2	05	24	58.2	34.046N.	116.528W.	9	PS	—	—	3.8ML(PS)	IV	JAN. 1	21:24	PST
JAN. 3	09	21	49.5	37.448N.	118.645W.	4	BK	—	—	4.1ML(BK)	FELT	JAN. 3	01:21	PST
JAN. 3	10	45	22.8	36.177N.	120.302W.	9	BK	—	—	3.3ML(BK)	—	JAN. 3	02:45	PST
JAN. 3	11	03	18.9	36.171N.	120.328W.	3	PS	—	—	3.8ML(PS)	—	JAN. 3	03:03	PST
JAN. 3	11	22	27.9	36.178N.	120.303W.	10	BK	4.3	—	3.8ML(BK)	III	JAN. 3	03:22	PST
JAN. 4	07	12	36.6	35.880N.	120.473W.	5	BK	—	—	3.0ML(BK)	—	JAN. 3	23:12	PST
JAN. 6	09	25	40.2	40.420N.	125.295W.	5	BK	4.1	—	4.0ML(BK)	—	JAN. 6	01:25	PST
JAN. 6	18	33	26.0	36.590N.	121.235W.	8	BK	—	—	3.5ML(BK)	III	JAN. 6	10:33	PST
JAN. 7	04	22	49.8	41.117N.	123.690W.	5	BK	—	—	3.2ML(BK)	—	JAN. 6	21:22	PST
JAN. 7	06	17	41.9	40.395N.	126.532W.	5	BK	4.6	4.5	4.9ML(BK)	—	JAN. 6	22:17	PST
JAN. 8	04	22	05.5	40.327N.	122.087W.	3	BK	—	—	3.0ML(BK)	—	JAN. 7	20:22	PST
JAN. 8	06	59	38.7	36.902N.	118.068W.	1	BK	—	—	3.6ML(BK)	—	JAN. 7	22:59	PST
JAN. 9	21	25	46.4	36.113N.	120.230N.	0	PS	—	—	3.1ML(PS)	—	JAN. 9	13:25	PST
JAN. 10	05	47	54.9	37.265N.	121.648W.	5	BK	—	—	3.2ML(BK)	IV	JAN. 9	21:47	PST
JAN. 12	18	19	35.5	37.478N.	118.664W.	6	PS	—	—	3.0ML(PS)	—	JAN. 12	10:19	PST
JAN. 13	22	21	12.0	36.452N.	115.659W.	6	PS	—	—	3.0MD(PS)	—	JAN. 13	14:21	PST
JAN. 16	07	36	12.7	40.733N.	125.253W.	6	BK	—	—	3.8ML(BK)	—	JAN. 15	23:36	PST
JAN. 18	17	24	43.0	33.865N.	115.978W.	11	PS	—	—	3.1ML(PS)	—	JAN. 18	09:24	PST
JAN. 19	00	30	15.1	33.991N.	116.397W.	3	PS	—	—	3.8ML(PS)	IV	JAN. 18	16:30	PST
JAN. 19	00	31	16.2	33.995N.	116.388W.	3	PS	—	—	3.0ML(PS)	—	JAN. 18	16:31	PST
JAN. 19	03	24	12.6	33.994N.	116.394W.	3	PS	—	—	3.5ML(PS)	—	JAN. 18	19:24	PST

Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
CALIFORNIA—Continued														
JAN.	19	16 08 50.6	33.902N.	118.472W.	9	PS	—	—	2.8ML(PS)	FELT	JAN.	19	08:08	PST
JAN.	21	04 18 16.0	35.917N.	115.752W.	6	PS	—	—	3.0MD(PS)	—	JAN.	20	20:18	PST
JAN.	21	13 32 13.0	33.990N.	116.398W.	3	PS	—	—	3.1ML(PS)	—	JAN.	21	05:32	PST
JAN.	21	13 58 21.3	33.992N.	116.390W.	3	PS	—	—	3.0MD(PS)	—	JAN.	21	05:58	PST
JAN.	21	14 05 37.1	33.992N.	116.391W.	2	PS	—	—	3.1ML(PS)	—	JAN.	21	06:05	PST
JAN.	22	02 32 48.6	35.851N.	116.138W.	6	PS	—	—	3.0ML(PS)	—	JAN.	21	18:32	PST
JAN.	22	11 38 52.8	33.982N.	116.783W.	17	PS	—	—	3.2ML(PS)	—	JAN.	22	03:38	PST
JAN.	22	18 16 30.5	37.672N.	122.482W.	9	BK	—	—	2.6ML(BK)	FELT	JAN.	22	10:16	PST
JAN.	23	01 10 00.9	38.803N.	122.790W.	4	BK	—	—	3.1ML(BK)	FELT	JAN.	22	17:10	PST
JAN.	23	23 59 09.1	37.423N.	118.577W.	5	GS	—	—	3.3ML(PS)	—	JAN.	23	15:59	PST
JAN.	24	11 27 21.6	38.157N.	118.835W.	8	BK	4.3	—	5.2ML(BK)	IV	JAN.	24	03:27	PST
JAN.	24	23 25 32.3	33.996N.	116.399W.	2	PS	—	—	3.5ML(PS)	IV	JAN.	24	15:25	PST
JAN.	25	05 28 29.9	33.990N.	116.399W.	3	PS	—	—	3.6ML(PS)	IV	JAN.	24	21:28	PST
JAN.	25	13 50 12.8	33.928N.	117.088W.	14	PS	—	—	3.4ML(PS)	IV	JAN.	25	05:50	PST
JAN.	26	06 41 14.3	34.198N.	119.027W.	22	PS	—	—	3.3ML(PS)	FELT	JAN.	25	22:41	PST
JAN.	26	22 54 57.4	38.763N.	122.945W.	4	BK	—	—	3.2ML(BK)	—	JAN.	26	14:54	PST
JAN.	29	06 38 39.4	40.243N.	124.755W.	10	GS	—	—	3.1ML(BK)	—	JAN.	28	22:38	PST
JAN.	31	09 28 50.0	36.878N.	121.328W.	5	BK	—	—	2.9ML(BK)	—	JAN.	31	01:28	PST
JAN.	31	20 37 44.1	40.402N.	124.748W.	5	BK	—	—	3.5ML(BK)	—	JAN.	31	12:37	PST
FEB.	2	03 45 14.3	37.451N.	118.697W.	6	PS	—	—	3.0ML(PS)	—	FEB.	1	19:45	PST
FEB.	3	08 49 19.7	40.238N.	124.502W.	5	BK	—	—	3.4ML(BK)	—	FEB.	3	00:49	PST
FEB.	4	11 04 10.6	36.278N.	120.387W.	14	PS	—	—	3.0ML(PS)	—	FEB.	4	03:04	PST
FEB.	4	23 47 35.1	37.467N.	118.692W.	6	PS	—	—	3.1MD(PS)	—	FEB.	4	15:47	PST
FEB.	8	06 58 16.9	35.452N.	118.898W.	11	PS	4.6	—	4.6ML(PS)	V	FEB.	7	22:58	PST
FEB.	8	08 51 41.6	36.149N.	120.280W.	6	PS	—	—	3.3ML(PS)	—	FEB.	8	00:51	PST
FEB.	10	09 20 00.1	35.726N.	118.037W.	9	PS	—	—	3.5ML(PS)	—	FEB.	10	01:20	PST
FEB.	10	13 59 06.1	33.876N.	116.276W.	1	PS	—	—	3.6ML(PS)	FELT	FEB.	10	05:59	PST
FEB.	11	07 26 47.2	36.883N.	121.410W.	8	BK	—	—	2.8ML(BK)	FELT	FEB.	10	23:26	PST
FEB.	11	13 58 05.9	32.950N.	116.428W.	6	PS	—	—	3.2ML(PS)	—	FEB.	11	05:58	PST
FEB.	14	23 22 22.3	33.697N.	118.150W.	3	PS	—	—	3.3ML(PS)	II	FEB.	14	15:22	PST
FEB.	15	16 26 43.3	34.148N.	117.478W.	3	PS	—	—	3.0ML(PS)	FELT	FEB.	15	08:26	PST
FEB.	15	18 20 08.1	38.788N.	122.787W.	3	BK	—	—	3.4ML(BK)	—	FEB.	15	10:20	PST
FEB.	15	23 26 26.6	33.984N.	116.402W.	2	PS	—	—	4.0ML(PS)	V	FEB.	15	15:26	PST
FEB.	16	00 42 39.8	33.993N.	116.397W.	1	PS	—	—	3.4ML(PS)	—	FEB.	15	16:42	PST
FEB.	17	10 33 23.9	40.722N.	121.543W.	10	BK	—	—	3.3ML(BK)	—	FEB.	17	02:33	PST
FEB.	18	12 19 15.5	37.757N.	122.155W.	2	BK	—	—	2.0ML(BK)	FELT	FEB.	18	04:19	PST
FEB.	18	13 53 43.3	33.020N.	116.351W.	6	PS	—	—	3.2ML(PS)	—	FEB.	18	05:53	PST
FEB.	19	05 09 35.3	34.159N.	116.982W.	10	PS	—	—	3.3ML(PS)	FELT	FEB.	18	21:09	PST
FEB.	19	13 38 26.8	36.083N.	120.001W.	7	BK	—	—	3.5ML(BK)	—	FEB.	19	05:38	PST
FEB.	19	16 37 14.7	34.034N.	116.770W.	12	PS	—	—	3.1ML(PS)	—	FEB.	19	08:37	PST
FEB.	21	07 54 42.6	33.479N.	116.417W.	8	PS	—	—	3.1ML(PS)	—	FEB.	20	23:54	PST
FEB.	23	01 42 38.5	40.280N.	124.435W.	11	BK	—	—	3.5ML(BK)	—	FEB.	22	17:42	PST
FEB.	23	12 14 39.4	37.342N.	121.728W.	6	BK	—	—	3.0ML(BK)	—	FEB.	23	04:14	PST
FEB.	24	13 31 32.1	36.397N.	121.842W.	1	BK	—	—	3.5ML(BK)	FELT	FEB.	24	05:31	PST
FEB.	26	23 35 50.2	35.805N.	119.530W.	8	BK	—	—	3.5ML(BK)	—	FEB.	26	15:35	PST
FEB.	28	04 42 08.5	33.960N.	116.293W.	10	PS	—	—	3.7ML(PS)	IV	FEB.	27	20:42	PST
MAR.	3	01 26 09.5	32.672N.	117.958W.	6	PS	—	—	3.5ML(PS)	—	MAR.	2	17:26	PST
MAR.	4	05 12 03.8	33.769N.	116.943W.	12	PS	—	—	2.8ML(PS)	FELT	MAR.	3	21:12	PST

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time (UTC)			Latitude (°)	Longitude (°)	Depth (km)	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	hr	min	sec					m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
CALIFORNIA—Continued														
MAR.	4	11 51 10.8	33.987N.	118.581W.	6	PS	—	—	3.2ML(PS)	FELT	MAR.	4	03:51 PST	
MAR.	5	05 15 31.0	34.078N.	118.966W.	15	PS	—	—	2.9ML(PS)	FELT	MAR.	4	21:15 PST	
MAR.	5	14 18 14.9	36.258N.	120.347W.	5	PS	—	—	3.4ML(PS)	—	MAR.	5	06:18 PST	
MAR.	6	01 52 25.0	38.945N.	122.683W.	2	BK	—	—	3.5ML(BK)	V	MAR.	5	17:52 PST	
MAR.	9	19 53 08.4	36.195N.	120.638W.	6	PS	—	—	3.1ML(PS)	—	MAR.	9	11:53 PST	
MAR.	12	04 04 00.3	37.295N.	121.687W.	6	BK	—	—	3.3ML(BK)	—	MAR.	11	20:04 PST	
MAR.	13	17 19 26.3	33.204N.	116.059W.	2	PS	—	—	3.1ML(PS)	—	MAR.	13	09:19 PST	
MAR.	16	16 20 20.2	39.330N.	122.783W.	7	BK	—	—	3.0ML(BK)	—	MAR.	16	08:20 PST	
MAR.	18	07 43 08.6	33.980N.	118.580W.	6	PS	—	—	2.7ML(PS)	FELT	MAR.	17	23:43 PST	
MAR.	18	18 32 31.2	37.574N.	118.821W.	6	PS	—	—	4.1ML(PS)	—	MAR.	18	10:32 PST	
MAR.	20	03 52 29.8	33.049N.	116.399W.	6	PS	—	—	3.3ML(PS)	FELT	MAR.	19	19:52 PST	
MAR.	21	04 19 26.5	40.340N.	124.780W.	13	BK	—	—	3.0ML(BK)	—	MAR.	20	20:19 PST	
MAR.	22	07 43 00.0	37.263N.	121.655W.	7	BK	—	—	3.0ML(BK)	FELT	MAR.	21	23:43 PST	
MAR.	22	13 13 37.7	38.810N.	122.812W.	2	BK	—	—	3.0ML(BK)	—	MAR.	22	05:13 PST	
MAR.	23	14 55 22.2	39.008N.	123.058W.	5	BK	—	—	2.6ML(BK)	IV	MAR.	23	06:55 PST	
MAR.	24	23 01 27.0	36.775N.	121.012W.	4	BK	—	—	3.0ML(BK)	—	MAR.	24	15:01 PST	
MAR.	25	16 05 13.6	37.448N.	118.545W.	6	PS	4.8	—	5.0ML(PS)	V	MAR.	25	08:05 PST	
MAR.	25	16 20 30.4	37.452N.	118.635W.	6	PS	—	—	3.8ML(PS)	—	MAR.	25	08:20 PST	
MAR.	25	16 27 01.3	37.448N.	118.642W.	6	PS	—	—	3.9ML(PS)	—	MAR.	25	08:27 PST	
MAR.	25	19 08 24.4	37.459N.	118.642W.	6	PS	—	—	3.3ML(PS)	—	MAR.	25	11:08 PST	
MAR.	27	08 33 44.1	36.295N.	120.402W.	6	PS	—	—	3.5ML(PS)	III	MAR.	27	00:33 PST	
MAR.	28	22 29 40.0	36.178N.	120.190W.	6	PS	—	—	3.4ML(PS)	—	MAR.	28	14:29 PST	
MAR.	29	13 44 23.6	40.662N.	124.965W.	5	BK	—	—	3.0ML(BK)	—	MAR.	29	05:44 PST	
MAR.	30	15 58 47.0	37.513N.	118.772W.	3	BK	—	—	3.3ML(BK)	—	MAR.	30	07:58 PST	
MAR.	30	22 52 00.4	38.820N.	122.815W.	5	BK	—	—	3.3ML(BK)	IV	MAR.	30	14:52 PST	
MAR.	31	02 56 50.5	37.288N.	121.682W.	7	BK	—	—	3.2ML(BK)	—	MAR.	30	18:56 PST	
APR.	1	06 13 33.4	35.997N.	117.395W.	0	PS	—	—	3.2ML(PS)	—	MAR.	31	22:13 PST	
APR.	1	14 09 21.1	39.118N.	122.318W.	2	BK	—	—	3.2ML(BK)	III	APR.	1	06:09 PST	
APR.	3	04 04 49.8	34.378N.	119.035W.	28	PS	—	—	4.0ML(PS)	IV	APR.	2	20:04 PST	
APR.	6	13 15 10.0	36.584N.	121.307W.	6	PS	—	—	3.2ML(PS)	—	APR.	6	05:15 PST	
APR.	6	13 16 19.1	36.578N.	121.133W.	8	BK	—	—	3.3ML(BK)	—	APR.	6	05:16 PST	
APR.	6	16 38 54.2	40.398N.	124.718W.	12	BK	—	—	3.5ML(BK)	—	APR.	6	08:38 PST	
APR.	6	20 40 46.1	40.555N.	124.607W.	5	BK	—	—	4.0ML(BK)	—	APR.	6	12:40 PST	
APR.	8	01 09 33.1	34.050N.	118.922W.	13	PS	—	—	3.4ML(PS)	IV	APR.	7	17:09 PST	
APR.	8	08 03 25.5	38.830N.	122.787W.	6	BK	—	—	3.1ML(BK)	FELT	APR.	8	00:03 PST	
APR.	8	13 20 24.9	34.049N.	118.922W.	13	PS	—	—	3.0ML(PS)	FELT	APR.	8	05:20 PST	
APR.	9	03 23 24.8	36.212N.	120.278W.	9	BK	—	—	3.7ML(BK)	V	APR.	8	19:23 PST	
APR.	9	03 42 28.5	36.215N.	120.272W.	8	BK	—	—	3.2ML(BK)	—	APR.	8	19:42 PST	
APR.	9	18 52 58.3	37.245N.	121.650W.	6	BK	—	—	2.9ML(BK)	FELT	APR.	9	10:52 PST	
APR.	13	15 05 02.1	40.273N.	124.640W.	16	BK	—	—	3.8ML(BK)	FELT	APR.	13	07:05 PST	
APR.	14	03 46 41.2	37.464N.	118.624W.	6	PS	—	—	3.1ML(PS)	—	APR.	13	19:46 PST	
APR.	14	06 55 51.1	40.502N.	124.730W.	16	BK	—	—	3.4ML(BK)	—	APR.	13	22:55 PST	
APR.	16	14 58 57.0	40.358N.	124.790W.	5	BK	—	—	3.4ML(BK)	—	APR.	16	06:58 PST	
APR.	18	16 29 49.8	39.112N.	122.027W.	14	BK	3.8	—	3.7ML(BK)	V	APR.	18	08:29 PST	
APR.	18	21 26 04.2	32.816N.	116.102W.	6	GP	—	—	3.1ML(PS)	—	APR.	18	13:26 PST	
APR.	20	09 33 57.0	37.423N.	118.648W.	6	PS	—	—	3.0ML(PS)	—	APR.	20	01:33 PST	
APR.	22	14 16 23.6	37.666N.	118.902W.	6	PS	—	—	3.0ML(PS)	—	APR.	22	06:16 PST	
APR.	23	14 40 19.4	40.273N.	124.527W.	6	BK	—	—	3.4ML(BK)	—	APR.	23	06:40 PST	

Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
CALIFORNIA—Continued														
APR. 26	04	03	07.7	37.431N.	118.622W.	6	PS	—	—	4.2ML(PS)	III	APR. 25	20:03	PST
APR. 26	19	06	49.7	36.423N.	121.030W.	6	BK	—	—	3.0ML(BK)	—	APR. 26	11:06	PST
APR. 27	11	38	57.6	36.953N.	121.578W.	8	BK	—	—	2.8ML(BK)	III	APR. 27	03:38	PST
APR. 27	13	06	38.4	36.653N.	121.332W.	4	BK	—	—	3.0ML(BK)	—	APR. 27	05:06	PST
APR. 28	16	56	10.1	37.847N.	122.245W.	5	BK	—	—	2.0ML(BK)	FELT	APR. 28	08:56	PST
APR. 28	22	23	53.7	34.016N.	117.043W.	12	PS	—	—	3.1ML(PS)	FELT	APR. 28	14:23	PST
APR. 29	18	08	26.4	37.287N.	121.678W.	5	BK	—	—	3.1ML(BK)	FELT	APR. 29	10:08	PST
MAY 3	14	47	53.0	36.645N.	121.282W.	6	BK	—	—	3.0ML(BK)	—	MAY 3	06:47	PST
MAY 4	02	00	55.3	34.361N.	117.212W.	3	GP	—	—	3.1MD(GP)	—	MAY 3	18:00	PST
MAY 4	03	22	46.2	37.469N.	118.598W.	6	PS	3.7	—	4.7ML(PS)	IV	MAY 3	19:22	PST
MAY 4	03	28	44.8	37.469N.	118.643W.	6	PS	—	—	3.4ML(PS)	—	MAY 3	19:28	PST
MAY 4	04	54	34.5	37.459N.	118.642W.	6	PS	—	—	3.3ML(PS)	—	MAY 3	20:54	PST
MAY 4	08	59	22.7	37.464N.	118.637W.	6	PS	—	—	3.4ML(PS)	—	MAY 4	00:59	PST
MAY 4	17	41	12.2	37.469N.	118.652W.	6	PS	—	—	3.0ML(PS)	—	MAY 4	09:41	PST
MAY 5	06	52	34.0	37.471N.	118.624W.	6	PS	—	—	3.4ML(PS)	—	MAY 4	22:52	PST
MAY 6	01	08	05.2	37.927N.	122.318W.	2	BK	—	—	2.1ML(BK)	FELT	MAY 5	17:08	PST
MAY 6	23	14	33.0	35.297N.	119.345W.	24	PS	—	—	4.4ML(PS)	V	MAY 6	15:14	PST
MAY 7	19	09	34.8	37.474N.	118.643W.	6	PS	—	—	3.2ML(PS)	—	MAY 7	11:09	PST
MAY 9	11	35	38.4	37.927N.	122.308W.	5	BK	—	—	1.7ML(BK)	FELT	MAY 9	03:35	PST
MAY 10	15	47	59.3	34.391N.	120.899W.	6	GP	—	—	3.8ML(PS)	IV	MAY 10	07:48	PST
MAY 11	01	03	18.9	37.463N.	118.609W.	6	PS	—	—	3.3ML(PS)	—	MAY 10	17:03	PST
MAY 11	08	57	16.8	36.609N.	117.155W.	6	GP	—	—	3.1ML(PS)	—	MAY 11	00:57	PST
MAY 11	08	59	24.0	36.162N.	120.280W.	9	BK	3.9	—	4.3ML(BK)	IV	MAY 11	00:59	PST
MAY 11	16	11	35.5	40.397N.	124.418W.	5	BK	—	—	3.1ML(BK)	—	MAY 11	08:11	PST
MAY 12	13	55	11.4	40.388N.	124.962W.	5	BK	4.6	4.3	4.3ML(BK)	—	MAY 12	05:55	PST
MAY 12	13	57	43.4	33.451N.	116.516W.	11	PS	—	—	3.1ML(PS)	—	MAY 12	05:57	PST
MAY 12	15	28	46.3	37.474N.	118.569W.	6	PS	—	—	3.7ML(PS)	FELT	MAY 12	07:28	PST
MAY 13	09	55	37.3	34.225N.	119.602W.	14	PS	—	—	3.0ML(PS)	—	MAY 13	01:55	PST
MAY 13	21	24	00.4	35.785N.	117.737W.	7	GP	—	—	3.4ML(PS)	—	MAY 13	13:24	PST
MAY 14	02	42	04.8	33.303N.	116.302W.	10	PS	—	—	3.1ML(PS)	—	MAY 13	18:42	PST
MAY 14	17	35	36.4	33.522N.	116.801W.	1	PS	—	—	3.7ML(PS)	IV	MAY 14	09:35	PST
MAY 14	23	42	59.0	34.222N.	119.600W.	18	PS	—	—	3.2ML(PS)	—	MAY 14	15:42	PST
MAY 17	09	07	16.3	35.346N.	118.499W.	6	PS	—	—	3.0ML(PS)	—	MAY 17	01:07	PST
MAY 17	23	45	22.5	40.437N.	125.407W.	5	BK	—	—	3.4ML(BK)	—	MAY 17	15:45	PST
MAY 18	12	05	44.7	40.745N.	124.512W.	5	BK	—	—	3.9ML(BK)	—	MAY 18	04:05	PST
MAY 21	01	21	15.5	39.155N.	122.220W.	2	BK	—	—	3.2ML(BK)	—	MAY 20	17:21	PST
MAY 21	10	34	46.9	39.123N.	122.042W.	10	BK	—	—	3.0ML(BK)	—	MAY 21	02:34	PST
MAY 21	13	24	20.9	35.807N.	120.358W.	8	BK	—	—	2.9ML(BK)	—	MAY 21	05:24	PST
MAY 21	16	27	03.4	40.768N.	123.453W.	4	BK	—	—	3.3ML(BK)	—	MAY 21	08:26	PST
MAY 22	03	42	13.1	39.605N.	120.442W.	12	BK	—	—	3.4ML(BK)	IV	MAY 21	19:42	PST
MAY 22	07	44	20.5	37.472N.	118.635W.	6	PS	—	—	3.3ML(PS)	—	MAY 21	23:44	PST
MAY 23	07	14	21.0	37.472N.	118.651W.	6	PS	—	—	3.1ML(PS)	—	MAY 22	23:14	PST
MAY 23	11	45	39.3	38.798N.	122.813W.	4	BK	4.1	—	3.0ML(BK)	FELT	MAY 23	03:45	PST
MAY 24	14	13	18.4	35.993N.	118.324W.	6	PS	—	—	3.0ML(PS)	—	MAY 24	06:13	PST
MAY 25	03	22	01.2	35.387N.	118.628W.	6	PS	—	—	3.0ML(PS)	—	MAY 24	19:22	PST
MAY 25	04	19	39.2	35.913N.	120.517W.	10	BK	—	—	2.9ML(BK)	—	MAY 24	20:19	PST
MAY 25	15	50	45.4	33.953N.	116.647W.	13	PS	—	—	3.2ML(PS)	IV	MAY 25	07:50	PST
MAY 26	11	57	53.6	38.805N.	122.330W.	2	BK	—	—	3.0ML(BK)	—	MAY 26	03:57	PST

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
CALIFORNIA—Continued														
MAY	28	00 42 18.5	37.527N.	118.860W.	6	PS	—	—	3.1ML(PS)	—	MAY	27	16:42	PST
MAY	28	00 42 23.8	37.451N.	118.675W.	6	PS	—	—	3.1ML(PS)	—	MAY	27	16:42	PST
MAY	28	18 31 47.5	37.548N.	118.853W.	6	PS	—	—	3.8ML(PS)	—	MAY	28	10:31	PST
MAY	31	15 07 27.5	39.105N.	122.028W.	10	BK	—	—	2.7ML(BK)	II	MAY	31	07:07	PST
MAY	31	20 26 56.5	35.935N.	118.313W.	6	GP	—	—	3.1MD(GP)	—	MAY	31	12:26	PST
JUNE	2	15 01 17.6	34.385N.	120.096W.	2	PS	—	—	3.4ML(PS)	—	JUNE	2	07:01	PST
JUNE	3	02 05 30.5	33.999N.	116.097W.	9	PS	—	—	3.3ML(PS)	—	JUNE	2	18:05	PST
JUNE	3	06 53 27.5	33.038N.	115.972W.	11	GP	—	—	3.2MD(GP)	—	JUNE	2	22:53	PST
JUNE	5	08 28 04.7	34.391N.	120.105W.	6	PS	—	—	3.0ML(PS)	—	JUNE	5	00:28	PST
JUNE	5	10 00 50.3	32.992N.	115.575W.	8	GP	—	—	3.2MD(GP)	—	JUNE	5	02:00	PST
JUNE	5	18 10 05.6	33.341N.	116.328W.	12	PS	—	—	3.7ML(PS)	IV	JUNE	5	10:10	PST
JUNE	7	18 06 14.4	34.393N.	120.101W.	2	PS	—	—	3.6ML(PS)	FELT	JUNE	7	10:06	PST
JUNE	10	00 57 03.3	37.542N.	121.828W.	5	BK	—	—	3.0ML(BK)	III	JUNE	9	16:57	PST
JUNE	10	00 58 01.6	34.206N.	116.819W.	11	PS	—	—	3.3ML(PS)	—	JUNE	9	16:58	PST
JUNE	10	12 50 20.8	33.689N.	117.384W.	7	PS	—	—	3.1ML(PS)	FELT	JUNE	10	04:50	PST
JUNE	12	02 20 03.6	37.559N.	118.853W.	6	PS	—	—	3.1MD(PS)	—	JUNE	11	18:20	PST
JUNE	13	01 53 23.9	38.813N.	122.797W.	1	BK	—	—	3.1ML(BK)	—	JUNE	12	17:53	PST
JUNE	13	06 58 04.5	37.390N.	121.800W.	0	BK	—	—	2.3ML(BK)	FELT	JUNE	12	22:58	PST
JUNE	14	11 24 03.1	36.162N.	120.268W.	9	BK	—	—	3.4ML(BK)	III	JUNE	14	03:24	PST
JUNE	16	10 26 58.8	32.960N.	117.821W.	6	GP	—	—	3.9ML(PS)	IV	JUNE	16	02:26	PST
JUNE	18	00 12 55.1	32.679N.	117.149W.	6	GP	—	—	3.9MD(GP)	V	JUNE	17	16:12	PST
JUNE	18	01 23 40.8	35.227N.	117.321W.	8	GP	—	—	3.8MD(GP)	III	JUNE	17	17:23	PST
JUNE	18	03 22 28.6	32.677N.	117.153W.	6	GP	—	—	4.0MD(GP)	V	JUNE	17	19:22	PST
JUNE	18	04 28 14.9	32.665N.	117.170W.	6	GP	—	—	3.9MD(GP)	IV	JUNE	17	20:28	PST
JUNE	18	21 51 38.8	32.700N.	117.151W.	9	PS	—	—	2.9ML(PS)	FELT	JUNE	18	13:51	PST
JUNE	19	11 20 39.2	32.689N.	117.144W.	8	PS	—	—	2.9ML(PS)	FELT	JUNE	19	03:20	PST
JUNE	19	11 37 37.7	32.689N.	117.146W.	8	PS	—	—	2.9ML(PS)	III	JUNE	19	03:37	PST
JUNE	19	13 00 25.0	39.913N.	122.663W.	8	BK	—	—	3.0ML(BK)	—	JUNE	19	05:00	PST
JUNE	20	11 56 38.8	32.710N.	117.087W.	0	PS	—	—	2.8ML(PS)	FELT	JUNE	20	03:56	PST
JUNE	21	00 50 59.2	33.989N.	117.171W.	14	PS	—	—	3.3ML(PS)	III	JUNE	20	16:50	PST
JUNE	21	09 51 51.4	33.091N.	117.439W.	12	PS	—	—	3.4ML(PS)	FELT	JUNE	21	01:51	PST
JUNE	27	04 38 55.4	36.510N.	121.118W.	5	BK	—	—	3.4ML(BK)	III	JUNE	26	20:38	PST
JUNE	29	18 23 50.9	33.477N.	116.557W.	13	PS	—	—	3.4ML(PS)	—	JUNE	29	10:23	PST
JULY	1	10 27 37.8	35.271N.	118.585W.	6	PS	—	—	3.0ML(PS)	—	JULY	1	02:27	PST
JULY	2	17 30 30.7	36.982N.	119.638W.	23	BK	—	—	3.2ML(BK)	FELT	JULY	2	09:30	PST
JULY	2	23 56 08.9	40.822N.	124.348W.	9	BK	—	—	3.4ML(BK)	V	JULY	2	15:56	PST
JULY	4	13 05 56.9	37.453N.	118.842W.	14	BK	—	—	3.5ML(BK)	—	JULY	4	05:05	PST
JULY	5	03 23 54.8	36.156N.	120.064W.	6	PS	—	—	3.0ML(PS)	—	JULY	4	19:23	PST
JULY	6	10 09 32.6	37.270N.	121.668W.	7	BK	—	—	3.1ML(BK)	—	JULY	6	02:09	PST
JULY	9	08 53 36.1	37.426N.	118.581W.	6	PS	—	—	3.2ML(PS)	FELT	JULY	9	00:53	PST
JULY	11	02 43 33.6	36.052N.	117.723W.	2	PS	—	—	3.1ML(PS)	—	JULY	10	18:43	PST
JULY	12	00 47 22.3	35.985N.	120.593W.	1	BK	—	—	3.1ML(BK)	—	JULY	11	16:47	PST
JULY	13	04 16 29.9	34.064N.	118.300W.	4	PS	—	—	2.4MD(PS)	FELT	JULY	12	20:16	PST
JULY	13	12 13 11.7	32.706N.	117.130W.	6	PS	—	—	2.5MD(PS)	FELT	JULY	13	04:13	PST
JULY	13	12 35 57.7	36.344N.	120.966W.	6	PS	—	—	3.2ML(PS)	—	JULY	13	04:35	PST
JULY	13	18 36 08.7	40.062N.	124.417W.	5	BK	—	—	3.0ML(BK)	—	JULY	13	10:36	PST
JULY	15	08 59 38.8	37.268N.	121.665W.	7	BK	—	—	3.5ML(BK)	IV	JULY	15	00:59	PST



Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
CALIFORNIA—Continued														
JULY 16	17	57	51.0	34.543N.	116.842W.	0	PS	—	—	3.9ML(PS)	—	JULY 16	09:57	PST
JULY 16	21	56	40.0	40.343N.	125.072W.	4	BK	—	—	3.6ML(BK)	—	JULY 16	13:56	PST
JULY 18	14	05	25.8	34.421N.	116.542W.	6	PS	—	—	4.2ML(PS)	III	JULY 18	06:05	PST
JULY 18	16	47	40.0	40.397N.	124.022W.	5	BK	—	—	3.2ML(BK)	—	JULY 18	08:47	PST
JULY 22	08	47	14.6	37.868N.	122.675W.	6	BK	—	—	2.7ML(BK)	FELT	JULY 22	00:47	PST
JULY 22	18	48	07.8	40.050N.	121.260W.	5	BK	—	—	3.1ML(BK)	—	JULY 22	10:48	PST
JULY 22	22	16	28.9	36.587N.	121.222W.	6	BK	—	—	3.0ML(BK)	—	JULY 22	14:16	PST
JULY 23	00	40	42.7	36.592N.	121.232W.	5	BK	—	—	2.7ML(BK)	—	JULY 22	16:40	PST
JULY 23	17	33	19.8	41.922N.	126.594W.	10	GS	4.4	4.2	—	—	JULY 23	09:33	PST
JULY 23	18	04	16.5	41.850N.	126.865W.	10	GS	4.8	5.0	4.3ML(BK)	—	JULY 23	10:04	PST
JULY 24	10	07	13.1	37.722N.	122.520W.	8	BK	—	—	2.5ML(BK)	FELT	JULY 24	02:07	PST
JULY 24	15	45	44.2	36.192N.	120.285W.	9	BK	—	—	3.0ML(BK)	IV	JULY 24	07:45	PST
JULY 26	04	20	41.8	38.793N.	122.795W.	2	BK	3.8	—	3.5ML(BK)	FELT	JULY 25	20:20	PST
JULY 26	04	21	13.0	38.800N.	122.800W.	2	BK	—	—	3.5ML(BK)	FELT	JULY 25	20:21	PST
JULY 26	06	02	55.1	36.188N.	120.237W.	7	BK	—	—	3.0ML(BK)	—	JULY 25	22:02	PST
JULY 30	02	34	42.8	39.583N.	122.012W.	16	BK	—	—	3.3ML(BK)	V	JULY 29	18:34	PST
JULY 30	03	52	57.9	41.187N.	124.245W.	11	BK	—	—	3.4ML(BK)	—	JULY 29	19:52	PST
JULY 30	10	57	21.6	40.373N.	125.125W.	3	BK	4.4	—	4.2ML(BK)	III	JULY 30	02:57	PST
AUG. 1	00	04	08.1	37.867N.	122.238W.	9	BK	—	—	2.3ML(BK)	FELT	JULY 31	16:04	PST
AUG. 3	13	57	11.9	36.127N.	120.138W.	11	BK	—	—	3.8ML(BK)	—	AUG. 3	05:57	PST
AUG. 4	05	49	06.4	37.870N.	122.243W.	7	BK	—	—	2.3ML(BK)	FELT	AUG. 3	21:49	PST
AUG. 4	11	29	16.2	36.122N.	120.138W.	11	BK	4.7	—	4.7ML(BK)	IV	AUG. 4	03:29	PST
AUG. 4	11	29	25.9	35.109N.	116.813W.	14	GP	—	—	4.4ML(GP)	—	AUG. 4	03:29	PST
AUG. 4	11	29	27.5	36.083N.	120.000W.	6	GP	—	—	4.2ML(GP)	—	AUG. 4	03:29	PST
AUG. 4	11	30	41.2	36.258N.	120.120W.	6	PS	—	—	3.6ML(PS)	—	AUG. 4	03:30	PST
AUG. 4	12	01	57.0	36.130N.	120.127W.	11	BK	5.4	5.9	5.6ML(BK)	VI	AUG. 4	04:01	PST
AUG. 4	12	08	42.6	36.098N.	120.087W.	13	BK	—	—	4.0ML(BK)	—	AUG. 4	04:08	PST
AUG. 4	13	09	20.2	36.122N.	120.113W.	9	BK	—	—	3.3ML(BK)	—	AUG. 4	05:09	PST
AUG. 4	13	18	38.0	36.100N.	120.095W.	3	BK	—	—	3.3ML(BK)	—	AUG. 4	05:18	PST
AUG. 4	13	34	38.0	36.056N.	119.959W.	6	PS	—	—	3.3ML(PS)	—	AUG. 4	05:34	PST
AUG. 4	15	15	40.5	36.022N.	120.052W.	12	BK	4.4	—	4.1ML(BK)	FELT	AUG. 4	07:15	PST
AUG. 4	15	51	50.3	36.045N.	119.967W.	6	PS	—	—	3.3ML(PS)	—	AUG. 4	07:51	PST
AUG. 4	17	34	41.6	36.072N.	119.974W.	6	PS	—	—	3.0ML(PS)	—	AUG. 4	09:34	PST
AUG. 4	22	15	00.6	36.059N.	119.962W.	6	PS	—	—	3.2ML(PS)	—	AUG. 4	14:15	PST
AUG. 4	23	39	30.4	36.046N.	119.954W.	6	PS	—	—	3.0ML(PS)	—	AUG. 4	15:39	PST
AUG. 4	23	45	52.4	36.017N.	120.018W.	15	BK	—	—	3.2ML(BK)	—	AUG. 4	15:45	PST
AUG. 5	14	45	39.0	36.112N.	120.063W.	8	BK	4.4	—	4.3ML(BK)	V	AUG. 5	06:45	PST
AUG. 5	15	22	25.5	36.108N.	120.053W.	9	BK	—	—	3.7ML(BK)	—	AUG. 5	07:22	PST
AUG. 6	03	45	36.2	35.433N.	117.741W.	12	PS	—	—	3.1ML(PS)	—	AUG. 5	19:45	PST
AUG. 6	18	11	14.9	36.018N.	120.052W.	10	BK	—	—	2.9ML(BK)	—	AUG. 6	10:11	PST
AUG. 7	00	16	04.5	35.992N.	120.115W.	11	BK	4.1	—	4.3ML(BK)	V	AUG. 6	16:16	PST
AUG. 7	00	28	13.7	35.993N.	120.140W.	12	BK	—	—	3.2ML(BK)	—	AUG. 6	16:28	PST
AUG. 7	00	45	35.5	40.923N.	123.183W.	17	BK	—	—	3.7ML(BK)	—	AUG. 6	16:45	PST
AUG. 7	10	55	23.2	36.110N.	120.057W.	6	GS	—	—	3.1ML(BK)	—	AUG. 7	02:55	PST
AUG. 7	15	39	27.1	37.945N.	122.053W.	5	BK	—	—	2.1ML(BK)	FELT	AUG. 7	07:39	PST
AUG. 7	21	28	44.3	35.491N.	116.270W.	6	PS	—	—	3.1ML(PS)	—	AUG. 7	13:28	PST
AUG. 9	08	47	10.9	36.090N.	120.012W.	10	BK	—	—	3.0ML(BK)	—	AUG. 9	00:47	PST
AUG. 9	09	00	36.6	36.110N.	119.948W.	6	PS	—	—	3.1ML(PS)	—	AUG. 9	01:00	PST

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>g</sub>	Local		Date	hr	zone
	hr	min	sec											
CALIFORNIA—Continued														
AUG. 9	9	09 31 22.0	36.085N.	120.003W.	9	BK	—	—	3.0ML(BK)	—	AUG. 9	9	01:31	PST
AUG. 9	9	09 33 09.7	36.075N.	119.997W.	7	BK	—	—	3.1ML(BK)	—	AUG. 9	9	01:33	PST
AUG. 9	9	09 55 08.5	36.003N.	120.023W.	8	BK	—	—	2.9ML(BK)	—	AUG. 9	9	01:55	PST
AUG. 9	9	11 15 34.5	36.082N.	120.003W.	8	BK	—	—	3.0ML(BK)	—	AUG. 9	9	03:15	PST
AUG. 9	9	12 42 20.2	36.077N.	120.118W.	7	BK	—	—	3.4ML(BK)	—	AUG. 9	9	04:42	PST
AUG. 9	9	12 43 05.6	36.083N.	120.000W.	6	PS	—	—	3.4ML(PS)	—	AUG. 9	9	04:43	PST
AUG. 11	11	06 30 26.1	36.105N.	120.177W.	7	BK	—	—	3.1ML(BK)	—	AUG. 10	10	22:30	PST
AUG. 12	12	06 49 38.6	40.123N.	121.135W.	15	BK	—	—	3.6ML(BK)	—	AUG. 11	11	22:49	PST
AUG. 12	12	21 01 09.7	33.030N.	117.820W.	6	PS	—	—	3.4ML(PS)	—	AUG. 12	12	13:01	PST
AUG. 12	12	21 16 40.0	34.407N.	117.725W.	14	PS	—	—	3.4ML(PS)	—	AUG. 12	12	13:16	PST
AUG. 13	13	16 45 15.1	37.847N.	122.220W.	5	BK	—	—	3.1ML(BK)	III	AUG. 13	13	08:45	PST
AUG. 14	14	06 12 56.5	35.032N.	116.907W.	8	PS	—	—	3.4ML(PS)	—	AUG. 13	13	22:12	PST
AUG. 14	14	23 29 55.8	36.151N.	119.995W.	6	PS	—	—	3.0ML(PS)	—	AUG. 14	14	15:29	PST
AUG. 15	15	03 20 56.9	36.118N.	120.063W.	9	BK	—	—	3.0ML(BK)	—	AUG. 14	14	19:20	PST
AUG. 15	15	08 24 50.6	36.175N.	120.058W.	10	GS	—	—	2.5ML(BK)	—	AUG. 15	15	00:24	PST
AUG. 16	16	01 51 21.2	36.204N.	117.865W.	5	PS	4.5	—	4.2ML(PS)	IV	AUG. 15	15	17:51	PST
AUG. 16	16	17 04 06.0	37.230N.	121.643W.	4	BK	—	—	2.9ML(BK)	—	AUG. 16	16	09:04	PST
AUG. 17	17	16 35 44.1	37.123N.	121.550W.	7	BK	—	—	3.1ML(BK)	—	AUG. 17	17	08:35	PST
AUG. 19	19	04 43 05.1	40.162N.	121.307W.	8	BK	—	—	3.1ML(BK)	—	AUG. 18	18	20:43	PST
AUG. 19	19	14 06 41.6	36.054N.	120.005W.	6	PS	—	—	3.0ML(PS)	—	AUG. 19	19	06:06	PST
AUG. 19	19	21 43 16.5	37.837N.	122.225W.	2	BK	—	—	2.6ML(BK)	FELT	AUG. 19	19	13:43	PST
AUG. 19	19	22 40 23.6	34.553N.	116.794W.	6	PS	—	—	3.5ML(PS)	—	AUG. 19	19	14:40	PST
AUG. 19	19	23 10 26.2	34.945N.	116.892W.	4	PS	—	—	3.2ML(PS)	—	AUG. 19	19	15:10	PST
AUG. 20	20	14 01 30.0	36.249N.	120.271W.	6	PS	—	—	3.0ML(PS)	—	AUG. 20	20	06:01	PST
AUG. 22	22	00 19 43.0	35.883N.	117.737W.	3	PS	—	—	3.4ML(PS)	—	AUG. 21	21	16:19	PST
AUG. 22	22	00 20 03.4	35.891N.	117.732W.	6	PS	—	—	3.6ML(PS)	—	AUG. 21	21	16:20	PST
AUG. 22	22	00 21 44.1	35.883N.	117.717W.	6	GP	4.3	—	4.6ML(GP)	IV	AUG. 21	21	16:21	PST
AUG. 22	22	01 09 10.5	38.013N.	118.621W.	6	PS	—	—	3.0ML(PS)	—	AUG. 21	21	17:09	PST
AUG. 22	22	03 15 36.1	37.641N.	117.326W.	6	PS	—	—	3.6ML(PS)	—	AUG. 21	21	19:15	PST
AUG. 22	22	04 58 24.7	37.633N.	117.425W.	6	PS	—	—	3.2ML(PS)	—	AUG. 21	21	20:58	PST
AUG. 22	22	09 51 31.8	37.410N.	118.586W.	6	PS	—	—	3.6ML(PS)	—	AUG. 22	22	01:51	PST
AUG. 25	25	10 28 07.5	40.047N.	121.288W.	5	BK	—	—	3.2ML(BK)	—	AUG. 25	25	02:28	PST
AUG. 27	27	03 04 06.8	37.412N.	118.633W.	6	BK	—	—	4.5ML(BK)	III	AUG. 26	26	19:04	PST
AUG. 27	27	18 30 52.4	36.160N.	120.010W.	6	PS	—	—	3.0ML(PS)	—	AUG. 27	27	10:30	PST
AUG. 27	27	19 02 08.6	35.960N.	120.083W.	12	BK	—	—	3.2ML(BK)	—	AUG. 27	27	11:02	PST
AUG. 29	29	04 49 34.4	32.883N.	115.510W.	5	PS	—	—	3.0ML(PS)	—	AUG. 28	28	20:49	PST
AUG. 29	29	04 55 05.3	32.887N.	115.509W.	5	PS	—	—	3.2ML(PS)	—	AUG. 28	28	20:55	PST
AUG. 29	29	07 59 08.7	34.322N.	116.815W.	6	PS	—	—	4.1ML(PS)	IV	AUG. 28	28	23:59	PST
AUG. 31	31	13 25 52.4	35.995N.	119.973W.	5	BK	—	—	3.1ML(BK)	—	AUG. 31	31	05:25	PST
SEPT. 2	2	16 53 30.0	40.582N.	123.750W.	24	BK	—	—	3.7ML(BK)	III	SEPT. 2	2	08:53	PST
SEPT. 2	2	19 45 08.1	37.150N.	117.993W.	5	BK	—	—	3.7ML(BK)	—	SEPT. 2	2	11:45	PST
SEPT. 3	3	02 58 52.0	34.050N.	118.383W.	5	PS	—	—	2.6ML(PS)	III	SEPT. 2	2	18:58	PST
SEPT. 4	4	06 00 46.7	37.752N.	122.090W.	6	BK	—	—	3.1ML(BK)	IV	SEPT. 3	3	22:00	PST
SEPT. 5	5	14 33 49.0	33.970N.	116.957W.	15	PS	—	—	3.0ML(PS)	—	SEPT. 5	5	06:33	PST
SEPT. 6	6	04 32 25.6	36.040N.	120.071W.	6	PS	—	—	3.0ML(PS)	—	SEPT. 5	5	20:32	PST
SEPT. 7	7	17 27 30.5	37.375N.	121.755W.	5	BK	—	—	3.0ML(BK)	FELT	SEPT. 7	7	09:27	PST
SEPT. 8	8	12 17 18.4	35.993N.	120.125W.	11	BK	—	—	3.1ML(BK)	—	SEPT. 8	8	04:17	PST
SEPT. 8	8	22 32 31.4	36.285N.	117.564W.	0	PS	—	—	3.1ML(PS)	—	SEPT. 8	8	14:32	PST

Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
CALIFORNIA—Continued														
SEPT. 9	23	07	14.8	36.938N.	121.430W.	3	BK	—	—	3.2ML(BK)	—	SEPT. 9	15:07	PST
SEPT. 10	22	07	27.9	37.715N.	122.535W.	8	BK	—	—	2.6ML(BK)	FELT	SEPT. 10	14:07	PST
SEPT. 11	22	01	45.6	40.328N.	124.303W.	5	BK	—	—	3.3ML(BK)	—	SEPT. 11	14:01	PST
SEPT. 14	03	02	45.8	36.185N.	120.295W.	8	BK	—	—	3.1ML(BK)	—	SEPT. 13	19:02	PST
SEPT. 14	19	18	42.3	34.407N.	119.794W.	9	GP	—	—	3.1ML(GP)	IV	SEPT. 14	11:18	PST
SEPT. 15	02	48	55.9	33.963N.	116.748W.	19	GP	—	—	3.1ML(GP)	—	SEPT. 14	18:48	PST
SEPT. 15	09	09	48.1	36.055N.	120.145W.	13	BK	—	—	3.0ML(BK)	—	SEPT. 15	01:09	PST
SEPT. 18	05	17	45.0	37.450N.	118.685W.	4	BK	—	—	3.5ML(BK)	—	SEPT. 17	21:17	PST
SEPT. 19	07	35	03.6	34.460N.	119.377W.	15	GP	—	—	3.4ML(GP)	IV	SEPT. 18	23:35	PST
SEPT. 19	21	20	49.1	37.432N.	118.760W.	6	PS	—	—	3.1ML(PS)	—	SEPT. 19	13:20	PST
SEPT. 20	08	04	06.5	34.389N.	119.796W.	10	GP	—	—	3.1ML(GP)	IV	SEPT. 20	00:04	PST
SEPT. 21	05	21	26.4	37.460N.	118.650W.	10	BK	—	—	3.6ML(BK)	—	SEPT. 20	21:21	PST
SEPT. 21	11	58	03.0	40.370N.	124.668W.	4	BK	—	—	3.6ML(BK)	—	SEPT. 21	03:57	PST
SEPT. 23	09	10	27.0	37.470N.	118.680W.	3	BK	—	—	3.6ML(BK)	—	SEPT. 23	01:10	PST
SEPT. 24	07	21	30.2	37.485N.	121.690W.	8	BK	—	—	3.5ML(BK)	IV	SEPT. 23	23:21	PST
SEPT. 30	09	45	39.7	36.582N.	121.225W.	7	BK	—	—	3.2ML(BK)	—	SEPT. 30	01:45	PST
OCT. 2	23	44	12.4	34.023N.	117.245W.	15	PS	4.1	—	4.8ML(PS)	VI	OCT. 2	15:44	PST
OCT. 4	03	50	06.7	36.197N.	120.194W.	6	PS	—	—	3.2ML(PS)	—	OCT. 3	19:50	PST
OCT. 6	00	18	08.8	37.012N.	121.717W.	9	BK	—	—	3.0ML(BK)	FELT	OCT. 5	16:18	PST
OCT. 6	21	29	46.4	38.938N.	123.028W.	5	BK	—	—	2.9ML(BK)	FELT	OCT. 6	13:29	PST
OCT. 7	02	26	42.3	37.497N.	118.797W.	6	PS	—	—	3.1ML(PS)	—	OCT. 6	18:26	PST
OCT. 7	15	46	54.6	37.270N.	121.630W.	7	BK	—	—	3.0ML(BK)	FELT	OCT. 7	07:46	PST
OCT. 8	22	17	43.2	36.168N.	120.235W.	11	BK	—	—	4.1ML(BK)	IV	OCT. 8	14:17	PST
OCT. 10	00	12	37.5	41.953N.	126.799W.	10	GS	4.9	4.7	4.2ML(BK)	—	OCT. 9	16:12	PST
OCT. 10	00	27	26.9	41.884N.	126.709W.	10	GS	4.2	—	—	—	OCT. 9	16:27	PST
OCT. 11	00	16	27.1	35.627N.	116.261W.	6	GP	—	—	3.8ML(GP)	—	OCT. 10	16:16	PST
OCT. 12	09	04	47.1	34.444N.	118.558W.	4	GP	—	—	3.3ML(GP)	—	OCT. 12	01:04	PST
OCT. 12	19	34	36.0	32.316N.	118.995W.	6	PS	—	—	3.4ML(PS)	—	OCT. 12	11:34	PST
OCT. 14	01	14	30.5	40.400N.	124.977W.	6	BK	—	—	3.3ML(BK)	—	OCT. 13	17:14	PST
OCT. 19	06	47	23.8	39.609N.	120.330W.	5	GS	—	—	2.8ML(BK)	—	OCT. 18	22:47	PST
OCT. 19	10	20	51.7	40.295N.	121.394W.	5	GS	—	—	2.8ML(BK)	—	OCT. 19	02:20	PST
OCT. 20	19	26	26.5	38.820N.	122.785W.	4	BK	—	—	3.4ML(BK)	—	OCT. 20	11:26	PST
OCT. 24	14	50	33.6	36.148N.	120.005W.	7	BK	—	—	3.1ML(BK)	—	OCT. 24	06:50	PST
OCT. 26	01	56	51.2	40.750N.	124.510W.	20	BK	—	—	3.6ML(BK)	—	OCT. 25	17:56	PST
OCT. 26	14	30	51.2	36.825N.	121.587W.	8	BK	—	—	3.4ML(BK)	—	OCT. 26	06:30	PST
OCT. 26	23	41	15.4	40.212N.	124.197W.	12	BK	—	—	3.1ML(BK)	—	OCT. 26	15:41	PST
OCT. 27	23	20	24.2	34.214N.	119.585W.	25	PS	—	—	3.0ML(PS)	—	OCT. 27	15:20	PST
OCT. 28	01	32	51.4	35.930N.	120.022W.	4	BK	—	—	3.2ML(BK)	—	OCT. 27	17:32	PST
OCT. 28	01	33	34.4	35.989N.	119.951W.	6	PS	—	—	3.2ML(PS)	—	OCT. 27	18:33	PST
OCT. 28	01	42	30.8	35.932N.	120.013W.	2	BK	—	—	2.9ML(BK)	—	OCT. 27	17:42	PST
OCT. 28	04	25	52.3	36.547N.	121.165W.	7	BK	—	—	3.3ML(BK)	—	OCT. 27	20:25	PST
OCT. 28	04	45	43.0	32.716N.	115.399W.	8	PS	—	—	3.0ML(PS)	—	OCT. 27	20:45	PST
OCT. 29	00	23	14.6	41.160N.	120.090W.	11	BK	—	—	3.1ML(BK)	—	OCT. 28	16:23	PST
OCT. 30	03	24	18.5	41.142N.	119.935W.	7	BK	—	—	3.5ML(PS)	—	OCT. 29	19:24	PST
OCT. 31	13	05	34.3	35.968N.	117.884W.	3	PS	—	—	3.0ML(PS)	—	OCT. 31	05:05	PST
OCT. 31	19	55	04.0	34.473N.	117.892W.	6	PS	—	—	3.6ML(PS)	V	OCT. 31	11:55	PST
NOV. 3	03	32	04.4	37.506N.	118.848W.	6	PS	—	—	3.0MD(PS)	—	NOV. 2	19:32	PST
NOV. 4	15	09	26.5	32.597N.	118.060W.	6	PS	—	—	3.4MD(PS)	—	NOV. 4	07:09	PST

Table 1. Summary of United States earthquakes for 1985—Continued

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time			
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone	
	hr	min	sec												
				(°)	(°)	(km)	Source								
CALIFORNIA—Continued															
NOV.	5	22 06 37.0	35.950N.	118.498W.	7	BK	—	—	3.5ML(BK)	FELT	NOV.	5	14:06	PST	
NOV.	5	22 39 15.8	37.345N.	121.725W.	6	BK	—	—	3.0ML(BK)	—	NOV.	5	14:39	PST	
NOV.	8	13 02 44.4	40.800N.	125.187W.	13	BK	—	—	4.1ML(BK)	III	NOV.	8	05:02	PST	
NOV.	10	03 25 14.3	33.080N.	118.633W.	6	PS	—	—	3.4ML(PS)	—	NOV.	9	19:25	PST	
NOV.	12	15 29 22.1	36.102N.	120.148W.	6	BK	—	—	2.9ML(BK)	—	NOV.	12	07:29	PST	
NOV.	12	22 11 09.0	36.638N.	121.312W.	3	BK	—	—	2.9ML(BK)	—	NOV.	12	14:11	PST	
NOV.	16	18 31 53.5	41.443N.	125.337W.	5	BK	—	—	3.5ML(BK)	—	NOV.	16	10:31	PST	
NOV.	16	19 05 59.5	36.174N.	120.213W.	1	PS	—	—	3.0MD(PS)	—	NOV.	16	11:05	PST	
NOV.	18	06 31 44.4	33.466N.	116.400W.	6	PS	—	—	3.0ML(PS)	—	NOV.	17	22:31	PST	
NOV.	18	07 53 37.0	36.191N.	118.548W.	9	PS	—	—	3.0MD(PS)	—	NOV.	17	23:53	PST	
NOV.	18	12 13 04.1	37.504N.	118.844W.	6	PS	—	—	3.0MD(PS)	—	NOV.	18	04:13	PST	
NOV.	20	19 16 04.4	40.353N.	127.485W.	10	GS	—	—	3.9ML(BK)	—	NOV.	20	11:16	PST	
NOV.	23	05 38 30.3	37.055N.	121.477W.	8	BK	—	—	3.0ML(BK)	—	NOV.	22	21:38	PST	
NOV.	23	07 25 07.1	37.568N.	118.820W.	3	BK	—	—	3.3ML(BK)	—	NOV.	22	23:25	PST	
NOV.	23	07 27 25.3	40.263N.	123.673W.	19	BK	—	—	3.7ML(BK)	IV	NOV.	22	23:27	PST	
NOV.	23	12 35 56.6	36.617N.	121.270W.	9	BK	—	—	3.2ML(BK)	—	NOV.	23	04:35	PST	
NOV.	23	14 46 45.3	35.767N.	117.735W.	5	PS	—	—	3.0MD(PS)	—	NOV.	23	06:46	PST	
NOV.	24	12 56 16.7	36.299N.	120.245W.	6	PS	—	—	3.2MD(PS)	—	NOV.	24	04:56	PST	
NOV.	24	19 21 39.9	36.024N.	120.890W.	6	PS	4.5	—	4.0MD(PS)	V	NOV.	24	11:21	PST	
NOV.	24	23 08 15.2	36.028N.	120.873W.	8	BK	—	—	3.0ML(BK)	—	NOV.	24	15:08	PST	
NOV.	25	23 44 21.6	33.400N.	119.182W.	6	PS	—	—	3.3MD(PS)	—	NOV.	25	15:44	PST	
NOV.	28	10 30 30.6	33.077N.	115.973W.	10	PS	—	—	3.0MD(PS)	—	NOV.	28	02:30	PST	
NOV.	28	15 13 57.2	36.562N.	121.060W.	10	BK	4.4	4.4	4.6ML(BK)	IV	NOV.	28	07:13	PST	
NOV.	29	02 03 35.9	38.025N.	122.242W.	7	BK	—	—	2.3ML(BK)	FELT	NOV.	28	18:03	PST	
DEC.	1	17 35 18.3	34.154N.	117.319W.	6	PS	—	—	3.3MD(PS)	III	DEC.	1	09:35	PST	
DEC.	2	19 53 16.9	34.623N.	121.381W.	6	PS	—	—	3.2ML(PS)	—	DEC.	2	11:53	PST	
DEC.	4	18 55 19.0	37.265N.	121.663W.	6	BK	—	—	3.3ML(BK)	FELT	DEC.	4	10:55	PST	
DEC.	5	06 28 36.9	40.575N.	124.515W.	5	BK	3.6	—	4.2ML(BK)	II	DEC.	4	22:28	PST	
DEC.	9	00 47 07.7	37.815N.	119.985W.	33N	BK	—	—	2.8ML(BK)	FELT	DEC.	8	16:47	PST	
DEC.	9	02 56 34.4	33.421N.	119.190W.	6	PS	—	—	3.4MD(PS)	—	DEC.	8	18:56	PST	
DEC.	9	07 56 52.3	38.197N.	119.083W.	6	BK	—	—	3.5ML(BK)	—	DEC.	8	23:56	PST	
DEC.	10	23 25 08.7	37.410N.	121.838W.	1	BK	—	—	2.3ML(BK)	FELT	DEC.	10	15:25	PST	
DEC.	12	07 43 34.2	35.536N.	116.851W.	5	PS	—	—	3.1ML(PS)	—	DEC.	11	23:43	PST	
DEC.	13	18 37 44.0	36.987N.	121.723W.	8	BK	—	—	2.9ML(BK)	FELT	DEC.	13	10:37	PST	
DEC.	13	18 39 22.6	37.010N.	121.722W.	11	BK	—	—	3.4ML(BK)	III	DEC.	13	10:39	PST	
DEC.	13	19 19 47.1	40.405N.	127.230W.	4	BK	—	—	4.0ML(BK)	—	DEC.	13	11:19	PST	
DEC.	14	22 41 44.3	36.065N.	120.650W.	5	BK	—	—	3.0ML(BK)	—	DEC.	14	14:41	PST	
DEC.	16	06 06 25.3	40.697N.	127.462W.	5	BK	4.5	—	4.1ML(BK)	—	DEC.	15	22:06	PST	
DEC.	16	09 09 52.1	36.335N.	117.975W.	6	PS	—	—	3.2MD(PS)	—	DEC.	16	01:09	PST	
DEC.	16	13 53 47.6	35.999N.	117.863W.	4	PS	—	—	3.0ML(PS)	—	DEC.	16	05:53	PST	
DEC.	16	23 47 06.4	35.994N.	117.876W.	4	PS	—	—	3.2MD(PS)	—	DEC.	16	15:47	PST	
DEC.	18	21 10 21.9	37.551N.	118.726W.	5	GS	—	—	3.2ML(GS)	—	DEC.	18	13:10	PST	
DEC.	19	13 03 13.0	34.050N.	118.483W.	6	PS	—	—	2.8ML(PS)	III	DEC.	19	05:03	PST	
DEC.	19	13 24 38.6	37.211N.	118.157W.	5	GS	—	—	3.3ML(BK)	—	DEC.	19	05:24	PST	
DEC.	21	18 59 41.9	40.652N.	127.533W.	5	BK	4.4	—	3.8ML(BK)	—	DEC.	21	10:59	PST	
DEC.	26	23 19 37.5	37.063N.	121.112W.	6	BK	—	—	3.0ML(BK)	—	DEC.	26	15:19	PST	
DEC.	29	00 37 51.6	40.465N.	127.263W.	5	BK	—	—	4.0ML(BK)	—	DEC.	28	16:37	PST	
DEC.	30	04 54 45.9	35.413N.	120.025W.	9	BK	—	—	3.1ML(BK)	—	DEC.	29	20:54	PST	

Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
CALIFORNIA—Continued														
DEC. 31	06	19	45.6	40.625N.	122.157W.	10	BK	—	—	3.2ML(BK)	—	DEC. 30	22:19	PST
DEC. 31	20	08	03.2	37.453N.	118.608W.	14	BK	—	—	3.7ML(BK)	—	DEC. 31	12:08	PST
COLORADO														
MAR. 16	21	55	02.4	38.558N.	105.850W.	5	GS	—	—	3.2ML(GS)	V	MAR. 16	14:55	MST
DEC. 6	15	57	26.3	38.789N.	108.899W.	10	GS	—	—	2.7ML(GS)	—	DEC. 6	08:57	MST
DELAWARE														
OCT. 11	01	47	50.7	39.768N.	75.559W.	—	DE	—	—	1.9MD(DE)	FELT	OCT. 10	20:47	EST
OCT. 20	07	55	26.6	39.764N.	75.551W.	—	DE	—	—	1.7MD(DE)	FELT	OCT. 20	02:55	EST
GEORGIA														
DEC. 20	15	15	06.3	34.917N.	84.769W.	10	TC	—	—	2.6MD(TC)	—	DEC. 20	10:15	EST
HAWAII														
JAN. 6	19	38	59.9	19.372N.	155.479W.	10	HV	—	—	3.0ML(HV)	II	JAN. 6	09:38	HST
JAN. 10	11	39	37.0	18.954N.	155.228W.	13	HV	—	—	3.1ML(HV)	—	JAN. 10	01:39	HST
JAN. 10	16	54	26.9	18.972N.	155.209W.	13	HV	—	—	3.6ML(HV)	—	JAN. 10	06:54	HST
JAN. 10	17	00	22.7	19.002N.	155.225W.	14	HV	—	—	3.2ML(HV)	—	JAN. 10	07:00	HST
JAN. 10	17	17	21.3	18.986N.	155.213W.	14	HV	—	—	3.4ML(HV)	—	JAN. 10	07:17	HST
JAN. 15	21	39	25.9	19.343N.	155.216W.	9	HV	—	—	3.1ML(HV)	II	JAN. 15	11:39	HST
JAN. 21	18	52	28.3	18.947N.	155.194W.	15	HV	—	—	3.5ML(HV)	—	JAN. 21	08:52	HST
FEB. 10	11	13	40.6	19.961N.	155.510W.	13	HV	—	—	3.1ML(HV)	—	FEB. 10	01:13	HST
FEB. 22	05	48	29.4	19.328N.	155.211W.	9	HV	5.0	—	4.8ML(HV)	V	FEB. 21	19:48	HST
FEB. 25	07	41	57.4	19.955N.	155.518W.	42	HV	—	—	3.2ML(HV)	—	FEB. 24	21:41	HST
FEB. 26	04	27	46.4	19.787N.	156.073W.	11	HV	—	—	3.9ML(HV)	III	FEB. 25	18:27	HST
FEB. 27	23	39	28.2	20.176N.	155.843W.	27	HV	—	—	3.2ML(HV)	—	FEB. 27	13:39	HST
FEB. 28	12	07	40.0	19.852N.	155.186W.	34	HV	—	—	3.3ML(HV)	—	FEB. 28	02:07	HST
MAR. 4	10	45	57.3	19.326N.	155.197W.	9	HV	—	—	3.2ML(HV)	—	MAR. 4	00:45	HST
MAR. 5	07	09	03.4	19.368N.	155.482W.	10	HV	—	—	3.0ML(HV)	II	MAR. 4	21:09	HST
MAR. 7	08	27	23.1	19.369N.	155.477W.	10	HV	—	—	3.0ML(HV)	—	MAR. 6	22:27	HST
MAR. 11	18	21	45.0	19.349N.	155.039W.	8	HV	—	—	3.4ML(HV)	III	MAR. 11	08:21	HST
MAR. 16	17	55	02.3	19.414N.	156.278W.	32	HV	—	—	3.4ML(HV)	—	MAR. 16	07:55	HST
MAR. 17	07	26	14.1	18.939N.	155.207W.	47	HV	—	—	3.4ML(HV)	—	MAR. 16	21:26	HST
MAR. 22	15	35	51.9	19.893N.	156.611W.	2	HV	—	—	3.3ML(HV)	—	MAR. 22	05:35	HST
MAR. 22	17	07	54.8	19.900N.	156.611W.	2	HV	—	—	4.1ML(HV)	—	MAR. 22	07:07	HST
MAR. 22	17	14	43.5	20.731N.	158.208W.	6	HV	—	—	3.9ML(HV)	—	MAR. 22	07:14	HST
MAR. 29	12	57	45.0	19.340N.	155.193W.	9	HV	—	—	3.1ML(HV)	II	MAR. 29	02:57	HST
MAR. 30	19	03	09.0	19.278N.	155.514W.	43	HV	—	—	3.4ML(HV)	—	MAR. 30	09:03	HST
APR. 1	21	31	18.5	19.362N.	155.085W.	9	HV	—	—	4.1ML(HV)	IV	APR. 1	11:31	HST
APR. 8	08	06	38.6	19.930N.	156.672W.	26	HV	—	—	3.4ML(HV)	—	APR. 7	22:06	HST
APR. 10	02	54	34.0	19.383N.	155.507W.	10	HV	—	—	3.1ML(HV)	—	APR. 9	16:54	HST

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time			
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone	
	hr	min	sec												
				(°)	(°)	(km)	Source								
HAWAII—Continued															
APR.	21	22	37	42.0	19.648N.	156.018W.	15	HV	—	—	3.3ML(HV)	—	APR.	21	12:37 HST
APR.	27	17	54	48.4	19.230N.	155.077W.	48	HV	—	—	3.7ML(HV)	II	APR.	27	07:54 HST
MAY	22	12	10	28.3	19.663N.	156.037W.	11	HV	—	—	3.2ML(HV)	III	MAY	22	02:10 HST
MAY	23	08	36	54.6	19.192N.	155.618W.	9	HV	—	—	3.6ML(HV)	III	MAY	22	22:36 HST
JUNE	7	09	36	11.1	19.566N.	155.949W.	26	HV	—	—	3.6ML(HV)	III	JUNE	6	23:36 HST
JUNE	10	10	50	32.7	19.298N.	155.795W.	11	HV	—	—	3.1ML(HV)	—	JUNE	10	00:50 HST
JUNE	17	12	31	12.5	19.266N.	155.083W.	46	HV	—	—	3.6ML(HV)	—	JUNE	17	02:31 HST
JUNE	17	17	37	42.6	19.371N.	155.478W.	10	HV	—	—	3.1ML(HV)	II	JUNE	17	07:37 HST
JUNE	28	15	26	26.9	19.312N.	155.839W.	12	HV	—	—	3.1ML(HV)	—	JUNE	28	05:26 HST
JUNE	30	21	12	24.0	19.374N.	155.298W.	27	HV	3.9	—	4.2ML(HV)	IV	JUNE	30	11:12 HST
JULY	7	12	00	37.5	19.169N.	155.599W.	11	HV	4.0	—	4.3ML(HV)	IV	JULY	7	02:00 HST
JULY	7	12	06	40.9	19.149N.	155.589W.	7	HV	—	—	3.2ML(HV)	III	JULY	7	02:06 HST
JULY	7	12	25	04.0	19.144N.	155.587W.	11	HV	—	—	3.6ML(HV)	III	JULY	7	02:25 HST
JULY	7	16	09	15.2	19.139N.	155.598W.	11	HV	—	—	3.2ML(HV)	III	JULY	7	06:09 HST
JULY	7	16	28	32.1	19.135N.	155.589W.	11	HV	—	—	3.2ML(HV)	III	JULY	7	06:28 HST
JULY	11	07	20	08.4	19.217N.	155.544W.	10	HV	—	—	3.1ML(HV)	III	JULY	10	21:20 HST
JULY	12	01	11	58.6	19.504N.	154.921W.	40	HV	—	—	3.6ML(HV)	—	JULY	11	15:11 HST
JULY	14	13	57	42.2	19.768N.	155.662W.	12	HV	—	—	3.2ML(HV)	—	JULY	14	03:57 HST
JULY	25	15	34	13.6	19.745N.	156.484W.	35	HV	—	—	3.7ML(HV)	II	JULY	25	05:34 HST
AUG.	4	22	03	40.9	19.491N.	155.006W.	43	HV	—	—	3.2ML(HV)	—	AUG.	4	12:03 HST
AUG.	5	03	24	38.1	19.419N.	154.939W.	39	HV	—	—	3.1ML(HV)	—	AUG.	4	17:24 HST
AUG.	6	18	06	59.4	19.202N.	155.455W.	9	HV	—	—	3.2ML(HV)	II	AUG.	6	08:06 HST
AUG.	13	20	02	53.9	19.194N.	155.658W.	11	HV	—	—	3.5ML(HV)	III	AUG.	13	10:02 HST
AUG.	21	05	48	54.6	21.008N.	156.167W.	33	HV	—	—	3.2ML(HV)	—	AUG.	20	19:48 HST
AUG.	22	16	28	00.2	19.309N.	156.070W.	40	HV	—	—	4.2ML(HV)	IV	AUG.	22	06:28 HST
AUG.	24	21	11	10.6	20.545N.	155.520W.	1	HV	—	—	3.1ML(HV)	—	AUG.	24	11:11 HST
SEPT.	3	05	51	12.4	19.328N.	155.229W.	10	HV	—	—	3.3ML(HV)	III	SEPT.	2	19:51 HST
SEPT.	3	21	22	54.7	18.871N.	155.257W.	13	HV	—	—	3.1ML(HV)	—	SEPT.	3	11:22 HST
SEPT.	4	23	27	25.5	19.358N.	155.054W.	7	HV	—	—	3.0ML(HV)	—	SEPT.	4	13:27 HST
SEPT.	20	15	36	09.6	20.456N.	157.772W.	42	HV	—	—	3.3ML(HV)	—	SEPT.	20	05:36 HST
OCT.	17	18	03	46.8	19.120N.	155.583W.	11	HV	—	—	3.1ML(HV)	—	OCT.	17	08:03 HST
OCT.	1	05	28	11.2	19.804N.	155.384W.	24	HV	—	—	3.0ML(HV)	II	SEPT.	30	19:28 HST
OCT.	3	16	12	48.7	19.783N.	155.595W.	15	HV	—	—	3.7ML(HV)	IV	OCT.	3	06:12 HST
OCT.	10	20	02	26.6	19.314N.	155.876W.	11	HV	—	—	3.4ML(HV)	—	OCT.	10	10:02 HST
OCT.	12	18	44	07.1	19.363N.	155.330W.	31	HV	—	—	3.6ML(HV)	III	OCT.	12	08:44 HST
OCT.	13	11	15	50.7	18.454N.	156.902W.	15	HV	—	—	3.0ML(HV)	—	OCT.	13	01:15 HST
OCT.	14	09	12	55.9	19.848N.	155.390W.	30	HV	—	—	3.0ML(HV)	—	OCT.	13	23:12 HST
OCT.	15	05	13	40.9	19.347N.	155.049W.	9	HV	—	—	3.1ML(HV)	II	OCT.	14	19:13 HST
OCT.	17	18	06	15.9	19.119N.	155.584W.	11	HV	—	—	3.2ML(HV)	—	OCT.	17	08:06 HST
OCT.	18	04	57	42.6	19.507N.	155.919W.	12	HV	—	—	3.0ML(HV)	III	OCT.	17	18:57 HST
OCT.	26	05	06	28.5	19.372N.	155.475W.	11	HV	—	—	3.1ML(HV)	—	OCT.	25	19:06 HST
NOV.	14	06	01	55.3	19.406N.	155.284W.	19	HV	—	—	3.0ML(HV)	II	NOV.	13	20:01 HST
NOV.	18	14	17	07.2	19.210N.	155.630W.	8	HV	—	—	3.1ML(HV)	—	NOV.	18	04:17 HST
NOV.	28	18	29	47.6	19.307N.	155.278W.	9	HV	—	—	3.0ML(HV)	—	NOV.	28	08:29 HST
DEC.	12	19	01	22.9	20.578N.	155.755W.	25	HV	4.3	—	4.7ML(HV)	IV	DEC.	12	09:01 HST
DEC.	12	21	18	39.3	19.516N.	155.907W.	12	HV	—	—	4.0ML(HV)	III	DEC.	12	11:18 HST
DEC.	13	08	17	44.5	19.363N.	155.044W.	9	HV	—	—	3.4ML(HV)	IV	DEC.	12	22:17 HST
DEC.	13	14	29	10.4	19.371N.	155.080W.	9	HV	—	—	3.2ML(HV)	III	DEC.	13	04:29 HST

Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
HAWAII—Continued														
DEC. 13	23	20	57.4	19.328N.	155.129W.	9	HV	—	—	4.0ML(HV)	IV	DEC. 13	13:20 HST	
DEC. 23	16	38	35.1	19.357N.	155.012W.	9	HV	—	—	3.2ML(HV)	III	DEC. 23	06:38 HST	
DEC. 25	09	38	26.8	19.234N.	155.512W.	10	HV	—	—	3.3ML(HV)	III	DEC. 24	23:38 HST	
DEC. 31	23	21	09.2	20.439N.	156.109W.	35	HV	—	—	3.1ML(HV)	—	DEC. 31	13:21 HST	
DEC. 31	23	35	34.1	19.429N.	155.322W.	4	HV	—	—	3.1ML(HV)	—	DEC. 31	13:35 HST	
IDAHO														
JAN. 6	14	39	59.9	44.624N.	114.138W.	5	GS	—	—	3.2ML(GS)	—	JAN. 6	07:39 MST	
JAN. 7	07	47	02.6	44.554N.	114.526W.	10	GS	—	—	3.2ML(GS)	—	JAN. 7	00:47 MST	
JAN. 7	07	47	04.4	44.639N.	114.600W.	25	BU	—	—	3.2ML(BU)	—	JAN. 7	00:47 MST	
JAN. 13	17	49	07.6	44.641N.	114.194W.	10	GS	—	—	3.4ML(GS)	—	JAN. 13	10:49 MST	
JAN. 18	03	38	07.9	44.703N.	114.151W.	10	GS	—	—	3.7ML(GS)	III	JAN. 17	20:38 MST	
JAN. 20	01	18	24.6	47.526N.	115.767W.	1	BU	—	—	2.8MD(BU)	—	JAN. 19	18:18 MST	
JAN. 21	03	03	13.2	44.448N.	114.882W.	17	BU	—	—	3.1ML(BU)	—	JAN. 20	20:03 MST	
JAN. 26	07	09	53.2	43.333N.	111.078W.	1	UU	—	—	3.2ML(UU)	—	JAN. 26	00:09 MST	
FEB. 4	04	33	32.6	44.442N.	114.140W.	7	BU	—	—	3.2ML(BU)	—	FEB. 3	21:33 MST	
FEB. 6	16	08	56.0	44.489N.	114.336W.	10	GS	—	—	3.8ML(GS)	III	FEB. 6	09:08 MST	
FEB. 6	18	13	54.2	44.355N.	114.418W.	10	GS	—	—	3.4ML(GS)	FELT	FEB. 6	11:13 MST	
FEB. 6	19	34	19.4	44.551N.	114.176W.	10	GS	4.7	—	4.8MD(BU)	V	FEB. 6	12:34 MST	
FEB. 6	21	59	10.1	44.492N.	114.163W.	18	BU	—	—	3.1ML(BU)	—	FEB. 6	14:59 MST	
FEB. 7	02	14	04.4	44.421N.	114.185W.	10	GS	—	—	3.7ML(GS)	FELT	FEB. 6	19:14 MST	
FEB. 7	11	21	24.7	44.266N.	114.055W.	16	BU	—	—	3.2ML(BU)	—	FEB. 7	04:21 MST	
FEB. 7	13	32	21.4	44.429N.	114.152W.	10	BU	—	—	3.1ML(BU)	—	FEB. 7	06:32 MST	
FEB. 8	02	22	20.2	44.465N.	114.145W.	20	BU	—	—	3.2ML(BU)	—	FEB. 7	19:22 MST	
FEB. 8	05	36	15.1	44.469N.	114.206W.	20	BU	—	—	3.6ML(BU)	—	FEB. 7	22:36 MST	
FEB. 8	14	22	19.0	47.469N.	115.810W.	4	BU	—	—	2.7ML(BU)	—	FEB. 8	07:22 MST	
FEB. 10	10	23	45.4	45.228N.	114.531W.	19	BU	—	—	2.5ML(BU)	—	FEB. 10	03:23 MST	
FEB. 11	13	31	50.0	44.369N.	114.493W.	5	GS	—	—	3.0ML(GS)	—	FEB. 11	06:31 MST	
FEB. 11	16	07	03.8	44.457N.	114.233W.	10	GS	—	—	3.8ML(GS)	FELT	FEB. 11	09:07 MST	
FEB. 12	04	14	48.7	44.856N.	113.410W.	5	GS	—	—	3.2ML(BU)	—	FEB. 11	21:14 MST	
FEB. 15	09	58	14.4	44.126N.	114.355W.	23	BU	—	—	3.0ML(BU)	—	FEB. 15	02:58 MST	
FEB. 17	05	31	28.6	44.415N.	114.080W.	19	BU	—	—	2.7ML(BU)	—	FEB. 16	22:31 MST	
FEB. 19	19	25	49.2	44.469N.	113.378W.	5	GS	—	—	3.0ML(BU)	—	FEB. 19	12:25 MST	
FEB. 24	05	37	13.2	42.464N.	111.822W.	7	UU	—	—	2.7ML(UU)	—	FEB. 23	22:37 MST	
FEB. 24	22	00	38.1	44.475N.	114.185W.	15	BU	—	—	2.9ML(BU)	—	FEB. 24	15:00 MST	
FEB. 25	11	46	06.5	44.501N.	114.190W.	10	GS	—	—	3.3ML(GS)	II	FEB. 25	04:46 MST	
FEB. 27	07	29	07.8	44.480N.	114.187W.	10	GS	—	—	3.1ML(GS)	—	FEB. 27	00:29 MST	
MAR. 3	09	44	05.8	44.243N.	113.996W.	18	BU	—	—	3.3ML(BU)	—	MAR. 3	02:44 MST	
MAR. 11	19	47	26.5	43.994N.	114.384W.	22	BU	—	—	3.0ML(BU)	—	MAR. 11	12:47 MST	
MAR. 17	06	56	17.1	44.553N.	114.182W.	10	GS	4.5	—	4.7MD(BU)	V	MAR. 16	23:56 MST	
MAR. 21	09	02	57.3	44.286N.	114.076W.	13	BU	—	—	2.8ML(BU)	—	MAR. 21	02:02 MST	
MAR. 22	18	07	55.0	44.264N.	114.042W.	17	BU	—	—	3.1ML(BU)	—	MAR. 22	11:07 MST	
MAR. 23	18	03	53.9	44.358N.	113.777W.	5	GS	—	—	3.5ML(GS)	—	MAR. 23	11:03 MST	
MAR. 23	18	10	19.4	44.304N.	113.796W.	5	GS	—	—	3.4ML(GS)	—	MAR. 23	11:10 MST	
MAR. 25	07	55	12.3	44.465N.	114.153W.	15	BU	—	—	3.2ML(BU)	—	MAR. 25	00:55 MST	
MAR. 31	00	26	31.4	44.843N.	114.266W.	18	BU	—	—	2.5ML(BU)	—	MAR. 30	17:26 MST	

Table 1. Summary of United States earthquakes for 1985—Continued

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. Inten- sity	Local time			
	(UTC)							Source	m <sub>b</sub>	M <sub>s</sub>		Local	Date	hr	zone
	hr	min	sec												
IDAHO															
MAR. 31	16	05	34.1	44.125N.	113.851W.	5	GS	—	—	3.1ML(BU)	—	MAR. 31	09:05	MST	
APR. 1	07	08	49.0	44.425N.	114.083W.	15	BU	—	—	2.8ML(BU)	—	APR. 1	00:08	MST	
APR. 5	05	43	26.8	42.390N.	111.571W.	5	UU	—	—	3.2ML(UU)	—	APR. 4	22:43	MST	
APR. 10	03	02	02.9	44.304N.	114.228W.	10	GS	—	—	3.2ML(GS)	—	APR. 9	20:02	MST	
APR. 11	08	22	02.3	44.745N.	114.508W.	19	BU	—	—	2.8ML(BU)	—	APR. 11	01:22	MST	
APR. 11	08	43	57.7	44.749N.	114.538W.	14	BU	—	—	2.7ML(BU)	—	APR. 11	01:43	MST	
APR. 12	20	57	51.3	44.442N.	114.067W.	21	BU	—	—	3.1ML(BU)	—	APR. 12	13:57	MST	
APR. 13	11	42	17.5	44.493N.	113.628W.	10	BU	—	—	2.5ML(BU)	—	APR. 13	04:42	MST	
APR. 14	21	39	10.0	43.961N.	113.733W.	15	BU	—	—	3.0ML(GS)	—	APR. 14	14:39	MST	
APR. 17	10	29	51.4	44.192N.	113.488W.	10	GS	—	—	3.0ML(GS)	—	APR. 17	03:29	MST	
APR. 18	06	22	18.3	44.448N.	114.129W.	9	BU	—	—	3.2ML(BU)	—	APR. 17	23:22	MST	
APR. 19	00	03	49.3	44.500N.	114.095W.	6	BU	—	—	3.0ML(BU)	—	APR. 18	17:03	MST	
APR. 19	10	54	14.3	44.229N.	114.005W.	10	BU	—	—	2.8ML(BU)	—	APR. 19	03:54	MST	
APR. 20	06	20	34.3	44.474N.	114.273W.	10	GS	—	—	3.3ML(GS)	—	APR. 19	23:20	MST	
MAY 6	23	34	19.6	44.467N.	114.275W.	5	GS	—	—	3.2ML(BU)	—	MAY 6	16:34	MST	
MAY 9	15	29	37.6	44.047N.	114.377W.	5	GS	—	—	3.0ML(GS)	—	MAY 9	08:29	MST	
MAY 10	18	16	36.7	44.475N.	114.418W.	10	BU	—	—	2.9ML(BU)	—	MAY 10	11:16	MST	
MAY 10	22	00	58.4	44.599N.	114.116W.	5	GS	—	—	3.1ML(BU)	—	MAY 10	15:00	MST	
MAY 13	08	23	35.2	44.045N.	113.874W.	5	GS	—	—	3.2ML(GS)	—	MAY 13	01:23	MST	
MAY 13	09	36	36.2	44.361N.	114.476W.	5	GS	—	—	3.0ML(BU)	—	MAY 13	02:36	MST	
MAY 16	05	08	35.9	44.716N.	114.309W.	8	BU	—	—	2.6ML(BU)	—	MAY 15	22:08	MST	
JUNE 5	02	15	07.5	47.646N.	115.607W.	3	BU	—	—	2.9ML(BU)	—	JUNE 4	19:15	MST	
JUNE 7	09	55	20.9	44.258N.	114.038W.	14	BU	—	—	2.9ML(BU)	—	JUNE 7	02:55	MST	
JUNE 8	13	08	23.2	44.255N.	114.199W.	10	GS	—	—	3.4ML(GS)	—	JUNE 8	06:08	MST	
JUNE 11	23	09	37.1	44.499N.	114.216W.	5	GS	—	—	3.0ML(GS)	—	JUNE 11	16:09	MST	
JUNE 14	21	41	52.6	44.924N.	114.278W.	11	BU	—	—	2.8ML(BU)	—	JUNE 14	14:41	MST	
JUNE 15	01	19	35.7	43.507N.	113.622W.	12	BU	—	—	3.4ML(BU)	—	JUNE 14	18:19	MST	
JUNE 15	05	23	30.7	43.506N.	113.618W.	19	BU	—	—	3.2ML(BU)	—	JUNE 15	22:23	MST	
JUNE 19	01	13	20.2	46.048N.	115.736W.	8	BU	—	—	2.5ML(BU)	—	JUNE 18	17:13	PST	
JUNE 19	05	18	44.7	44.840N.	114.277W.	14	BU	—	—	2.6ML(BU)	—	JUNE 18	22:18	MST	
JUNE 23	08	10	55.8	44.668N.	113.843W.	18	BU	—	—	2.6ML(BU)	—	JUNE 23	01:10	MST	
JUNE 23	10	43	38.3	45.542N.	115.909W.	35	BU	—	—	2.8ML(BU)	—	JUNE 23	03:43	MST	
JUNE 23	16	41	04.5	44.799N.	114.387W.	20	BU	—	—	2.6ML(BU)	—	JUNE 23	09:41	MST	
JUNE 27	11	11	07.8	44.117N.	114.382W.	5	GS	—	—	3.0ML(GS)	—	JUNE 27	04:11	MST	
JUNE 29	11	12	21.4	44.419N.	113.917W.	1	BU	—	—	2.7ML(BU)	—	JUNE 29	04:12	MST	
JULY 2	03	03	56.0	43.255N.	111.154W.	5	GS	—	—	4.0ML(GS)	IV	JULY 1	20:03	MST	
JULY 8	14	30	43.4	44.437N.	113.992W.	5	GS	—	—	3.3ML(GS)	—	JULY 8	07:30	MST	
JULY 16	18	43	07.3	44.034N.	114.723W.	5	GS	—	—	3.0ML(GS)	—	JULY 16	11:43	MST	
JULY 16	19	13	28.4	43.924N.	114.671W.	3	BU	—	—	2.8ML(GS)	—	JULY 16	12:13	MST	
JULY 17	00	01	53.7	45.076N.	114.354W.	5	GS	—	—	3.4ML(GS)	—	JULY 16	17:01	MST	
JULY 17	00	16	55.0	45.046N.	114.349W.	5	GS	—	—	3.6ML(GS)	—	JULY 16	16:16	PST	
JULY 17	00	20	13.9	45.038N.	114.369W.	20	BU	—	—	2.6ML(BU)	—	JULY 16	17:20	MST	
JULY 19	12	52	38.8	44.011N.	114.833W.	5	GS	—	—	3.5ML(GS)	—	JULY 19	05:52	MST	
JULY 20	17	33	22.4	44.482N.	114.097W.	5	GS	—	—	3.5ML(GS)	—	JULY 20	10:33	MST	
JULY 28	06	13	47.8	44.305N.	114.147W.	5	GS	—	—	3.1ML(GS)	—	JULY 27	23:13	MST	
AUG. 1	11	50	54.7	44.594N.	114.629W.	24	BU	—	—	2.8ML(BU)	—	AUG. 1	04:50	MST	
AUG. 3	11	20	58.3	44.422N.	114.232W.	21	BU	—	—	2.6ML(BU)	—	AUG. 3	04:20	MST	
AUG. 5	11	06	52.9	43.821N.	113.648W.	27	BU	—	—	2.8ML(BU)	—	AUG. 5	04:06	MST	



Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
IDAHO—Continued														
AUG. 6	19	32	00.8	44.057N.	114.195W.	5	GS	—	—	2.8ML(GS)	—	AUG. 6	12:32	MST
AUG. 7	07	10	33.2	42.108N.	112.322W.	1	UU	—	—	2.8ML(UU)	III	AUG. 7	00:10	MST
AUG. 7	11	23	18.3	44.255N.	114.034W.	21	BU	—	—	2.6ML(BU)	—	AUG. 7	04:23	MST
AUG. 9	10	10	51.7	46.927N.	116.755W.	27	BU	—	—	2.9ML(BU)	—	AUG. 9	12:10	MST
AUG. 13	01	03	10.9	44.532N.	114.462W.	14	BU	—	—	2.7ML(BU)	—	AUG. 12	18:03	MST
AUG. 13	01	05	24.1	44.510N.	114.411W.	11	BU	—	—	2.7ML(BU)	—	AUG. 12	18:05	MST
AUG. 13	01	18	20.9	44.512N.	114.471W.	22	BU	—	—	2.5ML(BU)	—	AUG. 12	18:18	MST
AUG. 14	06	58	42.6	44.423N.	114.288W.	5	GS	—	—	2.7ML(GS)	—	AUG. 13	23:58	MST
AUG. 15	07	41	44.5	44.265N.	114.112W.	5	GS	—	—	3.1ML(GS)	—	AUG. 15	00:41	MST
AUG. 23	05	12	08.2	44.483N.	114.165W.	5	GS	—	—	2.7ML(GS)	—	AUG. 22	22:12	MST
AUG. 24	19	07	58.2	46.880N.	116.768W.	5	GS	—	—	2.7ML(GS)	—	AUG. 24	11:07	PST
AUG. 28	00	24	06.2	44.587N.	114.401W.	3	BU	—	—	2.7ML(BU)	—	AUG. 28	17:24	MST
AUG. 28	15	08	24.6	44.412N.	114.413W.	5	GS	—	—	3.1ML(GS)	—	AUG. 28	08:08	MST
AUG. 28	19	10	11.3	44.483N.	114.215W.	5	GS	—	—	3.6ML(GS)	—	AUG. 28	12:10	MST
AUG. 28	20	20	37.8	44.425N.	114.351W.	5	GS	—	—	3.1ML(GS)	—	AUG. 28	13:20	MST
AUG. 30	01	14	31.0	44.507N.	114.324W.	9	BU	—	—	2.9ML(BU)	—	AUG. 29	18:14	MST
AUG. 31	00	28	49.2	44.427N.	114.229W.	5	GS	—	—	3.3ML(GS)	—	AUG. 30	17:28	MST
SEPT. 4	04	07	18.7	44.209N.	114.140W.	5	GS	—	—	3.0ML(GS)	—	SEPT. 3	21:07	MST
SEPT. 23	22	07	18.6	44.263N.	114.162W.	5	GS	—	—	2.8ML(GS)	—	SEPT. 23	15:07	MST
SEPT. 24	08	19	29.3	44.434N.	114.276W.	5	GS	—	—	2.8ML(GS)	—	SEPT. 24	01:19	MST
OCT. 2	18	48	19.8	44.345N.	114.098W.	5	BU	—	—	3.0ML(BU)	—	OCT. 2	11:48	MST
OCT. 6	03	07	55.0	44.341N.	114.263W.	5	GS	—	—	3.0ML(BU)	—	OCT. 5	20:07	MST
OCT. 6	06	07	23.9	44.364N.	114.258W.	5	GS	—	—	2.4ML(GS)	—	OCT. 5	23:07	MST
OCT. 6	06	08	25.8	44.234N.	114.088W.	21	BU	—	—	3.1ML(BU)	—	OCT. 5	23:08	MST
OCT. 9	07	18	00.6	44.448N.	114.173W.	5	GS	—	—	3.3ML(GS)	—	OCT. 9	00:18	MST
OCT. 9	09	10	03.0	44.455N.	114.154W.	5	GS	—	—	3.1ML(GS)	—	OCT. 9	02:10	MST
OCT. 19	22	42	39.1	44.419N.	114.097W.	22	BU	—	—	2.7ML(BU)	—	OCT. 19	15:42	MST
OCT. 20	02	18	51.6	44.412N.	114.256W.	20	BU	—	—	3.0ML(BU)	—	OCT. 19	19:18	MST
OCT. 20	03	15	56.2	44.548N.	114.283W.	5	GS	—	—	3.0ML(GS)	—	OCT. 19	20:15	MST
OCT. 24	05	50	13.2	44.556N.	114.080W.	24	BU	—	—	2.9ML(BU)	—	OCT. 23	22:50	MST
OCT. 26	20	57	42.3	44.666N.	114.687W.	22	BU	—	—	2.7ML(BU)	—	OCT. 26	13:57	MST
OCT. 27	09	01	41.2	44.688N.	114.692W.	20	BU	—	—	2.5ML(BU)	—	OCT. 27	02:01	MST
OCT. 29	21	30	34.6	44.392N.	114.075W.	5	GS	—	—	4.1ML(GS)	V	OCT. 29	14:30	MST
OCT. 29	21	37	39.1	44.408N.	114.030W.	18	BU	—	—	2.8ML(BU)	—	OCT. 29	14:37	MST
OCT. 29	23	57	38.4	44.378N.	114.155W.	5	GS	—	—	3.2ML(GS)	—	OCT. 29	16:57	MST
OCT. 31	11	31	50.9	47.514N.	115.751W.	5	BU	—	—	2.5ML(BU)	—	OCT. 31	07:31	MST
NOV. 14	09	07	58.2	44.201N.	113.952W.	20	BU	—	—	2.6ML(BU)	—	NOV. 14	02:07	MST
NOV. 18	17	30	47.5	44.314N.	114.094W.	18	BU	—	—	3.2ML(BU)	—	NOV. 18	10:30	MST
NOV. 19	09	45	09.4	44.184N.	116.168W.	14	BU	—	—	2.7ML(BU)	—	NOV. 19	02:45	MST
NOV. 22	11	43	46.6	44.465N.	114.080W.	21	BU	—	—	3.2ML(BU)	—	NOV. 22	04:43	MST
DEC. 1	20	28	04.7	44.074N.	114.051W.	5	GS	—	—	3.4ML(GS)	—	DEC. 1	13:28	MST
DEC. 4	23	40	51.9	47.494N.	115.776W.	6	BU	—	—	2.9ML(BU)	—	DEC. 4	16:40	MST
DEC. 5	16	12	46.4	42.389N.	111.572W.	7	UU	—	—	2.9MD(UU)	—	DEC. 5	09:12	MST
DEC. 12	10	26	40.5	44.546N.	113.053W.	5	GS	—	—	3.0ML(GS)	—	DEC. 12	03:26	MST
DEC. 12	11	27	37.4	44.525N.	114.095W.	9	BU	—	—	2.7ML(BU)	—	DEC. 12	04:27	MST
DEC. 14	14	02	23.8	44.326N.	114.204W.	5	GS	—	—	2.7ML(GS)	—	DEC. 14	07:02	MST
DEC. 22	08	01	42.2	44.404N.	114.037W.	19	BU	—	—	3.0ML(BU)	—	DEC. 22	01:01	MST
DEC. 22	12	21	30.3	44.565N.	114.018W.	1	BU	—	—	2.9ML(BU)	—	DEC. 22	05:21	MST

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time (UTC)			Latitude (°)	Longitude (°)	Depth (km)	Hypo- center Source	Magnitude			Max. inten- sity	Local time			
	hr	min	sec					m <sub>b</sub>	M <sub>g</sub>	Local		Date	hr	zone	
ILLINOIS															
FEB.	15	15	56	10.0	37.230N.	89.330W.	5	SL	—	—	3.3Mn(SL)	IV	FEB.	15	09:56 CST
MAR.	28	14	55	32.1	39.040N.	89.660W.	5	SL	—	—	2.5Mn(SL)	—	MAR.	28	08:55 CST
SEPT.	9	22	06	31.0	41.848N.	88.014W.	5	GS	—	—	3.0Mn(GS)	V	SEPT.	9	16:06 CST
OCT.	12	06	43	42.5	38.510N.	89.010W.	5	SL	—	—	2.7Mn(SL)	—	OCT.	12	00:43 CST
NOV.	8	19	10	12.5	38.180N.	90.320W.	3	SL	—	—	2.6Mn(SL)	—	NOV.	8	13:10 CST
DEC.	29	08	56	56.3	38.552N.	88.965W.	5	GS	—	—	3.5Mn(GS)	V	DEC.	29	02:56 CST
INDIANA															
FEB.	13	10	22	24.0	38.420N.	87.500W.	3	SL	—	—	3.0Mn(SL)	—	FEB.	13	04:22 CST
KENTUCKY															
MAY	1	01	16	27.8	37.780N.	87.610W.	10	SL	—	—	2.9Mn(SL)	III	APR	30	19:16 CST
MAINE															
APR.	12	05	27	30.5	45.364N.	70.704W.	2	WO	—	—	3.1Mn(WO)	III	APR.	12	00:27 EST
OCT.	7	02	09	37.6	44.077N.	70.215W.	7	WO	—	—	2.3Mn(WO)	FELT	OCT.	6	21:09 EST
OCT.	24	06	36	21.1	45.324N.	69.365W.	10	WO	—	—	2.7Mn(WO)	—	OCT.	24	01:36 EST
NOV.	25	12	53	36.1	45.226N.	69.533W.	5	WO	—	—	2.8Mn(WO)	—	NOV.	25	07:53 EST
MASSACHUSETTS															
OCT.	15	20	00	38.4	42.528N.	71.471W.	13	WO	—	—	3.1Mn(WO)	IV	OCT.	15	15:00 EST
MISSOURI															
JAN.	12	13	23	36.3	36.570N.	89.590W.	5	SL	—	—	2.8Mn(SL)	—	JAN.	12	07:23 CST
FEB.	21	23	01	20.8	36.070N.	89.800W.	9	SL	—	—	2.5Mn(SL)	—	FEB.	21	17:01 CST
MAR.	18	18	30	39.8	36.490N.	89.550W.	8	SL	—	—	2.5MD(SL)	—	MAR.	18	12:30 CST
APR.	13	00	24	37.9	36.090N.	89.580W.	11	SL	—	—	2.6Mn(SL)	—	APR.	12	18:24 CST
MAY	26	06	11	11.8	36.540N.	89.540W.	2	SL	—	—	2.6Mn(SL)	—	MAY	26	00:11 CST
JULY	6	08	08	12.7	36.540N.	89.640W.	9	SL	—	—	2.7Mn(SL)	—	JULY	6	03:08 CST
JULY	10	04	38	14.4	36.760N.	89.480W.	13	SL	—	—	2.9Mn(SL)	—	JULY	9	22:38 CST
JULY	21	21	22	11.8	37.980N.	90.620W.	6	SL	—	—	2.8Mn(SL)	—	JULY	21	15:22 CST
OCT.	4	19	51	30.9	36.670N.	89.530W.	9	SL	—	—	2.7Mn(SL)	—	OCT.	4	13:51 CST
NOV.	10	17	51	59.5	36.110N.	89.740W.	9	SL	—	—	2.5Mn(SL)	—	NOV.	10	11:51 CST
NOV.	19	06	22	15.1	36.510N.	89.530W.	7	SL	—	—	2.5Mn(SL)	—	NOV.	19	00:22 CST
MONTANA															
JAN.	1	11	46	51.2	44.882N.	112.772W.	4	BU	—	—	2.7ML(BU)	—	JAN.	1	04:46 MST
JAN.	2	03	10	16.6	44.887N.	112.774W.	7	BU	—	—	3.0ML(BU)	—	JAN.	1	20:10 MST
JAN.	3	02	29	50.6	44.715N.	111.796W.	4	BU	—	—	3.8ML(GS)	—	JAN.	2	19:29 MST
JAN.	5	14	47	39.4	45.995N.	113.752W.	2	BU	—	—	2.6ML(BU)	—	JAN.	5	07:47 MST

Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center Source	Magnitude			Max. inten- sity	Local time			
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone	
	hr	min	sec												
MONTANA—Continued															
JAN.	6	14	16	43.2	44.626N.	112.257W.	19	BU	—	—	3.5ML(BU)	—	JAN.	6	07:16 MST
JAN.	16	23	37	07.2	44.787N.	111.202W.	9	BU	—	—	2.9ML(BU)	—	JAN.	16	16:37 MST
JAN.	27	21	05	58.0	44.836N.	111.484W.	5	GS	—	—	3.1ML(BU)	—	JAN.	27	14:05 MST
JAN.	29	04	09	36.5	47.767N.	113.713W.	15	BU	—	—	2.7ML(BU)	—	JAN.	28	21:09 MST
FEB.	11	07	49	02.2	44.712N.	111.778W.	15	BU	—	—	3.1ML(BU)	—	FEB.	11	00:49 MST
FEB.	11	14	52	04.7	46.552N.	113.604W.	6	BU	—	—	2.9ML(BU)	—	FEB.	11	07:52 MST
FEB.	11	14	52	36.3	46.553N.	113.601W.	8	BU	—	—	2.9ML(BU)	—	FEB.	11	07:52 MST
FEB.	22	06	32	50.5	44.788N.	112.945W.	14	BU	—	—	2.7ML(BU)	—	FEB.	21	23:32 MST
FEB.	22	09	57	16.2	44.755N.	113.055W.	18	BU	—	—	2.9ML(BU)	—	FEB.	22	02:57 MST
MAR.	11	21	11	25.8	45.094N.	110.864W.	12	BU	—	—	3.0ML(BU)	—	MAR.	11	14:11 MST
MAR.	17	00	11	09.6	45.347N.	112.951W.	7	BU	—	—	2.7ML(BU)	—	MAR.	16	17:11 MST
MAR.	20	03	18	42.2	44.822N.	111.559W.	5	GS	—	—	3.5ML(GS)	—	MAR.	19	20:18 MST
MAR.	31	17	45	53.0	47.374N.	113.111W.	10	GS	—	—	3.1ML(GS)	—	MAR.	31	10:45 MST
APR.	1	09	13	14.2	47.276N.	113.233W.	10	GS	4.8	—	4.9MD(BU)	V	APR.	1	02:13 MST
APR.	1	19	32	53.1	47.246N.	113.190W.	7	BU	—	—	2.5ML(BU)	—	APR.	1	12:32 MST
APR.	3	19	03	20.0	47.236N.	113.241W.	13	BU	—	—	2.8ML(BU)	—	APR.	3	12:03 MST
APR.	10	06	10	20.4	44.779N.	112.826W.	18	BU	—	—	3.1ML(BU)	—	APR.	9	23:10 MST
APR.	12	02	57	34.3	47.258N.	113.194W.	25	BU	—	—	2.6ML(BU)	—	APR.	11	19:57 MST
APR.	17	22	28	38.7	44.992N.	112.805W.	18	BU	—	—	3.9ML(BU)	—	APR.	17	15:28 MST
APR.	20	02	54	13.9	45.981N.	113.293W.	9	BU	—	—	3.2ML(GS)	—	APR.	19	19:54 MST
APR.	22	19	14	49.2	44.770N.	112.805W.	18	BU	—	—	3.0ML(BU)	—	APR.	22	12:14 MST
APR.	23	10	47	25.7	44.664N.	111.964W.	11	BU	—	—	3.2ML(GS)	—	APR.	23	03:47 MST
APR.	24	11	15	30.1	45.994N.	113.317W.	4	BU	—	—	2.8ML(BU)	—	APR.	24	04:15 MST
APR.	28	22	23	22.7	44.933N.	111.707W.	12	BU	—	—	2.5ML(BU)	—	APR.	28	15:23 MST
APR.	29	00	31	38.1	44.917N.	111.722W.	12	BU	—	—	2.7ML(BU)	—	APR.	28	17:31 MST
APR.	30	04	20	32.9	44.588N.	111.269W.	5	GS	—	—	3.6ML(GS)	III	APR.	29	21:20 MST
MAY	1	14	56	43.0	45.771N.	111.371W.	15	BU	—	—	2.9ML(BU)	—	MAY	1	07:56 MST
MAY	3	04	38	58.6	46.428N.	111.362W.	0	BU	—	—	2.6ML(BU)	—	MAY	2	21:38 MST
MAY	3	04	42	12.7	46.427N.	111.389W.	7	BU	—	—	2.5ML(BU)	—	MAY	2	21:42 MST
MAY	9	09	22	21.5	44.842N.	111.521W.	13	BU	—	—	2.8ML(BU)	—	MAY	9	02:22 MST
MAY	15	20	30	36.6	44.777N.	111.009W.	6	BU	—	—	2.8ML(BU)	—	MAY	15	13:30 MST
MAY	31	04	13	24.3	44.710N.	112.820W.	12	BU	—	—	3.1ML(BU)	—	MAY	30	21:13 MST
JUNE	8	02	26	37.3	44.808N.	112.849W.	5	GS	—	—	2.9ML(GS)	—	JUNE	7	19:26 MST
JUNE	9	05	53	01.4	44.881N.	112.694W.	5	GS	—	—	3.0ML(GS)	—	JUNE	8	22:53 MST
JUNE	9	06	11	23.4	44.875N.	112.667W.	6	BU	—	—	2.8ML(BU)	—	JUNE	8	22:11 MST
JUNE	10	13	01	11.0	45.764N.	111.407W.	5	GS	—	—	3.1ML(GS)	—	JUNE	10	06:01 MST
JUNE	10	13	10	41.2	45.814N.	111.407W.	9	BU	—	—	2.5ML(BU)	—	JUNE	10	06:10 MST
JUNE	13	14	43	22.4	45.013N.	111.818W.	10	BU	—	—	2.9ML(BU)	—	JUNE	13	07:43 MST
JUNE	17	10	49	53.7	44.663N.	112.055W.	11	BU	—	—	2.8ML(BU)	—	JUNE	17	03:49 MST
JUNE	17	20	02	41.5	45.007N.	111.779W.	14	BU	—	—	3.0ML(BU)	—	JUNE	17	13:02 MST
JUNE	22	22	40	08.0	44.856N.	112.688W.	18	BU	—	—	2.9ML(BU)	—	JUNE	22	15:40 MST
JUNE	28	22	40	02.3	44.726N.	111.236W.	5	GS	—	—	3.1ML(GS)	—	JUNE	28	15:40 MST
JUNE	30	01	18	48.3	44.827N.	111.157W.	23	BU	—	—	2.5ML(BU)	—	JUNE	29	18:18 MST
JULY	6	19	47	43.5	44.861N.	112.658W.	18	BU	—	—	3.0ML(BU)	—	JULY	6	12:47 MST
JULY	15	06	36	36.6	44.855N.	112.677W.	4	BU	—	—	2.9ML(BU)	—	JULY	14	23:36 MST
JULY	24	05	36	53.0	48.100N.	114.044W.	6	BU	—	—	2.7ML(BU)	—	JULY	23	22:36 MST
AUG.	1	14	28	31.6	47.421N.	112.749W.	23	BU	—	—	2.8ML(BU)	—	AUG.	1	07:28 MST
AUG.	10	15	25	31.9	48.125N.	114.312W.	9	BU	—	—	2.5ML(BU)	—	AUG.	10	08:25 MST

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
MONTANA—Continued														
AUG. 22	02	12	05.0	46.109N.	110.232W.	5	GS	—	—	3.0ML(GS)	—	AUG. 21	19:12	MST
AUG. 22	03	01	08.7	46.037N.	110.391W.	7	BU	—	—	2.7ML(BU)	—	AUG. 21	20:01	MST
AUG. 30	17	41	37.9	45.505N.	110.997W.	6	BU	—	—	2.9ML(BU)	—	AUG. 30	10:41	MST
SEPT. 5	03	59	26.3	44.669N.	111.053W.	5	GS	—	—	3.1ML(GS)	II	SEPT. 4	20:59	MST
SEPT. 24	19	14	55.0	44.786N.	111.161W.	5	GS	—	—	2.9ML(GS)	—	SEPT. 24	12:14	MST
SEPT. 24	19	19	11.5	44.773N.	111.163W.	5	GS	—	—	2.9ML(GS)	—	SEPT. 24	12:19	MST
OCT. 2	12	15	33.7	44.664N.	112.080W.	5	GS	—	—	3.3ML(GS)	—	OCT. 2	05:15	MST
OCT. 7	06	50	03.2	44.768N.	111.678W.	9	BU	—	—	2.9ML(BU)	—	OCT. 6	23:50	MST
OCT. 17	00	08	43.2	44.628N.	111.082W.	5	GS	—	—	3.2ML(GS)	III	OCT. 16	17:08	MST
OCT. 17	00	11	43.0	44.641N.	111.090W.	5	GS	—	—	3.3ML(GS)	III	OCT. 16	17:11	MST
OCT. 17	06	05	01.9	44.751N.	111.067W.	1	BU	—	—	2.5ML(BU)	—	OCT. 16	23:05	MST
OCT. 17	08	01	46.7	44.635N.	111.056W.	5	GS	—	—	3.3ML(GS)	IV	OCT. 17	01:01	MST
OCT. 17	10	18	01.8	44.611N.	111.107W.	5	GS	—	—	2.5ML(GS)	—	OCT. 17	03:18	MST
OCT. 17	10	47	59.3	44.646N.	111.076W.	5	GS	—	—	2.8ML(GS)	III	OCT. 17	03:47	MST
OCT. 17	11	57	58.2	44.633N.	111.083W.	5	GS	—	—	3.2ML(GS)	III	OCT. 17	04:57	MST
OCT. 17	17	56	19.3	44.627N.	111.084W.	5	GS	—	—	2.8ML(GS)	III	OCT. 17	10:56	MST
OCT. 17	19	57	08.2	44.634N.	111.099W.	5	GS	—	—	2.8ML(GS)	—	OCT. 17	12:57	MST
OCT. 17	22	46	36.3	44.637N.	111.060W.	5	GS	—	—	3.2ML(GS)	III	OCT. 17	15:46	MST
OCT. 18	00	16	43.5	44.620N.	111.056W.	5	GS	—	—	3.2ML(GS)	III	OCT. 17	17:16	MST
OCT. 18	00	26	19.2	44.652N.	111.052W.	5	GS	—	—	3.0ML(GS)	III	OCT. 17	17:26	MST
OCT. 18	19	23	22.2	44.647N.	111.051W.	5	GS	—	—	2.8ML(GS)	III	OCT. 18	12:23	MST
OCT. 19	04	00	38.4	44.628N.	111.075W.	5	GS	—	—	3.0ML(BU)	—	OCT. 18	21:00	MST
OCT. 19	06	33	02.8	44.658N.	111.063W.	5	GS	—	—	3.1ML(GS)	III	OCT. 18	23:33	MST
OCT. 19	09	18	03.4	44.644N.	111.109W.	5	GS	—	—	3.0ML(GS)	—	OCT. 19	02:18	MST
OCT. 19	09	28	43.6	44.631N.	111.078W.	5	GS	—	—	3.2ML(GS)	IV	OCT. 19	02:28	MST
OCT. 19	09	45	16.3	44.656N.	111.078W.	5	GS	—	—	3.4ML(GS)	IV	OCT. 19	02:45	MST
OCT. 19	09	59	05.0	44.718N.	111.093W.	15	BU	—	—	2.8ML(BU)	—	OCT. 19	02:59	MST
OCT. 19	11	31	10.9	44.612N.	111.053W.	5	GS	—	—	3.0ML(GS)	—	OCT. 19	04:31	MST
OCT. 19	11	43	12.2	44.634N.	111.096W.	5	GS	—	—	2.7ML(GS)	III	OCT. 19	04:43	MST
OCT. 19	11	47	02.2	44.645N.	111.062W.	5	GS	—	—	3.0ML(GS)	—	OCT. 19	04:47	MST
OCT. 19	12	00	10.5	44.785N.	111.123W.	1	BU	—	—	2.9ML(BU)	IV	OCT. 19	05:00	MST
OCT. 19	12	47	49.7	44.641N.	111.080W.	5	GS	—	—	3.6ML(GS)	IV	OCT. 19	05:47	MST
OCT. 19	13	01	57.5	44.627N.	111.058W.	5	GS	—	—	2.7ML(GS)	—	OCT. 19	06:01	MST
OCT. 19	16	09	37.7	44.649N.	111.062W.	5	GS	—	—	2.9ML(GS)	—	OCT. 19	09:09	MST
OCT. 19	16	45	06.6	44.650N.	111.060W.	5	GS	—	—	3.8ML(GS)	IV	OCT. 19	09:45	MST
OCT. 19	18	18	17.3	44.633N.	111.064W.	5	GS	—	—	2.7ML(GS)	—	OCT. 19	11:18	MST
OCT. 20	06	27	22.4	44.634N.	111.074W.	5	GS	—	—	2.8ML(GS)	—	OCT. 19	23:27	MST
OCT. 25	15	07	29.6	44.707N.	111.082W.	4	BU	—	—	2.8ML(BU)	—	OCT. 25	08:07	MST
OCT. 28	08	28	37.6	44.570N.	111.109W.	5	GS	—	—	2.9ML(GS)	—	OCT. 28	01:28	MST
OCT. 29	00	10	39.3	44.628N.	111.082W.	5	GS	—	—	3.0ML(GS)	II	OCT. 28	17:10	MST
NOV. 4	08	12	52.8	44.721N.	111.131W.	13	BU	—	—	2.7ML(BU)	—	NOV. 4	01:12	MST
NOV. 9	11	40	22.5	44.766N.	111.145W.	5	GS	—	—	4.1ML(GS)	V	NOV. 9	04:40	MST
NOV. 9	11	46	25.7	44.663N.	111.118W.	5	GS	—	—	3.2ML(GS)	III	NOV. 9	04:46	MST
NOV. 9	11	48	46.1	44.662N.	111.104W.	5	GS	—	—	3.1ML(GS)	III	NOV. 9	04:48	MST
NOV. 9	11	58	49.5	44.653N.	111.052W.	5	GS	—	—	4.0ML(GS)	V	NOV. 9	04:58	MST
NOV. 9	12	20	21.2	44.777N.	111.097W.	14	BU	—	—	2.7ML(BU)	II	NOV. 9	05:20	MST
NOV. 9	13	09	15.2	44.688N.	111.051W.	5	GS	—	—	4.2ML(GS)	IV	NOV. 9	06:09	MST
NOV. 9	15	19	58.3	44.619N.	111.065W.	5	GS	—	—	3.3ML(GS)	III	NOV. 9	08:19	MST

Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time (UTC)			Latitude (°)	Longitude (°)	Depth (km)	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	hr	min	sec					m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
MONTANA—Continued														
NOV. 9	16	36	41.0	44.646N.	111.142W.	1	GS	—	—	2.7ML(GS)	II	NOV. 9	09:36	MST
NOV. 9	16	41	07.0	44.779N.	111.214W.	8	BU	—	—	2.8ML(BU)	—	NOV. 9	09:41	MST
NOV. 9	21	42	55.5	44.612N.	111.090W.	5	GS	—	—	3.1ML(GS)	—	NOV. 9	14:42	MST
NOV. 10	01	53	26.8	44.645N.	111.072W.	5	GS	—	—	2.8ML(GS)	—	NOV. 9	18:53	MST
NOV. 10	02	59	29.5	44.611N.	111.076W.	5	GS	—	—	2.8ML(GS)	II	NOV. 9	19:59	MST
NOV. 10	05	52	16.4	44.614N.	111.071W.	5	GS	—	—	3.2ML(GS)	III	NOV. 9	22:52	MST
NOV. 10	06	02	44.8	47.871N.	113.054W.	0	BU	—	—	3.1ML(BU)	—	NOV. 9	23:02	MST
NOV. 10	12	58	42.4	44.624N.	111.098W.	5	GS	—	—	2.8ML(GS)	III	NOV. 10	05:58	MST
NOV. 10	15	46	22.9	44.696N.	111.075W.	5	GS	—	—	3.1ML(GS)	II	NOV. 10	08:46	MST
NOV. 10	21	12	40.0	44.622N.	111.083W.	5	GS	—	—	2.9ML(GS)	—	NOV. 10	14:12	MST
NOV. 11	08	09	20.0	44.703N.	111.070W.	9	BU	—	—	2.6ML(BU)	—	NOV. 11	01:09	MST
NOV. 11	11	27	37.7	44.613N.	111.094W.	5	GS	—	—	2.8ML(GS)	II	NOV. 11	04:27	MST
NOV. 11	17	46	58.7	44.612N.	111.118W.	5	GS	—	—	3.0ML(GS)	II	NOV. 11	10:46	MST
NOV. 11	20	15	51.0	44.718N.	111.099W.	1	BU	—	—	2.6ML(BU)	—	NOV. 11	13:15	MST
NOV. 11	22	07	16.1	44.693N.	111.077W.	10	BU	—	—	2.8ML(BU)	—	NOV. 11	15:07	MST
NOV. 12	17	54	28.6	44.631N.	111.095W.	5	GS	—	—	3.1ML(GS)	III	NOV. 12	10:54	MST
NOV. 12	23	51	12.3	44.625N.	111.063W.	5	GS	—	—	3.4ML(GS)	III	NOV. 12	16:51	MST
NOV. 13	04	58	44.6	44.729N.	111.115W.	1	BU	—	—	2.6ML(BU)	—	NOV. 12	21:58	MST
NOV. 13	07	15	51.6	47.588N.	113.729W.	5	GS	—	—	2.5ML(GS)	—	NOV. 13	00:15	MST
NOV. 13	09	05	54.8	44.678N.	111.068W.	2	BU	—	—	2.7ML(BU)	—	NOV. 13	02:05	MST
NOV. 14	13	18	30.0	44.719N.	111.067W.	22	BU	—	—	3.0ML(BU)	—	NOV. 14	06:18	MST
NOV. 15	08	14	27.9	44.628N.	111.051W.	5	GS	—	—	3.2ML(GS)	IV	NOV. 15	01:14	MST
NOV. 15	15	16	06.2	44.631N.	111.054W.	5	GS	—	—	2.9ML(GS)	II	NOV. 15	08:16	MST
NOV. 16	01	50	10.0	44.644N.	111.079W.	5	GS	—	—	3.5ML(GS)	IV	NOV. 15	18:50	MST
NOV. 16	04	20	17.7	44.646N.	111.087W.	5	GS	—	—	3.0ML(GS)	II	NOV. 15	21:20	MST
NOV. 16	22	04	47.8	44.670N.	111.063W.	5	GS	—	—	3.0ML(GS)	III	NOV. 16	15:04	MST
NOV. 16	23	15	09.4	44.667N.	111.079W.	5	GS	—	—	3.7ML(GS)	IV	NOV. 16	16:15	MST
NOV. 17	03	13	51.2	44.728N.	111.070W.	9	BU	—	—	2.9ML(BU)	—	NOV. 16	20:13	MST
NOV. 17	06	46	05.4	44.624N.	111.075W.	5	GS	—	—	4.1ML(GS)	IV	NOV. 16	23:46	MST
NOV. 18	04	54	40.8	44.769N.	111.137W.	2	BU	—	—	2.8ML(BU)	—	NOV. 17	21:54	MST
NOV. 19	04	38	47.5	44.739N.	111.063W.	4	BU	—	—	2.8ML(BU)	II	NOV. 18	21:38	MST
NOV. 19	10	21	51.0	44.726N.	111.103W.	14	BU	—	—	2.7ML(BU)	—	NOV. 19	03:21	MST
NOV. 20	04	36	17.9	44.685N.	111.070W.	10	BU	—	—	2.8ML(BU)	—	NOV. 19	21:36	MST
NOV. 20	13	16	49.0	44.686N.	111.117W.	9	BU	—	—	2.8ML(BU)	—	NOV. 20	06:16	MST
NOV. 21	15	34	04.2	44.687N.	111.979W.	5	GS	—	—	3.8ML(GS)	—	NOV. 21	08:34	MST
NOV. 24	13	09	42.7	44.655N.	111.070W.	5	GS	—	—	2.8ML(GS)	—	NOV. 24	06:09	MST
NOV. 25	16	09	03.0	44.631N.	111.074W.	5	GS	—	—	3.5ML(GS)	IV	NOV. 25	09:09	MST
NOV. 25	16	53	03.8	44.612N.	111.071W.	5	GS	—	—	3.5ML(GS)	III	NOV. 25	09:53	MST
NOV. 26	03	14	38.2	44.634N.	111.102W.	14	BU	—	—	2.9ML(BU)	—	NOV. 25	20:14	MST
NOV. 26	09	27	49.1	44.665N.	111.065W.	5	GS	—	—	3.4ML(GS)	III	NOV. 26	02:27	MST
NOV. 26	12	09	39.2	44.729N.	111.164W.	20	BU	—	—	2.7ML(BU)	—	NOV. 26	05:09	MST
NOV. 27	11	18	35.3	44.726N.	111.073W.	10	BU	—	—	2.9ML(BU)	—	NOV. 27	04:18	MST
DEC. 1	01	05	49.6	44.615N.	111.100W.	5	GS	—	—	2.8ML(GS)	II	NOV. 30	18:05	MST
DEC. 3	05	08	20.9	44.584N.	111.105W.	5	GS	—	—	2.7ML(GS)	II	DEC. 2	22:08	MST
DEC. 4	01	29	14.8	44.609N.	111.067W.	5	GS	—	—	2.7ML(GS)	—	DEC. 3	18:29	MST
DEC. 4	06	43	01.2	44.642N.	111.078W.	5	GS	—	—	3.1ML(GS)	III	DEC. 3	23:43	MST
DEC. 4	07	57	38.1	44.642N.	111.068W.	5	GS	—	—	2.8ML(GS)	—	DEC. 4	00:57	MST
DEC. 4	14	28	55.9	44.626N.	111.062W.	5	GS	—	—	2.9ML(GS)	II	DEC. 4	07:28	MST

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time (UTC)			Latitude (°)	Longitude (°)	Depth (km)	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	hr	min	sec					m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
MONTANA—Continued														
DEC. 4	17	01	55.3	44.628N.	111.076W.	5	GS	—	—	3.1ML(GS)	III	DEC. 4	10:01	MST
DEC. 5	20	34	43.0	44.634N.	111.080W.	5	GS	—	—	3.0ML(GS)	IV	DEC. 5	13:34	MST
DEC. 5	21	58	08.8	44.635N.	111.083W.	5	GS	—	—	2.8ML(GS)	—	DEC. 5	14:58	MST
DEC. 6	15	05	54.0	44.752N.	111.122W.	0	BU	—	—	2.8ML(BU)	—	DEC. 6	08:05	MST
DEC. 9	04	58	33.5	44.625N.	111.078W.	5	GS	—	—	2.7ML(GS)	—	DEC. 8	21:58	MST
DEC. 9	21	38	57.0	44.635N.	111.069W.	5	GS	—	—	3.1ML(GS)	II	DEC. 9	14:38	MST
DEC. 12	09	53	31.5	44.713N.	111.125W.	12	BU	—	—	2.5ML(BU)	—	DEC. 12	02:53	MST
DEC. 13	11	47	36.9	44.615N.	111.053W.	5	GS	—	—	2.8ML(GS)	II	DEC. 13	04:47	MST
DEC. 15	08	25	55.5	44.790N.	111.114W.	1	BU	—	—	2.6MD(BU)	—	DEC. 15	01:25	MST
DEC. 16	01	25	50.3	44.605N.	111.076W.	5	GS	—	—	2.7ML(GS)	—	DEC. 15	18:25	MST
DEC. 16	07	39	02.8	44.610N.	111.067W.	5	GS	—	—	2.7ML(GS)	—	DEC. 16	00:39	MST
DEC. 16	11	40	22.6	47.780N.	113.813W.	24	BU	—	—	2.7ML(BU)	—	DEC. 16	04:40	MST
DEC. 16	14	33	14.2	44.621N.	111.099W.	5	GS	—	—	2.6ML(GS)	—	DEC. 16	07:33	MST
DEC. 16	16	59	59.7	44.634N.	111.084W.	5	GS	—	—	2.7ML(GS)	—	DEC. 16	09:59	MST
DEC. 18	19	28	23.1	44.621N.	111.065W.	5	GS	—	—	3.0ML(GS)	III	DEC. 18	12:28	MST
DEC. 20	02	31	49.3	44.744N.	111.187W.	0	BU	—	—	2.6ML(BU)	—	DEC. 19	19:31	MST
DEC. 22	01	57	11.0	44.751N.	111.103W.	5	BU	—	—	2.7ML(BU)	—	DEC. 21	18:57	MST
DEC. 24	11	55	13.7	44.707N.	111.081W.	13	BU	—	—	2.7ML(BU)	—	DEC. 24	04:55	MST
DEC. 24	18	59	02.3	44.636N.	111.997W.	11	BU	—	—	2.9ML(BU)	—	DEC. 24	11:59	MST
DEC. 29	01	53	19.8	44.697N.	111.087W.	6	BU	—	—	3.0ML(BU)	—	DEC. 28	18:53	MST
NEVADA														
JAN. 9	07	29	58.8	36.105N.	114.783W.	5	GS	—	—	2.6ML(GS)	FELT	JAN. 8	23:29	PST
JAN. 13	22	21	14.1	36.359N.	115.802W.	11	GS	—	—	3.0ML(PS)	—	JAN. 13	14:21	PST
JAN. 17	02	01	27.3	38.741N.	119.416W.	11	GS	—	—	3.8ML(BK)	IV	JAN. 16	18:01	PST
JAN. 18	15	43	12.7	37.697N.	114.111W.	5	GS	—	—	3.0ML(GS)	—	JAN. 18	07:43	PST
JAN. 21	04	18	16.0	35.916N.	115.752W.	6	PS	—	—	3.0ML(PS)	—	JAN. 20	20:18	PST
JAN. 26	18	43	23.4	40.900N.	119.117W.	5	GS	—	—	3.7ML(BK)	—	JAN. 26	10:43	PST
FEB. 11	17	54	13.1	39.079N.	115.635W.	5	GS	—	—	3.5ML(GS)	—	FEB. 11	09:54	PST
FEB. 23	15	36	29.3	41.171N.	118.734W.	5	GS	—	—	4.4ML(BK)	—	FEB. 23	07:36	PST
MAR. 15	16	31	00.1	37.058N.	116.045W.	0	EN	4.8	—	4.6ML(BK)	—	MAR. 15	08:31	PST
MAR. 19	20	46	10.8	41.534N.	118.659W.	5	GS	—	—	3.2ML(GS)	—	MAR. 19	12:46	PST
MAR. 23	18	30	00.0	37.180N.	116.089W.	0	EN	5.3	—	5.1ML(BK)	—	MAR. 23	10:30	PST
APR. 2	20	00	00.0	37.095N.	116.032W.	0	EN	5.7	4.7	5.6ML(BK)	—	APR. 2	12:00	PST
APR. 2	20	39	12.5	37.112N.	116.063W.	0	GS	4.8	—	4.7ML(BK)	—	APR. 2	12:39	PST
APR. 6	23	15	00.0	37.201N.	116.207W.	0	EN	4.8	—	4.8ML(BK)	—	APR. 6	15:15	PST
MAY 2	15	20	00.0	37.253N.	116.325W.	0	EN	5.7	—	5.5ML(BK)	—	MAY 2	07:20	PST
MAY 7	20	06	11.0	36.590N.	116.146W.	6	PS	—	—	3.5ML(PS)	—	MAY 7	12:06	PST
MAY 28	07	56	45.8	39.510N.	119.478W.	5	BK	3.5	—	4.3ML(BK)	IV	MAY 27	23:56	PST
JUNE 12	15	15	00.0	37.248N.	116.489W.	0	EN	5.5	4.5	5.4ML(BK)	—	JUNE 12	07:15	PST
JUNE 12	17	30	00.0	37.088N.	116.084W.	0	EN	4.4	—	4.2ML(BK)	—	JUNE 12	09:30	PST
JUNE 26	18	03	00.0	37.124N.	116.122W.	0	EN	4.3	—	4.1ML(BK)	—	JUNE 26	10:03	PST
JULY 23	20	16	44.9	36.010N.	114.638W.	6	PS	—	—	3.6ML(PS)	—	JULY 23	12:16	PST
JULY 25	13	45	11.0	38.128N.	118.606W.	6	PS	—	—	3.3ML(PS)	—	JULY 25	05:45	PST
JULY 25	14	00	00.0	37.297N.	116.438W.	0	EN	5.2	—	5.2ML(BK)	—	JULY 25	06:00	PST
JULY 30	15	04	23.8	37.142N.	116.873W.	5	GS	—	—	3.2ML(GS)	—	JULY 30	07:04	PST

Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time (UTC)			Latitude (°)	Longitude (°)	Depth (km)	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	hr	min	sec					m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
NEVADA—Continued														
AUG. 17	16	25	00.0	37.002N.	116.043W.	0	EN	4.6	—	4.3ML(BK)	—	AUG. 17	08:25	PST
SEPT. 3	22	20	43.1	39.460N.	119.468W.	0	RN	—	—	3.0ML(BK)	FELT	SEPT. 3	14:20	PST
SEPT. 27	14	15	00.0	37.090N.	116.002W.	0	EN	4.6	—	4.6ML(BK)	—	SEPT. 27	06:15	PST
SEPT. 28	21	11	48.9	37.252N.	116.270W.	5	GS	—	—	3.3ML(PS)	—	SEPT. 28	13:11	PST
OCT. 1	18	15	12.5	39.462N.	119.478W.	6	RN	—	—	2.5ML(RN)	FELT	OCT. 1	10:15	PST
OCT. 2	19	44	38.7	38.461N.	115.682W.	5	GS	—	—	3.5ML(GS)	FELT	OCT. 2	11:44	PST
OCT. 9	23	20	00.0	37.210N.	116.210W.	0	EN	4.2	—	4.0ML(BK)	—	OCT. 9	15:20	PST
OCT. 16	21	35	00.0	37.110N.	116.121W.	0	EN	4.6	—	4.7ML(BK)	—	OCT. 16	13:35	PST
OCT. 30	03	24	18.5	41.142N.	119.937W.	7	BK	—	—	3.5ML(BK)	—	OCT. 29	19:24	PST
NOV. 16	12	06	49.5	35.808N.	114.493W.	6	GP	—	—	3.1ML(GP)	—	NOV. 16	04:06	PST
NOV. 16	12	06	49.5	35.808N.	114.493W.	6	GP	—	—	3.1ML(GP)	—	NOV. 16	04:06	PST
DEC. 5	15	00	00.0	37.053N.	116.045W.	0	EN	5.7	—	5.3ML(BK)	—	DEC. 5	07:00	PST
DEC. 10	06	10	25.3	37.290N.	115.012W.	5	GS	—	—	3.7ML(GS)	FELT	DEC. 9	22:10	PST
DEC. 28	19	01	00.0	37.238N.	116.473W.	0	EN	5.3	—	5.2ML(BK)	—	DEC. 28	11:01	PST
NEW HAMPSHIRE														
MAY 24	07	50	34.8	44.833N.	71.563W.	5	WO	—	—	2.7Mn(WO)	—	MAY 24	02:50	EST
NEW MEXICO														
JUNE 5	10	36	00.6	32.562N.	106.916W.	6	GS	—	—	2.9ML(GS)	IV	JUNE 5	03:36	MST
JUNE 27	18	20	00.0	33.621N.	106.475W.	0	GS	—	—	3.4Mn(GS)	—	JUNE 27	11:20	MST
JULY 16	06	18	06.0	35.051N.	106.555W.	5	GS	—	—	1.6MD(GS)	FELT	JULY 15	23:18	MST
JULY 17	06	23	18.9	35.164N.	106.542W.	5	GS	—	—	1.9MD(GS)	FELT	JULY 16	23:23	MST
AUG. 16	14	56	52.9	34.130N.	106.832W.	7	GS	—	—	4.1ML(GS)	VI	AUG. 16	07:56	MST
SEPT. 6	05	22	46.2	32.544N.	106.940W.	5	GS	—	—	2.6MD(GS)	FELT	SEPT. 5	22:22	MST
DEC. 15	07	14	52.2	35.281N.	104.635W.	5	GS	—	—	3.4Mn(GS)	IV	DEC. 15	00:14	MST
NEW YORK														
JAN. 26	19	06	46.9	40.993N.	73.828W.	5	LD	—	—	2.2MD(LD)	IV	JAN. 26	14:06	EST
FEB. 4	00	11	34.9	43.736N.	74.158W.	5	LD	—	—	2.5MD(LD)	—	FEB. 3	19:11	EST
JUNE 6	20	02	41.4	43.955N.	74.262W.	8	WO	—	—	2.6MD(LD)	—	JUNE 6	15:02	EST
JUNE 7	20	50	16.0	43.042N.	73.814W.	5	LD	—	—	2.5MD(LD)	—	JUNE 7	15:50	EST
JUNE 18	00	16	03.4	44.807N.	74.477W.	11	LD	—	—	2.6MD(LD)	—	JUNE 17	19:16	EST
JUNE 18	00	36	33.9	43.954N.	74.256W.	7	LD	—	—	2.5MD(LD)	—	JUNE 17	19:36	EST
JULY 23	09	25	03.5	43.954N.	74.258W.	7	LD	—	—	2.5MD(LD)	—	JULY 23	03:25	EST
JULY 27	08	10	55.4	43.954N.	74.259W.	7	LD	—	—	2.6MD(LD)	—	JULY 27	03:10	EST
AUG. 6	11	34	48.2	45.014N.	73.456W.	4	LD	—	—	2.5MD(LD)	—	AUG. 6	06:34	EST
AUG. 30	07	43	07.9	44.638N.	75.151W.	7	LD	—	—	2.5MD(LD)	—	AUG. 30	02:43	EST
SEPT. 30	04	08	56.3	43.420N.	73.541W.	5	LD	—	—	2.7MD(LD)	IV	SEPT. 29	23:08	EST
OCT. 19	10	07	40.3	40.983N.	73.829W.	6	LD	3.6	—	4.0ML(LD)	VI	OCT. 19	05:07	EST
OCT. 21	10	37	15.2	40.991N.	73.835W.	5	LD	—	—	3.0MD(LD)	V	OCT. 21	05:37	EST
OCT. 30	03	42	49.7	42.931N.	74.112W.	4	LD	—	—	2.7Mn(GS)	IV	OCT. 29	22:42	EST

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
NORTH CAROLINA														
MAR. 19	00	02	05.8	35.300N.	82.517W.	10	TC	—	—	2.1MD(TC)	III	MAR. 18	19:02 EST	
OKLAHOMA														
JAN. 24	12	12	42.4	34.924N.	97.427W.	5	TU	—	—	2.5Mn(TU)	—	JAN. 24	06:12 CST	
FEB. 10	14	15	52.2	36.433N.	98.412W.	5	TU	—	—	2.8Mn(TU)	—	FEB. 10	08:15 CST	
MAY 3	07	33	40.4	34.656N.	97.484W.	5	TU	—	—	2.5Mn(TU)	—	MAY 3	01:33 CST	
MAY 5	01	39	30.8	34.664N.	97.529W.	5	TU	—	—	2.9Mn(TU)	FELT	MAY 4	19:39 CST	
MAY 5	02	16	02.6	34.836N.	97.455W.	5	TU	—	—	2.2Mn(TU)	FELT	MAY 4	20:16 CST	
MAY 6	02	11	16.2	34.969N.	97.482W.	5	TU	—	—	2.3Mn(TU)	V	MAY 5	20:11 CST	
AUG. 11	10	16	23.2	35.964N.	99.037W.	5	TU	—	—	2.6MD(TU)	—	AUG. 11	04:16 CST	
SEPT. 23	01	03	44.1	34.725N.	95.059W.	5	TU	—	—	2.9Mn(TU)	—	SEPT. 22	19:03 CST	
DEC. 31	18	27	26.1	34.703N.	97.459W.	5	TU	—	—	2.7Mn(TU)	—	DEC. 31	12:27 CST	
OREGON														
JAN. 12	08	38	02.1	43.438N.	126.694W.	10	GS	4.6	—	—	—	JAN. 12	00:38 PST	
JAN. 25	12	27	08.4	43.761N.	128.093W.	10	GS	—	—	—	—	JAN. 25	04:27 PST	
JAN. 26	02	03	19.2	42.945N.	125.961W.	10	GS	3.9	—	—	—	JAN. 25	18:03 PST	
JAN. 26	03	00	08.4	42.791N.	126.098W.	10	GS	4.4	—	—	—	JAN. 25	19:00 PST	
JAN. 26	14	54	06.1	42.625N.	126.648W.	10	GS	4.7	—	—	—	JAN. 26	06:54 PST	
JAN. 26	19	18	20.3	42.600N.	126.406W.	10	GS	4.6	—	—	—	JAN. 26	11:18 PST	
JAN. 27	15	50	53.7	42.369N.	126.818W.	10	GS	4.5	—	—	—	JAN. 27	07:50 PST	
JAN. 28	22	43	30.5	43.005N.	126.180W.	10	GS	4.1	—	—	—	JAN. 28	14:43 PST	
FEB. 10	00	19	36.5	45.755N.	128.987W.	10	GS	3.8	—	—	—	FEB. 9	16:19 PST	
FEB. 20	23	36	43.4	42.327N.	126.556W.	10	GS	4.4	—	3.9ML(BK)	—	FEB. 20	15:36 PST	
FEB. 22	07	52	23.2	42.246N.	126.312W.	10	GS	4.2	—	—	—	FEB. 21	23:52 PST	
FEB. 22	07	59	30.0	42.168N.	126.835W.	10	GS	4.2	4.0	—	—	FEB. 21	23:59 PST	
FEB. 23	04	12	02.1	42.251N.	126.921W.	10	GS	4.1	—	—	—	FEB. 22	20:12 PST	
MAR. 9	04	20	27.7	44.276N.	129.336W.	10	GS	4.1	—	—	—	MAR. 8	20:20 PST	
MAR. 13	19	34	57.6	43.510N.	127.561W.	10	GS	6.1	6.3	—	IV	MAR. 13	11:34 PST	
MAR. 13	20	19	58.6	43.711N.	127.526W.	10	GS	4.2	—	—	—	MAR. 13	12:19 PST	
MAR. 14	05	53	13.8	43.760N.	127.375W.	10	GS	4.6	—	—	—	MAR. 13	21:53 PST	
MAR. 20	18	40	25.7	43.676N.	127.288W.	10	GS	3.9	—	—	—	MAR. 20	10:40 PST	
APR. 5	00	07	21.3	43.961N.	127.902W.	10	GS	4.2	—	—	—	APR. 4	16:07 PST	
APR. 11	18	31	56.3	43.736N.	127.333W.	10	GS	4.4	—	—	—	APR. 11	10:31 PST	
APR. 11	20	00	38.2	45.161N.	122.731W.	28	WA	—	—	2.7MD(WA)	—	APR. 11	12:00 PST	
MAY 6	13	53	06.4	43.743N.	127.095W.	10	GS	5.0	4.5	—	—	MAY 6	05:53 PST	
JUNE 4	09	33	30.7	44.082N.	129.840W.	10	GS	4.2	—	—	—	JUNE 4	01:33 PST	
JUNE 10	14	07	01.9	42.622N.	126.414W.	10	GS	4.5	3.7	—	—	JUNE 10	06:07 PST	
JUNE 22	02	36	58.7	44.819N.	121.195W.	6	WA	—	—	2.8MD(WA)	—	JUNE 21	18:36 PST	
JULY 12	12	32	14.5	43.186N.	126.958W.	10	GS	3.9	—	—	—	JULY 12	04:32 PST	
AUG. 5	05	51	48.3	43.360N.	126.643W.	10	GS	4.6	—	—	—	AUG. 4	21:51 PST	
SEPT. 9	00	49	20.5	42.434N.	126.711W.	10	GS	4.7	—	—	—	SEPT. 8	16:49 PST	
OCT. 12	03	29	28.0	43.529N.	127.132W.	10	GS	4.9	3.9	—	—	OCT. 11	19:29 PST	
DEC. 9	07	56	02.5	43.500N.	126.549W.	10	GS	—	—	—	—	DEC. 8	23:56 PST	
DEC. 25	04	15	53.8	44.471N.	129.508W.	10	GS	4.1	—	—	—	DEC. 24	20:15 PST	



Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time (UTC)			Latitude (°)	Longitude (°)	Depth (km)	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	hr	min	sec					m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
SOUTH CAROLINA														
JUNE 9	00	38	41.6	33.244N.	81.669W.	1	GS	—	—	2.7Mn(GS)	III	JUNE 8	19:38	EST
TENNESSEE														
JAN. 15	20	30	01.2	36.496N.	89.529W.	8	SL	—	—	2.6Mn(SL)	—	JAN. 15	15:30	CST
FEB. 7	23	44	17.7	36.280N.	89.450W.	6	SL	—	—	2.3Mn(SL)	II	FEB. 7	17:44	CST
FEB. 7	23	44	35.2	36.280N.	89.450W.	8	SL	—	—	2.8Mn(SL)	III	FEB. 7	17:44	CST
MAR. 9	14	29	57.7	35.014N.	85.015W.	8	TC	—	—	2.5MD(TC)	—	MAR. 9	09:29	EST
MAR. 28	10	22	18.2	36.210N.	89.610W.	8	SL	—	—	2.5Mn(SL)	—	MAR. 28	04:22	CST
APR. 20	04	21	03.2	35.488N.	84.564W.	12	TC	—	—	2.5MD(TC)	FELT	APR. 19	23:21	EST
JULY 12	18	20	28.4	35.198N.	85.156W.	3	TC	—	—	3.0MD(TC)	IV	JULY 12	12:20	CST
JULY 31	15	28	41.8	36.040N.	89.410W.	5	SL	—	—	2.6Mn(SL)	—	JULY 31	09:28	CST
DEC. 22	00	56	05.0	35.701N.	83.720W.	13	TC	—	—	3.3MD(TC)	FELT	DEC. 21	19:56	EST
TEXAS														
MAY 14	08	45	56.7	33.657N.	98.651W.	5	TU	—	—	2.5Mn(TU)	—	MAY 14	02:45	CST
MAY 30	08	47	06.1	35.653N.	100.924W.	5	TU	—	—	2.5MD(TU)	—	MAY 30	03:47	CST
SEPT. 18	15	54	04.6	33.548N.	97.051W.	5	GS	—	—	3.3Mn(GS)	V	SEPT. 18	09:54	CST
UTAH														
JAN. 26	15	08	06.7	41.890N.	112.530W.	2	UU	—	—	3.6ML(UU)	III	JAN. 26	08:08	MST
JAN. 27	10	46	49.6	41.890N.	112.537W.	2	UU	—	—	3.3ML(UU)	III	JAN. 27	03:46	MST
FEB. 8	01	07	57.8	40.304N.	114.023W.	6	UU	—	—	2.7ML(UU)	—	FEB. 7	18:07	MST
APR. 10	00	40	14.1	39.731N.	110.936W.	0	UU	—	—	2.6ML(UU)	—	APR. 9	17:40	MST
APR. 21	23	00	20.7	40.755N.	111.847W.	5	UU	—	—	1.8ML(UU)	IV	APR. 21	16:00	MST
MAY 5	05	30	56.7	39.608N.	110.375W.	0	UU	—	—	2.6MD(UU)	—	MAY 4	22:30	MST
MAY 15	19	48	57.9	39.114N.	111.455W.	1	UU	—	—	2.5MD(UU)	—	MAY 15	12:48	MST
JUNE 3	07	36	46.6	39.700N.	110.720W.	0	UU	—	—	2.5MD(UU)	—	JUNE 3	00:36	MST
JUNE 11	07	21	45.1	39.166N.	111.470W.	0	UU	—	—	2.8ML(GS)	—	JUNE 11	00:21	MST
JUNE 19	17	45	49.7	37.808N.	113.822W.	7	UU	—	—	3.0ML(UU)	—	JUNE 19	10:45	MST
JUNE 27	10	36	29.5	39.558N.	110.396W.	1	UU	—	—	3.0MD(UU)	—	JUNE 27	03:36	MST
JUNE 27	11	19	56.4	41.779N.	112.611W.	4	UU	—	—	2.6MD(UU)	—	JUNE 27	04:19	MST
JUNE 27	18	50	23.5	39.600N.	110.434W.	1	UU	—	—	2.6MD(UU)	—	JUNE 27	11:50	MST
JULY 17	18	48	51.0	39.609N.	110.397W.	1	UU	—	—	2.6MD(UU)	—	JULY 17	11:48	MST
JULY 28	23	19	07.1	41.938N.	112.606W.	1	UU	—	—	2.7MD(UU)	—	JULY 28	16:19	MST
AUG. 6	08	58	18.2	39.557N.	110.397W.	0	UU	—	—	2.5MD(UU)	—	AUG. 6	01:58	MST
SEPT. 3	08	14	27.0	39.714N.	110.646W.	0	UU	—	—	2.5MD(UU)	—	SEPT. 3	01:14	MST
SEPT. 6	01	43	40.9	39.594N.	110.420W.	1	UU	—	—	2.8MD(UU)	—	SEPT. 5	18:43	MST
SEPT. 24	18	11	02.9	39.588N.	110.420W.	1	UU	—	—	2.6MD(UU)	—	SEPT. 24	11:11	MST
SEPT. 29	05	10	36.9	39.611N.	110.426W.	1	UU	—	—	2.5MD(UU)	—	SEPT. 28	22:10	MST
OCT. 7	20	33	40.1	40.407N.	109.498W.	21	UU	—	—	3.0MD(UU)	—	OCT. 7	13:33	MST
OCT. 21	11	40	09.7	41.434N.	111.668W.	1	UU	—	—	2.4ML(UU)	FELT	OCT. 21	04:40	MST
NOV. 12	15	00	33.6	40.184N.	111.240W.	4	UU	—	—	2.6ML(UU)	—	NOV. 12	08:00	MST
NOV. 24	10	39	02.9	39.570N.	110.477W.	10	UU	—	—	2.5MD(UU)	—	NOV. 24	03:39	MST

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec	(°)	(°)	(km)								
UTAH—Continued														
DEC. 3	17	55	36.2	39.701N.	111.171W.	1	UU	—	—	2.7MD(UU)	—	DEC. 3	10:55	MST
DEC. 28	09	18	19.8	39.712N.	110.596W.	1	UU	—	—	2.5MD(UU)	—	DEC. 28	02:18	MST
VERMONT														
DEC. 2	03	53	14.8	44.021N.	73.395W.	2	WO	—	—	2.5Mn(WO)	—	DEC. 1	22:53	EST
VIRGINIA														
JUNE 10	12	22	38.3	37.248N.	80.485W.	11	VP	—	—	3.2Mn(VP)	IV	JUNE 10	07:22	EST
JUNE 19	22	28	08.9	37.222N.	82.038W.	1	VP	—	—	3.6MD(VP)	—	JUNE 19	17:28	EST
DEC. 21	10	12	04.9	37.684N.	77.511W.	1	VP	—	—	2.6Mn(VP)	IV	DEC. 21	05:12	EST
WASHINGTON														
JAN. 1	19	15	00.8	46.876N.	121.956W.	11	WA	—	—	3.1MD(WA)	—	JAN. 1	11:15	PST
JAN. 8	23	56	42.5	47.056N.	120.093W.	1	WA	—	—	2.8MD(WA)	—	JAN. 8	15:56	PST
JAN. 9	02	51	26.2	47.060N.	120.087W.	1	WA	—	—	2.8MD(WA)	—	JAN. 8	18:51	PST
JAN. 9	05	46	13.3	47.064N.	120.094W.	0	WA	—	—	3.3MD(WA)	—	JAN. 8	21:46	PST
JAN. 11	13	07	57.1	47.902N.	122.871W.	21	WA	—	—	3.1ML(GS)	IV	JAN. 11	05:07	PST
JAN. 21	23	28	04.9	46.860N.	121.947W.	13	WA	—	—	2.7MD(WA)	—	JAN. 21	15:28	PST
JAN. 25	07	28	54.5	46.500N.	120.632W.	17	WA	—	—	3.1MD(WA)	—	JAN. 24	23:28	PST
JAN. 29	20	39	27.2	47.427N.	121.805W.	18	WA	—	—	2.7MD(WA)	—	JAN. 29	12:39	PST
JAN. 31	03	02	35.1	47.059N.	120.084W.	0	WA	—	—	3.3MD(WA)	—	JAN. 30	19:02	PST
JAN. 31	15	11	12.2	46.715N.	119.983W.	5	WA	—	—	2.7MD(WA)	—	JAN. 31	07:11	PST
FEB. 10	20	29	31.7	45.704N.	119.634W.	18	WA	—	—	3.7ML(GS)	IV	FEB. 10	12:29	PST
FEB. 24	16	25	11.9	48.209N.	122.218W.	4	WA	—	—	2.7MD(WA)	—	FEB. 24	08:25	PST
FEB. 28	17	02	04.4	47.493N.	122.586W.	47	WA	—	—	3.7MD(WA)	IV	FEB. 28	09:02	PST
MAR. 5	14	14	10.8	48.272N.	122.159W.	15	WA	—	—	3.1MD(WA)	FELT	MAR. 5	06:14	PST
MAR. 9	01	31	24.4	46.934N.	118.590W.	3	WA	—	—	3.3MD(WA)	—	MAR. 8	17:31	PST
MAR. 18	17	15	55.3	47.339N.	122.620W.	53	WA	—	—	3.5MD(WA)	IV	MAR. 18	09:15	PST
MAR. 21	02	39	21.7	47.607N.	122.203W.	8	WA	—	—	3.0MD(WA)	III	MAR. 20	18:39	PST
MAR. 24	16	55	03.8	47.607N.	122.203W.	3	WA	—	—	2.7MD(WA)	FELT	MAR. 24	08:55	PST
MAR. 30	07	09	18.8	46.631N.	122.144W.	16	WA	—	—	2.8MD(WA)	—	MAR. 29	23:09	PST
MAR. 30	23	27	13.7	48.306N.	122.108W.	12	WA	—	—	3.3MD(WA)	—	MAR. 30	15:27	PST
APR. 11	23	50	05.6	47.672N.	120.054W.	1	WA	—	—	2.7MD(WA)	—	APR. 11	15:50	PST
APR. 19	10	52	44.3	46.897N.	120.284W.	5	WA	—	—	3.2MD(WA)	—	APR. 19	02:52	PST
APR. 26	10	32	29.2	48.360N.	122.260W.	18	WA	—	—	3.0MD(WA)	IV	APR. 26	02:32	PST
APR. 30	01	13	59.0	48.359N.	122.263W.	18	WA	—	—	3.3MD(WA)	—	APR. 29	17:13	PST
APR. 30	20	44	54.3	46.892N.	117.171W.	40	WA	—	—	2.7MD(WA)	—	APR. 30	12:44	PST
MAY 2	08	07	39.8	46.897N.	123.675W.	34	WA	—	—	2.8MD(WA)	—	MAY 2	00:07	PST
MAY 2	22	10	34.4	47.827N.	122.535W.	22	WA	—	—	2.8MD(WA)	—	MAY 2	14:10	PST
MAY 9	04	37	40.1	46.568N.	121.779W.	10	WA	—	—	2.7MD(WA)	—	MAY 8	20:37	PST
MAY 14	06	21	58.0	48.670N.	123.230W.	21	EP	—	—	2.5ML(EP)	III	MAY 13	22:21	PST
MAY 21	18	56	33.8	47.596N.	123.147W.	47	WA	—	—	2.8MD(WA)	—	MAY 21	10:56	PST
MAY 28	19	04	46.6	46.200N.	122.190W.	2	WA	—	—	2.8MD(WA)	—	MAY 28	11:04	PST
MAY 29	04	34	59.5	46.195N.	122.188W.	2	WA	—	—	2.7MD(WA)	—	MAY 28	20:34	PST

Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>g</sub>	Local		Date	hr	zone
	hr	min	sec											
WASHINGTON—Continued														
MAY 29	05	23	33.3	46.200N.	122.192W.	1	WA	—	—	2.7MD(WA)	—	MAY 28	21:23	PST
MAY 29	08	53	08.6	46.201N.	122.192W.	2	WA	—	—	2.7MD(WA)	—	MAY 29	00:53	PST
MAY 29	11	06	12.3	46.200N.	122.191W.	2	WA	—	—	2.9MD(WA)	—	MAY 29	03:06	PST
MAY 29	11	56	35.2	46.199N.	122.193W.	2	WA	—	—	2.7MD(WA)	—	MAY 29	03:56	PST
MAY 29	12	11	22.3	46.199N.	122.191W.	2	WA	—	—	2.7MD(WA)	—	MAY 29	04:11	PST
MAY 29	12	30	03.7	46.199N.	122.191W.	1	WA	—	—	2.7MD(WA)	—	MAY 29	04:30	PST
MAY 29	13	40	03.7	46.200N.	122.190W.	1	WA	—	—	2.8MD(WA)	—	MAY 29	05:40	PST
MAY 29	15	39	21.4	46.200N.	122.189W.	1	WA	—	—	2.8MD(WA)	—	MAY 29	07:39	PST
MAY 29	16	34	57.5	46.198N.	122.193W.	1	WA	—	—	2.7MD(WA)	—	MAY 29	08:34	PST
MAY 29	16	42	07.5	46.200N.	122.188W.	1	WA	—	—	2.7MD(WA)	—	MAY 29	08:42	PST
MAY 29	16	50	33.6	46.200N.	122.191W.	2	WA	—	—	2.8MD(WA)	—	MAY 29	08:50	PST
MAY 29	17	33	57.3	46.199N.	122.190W.	1	WA	—	—	2.8MD(WA)	—	MAY 29	09:33	PST
MAY 29	18	55	56.9	46.198N.	122.190W.	1	WA	—	—	2.7MD(WA)	—	MAY 29	10:55	PST
MAY 29	19	59	48.6	46.197N.	122.189W.	1	WA	—	—	2.8MD(WA)	—	MAY 29	11:59	PST
MAY 29	20	17	31.5	46.197N.	122.186W.	1	WA	—	—	2.9MD(WA)	—	MAY 29	12:17	PST
MAY 29	20	35	27.5	46.199N.	122.190W.	1	WA	—	—	2.7MD(WA)	—	MAY 29	12:35	PST
MAY 29	22	30	35.3	46.199N.	122.189W.	1	WA	—	—	2.8MD(WA)	—	MAY 29	14:30	PST
MAY 29	23	36	06.6	46.200N.	122.188W	1	WA	—	—	2.7MD(WA)	—	MAY 29	15:36	PST
MAY 30	00	58	02.7	46.198N.	122.189W.	1	WA	—	—	2.7MD(WA)	—	MAY 29	16:58	PST
MAY 30	01	54	56.5	46.197N.	122.190W.	1	WA	—	—	2.7MD(WA)	—	MAY 29	17:54	PST
MAY 30	02	47	11.2	46.200N.	122.189W.	1	WA	—	—	2.7MD(WA)	—	MAY 29	18:47	PST
MAY 30	03	04	24.6	46.198N.	122.188W.	1	WA	—	—	2.7MD(WA)	—	MAY 29	19:04	PST
MAY 30	03	44	59.4	46.197N.	122.188W.	1	WA	—	—	2.9MD(WA)	—	MAY 29	19:44	PST
MAY 30	04	29	34.3	46.198N.	122.189W.	1	WA	—	—	2.7MD(WA)	—	MAY 29	20:29	PST
MAY 30	05	01	38.7	46.200N.	122.188W.	1	WA	—	—	2.7MD(WA)	—	MAY 29	21:01	PST
MAY 30	05	34	11.0	46.198N.	122.190W.	1	WA	—	—	2.7MD(WA)	—	MAY 29	21:34	PST
MAY 30	06	06	23.7	46.199N.	122.191W.	1	WA	—	—	2.7MD(WA)	—	MAY 29	22:06	PST
MAY 30	06	39	05.5	46.199N.	122.189W.	1	WA	—	—	3.0MD(WA)	—	MAY 29	22:39	PST
MAY 30	06	58	24.3	46.200N.	122.190W.	1	WA	—	—	2.7MD(WA)	—	MAY 29	22:58	PST
MAY 30	07	40	02.5	46.199N.	122.188W.	1	WA	—	—	2.9MD(WA)	—	MAY 29	23:40	PST
MAY 30	07	47	41.2	46.198N.	122.188W.	1	WA	—	—	2.7MD(WA)	—	MAY 29	23:47	PST
MAY 30	08	55	44.9	46.197N.	122.189W.	1	WA	—	—	2.7MD(WA)	—	MAY 30	00:55	PST
MAY 30	09	09	46.1	46.202N.	122.188W.	1	WA	—	—	2.7MD(WA)	—	MAY 30	01:09	PST
MAY 30	09	51	44.0	46.199N.	122.189W.	1	WA	—	—	2.9MD(WA)	—	MAY 30	01:51	PST
MAY 30	10	05	47.8	46.199N.	122.189W.	1	WA	—	—	2.8MD(WA)	—	MAY 30	02:05	PST
MAY 30	11	50	30.6	46.195N.	122.189W.	1	WA	—	—	2.8MD(WA)	—	MAY 30	03:50	PST
MAY 30	12	10	22.0	46.199N.	122.190W.	1	WA	—	—	2.7MD(WA)	—	MAY 30	04:10	PST
MAY 30	12	52	09.3	46.200N.	122.187W.	1	WA	—	—	2.7MD(WA)	—	MAY 30	04:52	PST
MAY 30	13	20	06.9	46.198N.	122.189W.	1	WA	—	—	2.7MD(WA)	—	MAY 30	05:20	PST
MAY 30	14	08	25.9	46.198N.	122.189W.	1	WA	—	—	2.7MD(WA)	—	MAY 30	06:08	PST
MAY 30	14	31	29.6	46.199N.	122.190W.	1	WA	—	—	2.7MD(WA)	—	MAY 30	06:31	PST
MAY 30	15	19	56.1	46.199N.	122.189W.	1	WA	—	—	2.8MD(WA)	—	MAY 30	07:19	PST
MAY 30	16	11	25.7	46.199N.	122.187W.	1	WA	—	—	2.8MD(WA)	—	MAY 30	08:11	PST
MAY 30	16	27	20.8	46.197N.	122.188W.	1	WA	—	—	2.7MD(WA)	—	MAY 30	08:27	PST
MAY 30	17	07	47.8	46.199N.	122.188W.	1	WA	—	—	2.8MD(WA)	—	MAY 30	09:07	PST
MAY 30	17	57	13.0	46.198N.	122.188W.	1	WA	—	—	2.8MD(WA)	—	MAY 30	09:57	PST
MAY 30	18	14	22.0	46.199N.	122.189W.	1	WA	—	—	2.8MD(WA)	—	MAY 30	10:14	PST
MAY 30	18	56	34.1	46.199N.	122.188W.	1	WA	—	—	2.7MD(WA)	—	MAY 30	10:56	PST

Table 1. Summary of United States earthquakes for 1985—Continued

Date	Origin time			Latitude	Longitude	Depth	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
WASHINGTON—Continued														
MAY 30	19	17	30.1	46.200N.	122.188W.	1	WA	—	—	2.8MD(WA)	—	MAY 30	11:17	PST
MAY 30	21	25	31.5	46.199N.	122.189W.	1	WA	—	—	2.8MD(WA)	—	MAY 30	13:25	PST
MAY 30	21	48	28.8	46.199N.	122.184W.	2	WA	—	—	2.8MD(WA)	—	MAY 30	13:48	PST
MAY 30	22	04	01.4	46.199N.	122.189W.	1	WA	—	—	2.7MD(WA)	—	MAY 30	14:04	PST
MAY 30	22	35	42.2	46.197N.	122.188W.	2	WA	—	—	2.7MD(WA)	—	MAY 30	14:35	PST
MAY 30	23	12	05.0	46.200N.	122.189W.	1	WA	—	—	3.0MD(WA)	—	MAY 30	15:12	PST
MAY 31	00	59	47.4	46.200N.	122.189W.	1	WA	—	—	2.7MD(WA)	—	MAY 30	16:59	PST
MAY 31	02	04	04.8	46.198N.	122.185W.	1	WA	—	—	2.9MD(WA)	—	MAY 30	18:04	PST
MAY 31	02	28	56.2	46.200N.	122.189W.	1	WA	—	—	2.7MD(WA)	—	MAY 30	18:28	PST
MAY 31	03	43	49.2	46.197N.	122.188W.	1	WA	—	—	2.8MD(WA)	—	MAY 30	19:43	PST
MAY 31	03	54	30.8	46.200N.	122.188W.	1	WA	—	—	2.8MD(WA)	—	MAY 30	19:54	PST
MAY 31	05	04	01.1	46.199N.	122.187W.	1	WA	—	—	2.7MD(WA)	—	MAY 30	21:04	PST
MAY 31	05	18	00.5	46.198N.	122.189W.	1	WA	—	—	2.7MD(WA)	—	MAY 30	21:18	PST
MAY 31	05	27	31.6	46.199N.	122.188W.	1	WA	—	—	2.7MD(WA)	—	MAY 30	21:27	PST
MAY 31	06	22	18.0	46.198N.	122.188W.	1	WA	—	—	2.8MD(WA)	—	MAY 30	22:22	PST
MAY 31	06	36	40.4	46.198N.	122.190W.	1	WA	—	—	2.7MD(WA)	—	MAY 30	22:36	PST
MAY 31	06	55	31.3	46.201N.	122.188W.	1	WA	—	—	2.7MD(WA)	—	MAY 30	22:55	PST
MAY 31	07	29	25.3	46.198N.	122.188W.	1	WA	—	—	2.7MD(WA)	—	MAY 30	23:29	PST
MAY 31	07	36	43.9	46.198N.	122.191W.	1	WA	—	—	2.9MD(WA)	—	MAY 30	23:36	PST
MAY 31	08	04	58.9	46.197N.	122.189W.	1	WA	—	—	2.8MD(WA)	—	MAY 31	00:04	PST
MAY 31	08	17	30.5	46.198N.	122.189W.	1	WA	—	—	2.8MD(WA)	—	MAY 31	00:17	PST
MAY 31	08	42	14.4	46.199N.	122.188W.	1	WA	—	—	2.8MD(WA)	—	MAY 31	00:42	PST
MAY 31	09	31	52.4	46.198N.	122.186W.	1	WA	—	—	2.8MD(WA)	—	MAY 31	01:31	PST
MAY 31	10	15	29.9	46.198N.	122.189W.	1	WA	—	—	2.8MD(WA)	—	MAY 31	02:15	PST
MAY 31	10	28	27.9	46.198N.	122.190W.	1	WA	—	—	3.0MD(WA)	—	MAY 31	02:28	PST
MAY 31	10	43	11.0	46.199N.	122.188W.	1	WA	—	—	2.7MD(WA)	—	MAY 31	02:43	PST
MAY 31	10	58	08.4	46.197N.	122.189W.	2	WA	—	—	2.7MD(WA)	—	MAY 31	02:58	PST
MAY 31	11	36	05.2	46.199N.	122.189W.	1	WA	—	—	2.8MD(WA)	—	MAY 31	03:36	PST
MAY 31	12	24	37.2	46.200N.	122.188W.	1	WA	—	—	2.7MD(WA)	—	MAY 31	04:24	PST
MAY 31	13	36	46.3	46.199N.	122.188W.	1	WA	—	—	2.7MD(WA)	—	MAY 31	05:36	PST
MAY 31	14	12	38.3	46.199N.	122.188W.	1	WA	—	—	2.7MD(WA)	—	MAY 31	06:12	PST
MAY 31	14	47	48.2	46.199N.	122.187W.	1	WA	—	—	2.9MD(WA)	—	MAY 31	06:47	PST
MAY 31	15	20	37.1	46.198N.	122.189W.	1	WA	—	—	2.7MD(WA)	—	MAY 31	07:20	PST
MAY 31	15	33	40.3	46.200N.	122.189W.	1	WA	—	—	2.8MD(WA)	—	MAY 31	07:33	PST
MAY 31	16	28	24.0	46.196N.	122.188W.	1	WA	—	—	2.7MD(WA)	—	MAY 31	08:28	PST
MAY 31	16	51	20.7	46.198N.	122.188W.	1	WA	—	—	2.8MD(WA)	—	MAY 31	08:51	PST
MAY 31	18	01	20.9	46.198N.	122.189W.	1	WA	—	—	2.7MD(WA)	—	MAY 31	10:01	PST
MAY 31	18	19	46.8	46.198N.	122.189W.	1	WA	—	—	2.7MD(WA)	—	MAY 31	10:19	PST
MAY 31	18	27	31.4	46.198N.	122.190W.	1	WA	—	—	2.8MD(WA)	—	MAY 31	10:27	PST
MAY 31	18	36	17.7	46.198N.	122.189W.	1	WA	—	—	2.7MD(WA)	—	MAY 31	10:36	PST
MAY 31	19	39	48.5	46.199N.	122.190W.	1	WA	—	—	2.8MD(WA)	—	MAY 31	11:39	PST
MAY 31	19	55	32.8	46.199N.	122.189W.	1	WA	—	—	2.8MD(WA)	—	MAY 31	11:55	PST
MAY 31	20	42	42.0	46.199N.	122.188W.	1	WA	—	—	2.7MD(WA)	—	MAY 31	12:42	PST
MAY 31	21	01	42.5	46.197N.	122.189W.	1	WA	—	—	2.7MD(WA)	—	MAY 31	13:01	PST
MAY 31	21	11	09.3	46.199N.	122.189W.	1	WA	—	—	2.7MD(WA)	—	MAY 31	13:11	PST
MAY 31	21	47	45.9	46.198N.	122.189W.	1	WA	—	—	2.8MD(WA)	—	MAY 31	13:47	PST
MAY 31	21	54	25.1	46.198N.	122.188W.	1	WA	—	—	2.8MD(WA)	—	MAY 31	13:54	PST
MAY 31	22	10	19.7	46.198N.	122.188W.	1	WA	—	—	2.8MD(WA)	—	MAY 31	14:10	PST

Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time			
	(UTC)							Source	m <sub>b</sub>	M <sub>s</sub>		Local	Date	hr	zone
	hr	min	sec												
WASHINGTON—Continued															
MAY	31	23	32 10.3	46.198N.	122.187W.	1	WA	—	—	2.9MD(WA)	—	MAY	31	15:32 PST	
MAY	31	23	55 56.9	46.197N.	122.188W.	1	WA	—	—	2.9MD(WA)	—	MAY	31	15:55 PST	
JUNE	1	01	29 43.4	46.197N.	122.187W.	1	WA	—	—	2.9MD(WA)	—	MAY	31	17:29 PST	
JUNE	1	01	48 34.6	46.198N.	122.189W.	1	WA	—	—	2.7MD(WA)	—	MAY	31	17:48 PST	
JUNE	1	02	13 25.6	46.198N.	122.189W.	1	WA	—	—	2.8MD(WA)	—	MAY	31	18:13 PST	
JUNE	1	03	28 51.1	46.198N.	122.188W.	1	WA	—	—	2.9MD(WA)	—	MAY	31	19:28 PST	
JUNE	1	03	50 37.3	46.199N.	122.189W.	1	WA	—	—	2.8MD(WA)	—	MAY	31	19:50 PST	
JUNE	1	04	19 29.5	46.199N.	122.189W.	1	WA	—	—	2.8MD(WA)	—	MAY	31	20:19 PST	
JUNE	1	05	23 16.9	46.200N.	122.188W.	1	WA	—	—	2.8MD(WA)	—	MAY	31	21:23 PST	
JUNE	1	06	15 22.3	46.201N.	122.185W.	1	WA	—	—	2.7MD(WA)	—	MAY	31	22:15 PST	
JUNE	1	08	13 14.4	46.199N.	122.189W.	1	WA	—	—	2.8MD(WA)	—	JUNE	1	00:13 PST	
JUNE	1	12	03 05.6	46.200N.	122.186W.	1	WA	—	—	2.8MD(WA)	—	JUNE	1	04:03 PST	
JUNE	1	13	07 04.5	46.199N.	122.190W.	1	WA	—	—	2.8MD(WA)	—	JUNE	1	05:07 PST	
JUNE	1	13	39 08.8	46.200N.	122.187W.	1	WA	—	—	2.9MD(WA)	—	JUNE	1	05:39 PST	
JUNE	1	14	24 07.4	46.197N.	122.187W.	1	WA	—	—	2.7MD(WA)	—	JUNE	1	06:24 PST	
JUNE	1	14	49 10.4	46.199N.	122.187W.	1	WA	—	—	2.7MD(WA)	—	JUNE	1	06:49 PST	
JUNE	1	16	07 55.6	46.200N.	122.189W.	1	WA	—	—	2.7MD(WA)	—	JUNE	1	08:07 PST	
JUNE	1	17	21 33.6	46.200N.	122.187W.	1	WA	—	—	2.8MD(WA)	—	JUNE	1	09:21 PST	
JUNE	1	18	25 56.9	46.201N.	122.189W.	1	WA	—	—	3.0MD(WA)	—	JUNE	1	10:25 PST	
JUNE	1	18	57 51.5	46.198N.	122.188W.	1	WA	—	—	2.7MD(WA)	—	JUNE	1	10:57 PST	
JUNE	1	19	27 47.1	46.199N.	122.188W.	1	WA	—	—	2.8MD(WA)	—	JUNE	1	11:27 PST	
JUNE	1	21	27 50.8	46.199N.	122.188W.	1	WA	—	—	2.9MD(WA)	—	JUNE	1	13:27 PST	
JUNE	1	22	01 49.1	46.198N.	122.190W.	1	WA	—	—	2.9MD(WA)	—	JUNE	1	14:01 PST	
JUNE	1	22	40 39.5	46.200N.	122.187W.	1	WA	—	—	2.9MD(WA)	—	JUNE	1	14:40 PST	
JUNE	1	23	45 50.8	46.199N.	122.187W.	1	WA	—	—	2.8MD(WA)	—	JUNE	1	15:45 PST	
JUNE	2	00	06 51.7	46.198N.	122.189W.	1	WA	—	—	2.9MD(WA)	—	JUNE	1	16:06 PST	
JUNE	2	00	28 26.9	46.200N.	122.188W.	2	WA	—	—	2.7MD(WA)	—	JUNE	1	16:28 PST	
JUNE	2	03	31 09.6	46.200N.	122.187W.	1	WA	—	—	3.0MD(WA)	—	JUNE	1	19:31 PST	
JUNE	2	04	37 01.0	46.199N.	122.187W.	1	WA	—	—	2.8MD(WA)	—	JUNE	1	20:37 PST	
JUNE	2	06	10 06.2	46.201N.	122.188W.	1	WA	—	—	2.7MD(WA)	—	JUNE	1	22:10 PST	
JUNE	2	06	59 53.9	46.200N.	122.188W.	1	WA	—	—	2.7MD(WA)	—	JUNE	1	22:59 PST	
JUNE	2	08	03 04.0	46.200N.	122.189W.	1	WA	—	—	2.8MD(WA)	—	JUNE	2	00:03 PST	
JUNE	2	08	40 53.6	46.198N.	122.189W.	2	WA	—	—	2.7MD(WA)	—	JUNE	2	00:40 PST	
JUNE	2	10	17 19.2	46.199N.	122.188W.	1	WA	—	—	2.8MD(WA)	—	JUNE	2	02:17 PST	
JUNE	2	13	21 44.9	46.199N.	122.187W.	1	WA	—	—	2.8MD(WA)	—	JUNE	2	05:21 PST	
JUNE	2	13	39 02.8	46.199N.	122.186W.	1	WA	—	—	2.9MD(WA)	—	JUNE	2	05:39 PST	
JUNE	2	18	12 08.0	46.199N.	122.188W.	1	WA	—	—	2.7MD(WA)	—	JUNE	2	10:12 PST	
JUNE	2	19	24 51.1	46.197N.	122.187W.	1	WA	—	—	2.7MD(WA)	—	JUNE	2	11:24 PST	
JUNE	3	01	22 47.8	46.201N.	122.188W.	1	WA	—	—	2.7MD(WA)	—	JUNE	2	17:22 PST	
JUNE	3	03	04 11.9	46.198N.	122.190W.	1	WA	—	—	2.7MD(WA)	—	JUNE	2	19:04 PST	
JUNE	3	08	44 33.0	46.200N.	122.188W.	1	WA	—	—	2.7MD(WA)	—	JUNE	3	00:44 PST	
JUNE	3	09	20 59.5	46.198N.	122.189W.	1	WA	—	—	2.8MD(WA)	—	JUNE	3	01:20 PST	
JUNE	3	15	29 37.2	46.199N.	122.189W.	1	WA	—	—	2.7MD(WA)	—	JUNE	3	07:29 PST	
JUNE	4	04	49 33.0	46.199N.	122.190W.	1	WA	—	—	2.7MD(WA)	—	JUNE	3	20:49 PST	
JUNE	7	09	19 09.6	45.684N.	122.783W.	20	WA	—	—	2.8MD(WA)	—	JUNE	7	01:19 PST	
JUNE	9	01	24 51.4	46.675N.	118.977W.	3	WA	—	—	3.2MD(WA)	—	JUNE	8	17:24 PST	
JUNE	16	10	22 59.2	47.434N.	121.826W.	17	WA	—	—	3.1MD(WA)	FELT	JUNE	16	02:22 PST	
JUNE	17	07	00 17.3	47.058N.	120.077W.	0	WA	—	—	3.0MD(WA)	—	JUNE	16	23:00 PST	

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time (UTC)			Latitude (°)	Longitude (°)	Depth (km)	Hypo- center Source	Magnitude			Max. inten- sity	Local time		
	hr	min	sec					m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
WASHINGTON														
JUNE 24	17	46	21.6	47.832N.	129.014W.	10	GS	4.0	—	—	—	JUNE 24	09:46	PST
JUNE 29	00	45	32.4	46.915N.	119.122W.	4	WA	—	—	2.7MD(WA)	—	JUNE 28	16:45	PST
JULY 6	23	46	41.9	47.725N.	122.226W.	18	WA	—	—	3.1MD(WA)	III	JULY 6	15:46	PST
JULY 16	21	13	16.3	46.189N.	121.009W.	0	WA	—	—	3.2MD(WA)	—	JULY 16	13:13	PST
JULY 24	21	53	18.6	47.770N.	119.455W.	0	WA	—	—	2.7MD(WA)	—	JULY 24	13:53	PST
JULY 29	21	05	29.3	48.257N.	121.763W.	3	WA	—	—	3.2MD(WA)	IV	JULY 29	13:05	PST
JULY 30	17	01	43.8	48.393N.	123.295W.	19	WA	—	—	3.1ML(GS)	IV	JULY 30	09:01	PST
AUG. 24	16	03	33.9	46.222N.	117.908W.	0	WA	—	—	2.7MD(WA)	—	AUG. 24	08:03	PST
SEPT. 14	06	24	24.6	47.390N.	122.383W.	20	WA	—	—	3.1ML(GS)	—	SEPT. 13	22:24	PST
SEPT. 25	19	28	20.7	47.495N.	122.025W.	1	WA	—	—	2.2MD(WA)	III	SEPT. 25	11:28	PST
OCT. 1	05	25	21.6	46.796N.	120.048W.	1	WA	—	—	3.0MD(WA)	—	SEPT. 30	21:25	PST
OCT. 1	06	53	11.6	46.789N.	120.047W.	2	WA	—	—	3.0MD(WA)	—	SEPT. 30	22:53	PST
OCT. 3	10	12	44.1	46.185N.	121.282W.	2	WA	—	—	2.7MD(WA)	—	OCT. 3	02:12	PST
OCT. 6	23	12	27.9	47.890N.	122.872W.	20	WA	—	—	2.8MD(WA)	—	OCT. 6	15:12	PST
OCT. 10	10	06	40.7	47.749N.	120.265W.	7	WA	—	—	3.2MD(WA)	IV	OCT. 10	02:06	PST
OCT. 15	17	47	37.5	47.468N.	121.744W.	16	WA	—	—	2.7MD(WA)	—	OCT. 15	09:47	PST
OCT. 27	22	19	25.2	46.399N.	119.192W.	2	WA	—	—	2.8MD(WA)	—	OCT. 27	14:19	PST
NOV. 1	19	37	00.9	48.848N.	122.132W.	2	WA	—	—	2.6ML(GS)	III	NOV. 1	11:37	PST
NOV. 15	21	03	09.7	47.459N.	123.529W.	42	WA	—	—	2.7MD(WA)	—	NOV. 15	13:03	PST
NOV. 17	21	03	12.9	46.364N.	122.249W.	11	WA	—	—	2.9MD(WA)	—	NOV. 17	13:03	PST
NOV. 22	18	09	56.8	47.263N.	119.351W.	21	WA	—	—	3.2MD(WA)	—	NOV. 22	10:09	PST
NOV. 22	22	27	03.1	45.121N.	122.596W.	23	WA	—	—	3.0MD(WA)	—	NOV. 22	14:27	PST
NOV. 25	04	46	45.7	48.863N.	121.511W.	1	WA	—	—	2.7MD(WA)	—	NOV. 24	20:46	PST
DEC. 3	18	54	18.1	46.165N.	119.603W.	2	WA	—	—	2.9MD(WA)	—	DEC. 3	10:54	PST
DEC. 12	23	05	29.4	48.433N.	123.023W.	26	WA	—	—	2.7MD(WA)	—	DEC. 12	15:05	PST
DEC. 26	09	09	40.0	46.340N.	122.235W.	7	WA	—	—	3.1MD(WA)	—	DEC. 26	01:09	PST
DEC. 27	19	12	00.8	46.967N.	121.865W.	7	WA	—	—	3.0MD(WA)	—	DEC. 27	11:12	PST
WYOMING														
JAN. 16	07	29	41.0	44.780N.	110.405W.	1	UU	—	—	3.4ML(GS)	III	JAN. 16	00:29	MST
FEB. 28	11	09	01.4	42.985N.	110.820W.	1	UU	—	—	3.5ML(UU)	—	FEB. 28	04:09	MST
FEB. 28	12	37	44.8	42.977N.	110.788W.	0	UU	—	—	3.1ML(UU)	—	FEB. 28	05:37	MST
MAR. 1	23	33	28.9	44.797N.	110.773W.	4	UU	—	—	3.6ML(GS)	IV	MAR. 1	16:33	MST
MAR. 1	23	45	53.3	44.798N.	110.775W.	5	UU	—	—	3.9ML(GS)	IV	MAR. 1	16:45	MST
MAR. 2	04	03	42.0	44.801N.	110.790W.	2	BU	—	—	2.5ML(BU)	—	MAR. 1	21:03	MST
MAR. 2	04	19	10.3	44.795N.	110.785W.	5	BU	—	—	3.3ML(GS)	II	MAR. 1	21:19	MST
MAR. 2	04	24	00.6	44.798N.	110.786W.	1	BU	—	—	2.5ML(BU)	—	MAR. 1	21:24	MST
MAR. 2	04	46	24.6	44.791N.	110.783W.	3	BU	—	—	3.0ML(GS)	II	MAR. 1	21:46	MST
MAR. 2	10	32	36.2	44.800N.	110.793W.	5	BU	—	—	2.7ML(BU)	—	MAR. 2	03:32	MST
MAR. 2	11	10	11.4	44.799N.	110.764W.	1	BU	—	—	2.5ML(BU)	—	MAR. 2	04:10	MST
MAR. 2	13	14	53.3	44.776N.	110.894W.	18	BU	—	—	2.8ML(BU)	—	MAR. 2	06:14	MST
MAR. 4	12	01	14.8	44.801N.	110.769W.	1	BU	—	—	2.8ML(BU)	—	MAR. 4	05:01	MST
MAR. 5	20	30	40.0	44.776N.	110.799W.	5	GS	—	—	3.6ML(GS)	II	MAR. 5	13:30	MST
MAR. 5	20	33	09.5	44.790N.	110.791W.	26	BU	—	—	3.0ML(BU)	—	MAR. 5	13:33	MST
MAR. 5	20	34	36.2	44.767N.	110.683W.	5	GS	—	—	3.2ML(BU)	II	MAR. 5	13:34	MST
MAR. 7	13	18	09.3	44.794N.	110.785W.	1	BU	—	—	2.7ML(BU)	—	MAR. 7	06:18	MST

Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time			
	(UTC)							Source	m <sub>b</sub>	M <sub>s</sub>		Local	Date	hr	zone
	hr	min	sec												
WYOMING															
MAR. 7	23	06	16.8	44.792N.	110.788W.	4	BU	—	—	2.6ML(BU)	—	MAR. 7	16:06	MST	
MAR. 8	22	17	08.2	43.033N.	110.734W.	5	GS	—	—	3.3ML(GS)	—	MAR. 8	15:17	MST	
MAR. 8	22	57	42.1	44.796N.	110.861W.	12	BU	—	—	2.9ML(BU)	—	MAR. 8	15:57	MST	
MAR. 10	08	08	27.6	44.790N.	110.783W.	1	BU	—	—	2.7ML(BU)	—	MAR. 10	01:08	MST	
MAR. 10	14	19	55.6	44.772N.	110.755W.	11	BU	—	—	3.8ML(BU)	—	MAR. 10	07:19	MST	
MAR. 10	14	33	30.5	44.799N.	110.784W.	4	BU	—	—	2.7ML(BU)	—	MAR. 10	07:33	MST	
MAR. 11	06	04	33.4	42.992N.	110.788W.	0	UU	—	—	2.9MD(UU)	—	MAR. 10	23:04	MST	
MAR. 11	06	23	25.2	43.006N.	110.774W.	1	UU	—	—	2.4MD(UU)	—	MAR. 10	23:23	MST	
MAR. 11	06	42	31.9	43.019N.	110.852W.	6	UU	—	—	3.6ML(GS)	II	MAR. 10	23:42	MST	
MAR. 11	07	24	20.9	42.988N.	110.794W.	0	UU	—	—	2.6MD(UU)	—	MAR. 11	00:24	MST	
MAR. 15	00	17	35.3	44.740N.	110.842W.	15	BU	—	—	2.9ML(BU)	—	MAR. 14	17:17	MST	
MAR. 20	01	37	09.8	41.613N.	109.622W.	7	UU	—	—	2.9MD(UU)	IV	MAR. 19	18:37	MST	
APR. 6	06	38	34.7	44.788N.	110.787W.	5	BU	—	—	2.5ML(BU)	—	APR. 5	23:38	MST	
APR. 7	04	50	44.0	44.803N.	110.788W.	5	BU	—	—	2.5ML(BU)	—	APR. 6	21:50	MST	
APR. 12	11	28	45.5	44.646N.	110.442W.	0	BU	—	—	3.0ML(GS)	—	APR. 12	04:28	MST	
APR. 26	05	21	39.6	44.799N.	110.824W.	7	BU	—	—	3.3ML(GS)	II	APR. 25	22:21	MST	
MAY 25	12	54	52.2	43.881N.	110.573W.	2	BU	—	—	2.6ML(BU)	—	MAY 25	05:54	MST	
JUNE 5	08	14	06.7	44.701N.	111.041W.	6	BU	—	—	2.9ML(BU)	—	JUNE 5	01:14	MST	
JUNE 7	01	40	45.2	44.782N.	111.024W.	6	BU	—	—	3.5ML(GS)	II	JUNE 6	18:40	MST	
JUNE 17	08	10	47.5	44.780N.	111.031W.	7	BU	—	—	3.5ML(GS)	III	JUNE 17	01:10	MST	
JUNE 17	13	41	45.3	44.784N.	111.033W.	7	BU	—	—	2.7ML(BU)	—	JUNE 17	06:41	MST	
JUNE 20	16	24	26.0	44.784N.	111.006W.	7	BU	—	—	3.0ML(BU)	—	JUNE 20	09:24	MST	
JULY 19	19	05	52.9	44.685N.	110.126W.	5	GS	—	—	3.0ML(GS)	—	JULY 19	12:05	MST	
AUG. 13	17	54	50.4	41.087N.	110.490W.	1	UU	—	—	2.5ML(UU)	—	AUG. 13	10:54	MST	
AUG. 13	20	57	00.8	41.817N.	108.649W.	5	GS	—	—	3.5ML(GS)	IV	AUG. 13	13:57	MST	
AUG. 16	06	05	22.6	42.813N.	108.060W.	10	GS	—	—	4.3ML(GS)	IV	AUG. 15	23:05	MST	
AUG. 18	00	42	45.3	44.644N.	111.015W.	5	GS	—	—	3.3ML(GS)	II	AUG. 17	17:42	MST	
AUG. 19	13	20	31.1	44.281N.	110.576W.	4	BU	—	—	2.8ML(BU)	—	AUG. 19	06:20	MST	
AUG. 21	18	05	38.3	43.168N.	110.781W.	5	GS	4.8	—	4.3ML(UU)	V	AUG. 21	11:05	MST	
AUG. 22	06	17	39.7	43.125N.	110.814W.	5	GS	4.3	—	4.3ML(GS)	III	AUG. 21	23:17	MST	
AUG. 22	20	44	12.8	43.129N.	110.868W.	5	GS	—	—	3.4ML(GS)	—	AUG. 22	13:44	MST	
AUG. 22	22	49	18.9	43.179N.	110.855W.	5	GS	—	—	3.2ML(GS)	—	AUG. 22	15:49	MST	
AUG. 30	21	08	06.9	43.166N.	110.890W.	5	GS	4.2	—	4.3ML(GS)	V	AUG. 30	14:08	MST	
SEPT. 5	03	59	26.9	44.680N.	111.007W.	6	BU	—	—	3.2ML(BU)	II	SEPT. 4	20:59	MST	
SEPT. 6	17	18	57.5	43.151N.	110.935W.	5	GS	—	—	3.6ML(GS)	—	SEPT. 6	10:18	MST	
SEPT. 7	03	47	29.2	43.156N.	110.724W.	5	GS	4.6	—	4.6ML(GS)	V	SEPT. 6	20:47	MST	
SEPT. 19	17	25	35.6	44.311N.	110.927W.	5	GS	—	—	2.7ML(GS)	III	SEPT. 19	10:25	MST	
SEPT. 19	17	44	58.4	44.351N.	110.815W.	1	BU	—	—	2.9ML(BU)	IV	SEPT. 19	10:44	MST	
SEPT. 19	23	26	54.9	43.118N.	110.926W.	8	GS	—	—	3.5ML(GS)	FELT	SEPT. 19	16:26	MST	
SEPT. 20	05	07	53.5	44.349N.	110.919W.	5	GS	—	—	2.9ML(GS)	IV	SEPT. 19	22:07	MST	
SEPT. 23	21	54	24.8	41.609N.	110.803W.	0	UU	—	—	2.5ML(UU)	—	SEPT. 23	14:54	MST	
OCT. 7	07	48	01.2	44.792N.	110.909W.	5	BU	—	—	2.9ML(BU)	—	OCT. 7	00:48	MST	
OCT. 7	11	52	08.3	44.774N.	110.882W.	18	BU	—	—	2.9ML(BU)	—	OCT. 7	04:52	MST	
OCT. 10	16	49	12.8	44.631N.	110.990W.	3	BU	—	—	3.0ML(BU)	II	OCT. 10	09:49	MST	
OCT. 14	00	27	49.8	44.639N.	111.000W.	7	BU	—	—	2.8ML(BU)	—	OCT. 13	17:27	MST	
OCT. 14	01	38	23.9	44.650N.	111.006W.	7	BU	—	—	3.0ML(BU)	—	OCT. 13	18:38	MST	
OCT. 14	01	42	52.5	44.647N.	111.015W.	8	BU	—	—	3.0ML(BU)	—	OCT. 13	18:42	MST	
OCT. 14	17	45	11.3	44.644N.	111.000W.	4	BU	—	—	2.7ML(BU)	—	OCT. 14	10:45	MST	

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
				(°)	(°)	(km)	Source							
WYOMING														
OCT. 16	20	01	59.3	44.640N.	111.020W.	5	BU	—	—	3.5ML(GS)	IV	OCT. 16	13:01	MST
OCT. 16	23	36	00.4	44.639N.	111.012W.	5	BU	—	—	3.6ML(BU)	IV	OCT. 16	16:35	MST
OCT. 16	23	39	48.8	44.643N.	111.019W.	7	BU	—	—	3.2ML(BU)	—	OCT. 16	16:39	MST
OCT. 16	23	59	17.9	44.643N.	111.016W.	4	BU	—	—	3.6ML(GS)	IV	OCT. 16	16:59	MST
OCT. 17	00	18	36.9	44.641N.	111.013W.	7	BU	—	—	3.4ML(GS)	IV	OCT. 16	17:18	MST
OCT. 17	01	11	46.9	44.630N.	111.007W.	3	BU	—	—	3.1ML(BU)	III	OCT. 16	18:11	MST
OCT. 17	03	06	05.2	44.644N.	111.014W.	5	BU	—	—	3.4ML(GS)	IV	OCT. 16	20:06	MST
OCT. 17	04	30	45.0	44.639N.	111.003W.	4	BU	—	—	3.1ML(GS)	—	OCT. 16	21:30	MST
OCT. 17	11	57	58.4	44.643N.	111.015W.	4	BU	—	—	3.8ML(BU)	III	OCT. 17	04:57	MST
OCT. 17	12	49	04.3	44.627N.	110.998W.	5	BU	—	—	2.7ML(BU)	—	OCT. 17	05:49	MST
OCT. 17	18	33	07.8	44.642N.	111.013W.	7	BU	—	—	2.7ML(BU)	—	OCT. 17	11:33	MST
OCT. 17	19	13	25.1	44.669N.	111.016W.	7	BU	—	—	2.6ML(BU)	—	OCT. 17	12:13	MST
OCT. 17	23	34	01.5	44.667N.	111.023W.	7	BU	—	—	2.9ML(BU)	—	OCT. 17	16:34	MST
OCT. 18	02	26	01.3	44.653N.	111.021W.	8	BU	—	—	2.9ML(BU)	—	OCT. 17	19:26	MST
OCT. 18	04	28	14.1	44.650N.	111.013W.	5	BU	—	—	2.7ML(BU)	—	OCT. 17	21:28	MST
OCT. 18	05	04	20.9	44.662N.	111.035W.	4	BU	—	—	2.6ML(BU)	—	OCT. 17	22:04	MST
OCT. 18	10	30	55.3	44.707N.	111.015W.	21	BU	—	—	2.7ML(BU)	—	OCT. 18	03:30	MST
OCT. 18	14	58	43.9	44.631N.	111.007W.	6	BU	—	—	3.0ML(BU)	—	OCT. 18	07:58	MST
OCT. 18	22	26	28.9	44.637N.	110.999W.	6	BU	—	—	2.8ML(BU)	—	OCT. 18	15:26	MST
OCT. 19	09	36	44.1	44.648N.	110.976W.	4	BU	—	—	2.5ML(BU)	—	OCT. 19	02:36	MST
OCT. 19	09	58	04.6	44.714N.	111.048W.	10	BU	—	—	2.9ML(BU)	—	OCT. 19	02:58	MST
OCT. 19	12	45	53.5	44.663N.	111.026W.	19	BU	—	—	2.9ML(BU)	III	OCT. 19	05:45	MST
OCT. 19	15	33	47.4	44.624N.	111.028W.	5	GS	—	—	3.0ML(GS)	—	OCT. 19	08:33	MST
OCT. 19	15	34	59.5	44.655N.	111.006W.	5	GS	—	—	4.1ML(GS)	V	OCT. 19	08:34	MST
OCT. 19	15	40	24.3	44.594N.	111.016W.	5	GS	—	—	3.0ML(BU)	—	OCT. 19	08:40	MST
OCT. 19	15	55	42.3	44.640N.	111.029W.	5	GS	—	—	3.0ML(BU)	—	OCT. 19	08:55	MST
OCT. 19	16	32	35.6	44.679N.	110.983W.	5	GS	—	—	4.0ML(GS)	IV	OCT. 19	09:32	MST
OCT. 19	16	51	22.8	44.646N.	111.017W.	4	BU	—	—	2.8ML(BU)	—	OCT. 19	09:51	MST
OCT. 19	17	56	08.4	44.641N.	110.999W.	7	BU	—	—	2.7ML(BU)	—	OCT. 19	10:56	MST
OCT. 19	19	14	21.4	44.649N.	111.020W.	14	BU	—	—	2.9ML(BU)	—	OCT. 19	12:14	MST
OCT. 19	21	40	17.4	44.641N.	111.004W.	6	BU	—	—	2.7ML(GS)	—	OCT. 19	14:40	MST
OCT. 20	05	33	10.9	44.633N.	110.996W.	5	BU	—	—	2.7ML(BU)	—	OCT. 19	22:33	MST
OCT. 20	06	31	31.2	44.633N.	111.006W.	6	BU	—	—	3.1ML(GS)	III	OCT. 19	23:31	MST
OCT. 21	00	48	28.8	44.645N.	111.023W.	8	BU	—	—	2.8ML(BU)	—	OCT. 20	17:48	MST
OCT. 21	07	31	40.0	44.645N.	110.993W.	6	BU	—	—	2.7ML(BU)	—	OCT. 21	00:31	MST
OCT. 21	08	43	31.0	44.645N.	111.002W.	8	BU	—	—	2.8ML(BU)	—	OCT. 21	01:43	MST
OCT. 21	08	48	59.3	44.664N.	110.996W.	8	BU	—	—	2.8ML(BU)	—	OCT. 21	01:48	MST
OCT. 21	09	16	39.2	44.644N.	110.978W.	7	BU	—	—	2.9ML(BU)	—	OCT. 21	02:16	MST
OCT. 21	13	22	43.0	44.662N.	111.022W.	6	BU	—	—	3.1ML(BU)	—	OCT. 21	06:22	MST
OCT. 22	09	54	43.7	44.643N.	110.997W.	6	BU	—	—	3.1ML(BU)	II	OCT. 22	02:54	MST
OCT. 22	20	33	03.9	44.678N.	111.041W.	5	BU	—	—	2.6ML(BU)	—	OCT. 22	13:33	MST
OCT. 23	09	20	51.6	44.888N.	110.657W.	7	BU	—	—	2.5ML(BU)	—	OCT. 23	02:20	MST
OCT. 23	12	31	35.9	44.640N.	111.006W.	6	BU	—	—	2.8ML(BU)	—	OCT. 23	05:31	MST
OCT. 24	07	53	14.1	44.633N.	111.011W.	6	BU	—	—	2.9ML(BU)	—	OCT. 24	00:53	MST
OCT. 25	02	21	06.9	44.615N.	110.984W.	17	BU	—	—	3.5ML(BU)	II	OCT. 24	19:21	MST
OCT. 25	18	32	38.2	44.650N.	110.995W.	8	BU	—	—	2.7ML(BU)	—	OCT. 25	11:32	MST
OCT. 27	23	58	26.3	44.649N.	111.033W.	5	BU	—	—	2.7ML(GS)	—	OCT. 27	16:58	MST
OCT. 28	20	54	25.5	44.645N.	110.978W.	7	BU	—	—	3.0ML(BU)	—	OCT. 28	13:54	MST



Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
WYOMING														
OCT. 29	01	10	50.9	44.655N.	110.966W.	4	BU	—	—	2.8ML(BU)	—	OCT. 28	18:10	MST
OCT. 30	17	12	32.8	44.651N.	111.006W.	4	BU	—	—	2.9ML(BU)	—	OCT. 30	10:12	MST
NOV. 8	02	11	32.0	44.655N.	111.027W.	7	BU	—	—	3.2ML(BU)	—	NOV. 7	19:11	MST
NOV. 9	11	38	19.0	44.662N.	111.027W.	4	BU	4.8	—	4.1MD(BU)	V	NOV. 9	04:38	MST
NOV. 9	14	35	57.9	44.702N.	111.027W.	18	BU	—	—	2.8ML(BU)	II	NOV. 9	07:35	MST
NOV. 9	15	23	29.9	44.751N.	111.083W.	20	BU	—	—	2.7ML(BU)	—	NOV. 9	08:23	MST
NOV. 9	17	16	16.7	44.652N.	111.042W.	5	GS	—	—	3.3ML(GS)	III	NOV. 9	10:16	MST
NOV. 9	19	16	16.0	44.656N.	111.007W.	7	BU	—	—	2.9ML(BU)	—	NOV. 9	12:16	MST
NOV. 9	20	01	10.5	44.662N.	111.008W.	7	BU	—	—	2.7ML(BU)	—	NOV. 9	13:01	MST
NOV. 9	21	34	59.2	44.654N.	111.007W.	4	BU	—	—	2.9ML(BU)	—	NOV. 9	14:34	MST
NOV. 9	22	40	24.1	44.648N.	111.030W.	5	BU	—	—	2.9ML(BU)	—	NOV. 9	15:40	MST
NOV. 9	23	57	49.8	44.682N.	111.028W.	4	BU	—	—	2.9ML(BU)	—	NOV. 9	16:57	MST
NOV. 10	00	06	37.4	44.648N.	110.994W.	7	BU	—	—	2.8ML(GS)	—	NOV. 9	17:06	MST
NOV. 10	01	28	39.4	44.624N.	111.006W.	5	BU	—	—	2.9ML(GS)	—	NOV. 9	18:28	MST
NOV. 10	04	26	53.8	44.681N.	111.027W.	18	BU	—	—	2.7ML(BU)	—	NOV. 9	21:26	MST
NOV. 10	10	27	31.9	44.645N.	111.015W.	9	BU	—	—	2.8ML(GS)	III	NOV. 10	03:27	MST
NOV. 10	19	30	38.8	44.644N.	111.021W.	6	BU	—	—	2.8ML(BU)	II	NOV. 10	12:30	MST
NOV. 10	21	05	28.6	44.640N.	110.969W.	4	BU	—	—	2.7ML(BU)	—	NOV. 10	14:05	MST
NOV. 10	21	50	03.5	44.669N.	110.997W.	1	BU	—	—	2.5ML(BU)	—	NOV. 10	14:50	MST
NOV. 11	00	53	43.2	44.637N.	110.964W.	5	GS	—	—	3.0ML(GS)	III	NOV. 10	17:53	MST
NOV. 11	01	26	09.5	44.650N.	111.001W.	1	BU	—	—	3.4ML(GS)	III	NOV. 10	18:26	MST
NOV. 11	14	10	01.6	44.612N.	111.022W.	5	GS	—	—	2.8ML(GS)	III	NOV. 11	07:10	MST
NOV. 12	07	22	35.8	44.641N.	111.016W.	8	BU	—	—	3.0ML(GS)	III	NOV. 12	00:22	MST
NOV. 12	12	42	45.9	44.639N.	111.010W.	9	BU	—	—	3.0ML(BU)	—	NOV. 12	05:42	MST
NOV. 13	18	47	50.7	44.670N.	110.996W.	8	BU	—	—	3.5ML(BU)	II	NOV. 13	11:47	MST
NOV. 13	18	52	51.7	44.630N.	111.026W.	8	BU	—	—	3.7ML(BU)	III	NOV. 13	11:52	MST
NOV. 13	21	50	09.5	44.692N.	111.026W.	4	BU	—	—	2.6ML(BU)	—	NOV. 13	14:50	MST
NOV. 14	05	30	16.6	44.650N.	111.005W.	8	BU	—	—	3.7ML(BU)	III	NOV. 13	22:30	MST
NOV. 14	11	17	10.1	44.664N.	111.014W.	18	BU	—	—	3.0ML(BU)	—	NOV. 14	04:17	MST
NOV. 15	06	34	26.5	44.589N.	111.032W.	5	GS	—	—	2.8ML(GS)	—	NOV. 14	23:34	MST
NOV. 15	15	21	05.0	44.665N.	111.011W.	4	BU	—	—	2.6ML(BU)	—	NOV. 15	08:21	MST
NOV. 15	17	51	35.1	44.652N.	111.040W.	5	GS	—	—	3.5ML(GS)	IV	NOV. 15	10:51	MST
NOV. 15	17	55	02.5	44.686N.	111.015W.	5	BU	—	—	2.9ML(BU)	FELT	NOV. 15	10:55	MST
NOV. 15	20	51	09.8	44.605N.	111.020W.	5	GS	—	—	2.8ML(GS)	III	NOV. 15	13:51	MST
NOV. 16	10	24	53.1	44.667N.	110.979W.	7	BU	—	—	2.9ML(BU)	—	NOV. 16	03:24	MST
NOV. 17	06	50	20.9	44.650N.	110.998W.	7	BU	—	—	3.1ML(GS)	II	NOV. 16	23:50	MST
NOV. 17	09	21	18.2	44.649N.	110.993W.	8	BU	—	—	2.9ML(BU)	—	NOV. 17	02:21	MST
NOV. 17	11	45	55.4	44.664N.	110.993W.	5	BU	—	—	2.7ML(BU)	—	NOV. 17	04:45	MST
NOV. 17	16	34	18.2	44.634N.	110.991W.	7	BU	—	—	2.8ML(GS)	III	NOV. 17	09:34	MST
NOV. 19	12	22	04.6	44.633N.	110.991W.	5	GS	—	—	3.0ML(GS)	—	NOV. 19	05:22	MST
NOV. 19	12	49	50.0	44.706N.	111.029W.	18	BU	—	—	2.7ML(BU)	—	NOV. 19	05:49	MST
NOV. 20	14	55	56.1	44.631N.	110.980W.	5	GS	—	—	3.5ML(GS)	II	NOV. 20	07:55	MST
NOV. 20	15	14	59.7	44.631N.	110.995W.	8	BU	—	—	3.1ML(BU)	II	NOV. 20	08:14	MST
NOV. 20	15	30	36.0	44.652N.	110.990W.	8	BU	—	—	3.2ML(BU)	—	NOV. 20	08:30	MST
NOV. 21	15	00	56.9	44.726N.	111.040W.	15	BU	—	—	2.8ML(BU)	—	NOV. 21	07:00	MST
NOV. 22	00	27	00.3	44.680N.	111.020W.	7	BU	—	—	3.0ML(BU)	—	NOV. 21	17:27	MST
NOV. 22	07	42	27.9	44.623N.	110.990W.	5	GS	—	—	3.1ML(GS)	III	NOV. 22	00:42	MST
NOV. 23	10	11	10.7	44.717N.	111.047W.	14	BU	—	—	2.8ML(BU)	II	NOV. 23	03:11	MST

Table 1. *Summary of United States earthquakes for 1985—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time			
	(UTC)							Source	m <sub>b</sub>	M <sub>s</sub>		Local	Date	hr	zone
	hr	min	sec												
WYOMING															
NOV. 23	17	47	23.6	44.635N.	111.048W.	5	GS	—	—	2.7ML(GS)	—	NOV. 23	10:47	MST	
NOV. 24	20	53	40.9	44.666N.	111.049W.	10	BU	—	—	2.5ML(BU)	—	NOV. 24	13:53	MST	
NOV. 25	16	37	36.7	44.672N.	111.014W.	7	BU	—	—	3.0ML(BU)	—	NOV. 25	09:37	MST	
NOV. 25	17	11	20.6	44.664N.	111.022W.	8	BU	—	—	3.0ML(GS)	—	NOV. 25	10:11	MST	
NOV. 25	17	18	36.3	44.673N.	111.021W.	9	BU	—	—	2.9ML(GS)	—	NOV. 25	10:18	MST	
NOV. 25	17	21	37.2	44.710N.	111.133W.	18	BU	—	—	2.7ML(BU)	—	NOV. 25	10:21	MST	
NOV. 25	19	25	56.9	44.671N.	111.048W.	5	GS	—	—	3.0ML(GS)	—	NOV. 25	12:25	MST	
NOV. 25	19	41	26.4	44.660N.	111.018W.	10	BU	—	—	3.3ML(GS)	—	NOV. 25	12:41	MST	
NOV. 25	20	31	56.9	44.773N.	111.075W.	10	BU	—	—	3.2ML(BU)	—	NOV. 25	13:31	MST	
NOV. 26	05	43	21.1	44.670N.	111.000W.	8	BU	—	—	2.9ML(BU)	—	NOV. 25	22:43	MST	
NOV. 26	09	34	40.5	44.647N.	111.045W.	5	GS	—	—	4.4ML(GS)	IV	NOV. 26	02:34	MST	
NOV. 26	15	27	57.9	44.686N.	111.008W.	4	BU	—	—	2.8ML(BU)	—	NOV. 26	08:27	MST	
NOV. 26	16	27	55.4	44.661N.	111.036W.	5	GS	—	—	3.4ML(GS)	III	NOV. 26	09:27	MST	
NOV. 26	18	52	20.2	44.642N.	111.023W.	5	GS	—	—	2.7ML(GS)	—	NOV. 26	11:52	MST	
NOV. 27	07	31	49.4	44.662N.	111.014W.	9	BU	—	—	3.1ML(GS)	—	NOV. 27	00:31	MST	
NOV. 28	09	19	52.6	44.652N.	110.992W.	8	BU	—	—	2.7ML(BU)	—	NOV. 28	02:19	MST	
NOV. 29	06	11	02.1	44.650N.	111.037W.	5	GS	—	—	3.1ML(GS)	II	NOV. 28	23:11	MST	
NOV. 29	07	21	26.1	44.695N.	111.045W.	16	BU	—	—	3.4ML(GS)	III	NOV. 29	00:21	MST	
NOV. 29	22	30	36.9	44.657N.	111.011W.	8	BU	—	—	3.4ML(GS)	III	NOV. 29	15:30	MST	
NOV. 30	06	16	11.7	44.658N.	111.004W.	4	BU	—	—	2.9ML(BU)	—	NOV. 29	23:16	MST	
NOV. 30	16	03	29.6	44.669N.	111.009W.	7	BU	—	—	3.3ML(BU)	—	NOV. 30	09:03	MST	
BEC. 2	14	45	46.2	44.682N.	111.046W.	12	BU	—	—	2.6ML(BU)	—	DEC. 2	07:45	MST	
DEC. 1	01	08	54.1	44.631N.	111.017W.	8	BU	—	—	3.8ML(GS)	IV	NOV. 30	18:08	MST	
DEC. 1	12	26	49.5	44.649N.	110.997W.	7	BU	—	—	2.9ML(BU)	—	DEC. 1	05:26	MST	
DEC. 3	09	07	10.8	44.680N.	111.002W.	7	BU	—	—	2.9ML(BU)	—	DEC. 3	02:07	MST	
DEC. 4	06	37	51.8	44.671N.	111.004W.	5	GS	4.1	—	4.2ML(GS)	IV	DEC. 3	23:37	MST	
DEC. 4	06	44	17.7	44.629N.	111.047W.	5	GS	—	—	3.5ML(GS)	IV	DEC. 3	23:44	MST	
DEC. 4	09	10	30.6	44.624N.	110.991W.	4	BU	—	—	2.8ML(GS)	III	DEC. 4	02:10	MST	
DEC. 4	12	47	29.7	44.652N.	111.027W.	5	BU	—	—	3.9ML(GS)	IV	DEC. 4	05:47	MST	
DEC. 4	12	56	16.7	44.634N.	110.993W.	5	BU	—	—	3.5ML(GS)	III	DEC. 4	05:56	MST	
DEC. 4	14	12	41.2	44.642N.	111.009W.	3	BU	—	—	2.8ML(GS)	II	DEC. 4	07:12	MST	
DEC. 6	10	19	35.8	44.631N.	111.022W.	9	BU	—	—	2.9ML(GS)	—	DEC. 6	03:19	MST	
DEC. 6	14	59	48.1	44.642N.	110.986W.	5	BU	—	—	2.5ML(BU)	—	DEC. 6	07:59	MST	
DEC. 7	04	49	34.8	44.640N.	111.006W.	8	BU	—	—	2.9ML(BU)	—	DEC. 6	21:49	MST	
DEC. 7	20	51	14.1	44.605N.	111.010W.	5	GS	—	—	2.7ML(GS)	—	DEC. 7	13:51	MST	
DEC. 8	08	04	53.5	44.647N.	110.988W.	8	BU	—	—	3.5ML(BU)	—	DEC. 8	01:04	MST	
DEC. 8	12	21	04.6	44.648N.	110.995W.	6	BU	—	—	2.6ML(BU)	—	DEC. 8	05:21	MST	
DEC. 8	20	12	38.7	44.661N.	110.989W.	7	BU	—	—	2.8ML(BU)	—	DEC. 8	13:12	MST	
DEC. 10	04	13	12.3	44.641N.	110.991W.	8	BU	—	—	2.9ML(GS)	III	DEC. 9	21:13	MST	
DEC. 12	19	27	20.6	44.645N.	111.001W.	6	BU	—	—	2.7ML(BU)	—	DEC. 12	12:27	MST	
DEC. 15	01	42	04.6	44.624N.	110.993W.	6	BU	—	—	3.7ML(GS)	IV	DEC. 14	18:42	MST	
DEC. 15	02	01	52.4	44.647N.	110.992W.	7	BU	—	—	2.7ML(GS)	II	DEC. 14	19:01	MST	
DEC. 15	12	03	03.6	44.615N.	111.000W.	5	GS	—	—	2.7ML(GS)	—	DEC. 15	05:03	MST	
DEC. 16	02	56	33.2	44.639N.	111.014W.	6	BU	—	—	3.1ML(GS)	II	DEC. 15	19:56	MST	
DEC. 16	14	53	52.6	44.612N.	110.986W.	5	GS	—	—	2.7ML(GS)	—	DEC. 16	07:53	MST	
DEC. 17	06	27	16.7	44.618N.	111.048W.	5	GS	—	—	3.0ML(GS)	—	DEC. 16	23:27	MST	
DEC. 17	08	20	38.0	44.640N.	110.985W.	5	BU	—	—	3.0ML(BU)	—	DEC. 17	01:20	MST	
DEC. 18	06	45	59.4	44.621N.	111.023W.	5	GS	—	—	3.0ML(GS)	—	DEC. 17	23:45	MST	

Table 1. *Summary of United States earthquakes—Continued*

Date	Origin time			Latitude	Longitude	Depth	Hypo- center	Magnitude			Max. inten- sity	Local time		
	(UTC)							m <sub>b</sub>	M <sub>s</sub>	Local		Date	hr	zone
	hr	min	sec											
				(°)	(°)	(km)	Source							
WYOMING														
DEC. 18	17	23	16.0	44.619N.	111.040W.	5	GS	—	—	2.8ML(GS)	—	DEC. 18	10:23	MST
DEC. 20	01	45	08.3	44.626N.	111.002W.	5	GS	—	—	2.6ML(GS)	—	DEC. 19	18:45	MST
DEC. 20	04	52	03.3	44.601N.	111.029W.	5	GS	—	—	3.0ML(GS)	—	DEC. 19	21:52	MST
DEC. 20	10	57	21.5	44.641N.	110.992W.	7	BU	—	—	2.9ML(BU)	—	DEC. 20	03:57	MST
DEC. 21	00	53	01.9	44.664N.	111.007W.	7	BU	—	—	2.9ML(BU)	—	DEC. 20	17:53	MST
DEC. 24	04	12	38.2	44.640N.	110.988W.	9	BU	—	—	3.0ML(BU)	—	DEC. 23	21:12	MST
DEC. 25	11	17	18.8	44.695N.	111.049W.	14	BU	—	—	2.9ML(BU)	—	DEC. 25	04:17	MST
DEC. 25	21	39	27.8	44.642N.	111.004W.	7	BU	—	—	2.9ML(BU)	—	DEC. 25	17:39	MST
DEC. 26	11	56	34.4	44.614N.	111.035W.	5	GS	—	—	2.8ML(GS)	—	DEC. 26	04:56	MST
DEC. 26	18	40	47.8	44.643N.	111.026W.	5	GS	—	—	2.8ML(GS)	—	DEC. 26	11:40	MST
DEC. 27	18	31	54.5	44.602N.	111.048W.	5	GS	—	—	3.2ML(GS)	IV	DEC. 27	11:31	MST
DEC. 31	21	32	12.0	44.614N.	110.978W.	1	BU	—	—	2.5ML(BU)	—	DEC. 31	14:32	MST

## NETWORK OPERATIONS

### Northern and Central California Earthquakes, 1985

By Robert A. Uhrhammer  
Seismographic Station  
475 Earthquake Sciences Building  
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The University of California seismographic stations at Berkeley operated a telemetered network of 18 stations (fig. 16) during 1985. The network contains a wide range of instrumentation including, for example, Wood-Anderson torsion, short-period, broadband, and strong-motion instruments. During 1985, the network was upgraded with new three-component sets of Streckeisen STS-1 seismometers at Mt. Hamilton (MHC) and Oroville (ORV). Three-component broadband instruments are housed at Berkeley (BKS), Jamestown (JAS), Mt. Hamilton, Oroville, and the San Andreas Geophysical Observatory (SAO). In addition, a vertical-component broadband instrument is housed at Whiskeytown (WDC). Details about the instrumentation, including displacement transfer functions, is given by Darragh and others (1986).

During 1985, about 4,900 occurrences of seismic events were catalogued on summary sheets and 19,500 phase onset times and amplitudes were read by analysts. Four hundred and fourteen local earthquakes and 1,152 teleseisms were analyzed in detail. The Bulletin of the Seismographic Stations (Darragh and others, 1986) contains location and magnitude data, shown in figure 17, for 257 earthquakes located in northern and central California ( $2.5 \leq M_L \leq 5.6$ ) and adjoining regions ( $M_L \geq 4.0$ ). Two earthquakes were of magnitude 5.0 or larger ( $M_L$  5.2, 100 km north-northwest of Bishop, 24 Jan.) and ( $M_L$  5.6, 70 km southwest of Fresno and 22 km east of Coalinga, 4 Aug.). The  $M_L$ -5.6 earthquake near Coalinga did slight damage with MM VI reported; six people sustained minor injuries.

During 1985, the station continued to develop programs for routine and research analysis of seismological data, which use the processing and interactive graphics

capabilities of IBM-PC XT/AT microcomputers. The principal categories are (1) a customized relational database (Ashton-Tate dBase III Plus) for archiving, processing, and retrieval of seismological data; (2) assembly language procedures for acquisition, telemetry, and archival of broadband digital data; and (3) FORTRAN programs for interactive graphical display and analysis of digital data and earthquake parameter determination.

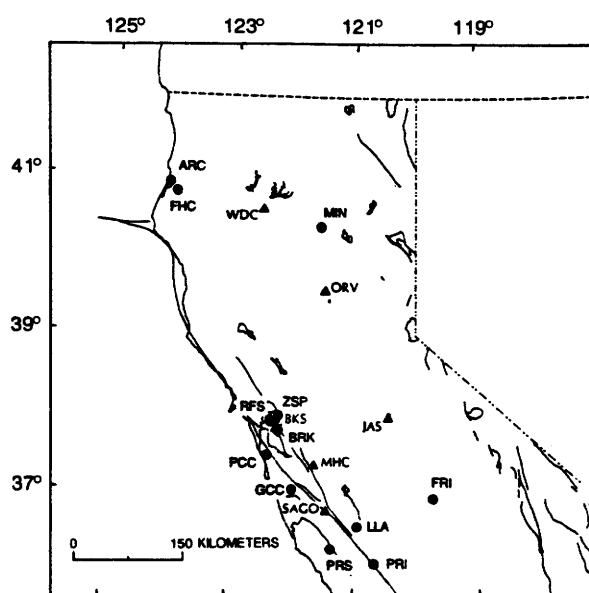
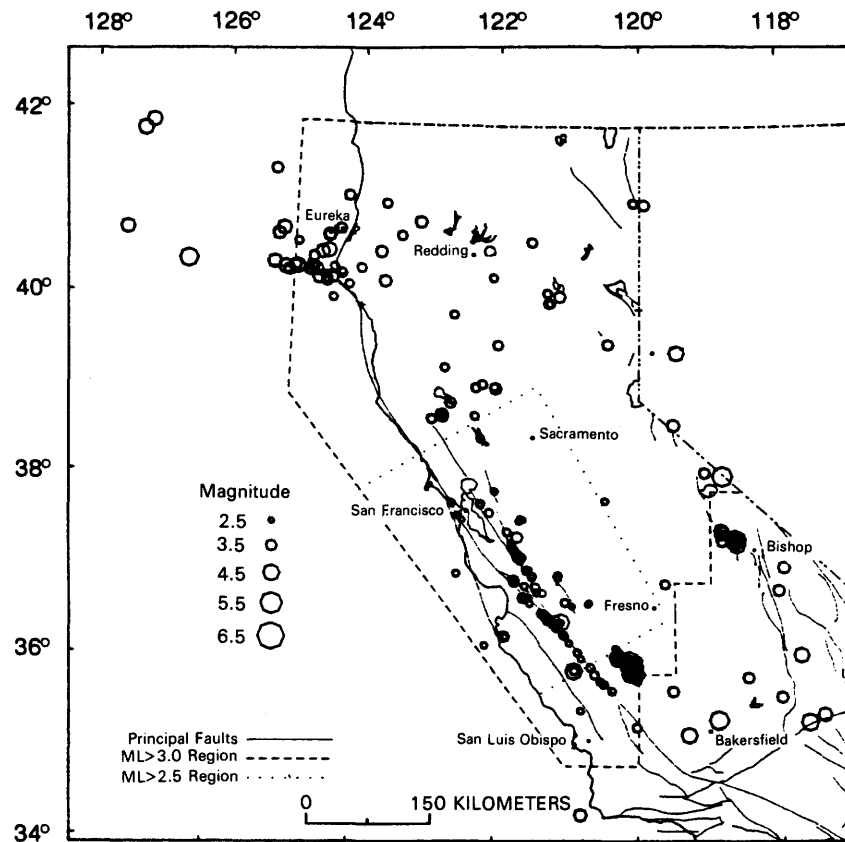


Figure 16. University of California seismographic station network during 1985. Broadband stations are indicated by the triangles.

### Hawaii Earthquakes, 1985

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In 1985 the seismometer network maintained by the Hawaiian Volcano Observatory consisted of 53 stations: one was a multicomponent station, 15 were three-component, and 37 were verticals only. With the exception of four self-contained stations, all seismometer signals from the short-period stations on the island of Hawaii were telemetered to the observatory for recording. In addition to the



**Figure 17.** Northern and central California seismicity during 1985. Plotted are 257 earthquakes ( $M_L \geq 2.5$ ).

seismic stations on the island of Hawaii, the network included optical seismographs on the islands of Maui and Oahu (Oahu station operated by the Pacific Tsunami Warning Center).

Earthquake statistics for Hawaii in 1985 included 2,045 events of about  $M_L$  1.0 or greater, of which 80 events were  $M_L$  3.0 or greater and 9 were  $M_L$  4.0 or greater. The most significant event was a  $M_L$ -4.8 Kilauea south-flank earthquake on February 21 at 19:48 (Hawaiian Standard Time). Figures 18, 19, and 20 are plots of shallow, crustal, and deep earthquakes beneath the island of Hawaii. Figure 21 shows the distribution of earthquakes  $\geq M_L$  3.5 in the Hawaiian islands.

Earthquakes occurred mainly in the southeastern part of the Hawaiian Archipelago beneath the active volcanoes Kilauea and Mauna Loa and the newly developing submarine volcano Loihi. Highest concentrations were at 5–13 km depths along (1) the south flank of Kilauea adjacent to an east-west oriented conduit system that fed magma to the repeated outbreaks of the continuing east-rift eruption, (2) along the southeast flank of Mauna Loa in the region continually subjected to stresses induced by magma movement beneath Mauna Loa and Kilauea, and (3) south of the island

of Hawaii beneath the submarine volcano Loihi, where episodic seismic activity has indicated volcanic unrest.

### Mississippi Valley Earthquakes, 1985

By *W. Stauder, R. Herrmann, John Chulick, S. Neiers, S. Horton, C. Carr, and C. Finn*  
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In 1985, 222 earthquakes were located and 56 other nonlocatable earthquakes were detected by the 40-station regional-telemetered microearthquake network operated by Saint Louis University under contract with the U.S. Geological Survey and the Nuclear Regulatory Commission. The location and station readings for these events are published in the quarterly *Central Mississippi Valley Earthquake Bulletin*, nos. 43–46.

Figure 22 shows the location of the seismographic stations, labeled by the station code.

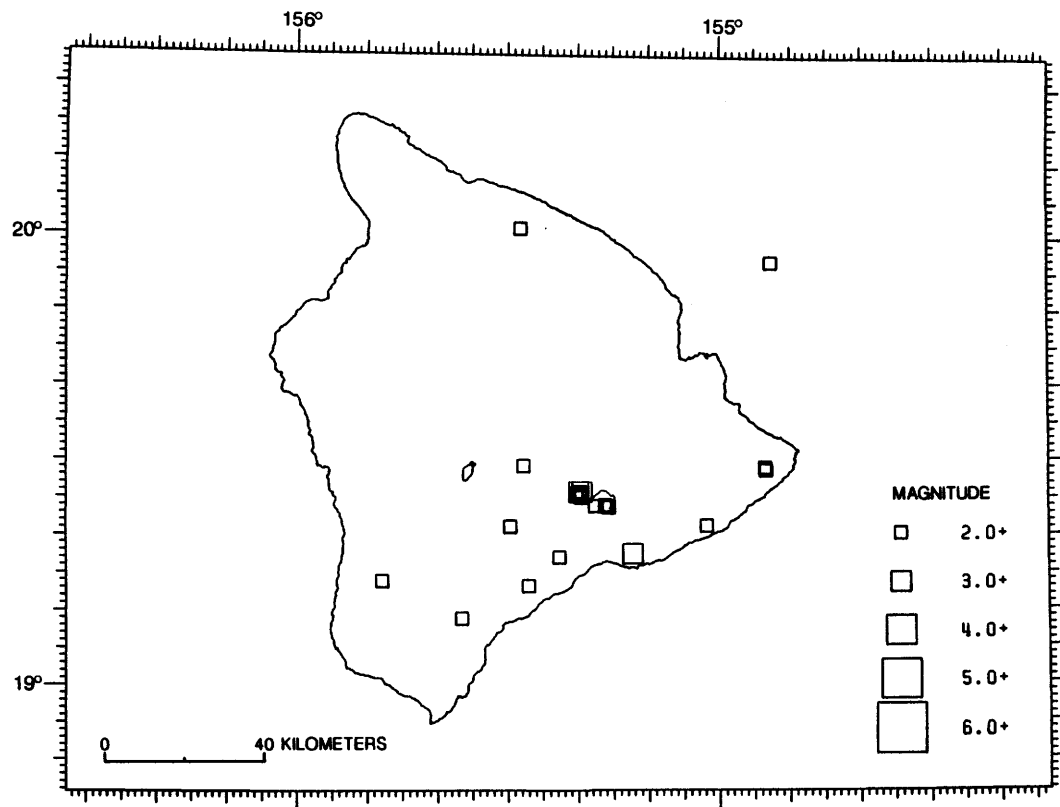


Figure 18. Shallow earthquakes located beneath the island of Hawaii during 1985 (0–5 kilometer depths,  $M_L \geq 2.0$ ).

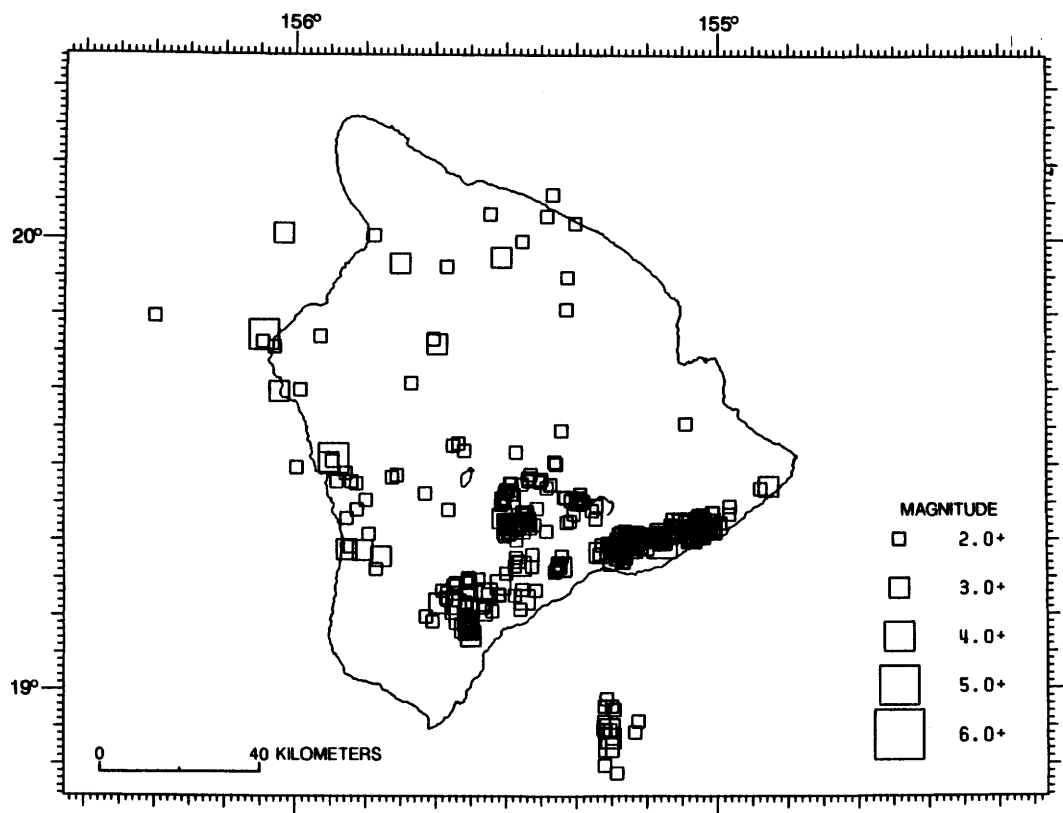


Figure 19. Crustal earthquakes located beneath the island of Hawaii during 1985 (5–3 kilometer depths,  $M_L \geq 2.0$ ).

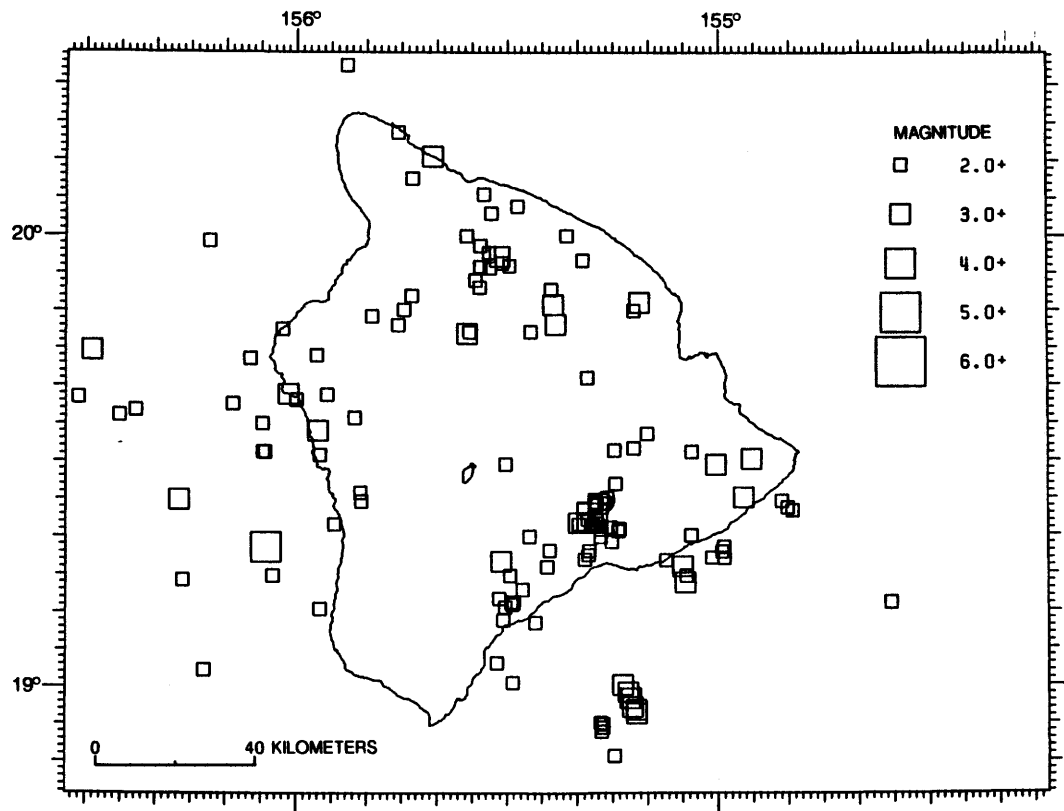


Figure 20. Deep earthquakes located beneath the island of Hawaii during 1985 (13–60 kilometer depths,  $M_L \geq 2.0$ ).

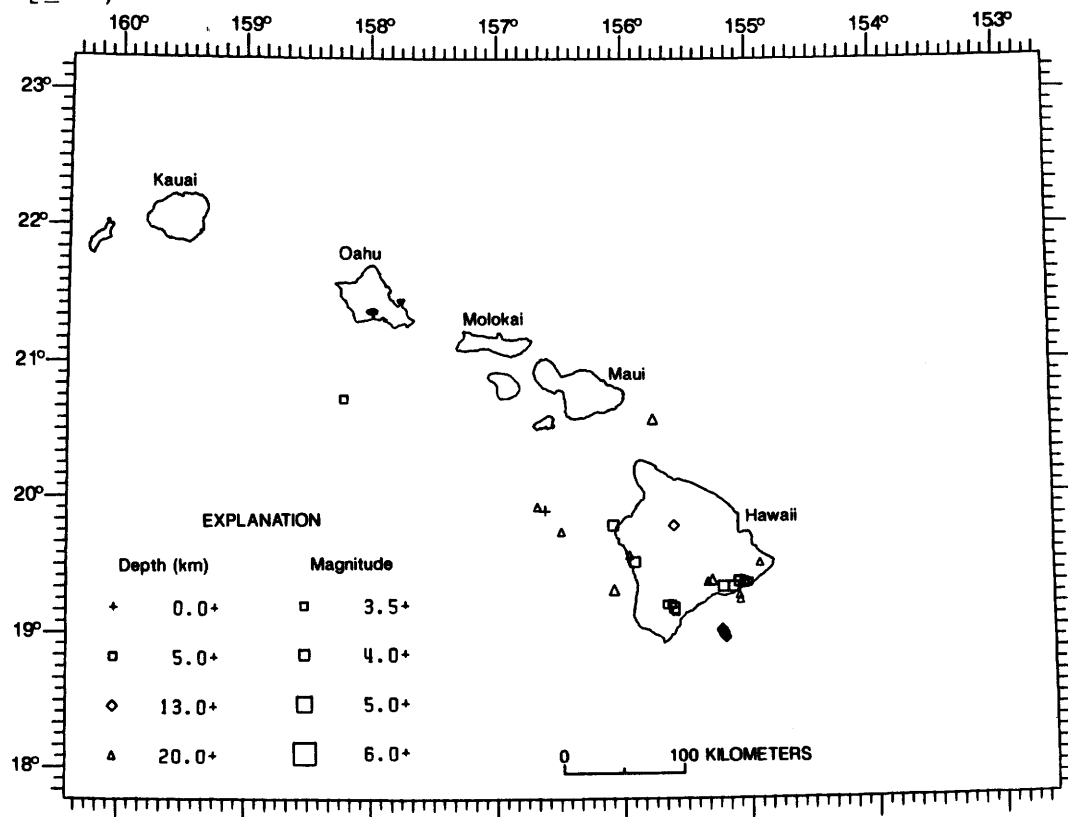
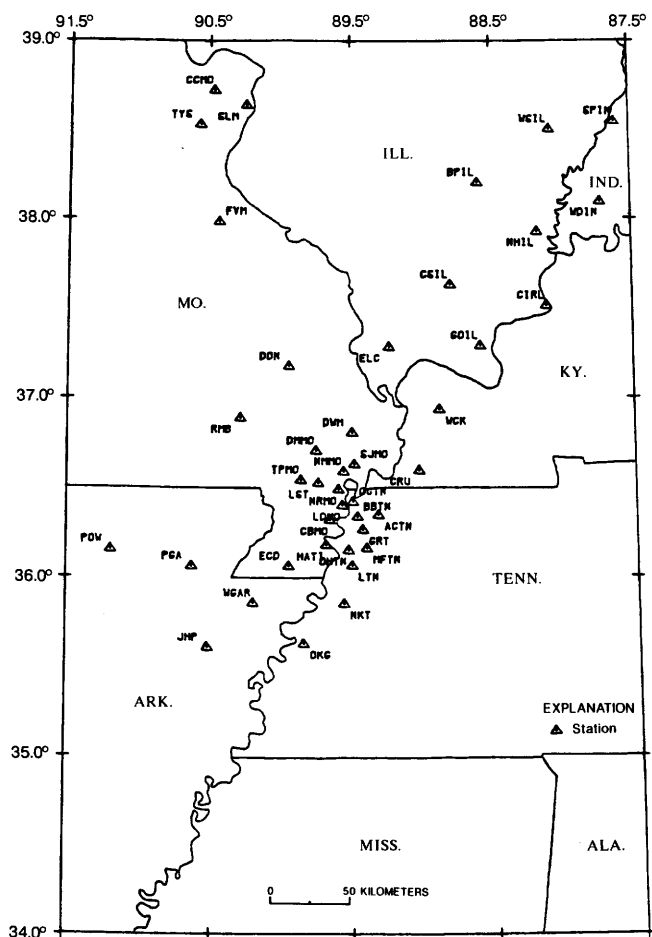


Figure 21. Earthquakes located in the Hawaiian Islands during 1985 (0–60 kilometer depths,  $M_L \geq 3.5$ ).

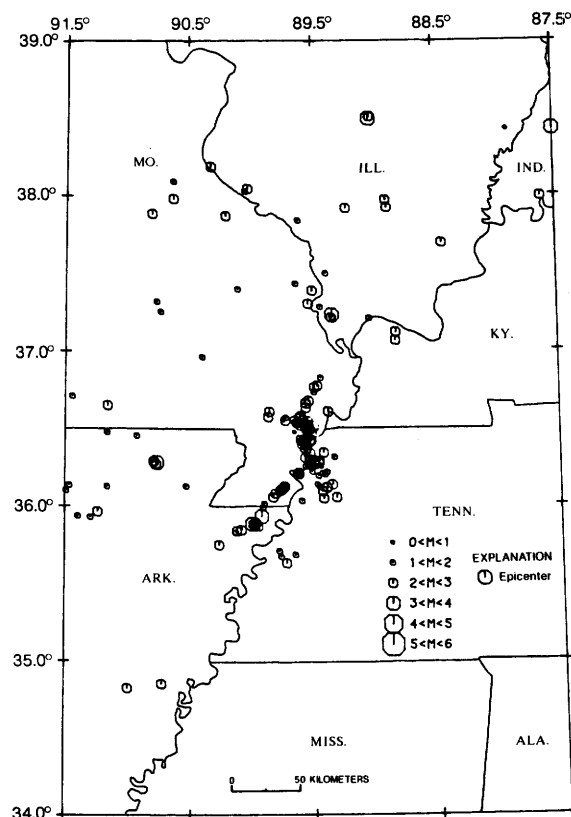


**Figure 22. Location of the seismograph stations of the Central Mississippi Valley telemetered microearthquake network. Stations are identified by the station code.**

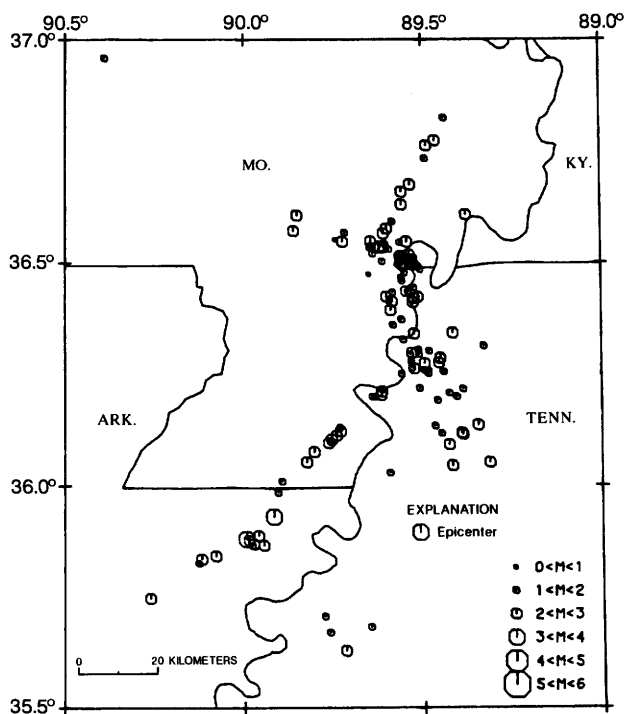
Figure 23 shows the location of 183 of these events located within a 4° by 5° region covering the larger southeast Missouri, southern Illinois region. The magnitude of each earthquake is indicated by the size of the open symbol.

Figure 24 shows the location of 136 earthquakes located within the  $1.5^{\circ}$  by  $1.5^{\circ}$  area of the immediate New Madrid region. The symbols are the same as above.

In addition to local earthquakes, 120 teleseisms were recorded by the PDP 11/34 microcomputer during 1985. The apparent velocity of the *P* wave propagating across the network was used to determine the azimuth of approach and distance, and hence the epicentral coordinates of these events. The arrival times for teleseismic *P* and *PKP* phases and a map comparing epicenter locations by this method with those determined by NEIC are published in the quarterly bulletin.



**Figure 23. Earthquakes located by the Central Mississippi Valley network during 1985 within a 4° by 5° region centered at 36.5° N. by 89.5° W.**



**Figure 24. Earthquakes located by the Central Mississippi Valley Earthquake network within the 1.5° by 1.5° area of the immediate New Madrid region.**



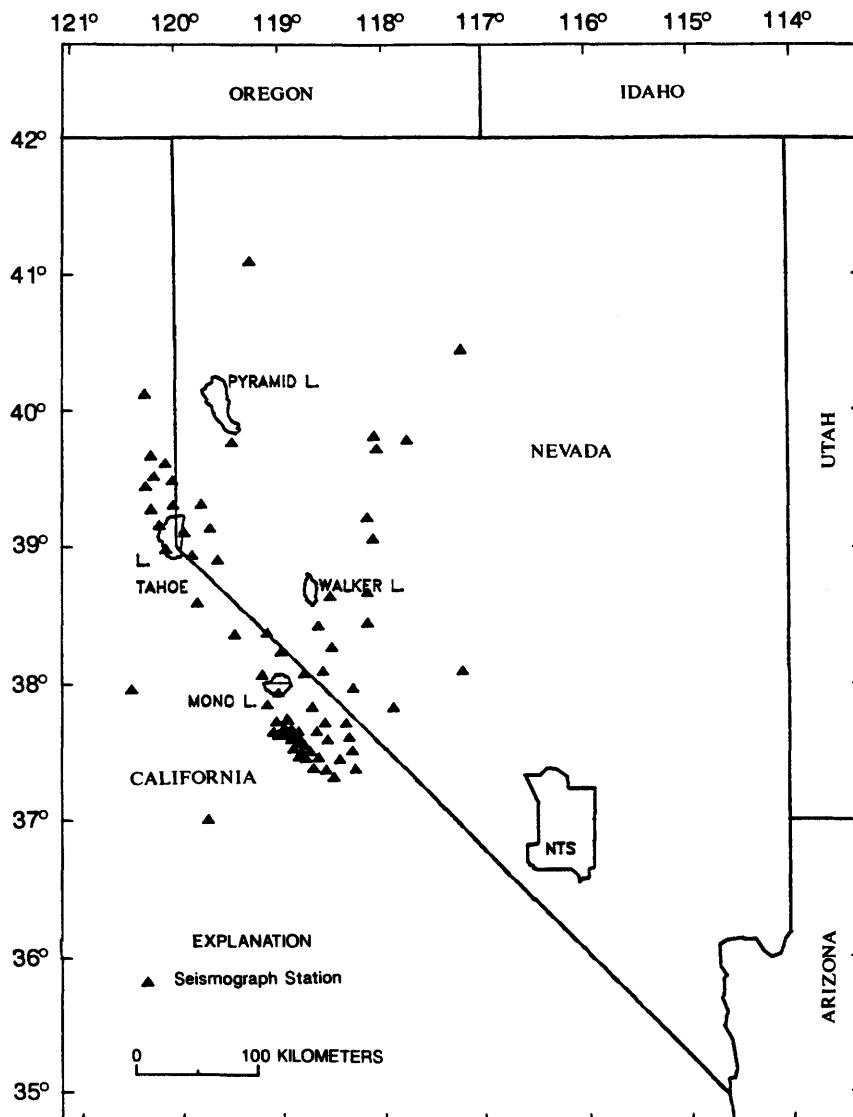


Figure 25. The western Nevada and eastern California seismic network stations during 1985.

The significant earthquakes occurring within or near the region of the network during 1985 include the following:

1. February 7, 1985, 23:44 UTC, 36.28° N., 89.45° W.,  $m_bL_g = 3.1$  (SLM). Felt at Ridgely, Tennessee.
2. February 15, 1985, 15:56 UTC, 37.23° N., 89.33° W.,  $m_bL_g = 3.3$  (SLM). Felt (III) at Colp and Chester, Illinois. Also felt at Belknap, Illinois, and Mayfield, Kentucky.
3. May 1, 1985, 01:16 UTC, 37.78° N., 87.61° W.,  $m_bL_g = 2.9$  (SLM). Felt in the western part of Evansville, Indiana.
4. September 6, 1985, 22:17 UTC, 35.77° N., 93.12° W.,  $m_bL_g = 3.6$  (NEIS). Felt (V) at Green Forest, Kingston, and Nail. Felt (V) at Deer, Everton, Huntsville, Jasper, Mount Judea, Pyatt, Saint Paul, Tilly, and Webster Grove, Arkansas. Felt throughout much of northwestern Arkansas.
5. September 9, 1985, 22:06 UTC, 41.81° N., 88.01° W.,  $m_bL_g = 3.0$  (NEIS). Felt (V) at Clarendon Hills, Edgbrook, and LaGrange, Illinois. Felt (IV) at Brookfield and Winter-Springs, Illinois. Also felt at Countryside, Lindenwood, Brookfield and Villa Park, Illinois.
6. December 5, 1985, 22:59 UTC, 35.91° N., 89.99° W.,  $m_bL_g = 3.9$  (NEIS). Felt (V) at Blytheville Air Force Base. Felt (IV) at Blytheville, Osceola, Burdette, Keiser, Joiner, and Tomato. Also felt (IV) at Henning, Tennessee. Felt (III) at Armorel, Dell, Driver, Loxura, and Wilson, Arkansas.
7. December 29, 1985, 08:56 UTC, 38.49° N., 89.02° W.,  $m_bL_g = 3.5$  (NEIS). Felt (V) at Dix, Odin, Salem, and Sandoval, Illinois. Felt (IV) at Bluford, Hoffman, Hoyleton, and Kell. Also felt at Centralia, Iuka, Mount Vernon, and Walnut Hill.

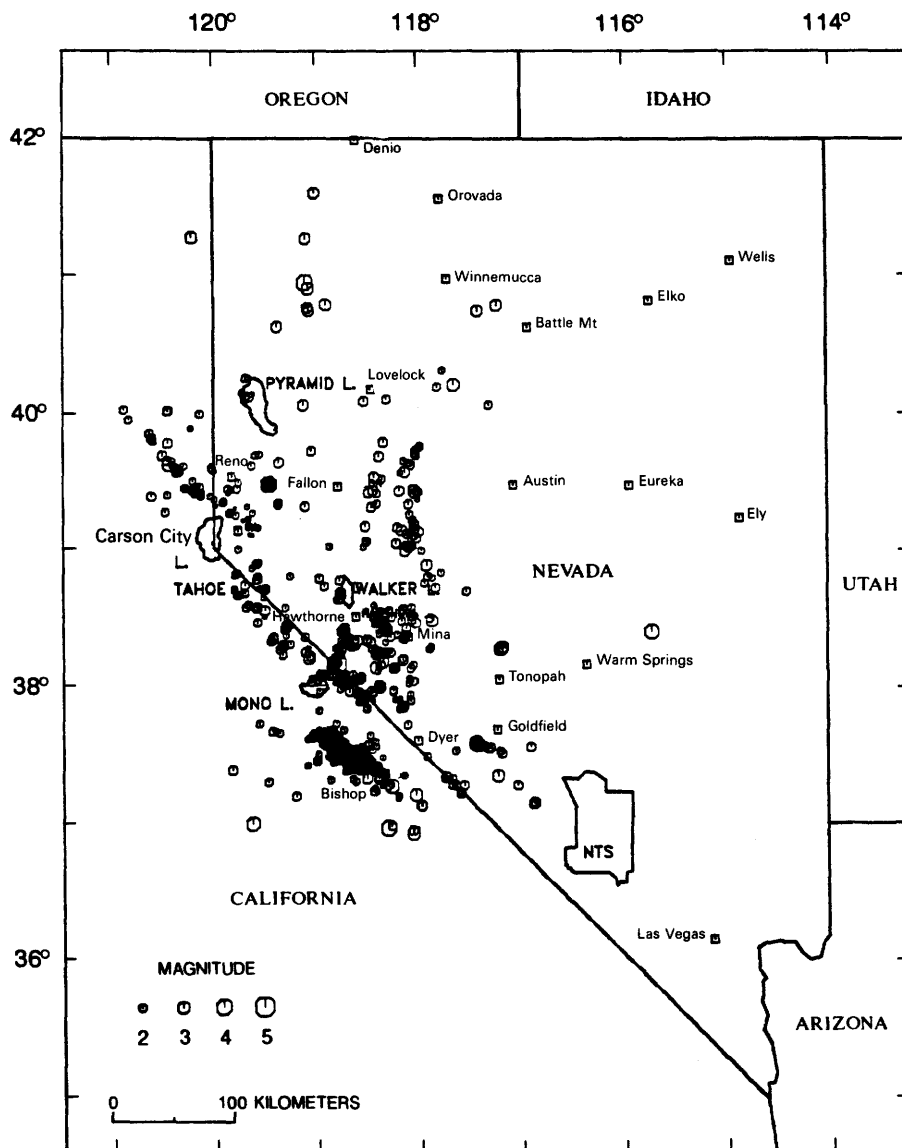


Figure 26. Seismicity of the western Nevada-eastern California area during 1985.

## Western Nevada and Eastern California Earthquakes, 1985

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In 1985 the University of Nevada Reno Seismological Laboratory recorded data from a network of 76 seismographic stations. Almost all these were short-period verticals which are amplified and telemetered via narrowband FM signals, except that three-component data are transmitted from 4 of the stations. In addition, wideband

(0.1–10 Hz) three-component digital data (12-bit resolution) were brought in from five stations. Seismic data at each of these sites were transmitted via wideband FM and recorded on a PDP 11/23 computer. A map of all stations from which we received signals in 1985 is shown in figure 25.

Figure 26 shows a map of the 2,530 events located during 1985 using the HYPO71 algorithm of Lee and Lahr (1974).

As in the previous 5 years, the most active region was the Mammoth Lakes-Bishop area, where more than 1,700 of the earthquakes were located. Although no remarkable seismic swarm event began in 1985, aftershocks of the

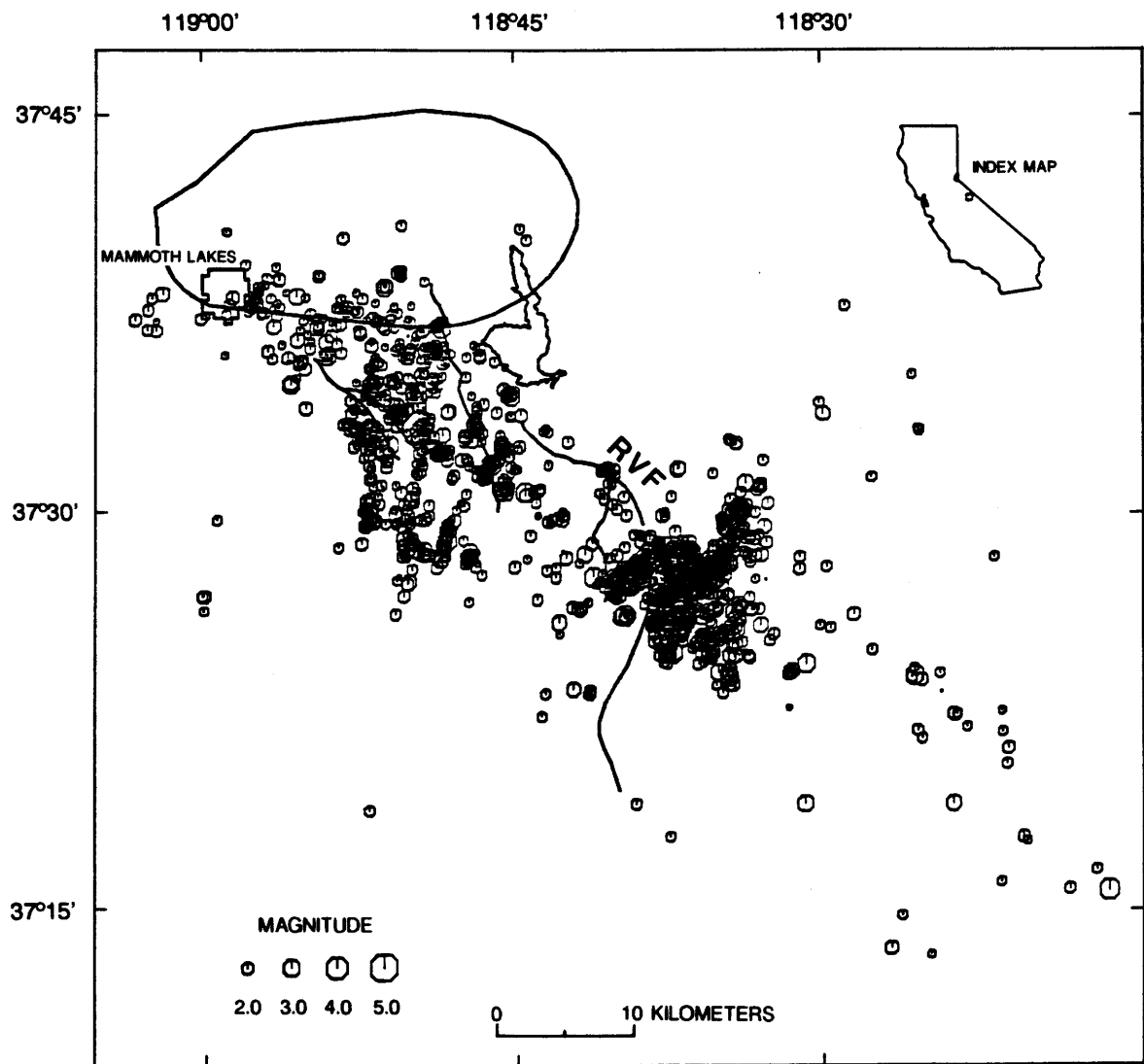


Figure 27. Mammoth Lakes-Bishop, California area, earthquakes during 1985.

November/December swarm of 1984 in the Round Valley area about 20 km southeast of the Long Valley caldera continued with above-normal seismic activity until May 1985. From January through May, 100 to 200 earthquakes were located each month in this area, but from June to the end of the year only about 30 earthquakes per month were located.

The cluster of seismicity around the Round Valley fault (RVF) in figure 27, which contains about 950 events, indicates an alignment along predominately north-south to northeast-southwest structures. The same trends appear also in the Mammoth Lakes earthquakes. These directions are not parallel to the mapped major fault zones in the area, but are consistent with focal mechanisms.

The second region of increased seismic activity is the area east of Mono Lake, covering the Excelsior Mountain-Walker region. Here, 440 earthquakes were located in 1985, and the most activity occurred from March through September. This area included the strongest earthquake of the year (magnitude 5.0), on January 24, located 24 km northeast of Mono Lake.

Altogether, 1985 was a year of moderate seismicity. Not only was the number of earthquakes lower than in 1984 but also the energy release: Seventy-six of the located earthquakes were magnitude 3.0 or greater, only five were magnitude 4.0 or greater, and one event at the California-Nevada State line east of Mono Lake was magnitude 5.0. The magnitudes are determined from the duration of the signals.

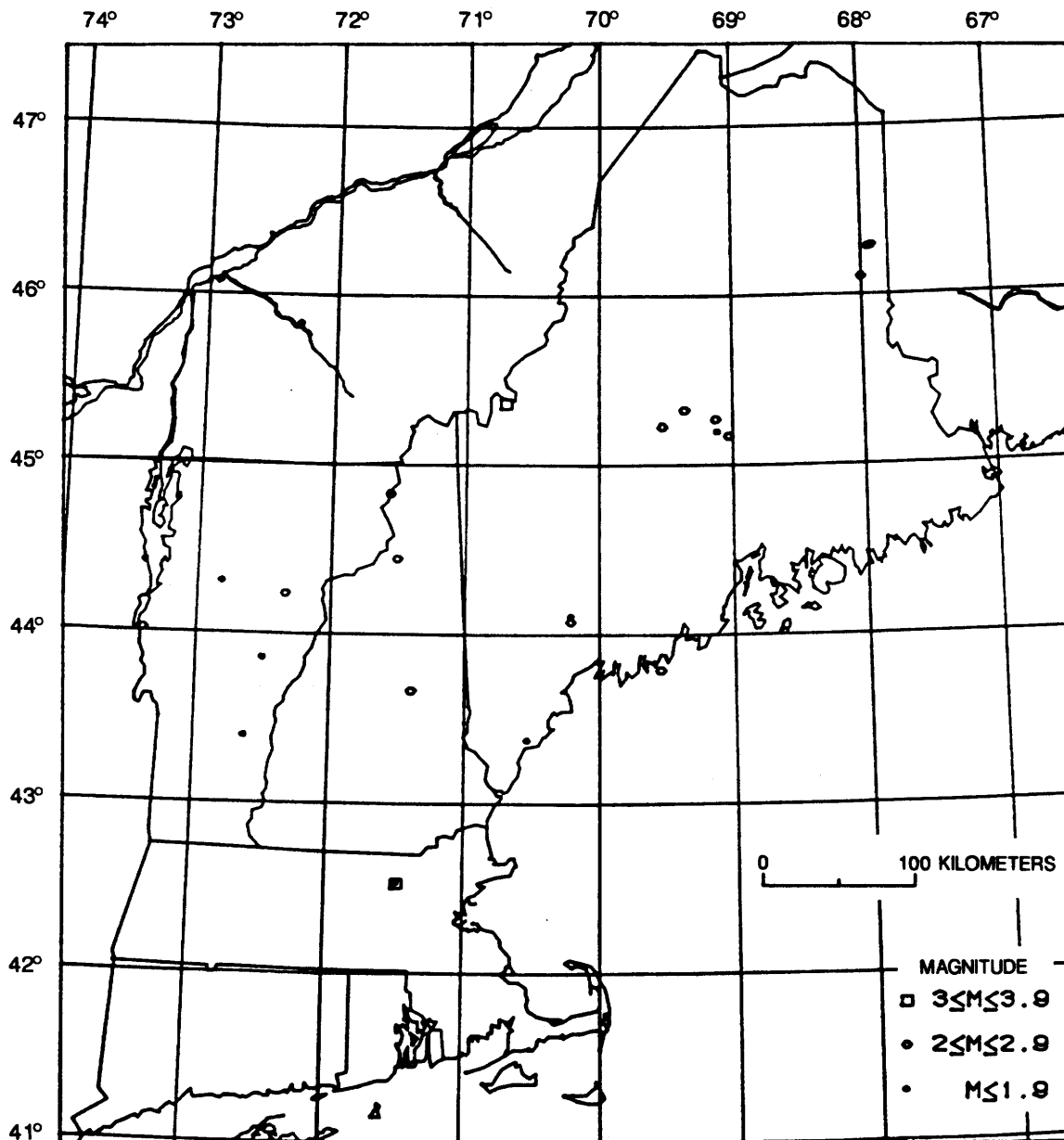


Figure 28. Northeastern United States earthquakes during 1985.

## New England Seismicity, 1985

By James P. McCaffrey, S.J.  
Boston College  
Weston Observatory  
Weston, MA

During 1985, seismic stations in New England were maintained by MIT, Weston Geophysical, Inc., and Weston Observatory of Boston College. Twenty earthquakes were recorded and located within the six New England States (fig. 28). Of these, 13 were in Maine, 3 in New Hampshire, 2 in Massachusetts, and 2 in Vermont. These earthquakes ranged

in magnitude from 1.7 to 3.1 (McTigue and others, 1986). In addition, nine microearthquakes were recorded. Table 2 lists earthquakes of magnitude  $\geq 2.0$  in New England during 1985.

Of the earthquakes recorded, the 3.1-Mn event of October 15, 1985, Littleton, Massachusetts, received some media attention. Occurring in the greater Boston area and near enough, in time, to the September earthquake off the Mexican coast, this event received coverage in press reports, radio, and television. This event was felt out to a radius of 30 km from the epicenter.

Table 2. *Earthquakes of magnitude  $\geq 2.0$  in New England during 1985*

Date	Origin Time	Lat. (N.)	Long.(W.)	Depth	Magnitude			State
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$M_L$  = Local magnitude from Wood-Anderson seismogram.

The digital recording system at Weston Observatory, whose development had begun in 1982, was fully operational in 1985, complementing the digital recording system already on line at MIT. Digital data acquisition and analysis were in regular use during this time. The response of the Weston Observatory system has been determined, the impulse response to ground displacement and the amplitude response of the system having been calibrated. Despite the development of the digital recording system, analog recording of data continued at Weston Observatory. Two develocorders were operated for most of the year, and one develocorder was operated for the entire period. The day-to-day scanning involved a pre-scan of the digital record, scanning of the develocorder films to help identify ambiguous signals seen on the digital system, and a post-scan of the digital record for analysis. The waveforms of natural and significant artificial sources are archived.

The strong-motion network remained in place, although no event of magnitude large enough to trigger any instrument occurred. The network has ten Kinometrics SMA-1 accelerometers. The trigger threshold has been set at 0.01 g (acceleration of gravity) on the vertical component.

A report, (Ebel, 1985) published in August 1985 describes the operation of the seismic network in New England from 1974 to 1985. Coverage increased during the period from two operating stations in 1974 to 30 stations in 1985. Activity appears to be approximately random in space and time, although earthquakes occurred in the same places as those documented historically. Studies show no strong correlation between earthquake locations and the geologic structures that have been observed and mapped. In Bath, Maine, and in the New York City area, some activity is located in the vicinity of known faults, although these faults cannot be proven to be active. Three other areas (Sanborn-ton, New Hampshire, Dixfield, Maine, and Passamaquoddy

Bay, Maine) show no relationship between seismicity and known faults. However, geological structures in these three areas could indicate the presence of unmapped local faults. Finally, in Moodus, Connecticut, and some other areas of New York City there is no correlation between the seismicity and mapped faults or other geological structures. The question concerning the cause of earthquakes in the north-eastern United States has no clear answer, as yet, from the seismic data collected and studied by scientists in the region.

Wave propagation studies were helped by the development of the digital recording system. Synthetic seismograms have been calculated on the basis of possible New England crustal models and compared to recorded waveforms. Studies have shown, for example, that the crustal structure immediately below the WES seismograph station, the network base station, is different from the usually assumed New England crustal models.

From the study of  $R_g$  wave attenuation in southern New England (Fowler, 1985), a value for the quality factor  $Q$  has been measured. The study used recordings made by the network of  $R_g$  waves of the many quarry blasts in southern New England. The value of  $Q$  of 475–525 was calculated from amplitudes of  $R_g$  waves and the distance to the stations from the quarry locations.

## Seismicity of New Mexico, 1985

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The distribution of earthquakes in the State of New Mexico during 1985 is shown in figure 29. Plotted on this map are epicenters for 39 shocks whose duration magnitudes were  $\geq 1.5$  or greater. Data are from networks of seismic stations operated by Los Alamos National Laboratory (LANL) and the New Mexico Institute of Mining and Technology (NMIMT) in collaboration with the United States Geological Survey (USGS). The LANL network is centered near 36.0° N. and 106.3° W. on the Rio Grande rift in north-central New Mexico; the principal NMIMT/USGS network is centered near 34.1° N. and 106.9° W., which is also on the rift but near the middle of the State. An additional small

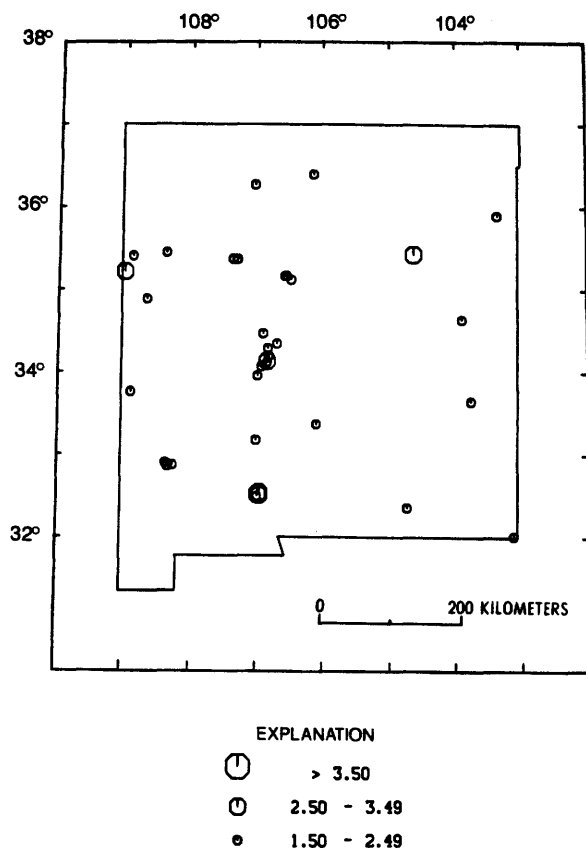


Figure 29. Earthquakes in New Mexico during 1985.

network of stations in southeastern New Mexico, centered near 32.4°N. and 103.9°W., is operated by the NMIMT/USGS group.

Although the recording stations are concentrated in the central regions of the State, the geographical distribution of earthquake activity shown in figure 29 is nearly free of station location bias. Earthquakes with magnitudes of 1.5 in the farthest regions of the State are well within the detection capabilities of all stations in the two principal networks. However, because the azimuthal distribution of stations narrows as distance from the networks increases, the accuracy of earthquake locations diminishes progressively toward the boundaries of the State.

For the most part, the distribution of earthquake activity in 1985 was similar to what has been observed since instrumental studies began in New Mexico (Sanford, 1965; Sanford and Cash, 1969; Topozada and Sanford, 1972; Sanford and others, 1981). Earthquakes were most numerous within or near the Rio Grande rift, a major extensional structure running north-south through the center of the State between longitudes 105.0° W. and 107.3° W. However, as in the previous 23 years of recording, fairly strong earthquakes occurred in the presumably stable physiographic provinces

bordering the rift. Notable examples are (1) a magnitude-3.4 earthquake in the Colorado Plateau at 35.21° N., and 109.00° W. on April 14, 1985 and (2) a magnitude 3.0 earthquake in the Great Plains at 35.43° N., and 104.63° W. on December 15, 1985.

The strongest earthquake during the year occurred within 10 km of Socorro on August 16, 1985. The shock had a magnitude of 4.0 and was felt generally throughout the Socorro area.

The seismograph networks in New Mexico are positioned to obtain detailed information on seismic activity where a prominent northeast-trending volcanic lineament crosses the Rio Grande rift (LANL network) and where a thin layer of magma exists at mid-crustal level beneath the Rio Grande rift (NMIMT/USGS network). Seismic activity of these two areas during 1985 are discussed next.

## Socorro, New Mexico, Area Earthquakes, 1985

By Allan Sanford, Lawrence Jaksha,

Shirley Wade, and Kevin King

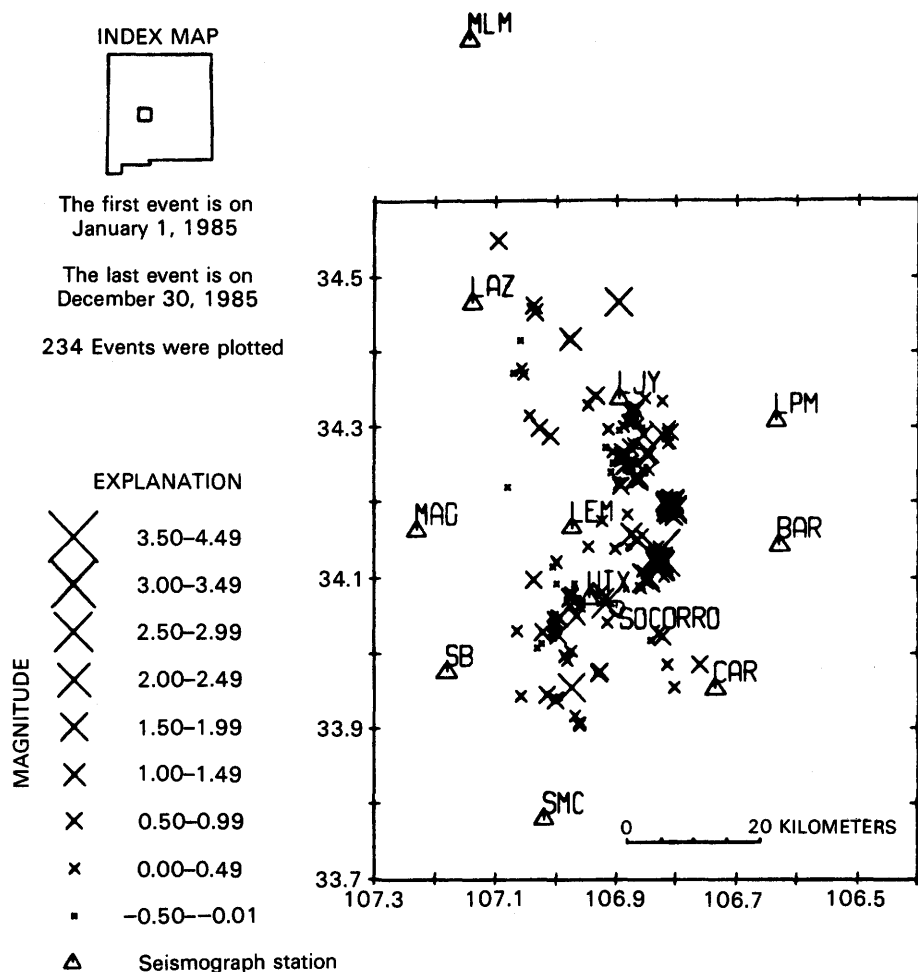
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The Socorro, New Mexico, network is a collaborative project of the New Mexico Institute of Mining and Technology and the U.S. Geological Survey. For the first half of 1985, the network consisted of 10 stations; all are shown in figure 30 except LEM, which was added to the network on June 22, 1985.

Earthquakes recorded by the Socorro network are located using the algorithm HYPO 71 Revised (Lee and Lahr, 1974) with a half-space velocity of 5.85 km/sec and a Poisson's ratio of 0.25 (Ward and others, 1981). Station corrections ranging from -0.33 to 0.28 seconds are used to account for differences in near-surface geology and elevation within the network (Ward, 1980, and Ake, 1984).

Magnitudes of the earthquakes are calculated from durations of recorded signals using an empirical equation based on northern New Mexico earthquakes (Newton and others, 1976). The same equation was found to be applicable to earthquakes in the Socorro area in the magnitude range 1.0 to 4.0 (Ake and others, 1983).

The 234 epicenters plotted in figure 30 are the total number of earthquakes in 1985 for which the HYPO 71 solutions were of B or better quality. The total number of located events during 1985 was much larger, but many of these



**Figure 30.** Seismicity of the Socorro, New Mexico, area during 1985. Plotted are 234 epicenters for which HYPO 71 Revised (Lee and Lahr, 1974) solutions were quality B or better.

had epicenters near or beyond the perimeter of the array where it is difficult to obtain high-quality solutions. For the interior of the array, the distribution of epicenters shown here for 1985 is quite similar to the pattern of seismicity observed in the same restricted area since installation of the network in June 1982 (Stover, 1982, 1983, and 1984).

During 1985, 11 earthquakes with magnitudes  $\geq 1.5$  occurred in the area on the index map in figure 30. Two earthquakes exceeded magnitude 2.0, and the strongest of the two

was also the strongest shock in the entire State for the year. This magnitude-4.0 event, which took place at 14:57 UTC on August 16, had epicentral coordinates of  $34.127^\circ$  N. and  $106.838^\circ$  W., a location about 10 km northeast of the center of Socorro. The earthquake was felt generally throughout the Socorro area and at least as far as 20 km to the north, south, and west. The earthquake was somewhat unusual in that it was not in a swarm, the normal temporal behavior of shocks in the Socorro area. Furthermore the earthquake had

either a reverse or strike-slip mechanism, whereas nearly all shocks studied previously were produced by normal fault movements (Weider, 1981).

## Oklahoma Earthquakes, 1985

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### Instrumentation

A Statewide network of 11 seismograph stations was used to locate 54 earthquakes in Oklahoma for 1985 (fig. 31). The Oklahoma Geophysical Observatory (OGO) station, TUL, near Leonard, Oklahoma, in southern Tulsa County, operates seven seismometers, three long period and four short period. The seismic responses at TUL are recorded on 14 paper-drum recorders and one digital recorder. Accurate timing is assured by a microprocessor clock that is continuously locked to the National Bureau of Standards cesium beam clocks by low-frequency radio transmissions broadcast by WWVB (Lawson, 1980). Seven semi-permanent volunteer-operated seismograph stations and three radio-telemetry seismograph stations complete the Oklahoma Geological Survey's seismic network. The operation and maintenance of 10 of the stations is partially supported by the U.S. Nuclear Regulatory Commission (Luza, 1978).

Each of the seven volunteer-operated seismograph stations consists of a Geotech S-13, short-period vertical seismometer; a Sprengnether MEQ-800-B unit, including amplifier, filters, ink-recording unit, and a clock; and a Kinematics time-signal-radio receiver for high-frequency WWVB time signals. Each radio-telemetry system consists of one Geotech S-13 seismometer and one radio-telemetry unit. The telemetry unit amplifies the seismometer output and uses this output to frequency-modulate an audiotone. A 500-mW, crystal-controlled transmitter limits the line-of-sight transmission to 80 km.

Seismograms from the radio-telemetry stations are recorded at the Oklahoma Geophysical Observatory.

Station OCO, which contains equipment similar to that in the volunteer operated stations, is located at the Omniplex museum in Oklahoma City. Omniplex staff members change the seismic records daily and maintain the equipment. Oklahoma Geophysical Observatory staff help interpret the seismic data and archive the seismograms with all other Oklahoma network seismograms.

A rapid buildup of cultural noise in the vicinity of station GBO, Fort Gibson, made this site less desirable. Therefore, this station was closed in January. A new location was found near Vivian in McIntosh County. In September, the radio-telemetry equipment formerly at GBO became operational at the Vivian site, station VVO. Station MFO, the Meers Fault station, was closed in May. A new station, MEO, was opened on June 11. This station is located at the store in Meers, 3.9 km southwest of the Meers fault. In July, station WLO was temporarily closed due to severe noise created from nearby oil-field activity. Station ATO was permanently closed on September 19, 1985.

All Oklahoma earthquakes recorded on seismograms from three or more stations are located. In 1985, 54 Oklahoma earthquakes were located (fig. 32, table 3).

The areas for most of those earthquakes that were felt are probably restricted to a few tens of square kilometers away from the epicentral location (table 4). No damage was reported from any of the felt earthquakes. On May 3, a magnitude-2.5  $M_n$  earthquake occurred 5 km north of Foster, Oklahoma. Intensity-MM IV effects were reported 5 km west-northwest of Foster. Two earthquakes were felt in Garvin County on May 5. The first earthquake, event 537, occurred 7 km northwest of Foster. The second earthquake, event 538, was located 3 km northwest of Maysville. A magnitude-2.3  $M_n$  earthquake occurred in McClain County on May 6 about 11 km west-southwest of Purcell. Intensity-MM V effects were reported 2 km north-northwest of Story and 5 km west-northwest of Maysville.

Earthquake-magnitude values range from a low of 1.3 ( $m_3$ Hz) in Murray County to a high of 3.3 ( $m_3$ Hz) in Le Flore County. Thirty of the 54 earthquakes occurred in McClain and Garvin Counties. This region has been one of the most active areas since 1979. For the second year in a row, the Canadian County area contained no locatable earthquakes. The northern shelf area (west of the Nemaha Ridge) and the Arkoma basin area had a few low-magnitude earthquakes.



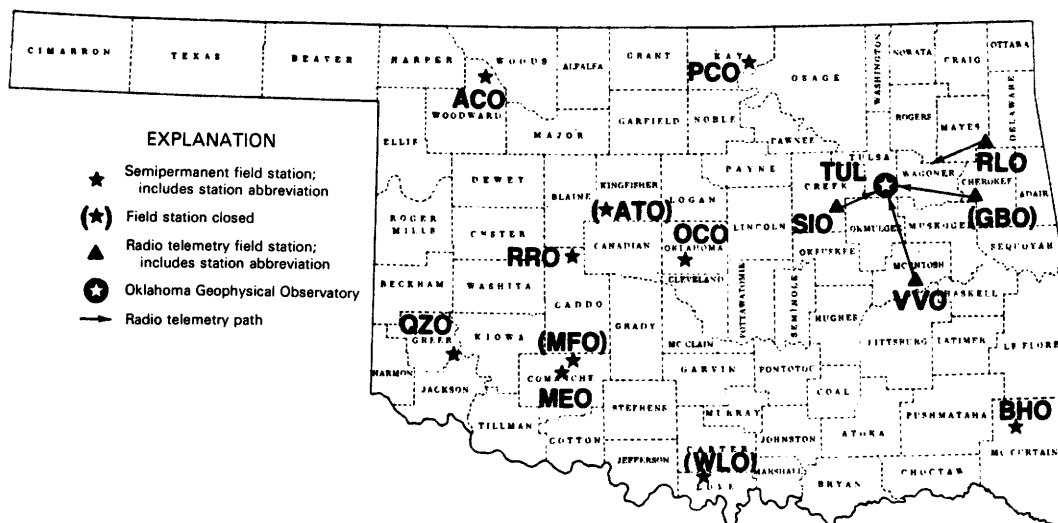


Figure 31. Active seismograph stations in Oklahoma for 1985.

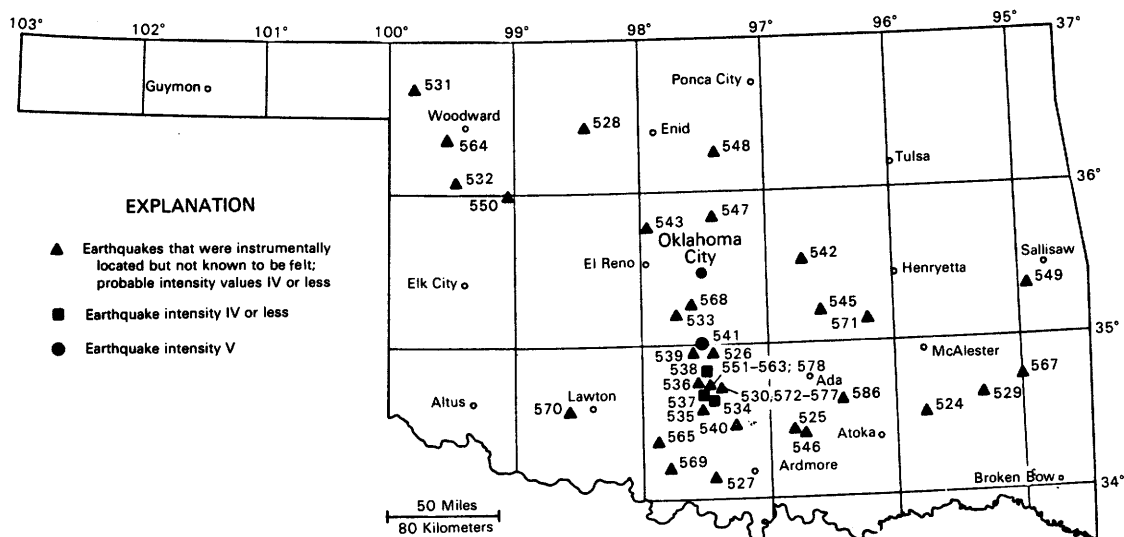


Figure 32. Distribution of Oklahoma earthquakes for 1985. Numbers correspond to event numbers in table 3.

**Table 3. Oklahoma earthquake catalog for 1985**

Event Number	Date and Origin Time (UTC) <sup>1</sup>		County	Intensity MM <sup>2</sup>	Magnitudes			Latitude deg N	Longitude deg W	Depth (km) <sup>3</sup>
					3Hz	bLg	DUR			
525	JAN 23	003948.68	JOHNSTON		2.1	2.1	2.2	34.352	96.826	5.0R
526	JAN 24	121242.40	MC CLAIN		2.5	2.5	2.5	34.924	97.427	5.0R
527	FEB 1	090724.89	CARTER		1.8	2.0	2.1	34.143	97.449	5.0R
528	FEB 10	141552.21	MAJOR		3.0	2.8	2.7	36.433	98.412	5.0R
529	FEB 28	175657.73	PUSHMATAHA		2.4	2.3	2.3	34.661	95.339	5.0R
530	MAR 15	052209.32	GARVIN		1.7	1.9	2.1	34.758	97.437	5.0R
531	APR 14	071905.41	HARPER		1.6		1.8	36.691	99.806	5.0R
532	APR 17	053949.06	ELLIS		2.0		2.2	36.141	99.495	5.0R
533	APR 24	103158.77	GRADY		1.9		2.0	35.101	97.710	5.0R
534	MAY 3	073340.40	GARVIN	IV	2.5	2.5	2.6	34.656	97.484	5.0R
535	MAY 3	113547.06	GARVIN		2.1	1.9	2.1	34.647	97.540	5.0R
536	MAY 4	120519.00	GARVIN		2.0	2.0	2.3	34.807	97.549	5.0R
537	MAY 5	013930.78	GARVIN	felt	3.0	2.9	2.8	34.664	97.529	5.0R
538	MAY 5	021602.65	GARVIN	felt	2.4	2.2	2.3	34.836	97.455	5.0R
539	MAY 5	202747.26	MC CLAIN		1.8	1.8	1.9	34.910	97.541	5.0R
540	MAY 5	212915.95	MURRAY		1.3		1.6	34.508	97.323	5.0R
541	MAY 6	021116.16	MC CLAIN	V	2.2	2.3	2.4	34.969	97.482	5.0R
542	MAY 7	172204.91	LINCOLN		2.3	1.9	2.4	35.496	96.727	5.3
543	MAY 26	100049.96	KINGFISHER		2.1	1.7	2.1	35.731	97.963	5.0R
544	JUN 3	071334.47	ATOKA		2.1		2.1	34.500	95.851	5.0R
545	JUN 6	115018.80	SEMINOLE		1.8		1.6	35.188	96.608	5.0R
546	JUN 22	140155.05	JOHNSTON		2.1	1.9	2.0	34.345	96.760	5.0R
547	JUL 12	043537.76	LOGAN		1.8	1.7	2.2	35.863	97.421	5.0R
548	JUL 27	200008.29	NOBLE		2.2		1.8	36.240	97.405	5.0R
549	AUG 6	194414.58	HASKELL		2.4	2.5	2.0	35.378	95.008	5.0R
550	AUG 11	101623.22	DEWEY		2.7		2.6	35.964	99.037	5.0R
551	AUG 20	181738.35	GARVIN				1.7	34.759	97.482	5.0R
552	AUG 20	183153.24	GARVIN				1.6	34.759	97.482	5.0R
553	AUG 20	193740.77	GARVIN				1.7	34.759	97.482	5.0R
554	AUG 20	194331.33	GARVIN				1.5	34.759	97.482	5.0R
555	AUG 20	194951.81	GARVIN				1.4	34.759	97.482	5.0R
556	AUG 20	195035.10	GARVIN		2.6	2.3	2.2	34.751	97.498	5.0R
557	AUG 20	203446.14	GARVIN				1.4	34.759	97.482	5.0R
558	AUG 20	223014.92	GARVIN		2.5	2.5	2.2	34.759	97.468	5.0R
559	AUG 20	230346.94	GARVIN		2.6	2.3	2.4	34.732	97.476	5.0R
560	AUG 21	003733.32	GARVIN				1.5	34.759	97.482	5.0R
561	AUG 21	014613.31	GARVIN				2.1	34.759	97.482	5.0R
562	AUG 21	021257.04	GARVIN				2.4	34.759	97.482	5.0R
563	AUG 21	085638.97	GARVIN				1.7	34.759	97.482	5.0R
564	AUG 22	090652.20	WOODWARD		1.7		1.9	36.386	99.537	5.0R
565	AUG 28	023151.12	STEPHENS				2.1	34.382	97.844	5.0R
566	SEP 17	095844.10	COAL		1.8	1.8	1.8	34.618	96.471	5.0R
567	SEP 23	010344.10	LE FLORE		3.3	2.9	2.6	34.725	95.059	5.0R
568	OCT 24	121219.98	MC CLAIN		2.1	1.8	2.0	35.232	97.607	5.0R
569	NOV 7	083533.76	JEFFERSON		1.8	2.0	2.2	34.181	97.790	5.0R
570	DEC 10	005906.04	COMANCHE		2.2	2.1	2.2	34.577	98.549	5.0R
571	DEC 28	101137.92	HUGHES		2.1		2.2	35.118	96.232	5.0R
572	DEC 31	181530.90	GARVIN				1.8	34.703	97.459	5.0R
573	DEC 31	182726.12	GARVIN		3.0	2.7	2.5	34.703	97.459	5.0R
574	DEC 31	192038.52	GARVIN				1.9	34.703	97.459	5.0R
575	DEC 31	192126.80	GARVIN				1.8	34.703	97.459	5.0R
576	DEC 31	193149.15	GARVIN				1.7	34.703	97.459	5.0R
577	DEC 31	214803.77	GARVIN		2.3	2.3	2.2	34.704	97.460	5.0R
578	DEC 31	224503.76	GARVIN		2.4		2.2	34.766	97.490	5.0R

<sup>1</sup>UTC refers to Coordinated Universal Time, formerly Greenwich Mean Time. The first two digits refer to the hour on a 24-hour clock. The next two digits refer to the minute, and the remaining digits are the seconds. To convert the local Central Standard Time, subtract 6 hours.

<sup>2</sup>Modified Mercalli (MM) earthquake-intensity scale (see table 3).

<sup>3</sup>The hypocenter is restrained (R) at an arbitrary depth of 5.0 km, except where indicated, for purposes of computing latitude, longitude, and origin time.

**Table 4. Oklahoma earthquakes reported as felt during 1985**

[UTC, Coordinated Universal time; MM, Modified Mercalli; N, north; W, west]

Event no.	Date and origin time (UTC)		Nearest city	County	Intensity (MM)
534	May 3	073340.40	N Foster	Garvin	IV
537	May 5	013930.78	NW Foster	Garvin	felt
538	May 5	021602.65	NW Maysville	Garvin	felt
541	May 6	021116.16	W Purcell	McClain	V

## Southeastern United States Earthquakes, 1985

By M. S. Sibol, M. C. Chapman, and G. A. Bollinger  
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Seismological Observatory  
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There were 61 earthquakes ( $0.0 \leq M \leq 3.3$ ) detected and located in the Southeastern United States during 1985 (fig. 33). Of those, eight were either felt and (or) had magnitudes greater than 3.0 (table 4). The largest shock in the region during the year was a magnitude-3.3 event that was felt in Gatlinburg, Tennessee. Southeastern Tennessee had the largest number of earthquakes. Additionally, there were 25 reservoir associated earthquakes ( $1.0 \leq M \leq 2.0$ ) detected and located within the region. Most of those earthquakes were related to the Monticello Reservoir in South Carolina.

A total of 147 seismograph stations were operational in the region at the end of 1985 (fig. 34). A data listing of 1985 earthquakes (including earthquake locations, magnitudes, arrival times, and earthquake statistics) is presented in Southeastern United States Seismic Network (SEUSSN) Bulletins 16 and 17, and is available from the authors (Sibol, Chapman, and Bollinger, at their Virginia Polytechnic and State University address). A printed and (or) magnetic tape listing of earthquakes from SEUSSN Bulletins 1 through 17 (July 1977 through December 1985) is also available from the authors.

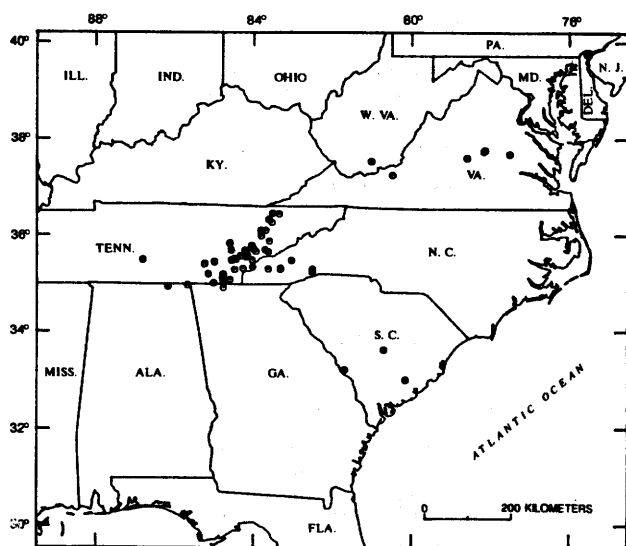


Figure 33. Southeastern United States seismicity during 1985.

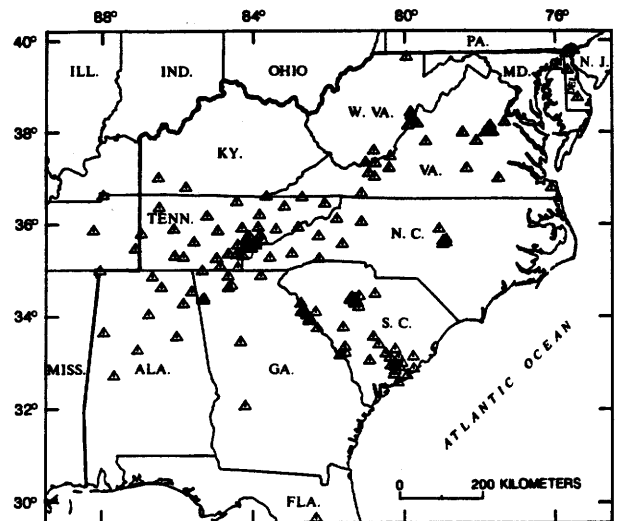


Figure 34. Southeastern United States seismic network stations (SEUSSN) operating at the close of 1985. Triangles represent station locations and the bold line represents the SEUSSN monitoring area.

Table 5. Southeastern United States earthquakes in 1985 with magnitudes  $> 3.0$  or reported felt

[(km), kilometers;  $m_b$  ( $L_g$ ),  $M_n$  magnitude, see page 2; ( $M_d$ ), duration magnitude; (MM), Modified Mercalli intensity; (UT), Universal Time Coordinate; Dashes (—) indicate information is not available]

Date (1985)	Origin Time (UT)	Lat. (°N.)	Long. (°W.)	Depth (km)	Mag. ( $m_b$ ( $L_g$ ) / $M_d$ )	$I_0$ (MM)	State Felt
19 Mar.	00:02:05.8	35.30	82.52	9.8	2.1	F	NC
09 June	00:38:42.9	33.22	81.70	1.0	2.7	III	SC
10 June	12:22:38.3	37.25	80.49	11.1	3.2	IV	VA
12 July	18:20:28.3	35.20	85.15	19.6	3.0	F	TN
11 Oct.	01:47:50.7	39.77	75.56	---	1.9	F	DE
20 Oct.	07:55:26.6	39.76	75.55	---	1.7	F	DE
21 Dec.	10:12:04.9	37.68	77.51	0.5F	2.6	F	VA
22 Dec.	00:56:05.0	35.70	83.72	13.4	3.3	F	TN

## Utah Earthquakes, 1985

By Ethan D. Brown, Seismograph Stations  
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The University of Utah Seismograph Stations records a regional seismic network that in December 1985, consisted of 81 stations, 27 of which were operated and maintained by other agencies (fig. 35). All stations except Salt Lake City (SLC) are equipped with short-period vertical seismometers. Stations SLC, DUG, GMU, and HVU operated during

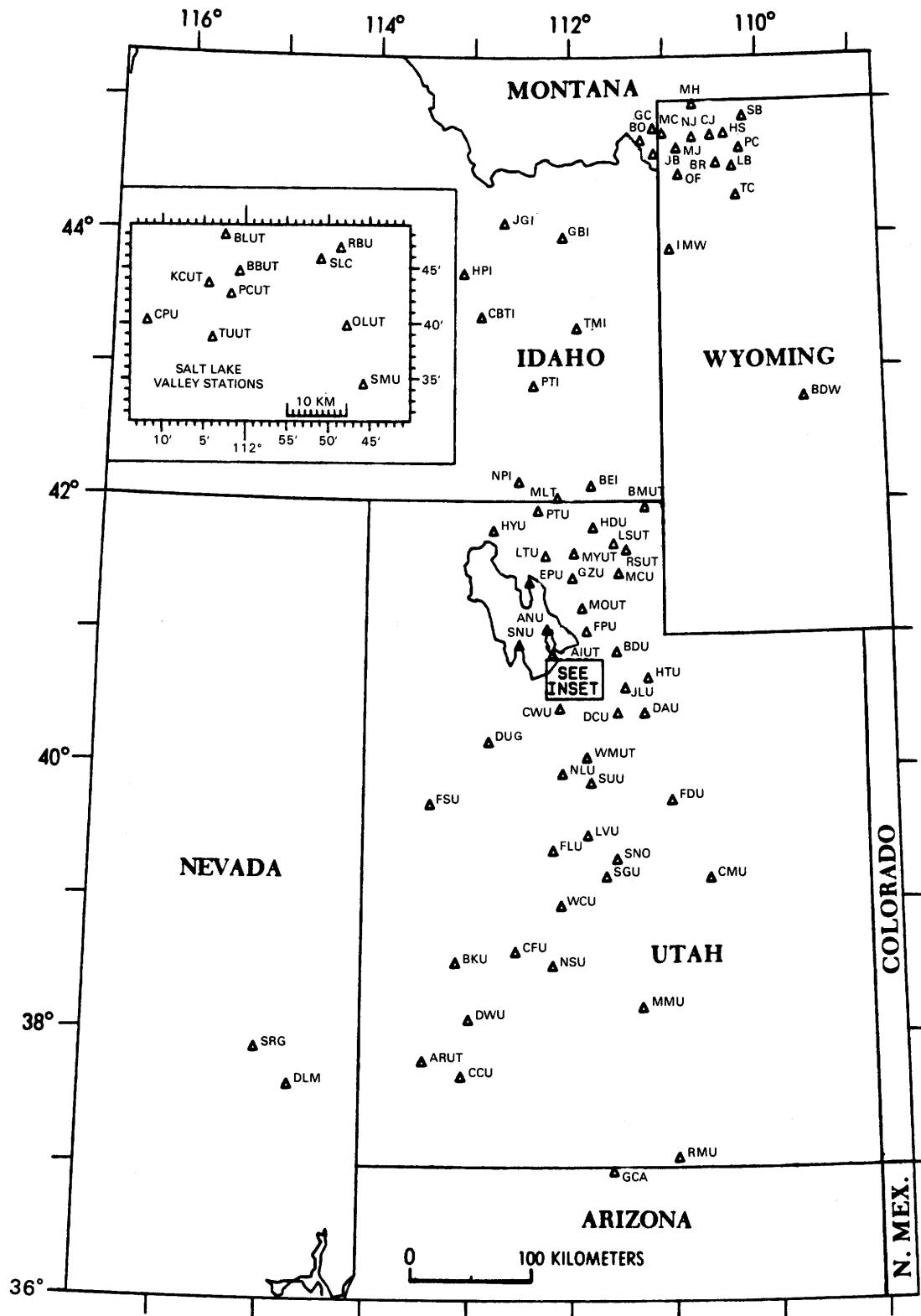


Figure 35. University of Utah seismograph station network during 1985.

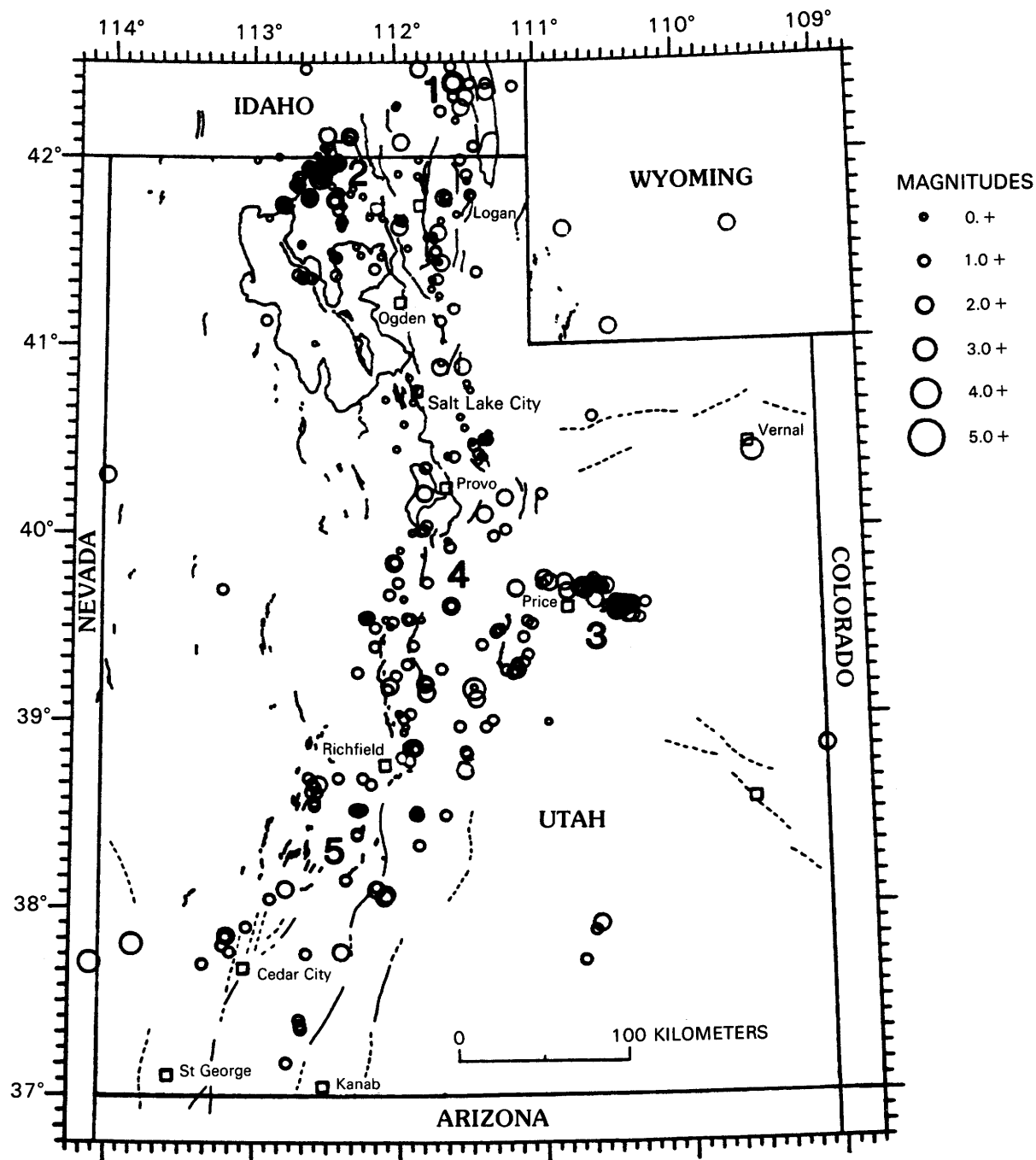


Figure 36. Utah and adjacent areas earthquakes during 1985. Epicenters of 429 earthquakes located in the Utah region during 1985 by the Utah region during 1985 by the Utah seismograph stations.

1985 with horizontal short-period seismometers. Dugway, Utah (DUG), is a WWSSN station, and Wood Anderson-type seismographs operate at Dugway and Salt Lake City. The network has average station spacings of 15–35 km in north-central Utah, and 30–100 km in central and southwestern Utah and in southeast Idaho.

Seismic data from each seismometer are telemetered via telephone, microwave, and (or) radio-data transmission lines to a central recording facility on the University of Utah campus in Salt Lake City. A discriminator bank decodes the incoming signals, which are then sent through an A/D converter to a DEC PDP-11/34 computer. The 11/34 monitors incoming signals using an event detection algorithm and digitally records the network data. Twenty of the seismic signals are also recorded on drum recorders to provide a continuous visual record.

Epicenters for 429 earthquakes located in the Utah region during 1985 are shown in figure 36 and reflect typical earthquake activity scattered throughout Utah's main seismic region. The largest event during 1985 ( $M_L = 3.6$ ) occurred on January 26, 1985, 50 km west-northwest of Logan, in the cluster of earthquakes north of the Great Salt Lake. It was followed 1 day later by an  $M_L = 3.3$  event with nearly the same epicenter. Six felt events were reported for shocks within the Utah region. Other significant aspects of earthquake activity shown in figure 36 and numerically labeled (from north to south) are as follows:

1. Continuing earthquake activity near Soda Springs, Idaho (about latitude  $42^{\circ}20'$  N., longitude  $111^{\circ}30'$  W.), in the same general area as a swarm sequence ( $M_L \leq 4.7$ ) in 1982.
2. Clusters of events along the Utah-Idaho State, north of the Great Salt Lake, which include late aftershocks of the magnitude-6.0 Pocatello Valley, Idaho, earthquake of March 1975, and related activity extending into northernmost Utah. A total of 110 events occurred in this area during 1985. This seismicity was relatively continuous throughout the year with localized swarms in late January and late September.
3. Clusters of earthquakes within a 50-km radius of Price, mostly related to extensive underground coal mining. The rate of activity was nearly constant throughout 1985 and averaged six events per month.
4. Scattered activity within a broad north-south trending zone between Salt Lake City and Richfield, Utah.
5. Scattered small earthquakes throughout southwestern Utah in a broad northeast-southwest trending belt encompassing the Elsinore, Tushar, Sevier, and Hurricane fault zones between Richfield and Cedar City.

Details of Utah seismicity and information in bulletin format are available from the University of Utah Seismograph Stations, 705 William C. Browning Building, Salt Lake City, Utah 84112.

## Washington Earthquakes, 1985

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No damaging earthquakes occurred in Washington or Oregon during 1985. The largest earthquake within our network was Coda-length magnitude  $M_C$  3.9. Mount St. Helens erupted nonviolently once. During 1985, the University of Washington operated more than 100 telemetered seismic stations in Washington and northern Oregon. The general network configuration was described in a previous report (Noson and others, 1984).

Several new stations were installed 1985. Other stations were moved to new locations in preparation for a telemetry reconfiguration. Station RPW in the Skagit Valley replaced station BLS in August. In the Puget Sound basin, two new stations were installed; MEW, on McNeil Island, in March; and PGW, near Port Gamble on the Kitsap Peninsula, in April. In southwest Washington, FOR replaced RED in July. At Mount St. Helens DIG, a three-component low-gain calibrated station, operated from May through October. Station SUG was replaced by NSP, which was installed in the crater in October. In eastern Washington and northern Oregon we began preparations to switch telemetry routing from telephone lines to the Bonneville Power Administration microwave network. Several stations were relocated to make telemetry links to the BPA net possible. In eastern Washington near Lake Chelan, in June, OMK was replaced by FOX; DYH, by DY2; and FPW by NEL. In northern Oregon, VGT was replaced by VG2 in September. Many more stations are scheduled to be resited in 1986. Data acquisition and processing procedures are similar to those of the previous 3 years. A detailed description of procedures is available from the University of Washington Geophysics Program.

During 1985, 1,883 earthquakes were located within Washington and northern Oregon in the area shown in figure 37. Figure 37 shows epicenters of earthquakes that were reported as felt or had coda-length magnitudes ( $M_C$ )  $\geq$  to 2.7 (table 6). During 1985, 15 felt earthquakes were located in the area of figure 37 (one additional felt event was located

Table 6. Washington area hypocenters for events with magnitudes  $\geq 2.7$

DAY	TIME	LAT	LON	Jan 1985		NS/NP	GAP	RMS	Q	MOD	TYP
				DEPTH	M						
1	19:15:00.80	46 52.57	121 57.39	11.31	3.1	38/44	31	0.19	BA	C3	
8	23:56:42.47	47 03.36	120 05.61	0.58	2.8	34/54	44	0.37	CC	N5	
9	02:51:26.21	47 03.61	120 05.24	0.45	2.8	35/55	45	0.37	CC	N5	
9	05:46:13.26	47 03.61	120 05.65	0.34	3.3	37/57	50	0.42	CC	N5	
11	13:07:57.13	47 54.10	122 52.28	21.32	3.3	22/25	118	0.09	AB	P3	F
21	23:28:04.88	46 51.63	121 56.83	12.80	2.7	32/56	36	0.15	AA	C3	
25	07:28:54.49	46 29.99	120 37.93	16.63	3.1	28/28	81	0.27	BA	E3	
29	20:59:27.23	47 25.63	121 48.32	17.55	2.7	36/59	62	0.26	BA	P3	
31	03:02:35.09	47 03.57	120 05.03	0.29	3.3	32/52	39	0.36	CC	N5	
31	15:11:12.18	46 42.93	119 59.01	4.80	2.7	17/18	78	0.12	AC	E3	
DAY	TIME	LAT	LON	Feb 1985		NS/NP	GAP	RMS	Q	MOD	TYP
				DEPTH	M						
14	20:29:31.72	45 42.27	119 38.07	18.41	3.9	20/22	210	0.14	AD	E3	F
24	16:25:11.90	48 12.52	122 13.07	41.38	2.7	19/21	74	0.26	BC	P3	
28	17:02:04.40	47 29.56	122 35.16	47.08	3.7	41/45	34	0.30	BA	P3	F
DAY	TIME	LAT	LON	Mar 1985		NS/NP	GAP	RMS	Q	MOD	TYP
				DEPTH	M						
5	14:14:10.08	48 16.31	122 09.52	15.47	3.1	20/23	96	0.20	BB	P3	F
9	01:51:24.44	46 59.07	118 35.41	3.41	3.3	28/28	191	0.36	CD	E3	
18	17:15:55.26	47 20.08	122 37.19	53.30	3.5	38/43	43	0.28	BA	P3	F
21	02:39:21.70	47 36.45	122 12.19	7.86	3.0	29/50	46	0.11	AA	P3	F
24	16:55:03.80	47 36.41	122 12.78	2.96	2.7	32/53	37	0.21	BB	P3	F
30	07:09:18.78	46 37.84	122 08.64	15.98	2.8	31/59	46	0.14	AA	C3	
30	23:27:13.68	48 18.37	122 06.48	11.61*	3.3	20/23	68	0.18	BB	P3	
DAY	TIME	LAT	LON	Apr 1985		NS/NP	GAP	RMS	Q	MOD	TYP
				DEPTH	M						
11	20:00:38.23	45 09.66	122 43.86	28.38	2.7	20/23	232	0.20	BD	C3	
11	23:50:05.63	47 40.30	120 03.25	0.74	2.7	4/06	255	0.40	DD	N5	H
19	10:52:44.29	46 53.83	120 17.02	5.35	3.2	38/40	27	0.33	CD	E3	
26	10:32:29.23	48 21.60	122 15.62	18.21	3.0	19/24	79	0.28	BB	P3	F
30	01:13:58.89	48 21.54	122 15.80	18.16	3.3	21/25	79	0.33	CB	P3	F
30	20:44:54.34	46 53.51	117 10.25	39.83*	2.7	12/14	251	0.35	CD	E3	
DAY	TIME	LAT	LON	May 1985		NS/NP	GAP	RMS	Q	MOD	TYP
				DEPTH	M						
2	08:07:39.76	46 53.85	123 40.51	34.36	2.8	26/29	108	0.20	BB	P3	
2	22:10:34.36	47 49.62	122 32.13	21.97	2.8	24/28	45	0.32	CA	P3	
9	04:37:40.12	46 54.08	121 46.75	9.84	2.7	37/40	70	0.14	AB	C3	
21	18:56:33.82	47 35.78	123 08.94	47.22	2.8	35/59	49	0.29	BA	P3	
28	19:04:46.57	46 12.03	122 11.39	1.59	2.8	14/14	71	0.12	AA	S3	
29	04:34:59.51	46 11.93	122 11.31	1.82	2.7	15/15	73	0.15	BA	S3	
29	05:23:33.26	46 12.02	122 11.52	1.29	2.7	15/15	102	0.16	BB	S3	
29	08:53:08.65	46 12.04	122 11.52	1.65	2.7	16/16	101	0.14	AB	S3	
29	11:06:12.28	46 12.01	122 11.48	1.99	2.9	13/13	71	0.06	AA	S3	
29	11:56:35.21	46 11.94	122 11.58	1.54	2.7	17/17	73	0.15	AA	S3	
29	12:11:22.32	46 11.94	122 11.44	1.53	2.7	15/15	73	0.09	AA	S3	
29	12:30:03.66	46 11.97	122 11.46	1.34	2.7	20/20	72	0.18	BA	S3	
29	13:40:03.71	46 12.00	122 11.39	1.33	2.8	18/18	71	0.15	BA	S3	
29	15:39:21.42	46 11.99	122 11.32	1.05	2.8	17/17	102	0.15	AB	S3	
29	16:34:57.49	46 11.91	122 11.56	1.29	2.7	18/18	74	0.13	AA	S3	
29	16:42:07.46	46 12.02	122 11.29	1.09	2.7	17/17	71	0.15	AA	S3	
29	16:50:33.62	46 11.99	122 11.48	1.62	2.8	17/17	72	0.11	AA	S3	
29	17:33:57.26	46 11.95	122 11.42	1.21	2.8	16/16	73	0.15	BA	S3	
29	18:55:56.86	46 11.91	122 11.39	1.35	2.7	18/18	74	0.12	AA	S3	
29	19:59:48.61	46 11.82	122 11.35	1.33	2.8	18/18	76	0.17	BA	S3	
29	20:17:31.53	46 11.82	122 11.14	0.75	2.9	19/19	176	0.19	BA	S3	
29	20:35:27.53	46 11.95	122 11.43	1.98	2.7	19/19	73	0.14	AA	S3	
29	22:30:35.33	46 11.96	122 11.35	1.55	2.8	16/16	73	0.14	AA	S3	
29	23:36:06.57	46 12.01	122 11.29	1.47	2.7	18/18	71	0.12	AA	S3	
30	00:58:02.68	46 11.88	122 11.34	1.00	2.7	20/20	75	0.16	BA	S3	
30	01:54:56.51	46 11.90	122 11.43	1.30	2.7	20/20	74	0.14	AA	S3	
30	02:47:11.23	46 11.98	122 11.33	1.07	2.7	20/20	102	0.17	BB	S3	
30	03:04:24.63	46 11.87	122 11.29	1.12	2.7	19/19	75	0.14	AA	S3	
30	03:44:59.44	46 11.91	122 11.28	1.24	2.9	20/20	74	0.14	AA	S3	
30	04:39:54.28	46 11.92	122 11.37	0.95	2.7	20/20	74	0.16	BA	S3	
30	05:01:38.71	46 12.00	122 11.28	1.19	2.7	19/19	71	0.14	AA	S3	
30	05:34:10.99	46 11.89	122 11.42	1.34	2.7	19/19	75	0.19	BA	S3	
30	06:06:23.75	46 11.94	122 11.47	0.74	2.7	19/19	105	0.18	BB	S3	
30	06:39:05.48	46 11.96	122 11.32	1.21	3.0	19/19	73	0.15	AA	S3	

Table 6. Washington area hypocenters for events with magnitudes  $\geq 2.7$ —Continued

DAY	TIME	LAT	LON	May 1985 cont'd		NS/NP	GAP	RMS	Q	MOD	TYP
				DEPTH	M						
30	06:58:24.33	46 11.96	122 11.41	1.32	2.7	17/17	72	0.12	AA	S3	
30	07:40:02.48	46 11.96	122 11.31	0.67	2.9	19/19	73	0.16	BA	S3	
30	07:47:41.17	46 11.88	122 11.29	1.08	2.7	19/19	75	0.17	BA	S3	
30	08:55:44.92	46 11.85	122 11.35	1.29	2.7	18/18	76	0.14	AA	S3	
30	09:09:46.09	46 12.10	122 11.30	0.79	2.7	21/21	69	0.15	BA	S3	
30	09:51:44.03	46 11.92	122 11.32	1.22	2.9	21/21	74	0.14	AA	S3	
30	10:05:47.84	46 11.96	122 11.35	1.03	2.8	19/19	72	0.13	AA	S3	
30	11:50:30.60	46 11.70	122 11.33	1.36	2.8	21/21	80	0.17	BA	S3	
30	12:10:22.00	46 11.96	122 11.38	1.18	2.7	22/22	72	0.16	BA	S3	
30	12:52:09.35	46 11.98	122 11.21	1.48	2.7	18/18	72	0.17	BA	S3	
30	13:20:56.91	46 11.89	122 11.34	1.05	2.7	21/21	74	0.15	BA	S3	
30	14:08:25.90	46 11.91	122 11.32	1.23	2.7	20/20	74	0.15	AA	S3	
30	14:31:29.63	46 11.93	122 11.40	1.43	2.7	19/19	73	0.14	AA	S3	
30	15:19:56.15	46 11.97	122 11.33	0.98	2.8	20/20	72	0.18	BA	S3	
30	16:11:25.69	46 11.94	122 11.25	1.18	2.8	20/20	73	0.13	AA	S3	
30	16:27:20.85	46 11.82	122 11.31	1.25	2.7	20/20	76	0.16	BA	S3	
30	17:07:47.81	46 11.94	122 11.26	0.97	2.8	20/20	73	0.17	BA	S3	
30	17:57:13.00	46 11.86	122 11.29	1.36	2.8	20/20	75	0.16	BA	S3	
30	18:14:21.98	46 11.92	122 11.32	0.98	2.8	20/20	74	0.14	AA	S3	
30	18:56:54.11	46 11.92	122 11.30	1.05	2.7	21/21	74	0.15	BA	S3	
30	19:17:30.08	46 12.00	122 11.31	1.20	2.8	18/18	71	0.13	AA	S3	
30	21:25:31.52	46 11.92	122 11.35	1.38	2.8	19/19	74	0.12	AA	S3	
30	21:48:28.79	46 11.95	122 11.06	1.61	2.8	18/18	73	0.16	BA	S3	
30	22:04:01.41	46 11.93	122 11.33	1.05	2.7	21/21	73	0.15	AA	S3	
30	22:35:42.25	46 11.84	122 11.30	1.54	2.7	19/19	76	0.14	AA	S3	
30	23:12:05.04	46 11.98	122 11.36	1.28	3.0	19/19	72	0.15	AA	S3	
31	00:59:47.37	46 11.96	122 11.35	1.13	2.7	21/21	72	0.15	BA	S3	
31	02:04:04.83	46 11.86	122 11.11	1.46	2.9	20/20	75	0.15	AA	S3	
31	02:28:56.19	46 12.00	122 11.33	0.83	2.7	20/20	72	0.17	BA	S3	
31	03:43:49.18	46 11.80	122 11.29	1.13	2.8	18/18	77	0.18	BA	S3	
31	05:54:30.85	46 11.99	122 11.29	1.20	2.8	18/18	72	0.14	AA	S3	

Table 6. Washington area hypocenters for events with magnitudes  $\geq 2.7$ —Continued

DAY	TIME	LAT	LON	June 1985 cont'd		NS/NP	GAP	RMS	Q	MOD	TYP
				DEPTH	M						
9	01:24:51.45	46 40.51	118 58.60	3.21	3.2	28/28	138	0.25	BC	E3	F
16	10:22:59.25	47 26.06	121 49.37	17.03*	3.1	39/41	37	0.14	AA	P3	
17	07:00:17.26	47 03.48	120 04.62	0.28	3.0	35/35	43	0.42	CC	N3	
22	02:36:58.69	44 49.17	121 11.71	6.37	2.8	8/08	212	0.15	BD	C3	
29	00:45:32.45	46 54.89	119 07.33	3.52	2.7	26/28	154	0.26	BC	E3	
DAY	TIME	LAT	LON	July 1985		NS/NP	GAP	RMS	Q	MOD	TYP
				DEPTH	M						
6	23:46:41.95	47 43.52	122 13.56	17.97	3.1	37/39	37	0.16	BB	P3	F
16	21:13:16.33	46 11.36	121 00.53	0.02*	3.2	35/35	46	0.19	BC	C3	
24	02:37:50.13	49 19.47	123 58.14	70.42	2.8	19/20	270	0.22	BD	P3	
29	21:53:18.64	47 46.23	119 27.30	0.04*	2.7	18/19	111	0.26	BB	N3	
29	21:05:29.31	48 15.41	121 45.76	2.87	3.2	29/32	75	0.38	CC	P3	F
30	17:01:43.76	48 23.61	123 17.69	18.88	3.3	36/41	20	0.45	CA	P3	F
DAY	TIME	LAT	LON	Aug 1985		NS/NP	GAP	RMS	Q	MOD	TYP
				DEPTH	M						
24	16:03:33.93	46 13.30	117 54.47	0.02*	2.7	19/19	252	0.41	CD	E3	
DAY	TIME	LAT	LON	Sept 1985		NS/NP	GAP	RMS	Q	MOD	TYP
				DEPTH	M						
14	06:24:24.66	47 23.43	122 23.00	19.83	3.0	48/51	34	0.14	AB	P3	
25	19:28:20.70	47 29.68	122 01.53	0.78	2.2	30/34	43	0.17	BC	P3	F

Table 6. Washington area hypocenters for events with magnitudes  $\geq 2.7$ —Continued

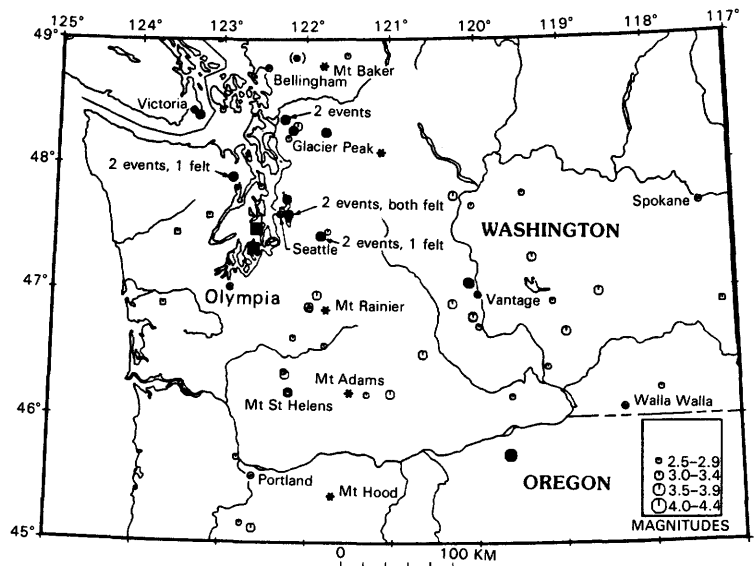
DAY	TIME	LAT	LON	Oct 1985		NS/NP	GAP	RMS	Q	MOD	TYP
				DEPTH	M						
1	05:25:21.60	46 47.78	120 02.87	1.09	3.0	34/35	44	0.24	BC	E3	
1	06:53:11.58	46 47.32	120 02.84	1.71	3.0	34/35	45	0.29	BC	E3	
3	10:12:44.09	46 11.09	121 16.92	1.825	2.7	33/33	48	0.30	BC	C3	
6	23:12:27.92	47 53.43	122 52.34	19.96*	2.8	22/23	89	0.13	AA	P3	
10	10:06:40.72	47 44.95	120 15.93	7.04	3.2	34/34	41	0.30	BB	N3	
15	17:47:37.53	47 28.09	121 44.66	15.52	2.7	35/38	58	0.14	AA	P3	
27	22:19:25.24	46 23.93	119 11.54	2.40	2.8	22/22	77	0.23	BB	E3	
DAY	TIME	LAT	LON	Nov 1985		NS/NP	GAP	RMS	Q	MOD	TYP
				DEPTH	M						
1	19:37:00.87	48 50.88	122 07.94	1.805	2.6	22/25	106	0.37	CC	P3	F
15	21:03:09.67	47 27.56	123 31.76	42.13	2.7	32/35	90	0.28	BA	P3	
17	21:03:12.89	46 21.85	122 14.95	11.06	2.9	38/39	56	0.21	BA	S3	
22	18:09:56.76	47 15.76	119 21.07	20.82	3.2	30/31	88	0.28	BB	N3	
22	22:27:03.07	45 07.26	122 35.74	22.89	3.0	28/29	128	0.24	BB	C3	
25	04:46:45.67	48 51.78	121 30.64	1.268	2.7	15/16	215	0.52	DD	C3	
DAY	TIME	LAT	LON	Dec 1985		NS/NP	GAP	RMS	Q	MOD	TYP
				DEPTH	M						
3	18:54:18.12	46 09.93	119 36.20	1.61	2.9	40/6	299	0.05	BD	E3	H
12	23:05:29.45	48 26.00	123 01.36	26.42	2.7	23/27	35	0.19	BA	P3	
25	23:40:16.05	49 09.44	126 36.62	47.56*	3.5	13/13	325	0.22	CD	P3	
26	09:59:40.05	46 30.40	122 14.13	7.45	3.1	41/43	45	0.22	BB	S3	
27	19:12:00.81	46 58.02	121 51.91	7.02	3.0	42/47	34	0.12	AB	C3	

### Explanation of table 6.

TIME	Origin time is calculated for each earthquake on the basis of multistation arrival times. Time is given in Coordinated Universal Time (UTC), in hours:minutes:seconds. To convert to Pacific Standard Time (PST) subtract eight hours, or to Pacific daylight time subtract seven hours.
LAT	North latitude of the epicenter, in degrees and minutes.
LONG	West longitude of the epicenter, in degrees and minutes.
DEPTH	The depth, given in kilometers, is usually freely calculated from the arrival-time data. In some instances, the depth must be fixed arbitrarily to obtain a convergent solution. Such depths are noted by an asterisk ( * ) in the column immediately following the depth. A \$ or a # following the depth mean that the maximum number of iterations has been exceeded without meeting convergence tests and both the location and depth have been fixed.
MAG	Coda-length magnitude $M_c$ . An estimate of local Richter magnitude (Richter, C.F., 1958, Elementary Seismology: W.H. Freeman and Co., 768p), calculated using the coda-length/magnitude relationship determined for Washington (Crosson, R.S., 1972, Bull. Seism. Soc. Am., v. 62, p. 1133-1171). Where blank, data were insufficient for a reliable magnitude determination. Normally, the only earthquakes with undetermined magnitudes are very small ones. Magnitudes may be revised as we improve our analysis procedure.
NS/NP	NS is the number of station observations, and NP the number of P and S phases used to calculate the earthquake location. A minimum of three stations and four phases are required. Generally, more observations improve the quality of the solution.
GAP	Azimuthal gap. The largest angle (relative to the epicenter) containing no stations.
RMS	The root-mean-square residual (observed arrival time minus predicted arrival time) at all stations used to locate the earthquake. It is only useful as a measure of the quality of the solution when 5 or more well distributed stations are used in the solution. Good solutions are normally characterized by RMS values less than about 0.3 sec.
Q	Two Quality factors indicate the general reliability of the solution (A is best quality, D is worst). Similar quality factors are used by the USGS for events located with the computer program HYPO71. The first letter is a measure of the hypocenter quality based on travel time residuals. For example: A quality requires an RMS less than 0.15 sec while an RMS of 0.5 sec or more is D quality (estimates of the uncertainty in hypocenter location also affect this quality parameter). The second letter of the quality code depends on the spatial distribution of stations around the epicenter i.e. number of stations, their azimuthal distribution, and the minimum distance (DMIN) from the epicenter to a station. Quality A requires a solution with 8 or more phases, $GAP \leq 90^\circ$ and $DMIN \leq (5 \text{ km or depth, whichever is greater})$ . If the number of phases, NP, is 5 or less or $GAP > 180^\circ$ or $DMIN > 50 \text{ km}$ the solution is assigned quality D.
MOD	The crustal velocity model used in location calculations. P3 - Puget Sound model C3 - Cascade model S3 - Mt. St. Helens model including Elk Lake N3 - northeastern model E3 - southeastern model
TYP	Events flagged in Table 2 use the following code: F - earthquakes reported to have been felt P - probable explosion L - low frequency earthquakes H - handpicked from helicopter records X - known explosion



**Figure 37.** Felt earthquakes in Washington and northern Oregon during 1985 plus earthquakes with coda-length magnitudes  $\geq 2.7$  that were not felt. Solid symbols represent reported felt earthquakes; open symbols represent all other earthquakes with  $M_c \geq 2.7$ . Felt earthquakes with  $M_c < 2.7$  are in parentheses. Round symbols represent depths  $> 30$  km; square symbols represent depths  $< 30$  km.



on the Blanco Fracture zone offshore Oregon); 187 additional events had magnitudes  $\geq M_C 2.7$ . This number represents a large increase in the number of earthquakes  $\geq 2.7$  over 1984. In 1984 there were 42 earthquakes  $\geq M_C 2.7$ , compared with 200 in 1985. Most of this increase was due to a large number of earthquakes at Mount St. Helens. Of the earthquakes  $M_C > 2.7$  in 1985, 142 were located at Mount St. Helens during the dome-building eruption in late May and early June, and 58 were elsewhere in the State. In 1984, for comparison, 36 earthquakes in this size range were located outside Mount St. Helens. Earthquake swarms near Vantage on the Columbia River also contributed to the increase of earthquakes greater than  $M_C 2.7$  in 1985. Seven such earthquakes occurred there, as well as 39 smaller earthquakes. Earthquakes reported felt are indicated by solid symbols in figure 37. Of all earthquakes located by the University of Washington network in 1985, 54 percent were located in the vicinity of Mount St. Helens, reflecting both a greater station density and a higher level of activity there. In 1985, 22 percent of the earthquakes were located west of the Cascade Range outside the Mount St. Helens area, 12 percent occurred within the Cascade Range outside the Mount St. Helens area, and 12 percent occurred east of the Cascade Range.

The largest event in Washington or northern Oregon, during 1985 was a  $M_C 3.9$  earthquake at a depth of about 20 km, which was felt at Hermiston in Umatilla County, Ore-

gon, on February 10, 1985. No foreshocks or aftershocks were located.

Several earthquakes were felt in the Puget Sound basin. Two events, 50 km deep, were located on the Kitsap Peninsula on February 28 and March 18, with magnitudes of 3.7 and 3.5, respectively. Two shallow events (depths less than 10 km) with magnitudes of 3.0 and 2.7 were located beneath Lake Washington near Seattle on March 21 and March 24. Another earthquake ( $M_C 3.1$ ) was felt on July 6, and was located at about 20 km depth near the northern end of Lake Washington. On June 16, a  $M_C 3.1$  earthquake at a depth of less than 20 km was felt in North Bend, at the eastern margin of the Puget Sound basin. A  $M_C 2.2$  earthquake at a depth of less than 1 km was felt in Issaquah on September 25.

On the Olympic Peninsula on January 11, an earthquake of  $M_C 2.6$  was located at about 20 km depth near Quilcene and was reported felt on the northern end of the Kitsap Peninsula. North of the Puget Sound area, earthquakes shallower than 20 km were felt on March 5 ( $M_C 3.1$ ) about 25 km north of Everett, on April 26 and 30 ( $M_C 3.0$  and 3.3) in the Skagit Valley near Sedro-Wooley, on July 29 ( $M_C 3.2$ ) near Jim Creek, and on November 1 ( $M_C 2.6$ ) in the Bellingham area. On July 30, a  $M_C 3.2$  earthquake occurred at a shallow depth in the Strait of Juan de Fuca just south of Victoria, British Columbia, and was felt in the vicinity.

An  $m_b -6.1$  earthquake on the Blanco Fracture zone on March 13 was located by the NEIS at 19:34:57.6 UTC, at

43.510° N., 127.561° W. and was felt near the coast in Oregon and Washington.

Mount St. Helens marked the fifth anniversary of the May 18, 1980, eruption with an eruption in May 1985. In contrast to the catastrophic 1980 eruption, the May 1985 eruption was fairly quiet, producing a small lobe of magma

on the southeast side of the dome and some extensive deformation of the dome's south flank. This extrusion and deformation was preceded and accompanied by the most energetic earthquake sequence at Mount St. Helens since 1980. More than 1,600 earthquakes triggered our seismic recording system from mid-May when the eruption started to mid-June when seismicity returned to background levels.

## MISCELLANEOUS ACTIVITIES

**Table 7. Principal earthquakes of the World during 1985**

This table includes all earthquakes of magnitude 6.8 or larger; those of smaller magnitude that caused loss of lives and significant damages; and events of unusual interest. The primary source for table 7 is the National Earthquake Information Center publication *Preliminary Determination of Epicenters, Monthly Listing*.

DATE	ORIGIN TIME (UTC)	LAT. (°)	LONG. (°)	DEPTH (KM)	MAGNITUDE	REGION	REMARKS
Jan. 26	03 06 57.8	33.053S.	68.467W.	5	6.0 <sub>m<sub>b</sub></sub> (GS) 5.9 <sub>M<sub>s</sub></sub> (GS) 5.8 <sub>M<sub>s</sub></sub> (BK)	Mendoza Province, Argentina	Six killed, 238 injured, and 12,500 homes destroyed or damaged in the Mendoza area. Felt in Chile.
Feb. 2	20 52 34.2	28.399N.	52.997E.	37	5.2 <sub>m<sub>b</sub></sub> (GS) 5.3 <sub>M<sub>s</sub></sub> (GS)	Southern Iran	One killed, 80 injured, and 1,500 buildings destroyed or damaged in the Firuzabad-Jahrom area.
Mar. 3	22 47 07.2	33.135S.	71.871W.	33	6.7 <sub>m<sub>b</sub></sub> (GS) 7.8 <sub>M<sub>s</sub></sub> (GS) 7.5 <sub>M<sub>s</sub></sub> (BK)	Central Chile	One hundred and seventy-seven killed, 2,575 injured, and extensive damage in Central Chile. Felt in Brazil and Argentina. A 1.1-meter tsunami at Valparaiso.
Mar. 3	23 38 31.4	32.738S.	71.215W.	33	6.3 <sub>m<sub>b</sub></sub> (GS) 6.4 <sub>M<sub>s</sub></sub> (GS) 7.0 <sub>M<sub>s</sub></sub> (BK)	Central Chile	Felt at Santiago.
Mar. 16	14 54 00.7	17.013N.	62.448W.	14	6.3 <sub>m<sub>b</sub></sub> (GS) 6.3 <sub>M<sub>s</sub></sub> (GS) 6.8 <sub>M<sub>s</sub></sub> (BK) 6.1 <sub>M<sub>s</sub></sub> (PS)	Leward Islands	Six injured and damage on Guadeloupe. Minor damage on Montserrat.
Mar. 17	10 41 38.4	32.633S.	71.551W.	33	5.9 <sub>m<sub>b</sub></sub> (GS) 6.6 <sub>M<sub>s</sub></sub> (GS) 6.6 <sub>M<sub>s</sub></sub> (BK) 6.4 <sub>M<sub>s</sub></sub> (PS)	Central Chile	One person died from a heart attack in Santiago. Slight damage in the Valparaiso area. Felt in Argentina.
Mar. 18	19 49 45.8	7.758N.	123.544E.	33	6.0 <sub>m<sub>b</sub></sub> (GS) 6.5 <sub>M<sub>s</sub></sub> (GS)	Mindanao, Philippine Islands	Two people died from heart attacks, 25 injured, and 30 homes destroyed in the Pagadian area.
Mar. 19	10 28 36.4	18.628S.	63.658W.	33	5.5 <sub>m<sub>b</sub></sub> (GS) 5.2 <sub>M<sub>s</sub></sub> (GS)	Bolivia	Two killed and damage in the Monteagudo area.
Mar. 29	11 15 06.1	29.377N.	105.025E.	33	4.9 <sub>m<sub>b</sub></sub> (GS) 4.3 <sub>M<sub>s</sub></sub> (GS)	Sichuan Province, China	One killed, 120 injured, and damage in the Neijiang area.
Apr. 9	01 56 59.4	34.131S.	71.618W.	38	6.3 <sub>m<sub>b</sub></sub> (GS) 7.2 <sub>M<sub>s</sub></sub> (GS) 7.5 <sub>M<sub>s</sub></sub> (BK) 7.0 <sub>M<sub>s</sub></sub> (PS)	Central Chile	One person died from a heart attack, several injured, and damaged in Santiago-Valparaiso area. Another death from a heart attack at Chillan. Felt in Argentina.
Apr. 18	05 52 52.8	25.926N.	102.871E.	5	5.7 <sub>m<sub>b</sub></sub> (GS) 5.8 <sub>M<sub>s</sub></sub> (GS)	Yunnan Province, China	Twenty-three killed, 300 injured, and damage in the Luquan-Xandian area.
Apr. 24	01 07 14.5	16.498N.	120.815E.	33	5.6 <sub>m<sub>b</sub></sub> (GS) 6.1 <sub>M<sub>s</sub></sub> (GS)	Luzon, Philippine Islands	Six killed, 11 injured, and damage in Benguet Province. Also damage at Baguio.
May 10	15 35 50.5	5.999S.	151.045E.	27	6.3 <sub>m<sub>b</sub></sub> (GS) 7.1 <sub>M<sub>s</sub></sub> (GS) 7.3 <sub>M<sub>s</sub></sub> (BK)	New Britain Region	One killed. Damage in the Bialla-Hoskins area. Extensive landslides, debris flows, and fallen trees in the Nakani Mountains. Felt in Papua, New Guinea.

**Table 7. Principal earthquakes of the World during 1985—Continued**

DATE	ORIGIN TIME (UTC)	LAT. (DEG.) (°)	LONG. (DEG.) (°)	DEPTH (KM)	MAGNITUDE	REGION	REMARKS
June 3	12 06 21.1	15.289S.	173.516W.	33	6.2 <sub>m</sub> <sub>b</sub> (GS) 6.8 <sub>M<sub>s</sub></sub> (GS) 7.0 <sub>M<sub>s</sub></sub> (BK) 6.7 <sub>M<sub>s</sub></sub> (PS)	Samoa Islands region	Felt at Apia, Western Samoa.
July 3	04 36 51.7	4.439S.	152.828E.	33	6.3 <sub>m</sub> <sub>b</sub> (GS) 7.2 <sub>M<sub>s</sub></sub> (GS) 7.4 <sub>M<sub>s</sub></sub> (BK)	New Britain region	Damage, landslides, and ground cracks on New Ireland and in the Rabaul area, New Britain. A 1.3-meter tsunami in Rabaul harbor.
July 29	07 54 44.0	36.190N.	70.896E.	99	6.6 <sub>m</sub> <sub>b</sub> (GS) 7.3 <sub>M<sub>s</sub></sub> (BK)	Hindu Kush region, Afghanistan	Five killed, 38 injured, and considerable damage in the Chitral and Swat Districts, Pakistan. Damage with many homeless in the Khorog-Ishkashim area, USSR. Damage in the Dushanbe and Kurgan-Tyube areas, USSR. Felt in Afghanistan, India, Pakistan, and USSR.
Aug. 21	11 26 28.7	9.159S.	78.887W.	57	6.1 <sub>m</sub> <sub>b</sub> (GS) 6.1 <sub>m</sub> <sub>b</sub> (BK) 6.3 <sub>m</sub> <sub>b</sub> (PS)	Near the coast of Peru.	One hundred injured, 60 homes destroyed, and damage to other buildings in the Chimbote area.
Aug. 23	12 41 56.1	39.431N.	75.224E.	7	6.4 <sub>m</sub> <sub>b</sub> (GS) 7.3 <sub>M<sub>s</sub></sub> (GS) 7.2 <sub>M<sub>s</sub></sub> (BK) 7.0 <sub>M<sub>s</sub></sub> (PS) 7.5 <sub>M<sub>s</sub></sub> (LD)	Western Xinjiang, China	Seventy-one killed, 162 injured, about 15,000 homeless, and 85 percent of the buildings destroyed in the Wuqia-Shu-fa area. Felt in Pakistan and the USSR.
Sept. 11	20 45 49.5	39.356N.	75.407E.	15	5.8 <sub>m</sub> <sub>b</sub> (GS) 6.5 <sub>M<sub>s</sub></sub> (GS) 6.4 <sub>M<sub>s</sub></sub> (PS)	Western Xinjiang, China	Four killed, 61 injured, and damage in the Wuqia-Shufu-Kashi area. Felt in the USSR.
Sept. 15	02 42 54.8	4.130S.	136.049E.	10	5.9 <sub>m</sub> <sub>b</sub> (GS) 6.3 <sub>M<sub>s</sub></sub> (GS) 6.3 <sub>M<sub>s</sub></sub> (BK) 6.0 <sub>M<sub>s</sub></sub> (PS)	West Irian	Ten killed, 7 injured, and damage in the Enarotali area.
Sept. 19	13 17 47.3	18.190N.	102.533W.	28	6.8 <sub>m</sub> <sub>b</sub> (GS) 8.1 <sub>M<sub>s</sub></sub> (GS) 7.9 <sub>M<sub>s</sub></sub> (BK) 7.9 <sub>M<sub>s</sub></sub> (PS)	Mihoacan, Mexico	At least 9,500 killed, 30,000 injured, 100,000 homeless. Four hundred and twelve buildings collapsed and 3,124 were seriously damaged in Mexico City. About 60 percent of the buildings were destroyed at Ciudad Guzman, Jalisco. Total damage was estimated at 3-4 billion dollars. A tsunami at Zihuatenejo was 3.0 meters and 2.8 meters at Lazaro Cardenas. Lesser wave heights were recorded in the South Pacific Ocean areas.
Sept. 21	01 37 13.4	17.802N.	101.647W.	31	6.3 <sub>m</sub> <sub>b</sub> (GS) 7.6 <sub>M<sub>s</sub></sub> (GS) 7.2 <sub>M<sub>s</sub></sub> (BK) 7.5 <sub>M<sub>s</sub></sub> (LD)	Near the coast of Guerrero, Mexico	Additional casualties and damage in the Mexico City area. Local tsunami at Acapulco of 1.4 meters.
Sept. 26	07 27 51.1	34.693S.	178.656W.	52	6.3 <sub>m</sub> <sub>b</sub> (GS) 7.0 <sub>M<sub>s</sub></sub> (BK) 6.8 <sub>M<sub>s</sub></sub> (PS) 6.8 <sub>M<sub>s</sub></sub> (LD)	South of the Kermadec Islands.	Felt on Raoul Island. Also felt on North and South Islands, New Zealand.
Sept. 27	03 39 08.5	9.829S.	159.854E.	32	6.2 <sub>m</sub> <sub>b</sub> (GS) 6.9 <sub>M<sub>s</sub></sub> (GS) 6.8 <sub>M<sub>s</sub></sub> (BK) 6.6 <sub>M<sub>s</sub></sub> (PS)	Solomon Islands	Several houses were destroyed. Damage at Viso and Honiara.
Oct.. 5	15 24 02.0	62.237N.	124.266W.	10	6.5 <sub>m</sub> <sub>b</sub> (GS) 6.6 <sub>M<sub>s</sub></sub> (GS) 6.8 <sub>M<sub>s</sub></sub> (BK) 6.2 <sub>M<sub>s</sub></sub> (PS)	Northwest Territories, Canada	Slight damage at Fort Laird, Nahanni Butte, and Wrigley. Felt in Northwestern Canada and southeastern Alaska.

**Table 7. Principal earthquakes of the World during 1985—Continued**

DATE	ORIGIN TIME (UTC)	LAT. (DEG.) (°)	LONG. (DEG.) (°)	DEPTH (KM)	MAGNITUDE	REGION	REMARKS
Oct. 13	15 59 51.2	40.301N.	69.823E.	16	5.8 <sub>m<sub>b</sub></sub> (GS) 5.9 <sub>M<sub>s</sub></sub> (GS)	Tajik, SSR	Twenty-nine killed, 80 injured, and about 8,000 homeless in the Kayrakkum-Gafurov area. About 90 percent of the multistory, brick buildings were destroyed at Kayrakkum and about 900 buildings were destroyed at Gafurov.
Oct. 27	19 34 57.1	36.460N.	6.761E.	10	5.5 <sub>m<sub>b</sub></sub> (GS) 5.9 <sub>M<sub>s</sub></sub> (GS)	Northern Algeria	Six killed and damage in the Constantine-Skikda area.
Nov. 17	09 40 21.2	1.639S.	134.911E.	10	6.0 <sub>m<sub>b</sub></sub> (GS) 7.1 <sub>M<sub>s</sub></sub> (GS) 6.8 <sub>M<sub>s</sub></sub> (BK) 6.9 <sub>M<sub>s</sub></sub> (PS)	West Irian	Damage at Manokwari.
Nov. 28	02 25 42.3	14.043S.	166.240E.	33	6.0 <sub>m<sub>b</sub></sub> (GS) 7.0 <sub>M<sub>s</sub></sub> (GS) 7.2 <sub>M<sub>s</sub></sub> (BK) 6.5 <sub>M<sub>s</sub></sub> (PS)	Vanuatu Islands	No report.
Nov. 28	03 49 54.1	13.987S.	166.185E.	33	6.3 <sub>m<sub>b</sub></sub> (GS) 7.1 <sub>M<sub>s</sub></sub> (GS) 7.6 <sub>M<sub>s</sub></sub> (BK) 6.9 <sub>M<sub>s</sub></sub> (PS)	Vanuatu Islands	No report.
Dec. 16	08 04 07.0	14.073S.	166.251E.	33	6.0 <sub>m<sub>b</sub></sub> (GS) 6.7 <sub>M<sub>s</sub></sub> (GS) 6.8 <sub>M<sub>s</sub></sub> (BK) 6.4 <sub>M<sub>s</sub></sub> (PS)	Vanuatu Islands	No report.
Dec. 21	01 13 22.4	13.966S.	166.516E.	43	6.0 <sub>m<sub>b</sub></sub> (GS) 7.3 <sub>M<sub>s</sub></sub> (GS) 7.6 <sub>M<sub>s</sub></sub> (BK) 6.9 <sub>M<sub>s</sub></sub> (PS)	Vanuatu Islands	No report.
Dec. 23	05 16 03.3	62.222N.	124.239W.	10	6.4 <sub>m<sub>b</sub></sub> (GS) 6.9 <sub>M<sub>s</sub></sub> (GS) 6.6 <sub>M<sub>s</sub></sub> (BK)	Northwest Territories, Canada	Felt in western Canada, northwestern United States, and southeastern Alaska.
Dec. 25	02 38 56.5	37.688N.	15.068E.	10	4.3 <sub>m<sub>b</sub></sub> (GS)	Sicily, Italy	One killed, 14 injured, and damage on Sicily. Eruption of Mt. Etna.

[(UTC), Universal Time Coordinated; (KM), kilometers; (<sub>m<sub>b</sub></sub>), body-wave magnitude; (<sub>M<sub>s</sub></sub>), Surface-wave magnitude; (BK), University of California, Berkeley; (GS), U.S. Geological Survey, Golden, Colo.; (LD), Lamont-Doherty Geological Observatory, Palisades, N.Y.; (PS), California Institute of Technology, Pasadena]

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## STRONG-MOTION SEISMOGRAPH DATA

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### Introduction

The current United States strong-motion instrumentation program is administered by the U.S. Geological Survey (USGS) in cooperation with both private industry and educational institutions, as well as numerous Federal, State, and local agencies and organizations. The objectives of the program are to record strong ground motions and the response of representative types of engineered structures during potentially damaging earthquakes, and to disseminate processed data and information about the records, sites, and structures to external users in earthquake engineering research and design practice and engineering seismology. The dissemination of this information and data is achieved in various ways.

Preliminary earthquake reports and a summary of recent accelerograph records are presented on a regular basis in "Strong-Motion Program Reports", an annual USGS Circular. These summaries include a brief description of the earthquake and strong-motion recording station, the results of routine scalings of those records that contain peak accelerations greater than 0.05 g (gravity), and photographic reproductions of the more significant accelerograms. The Program Reports also contain abstracts of recent reports, notes on strong-motion information sources and the availability of digitized data, and other information pertinent to the USGS and other strong-motion programs.

Strong-motion event and strong-motion data reports are periodically published as USGS Open-file reports and include the results of digitization and routine analyses of strong-motion accelerograms that contain peak accelerations of significant amplitude or that are related to a specific event, particular strong-motion station, or geographic group of stations. Although maximum acceleration is not directly related to frequency content or duration of strong motion, the peak acceleration can be readily obtained from an accelerogram, and thus the value is commonly used as a general indicator of the potential signifi-

cance of the record. Detailed information on the availability of digitized data from various sources is published regularly in "Strong-Motion Program Reports".

The "Strong-Motion Accelerograph Station List" is periodically published as a USGS Open-File report and includes information on all the accelerograph stations in the Western Hemisphere known to the USGS. Because of the ever-changing nature of this information, it is impossible to have a complete list of all of the stations in existence at any one time. Rather, the list is intended to provide that community of persons interested in strong-motion programs with a reasonably complete indication of the current status of the various strong-motion networks. Information presented in this list includes the station name and geographic coordinates, site characteristics, type and size of structure, location of instruments, and the primary sources of data. The current list contains information on about 1,350 stations located in the United States, Canada, the Caribbean, and throughout Central and South America (Switzer and others, 1981)

### Accelerograph Data

During January-December 1985, 135 accelerograph records were recovered from the USGS National Strong-Motion Instrumentation Network (table 6). This number contrasts with a yearly average of 235 records for the period 1972 through 1984. Only two events in the U.S. larger than magnitude 5.0 were recorded; a magnitude 5.3 on January 24 in eastern California (one record), and a magnitude 5.4 on August 4 near Coalinga, California (seven records). A magnitude-4.8 earthquake on October 2 in southern California triggered 13 instruments at 9 stations; a peak horizontal ground acceleration of 0.09 g was recorded at the toe of Lake Mathews Dam.

Twenty-seven accelerograms were recovered from stations in Hawaii during 1985, recorded during a magnitude-4.8 event of February 22 and during numerous small unidentified earthquakes that occurred throughout the reporting period.

Other significant numbers of accelerograms were recorded at stations near Bear Valley and Coalinga in central California during small (magnitude 3.0-5.0) earthquakes.

**Table 8. Summary of U.S. accelerograph records recovered during 1985**

[Station owners: ACOE, U.S. Army Corps of Engineers; CDOT, California Department of Transportation; MANC, Municipality of Anchorage; MWD, Metropolitan Water District of Southern California; USBR, U.S. Bureau of Reclamation; USGS, U.S. Geological Survey; VA, Veterans Administration. Instrument trigger time in seconds after the minute (or the following minute) listed in event column. S-minus trigger denotes S-wave-arrival-minus-trigger-time (S-t) or S-wave-minus-P-wave-arrival time (S-P, in brackets) interval. Direction is that of instrument case acceleration for upward trace deflection on accelerogram; horizontal components are listed as azimuth, and vertical components as "up" or "down." Maximum amplitude is peak acceleration recorded at ground level on one vertical and two horizontal (orthogonal) components unless otherwise noted. Duration is interval between first and last peaks of acceleration greater than 0.10 g ]

Earthquake	Station name (owner)	Station location	Trigger time	S-minus trigger (s)	Direction (az)	Maximum amplitude (g)	Duration (s)
2 January 1985 0524:58.2 G.m.t. Southern Calif. 34.050N, 116.530W Magnitude 3.8 ML	Morongo Valley Fire Station (USGS)	34.048°N 116.577°W	02.1	0.6		(1)	
	North Palm Springs Post Office (USGS)	33.924°N 116.543°W	01.4	2.4		(1)	
	Whitewater Trout Farm (USGS)	33.989°N 116.655°W	03.7	(2)		(1)	
3 January 1985 1122:27.6 G.m.t. Central Calif. 36.170N, 120.273W Magnitude 3.7 ML	Coalinga Oil City (USGS)	36.229°N 120.360°W	30.0	1.8	360°	.05	---
					Up	.01	---
					270°	.06	---
6 January 1985 1833:25.8 G.m.t. Central Calif. 36.592N, 121.243W Magnitude 3.4 ML	Bear Valley Station 1 Fire Station (USGS)	36.573°N 121.184°W	29.3	(2)		(1)	
	Pleasant Valley Pump Plant (USBR)	36.308°N 120.249°W					
14 January 1985 2117 G.m.t. Central Calif. Epicenter and magnitude unknown	Switchyard		17.1	0.5	135°	.05	---
					Up	.01	---
19 January 1985 0030:15.0 G.m.t. Southern Calif. 33.990N, 116.400W Magnitude 3.9 ML	Fun Valley Reservoir Ground Site (USGS)	33.925°N 116.389°W	18.3	(2)		(1)	
	North Palm Springs Post Office (USGS)	33.924°N 116.543°W	18.6	2.3		(1)	
6 December 1983- 21 January 1985 Hawaii Epicenters and magnitudes unknown	Kailua-Kona, Hawaii Fire Station (USGS)	19.649°N 155.996°W	(3)	(2)		(1)	
	Pahala, Hawaii Kau Hospital (USGS)	19.20° N 155.47° W	(3)	(2)		(1)	
	Waimea, Hawaii Fire Station (USGS)	20.026°N 155.664°W	(3)	(2)	155°	.06	---
					Up	.04	---
					065°	.02	---

Note: Four additional records<sup>1</sup> recovered at Waimea Fire Station.

See footnotes at end of table.

Table 8. Summary of U.S. accelerograph records recovered during 1985—Continued

Earthquake	Station name (owner)	Station location	Trigger time	S-minus trigger (s)	Direction (az)	Maximum amplitude (g)	Duration (s)
24 January 1985 1127:21.7 G.m.t. Eastern Calif. 38.140N, 118.838W Magnitude 5.3 ML	Terminus Dam Auxiliary Dam (ACOE)  Center crest	36.404°N 119.001°W		(3)	(2)	(1)	
31 January 1985 0928:49.4 G.m.t. Central Calif. 36.894N, 121.330W Magnitude 2.9 ML	Hollister Diff. Array, analog (USGS)	36.888°N 121.413°W	52.0	0.5		(1)	
5 November 1984- 2 February 1985 Central Calif. Epicenter and magnitude unknown	Coalinga Burnett Company (USGS)	36.138°N 120.357°W	(3)	(2)		(1)	
15 February 1985 2326:26.5 G.m.t. Southern Calif. 33.980N, 116.400W Magnitude 4.0 ML	Fun Valley Reservoir Ground Site (USGS)	33.925°N 116.389°W	29.4	(2)	135° Up 045°	.06 .02 .05	--- --- ---
22 February 1985 0548:29.3 G.m.t. Hawaii 19.329N, 155.211W Magnitude 4.8 ML	Hawaii National Park Volcano Observatory (USGS)	19.423°N 155.291°W	33.3 <sup>4</sup>	(2)		(1)	
	Hilo, Hawaii U.S. Fish & Wildlife (USGS)	19.731°N 155.100°W	48.7 <sup>4</sup>	(2)		(1)	
	Kealahuekua, Hawaii Kona Hospital (USGS)	19.523°N 155.879°W	52.7 <sup>4</sup>	(2)	346° Up 256°	.07 .02 .05	--- --- ---
	Mauna Kea, Hawaii State Park (USGS)	19.752°N 155.530°W	41.1 <sup>4</sup>	6.9		(1)	
	Pahala, Hawaii Kau Hospital (USGS)	19.20° N 155.47° W	41.1 <sup>4</sup>	(2)	188° Up 098°	.04 .02 .06	--- --- ---
24 February 1985 1430 G.m.t. Central Calif. Epicenter and magnitude unknown	Pleasant Valley Pump Plant (USBR)  Switchyard	36.308°N 120.249°W	26.4	1.6		(1)	
23 August 1979- 25 February 1985 Central Calif. Epicenter and magnitude unknown	San Francisco Eastman Kodak Bldg. (USGS)  Basement	37.81° N 122.42° W	(3)	(2)		(1)	
28 February 1985 0442:08.5 G.m.t. Southern Calif. 33.960N, 116.290W Magnitude 3.7 ML	Fun Valley Reservoir Ground Site (USGS)	33.925°N 116.389°W	13.5	(2)		(1)	

See footnotes at end of table.



Table 8. *Summary of U.S. accelerograph records recovered during 1985—Continued*

Earthquake	Station name (owner)	Station location	Trigger time	S-minus trigger (s)	Direction (az)	Maximum amplitude (g)	Duration (s)
27 September 1984- 20 March 1985 Central Calif. Epicenters and magnitudes unknown	Pine Flat Dam (ACOE)	36.83° N 119.33° W					
	Lower gallery		(3)	(2)		(1)	
	Upper gallery		(3)	(2)		(1)	
	Right abutment		(3)	(2)		(1)	
	Note: One each additional record <sup>1</sup> recovered at the lower gallery, upper gallery, and right abutment.						
27 March 1985 0833:44.9 G.m.t. Central Calif. 36.247N, 120.442W Magnitude 2.6 ML	Coalinga Oil City (USGS)	36.229°N 120.360°W	48.1	(2)		(1)	
24 September 1984- 28 March 1985 Southern Calif. Epicenter and magnitude unknown	Bakersfield Harvey Auditorium (USGS)	35.37° N 119.02° W	(3)	3.1		(1)	
22 December 1984- 5 April 1985 Central Calif. Epicenter and magnitude unknown	Bear Valley Station 10 Webb Residence (USGS)	36.532°N 121.143°W	(3)	1.6	310° Up 220°	.04 .01 .06	--- --- ---
6 April 1985 1316:19.1 G.m.t. Central Calif. 36.578N, 121.133W Magnitude 3.3 ML	Bear Valley Station 10 Webb Residence (USGS)	36.532°N 121.143°W	21.2	1.7		(1)	
	Bear Valley Station 14 Upper Butts Ranch (USGS)	36.569°N 121.043°W	23.8	(2)		(1)	
9 April 1985 0323:24.7 G.m.t. Central Calif. 36.212N, 120.283W Magnitude 3.7 ML	Coalinga Oil City (USGS)	36.229°N 120.360°W	29.6	(2)		(1)	
9 April 1985 1308 G.m.t. Central Calif. Epicenter and magnitude unknown	Bear Valley Station 10 Webb Residence (USGS)	36.532°N 121.143°W	12.8	(2)		(1)	
24 June 1984- 23 April 1985 Southern Calif. Epicenters and magnitudes unknown	Rancho de Anza (USGS)	33.35° N 116.40° W	(3)	2.8		(1)	
	Note: One additional record <sup>1</sup> recovered at Rancho de Anza.						
7 November 1984- 9 May 1985 Central Calif. Epicenter and magnitude unknown	Diemer Filter Plant (MWD)	33.91° N 117.82° W	(3)	1.1			
	Basement					(1)	
	Reservoir roof					(1)	

*See footnotes at end of table.*

Table 8. Summary of U.S. accelerograph records recovered during 1985—Continued

Earthquake	Station name (owner)	Station location	Trigger time	S-minus trigger (s)	Direction (az)	Maximum amplitude (g)	Duration (s)
11 May 1985 0859:23.8 G.m.t. Central Calif.	Coalinga Burnett Company (USGS)	36.138°N 120.357°W	26.8	2.3		(1)	
Magnitude 4.0 ML	36.158°N, 120.280°W Coalinga Oil City (USGS)	36.229°N 120.360°W	26.5	2.4	360° Up 270°	.10 .02 .10	1-peak --- 1-peak
15 May 1985 2108 G.m.t. Hawaii Epicenter and magnitude unknown	Hawaii National Park Volcano Observatory (USGS)	19.423°N 155.291°W	41.8 <sup>4</sup>	(2)		(1)	
15 May 1985 2221 G.m.t. Hawaii Epicenter and magnitude unknown	Hawaii National Park Volcano Observatory (USGS)	19.423°N 155.291°W	20.6 <sup>4</sup>	(2)		(1)	
17 May 1985 1859 G.m.t. Hawaii Epicenter and magnitude unknown	Hawaii National Park Volcano Observatory (USGS)	19.423°N 155.291°W	29.8 <sup>4</sup>	(2)		(1)	
17 May 1985 1902 G.m.t. Hawaii Epicenter and magnitude unknown	Hawaii National Park Volcano Observatory (USGS)	19.423°N 155.291°W	28.4 <sup>4</sup>	(2)		(1)	
17 May 1985 1903 G.m.t. Hawaii Epicenter and magnitude unknown	Hawaii National Park Volcano Observatory (USGS)	19.423°N 155.291°W	10.9 <sup>4</sup>	(2)		(1)	
17 May 1985 1905 G.m.t. Hawaii Epicenter and magnitude unknown	Hawaii National Park Volcano Observatory (USGS)	19.423°N 155.291°W	52.4 <sup>4</sup>	(2)		(1)	
29 November 1984- 18 May 1985 Eastern Calif. Epicenters and magnitudes unknown	McGee Creek, SMA (USGS)	37.550°N 118.811°W	(3)	0.6	180° Up 090°	.08 .04 .09	--- --- ---
Note: Three additional records <sup>1</sup> recovered at McGee Creek, SMA.							
	McGee Creek, CRA (USGS)	37.550°N 118.811°W	(3)	0.5			
	166 m downhole					(1)	
	35 m downhole					(1)	
	Surface				360° Up 270°	.08 .05 .09	--- --- ---

Note: Three additional records<sup>1</sup> recovered at McGee Creek, CRA.  
SMA is surface triaxial accelerograph; CRA consists of surface  
and downhole triaxial packages at indicated depths.

See footnotes at end of table.

Table 8. Summary of U.S. accelerograph records recovered during 1985—Continued

Earthquake	Station name (owner)	Station location	Trigger time	S-minus trigger (s)	Direction (az)	Maximum amplitude (g)	Duration (s)
	Long Valley Dam Lake Crowley (USGS)	37.588°N 118.705°W					
	Left abutment		(3)	(2)		(1)	
25 May 1985 1550:45.4 G.m.t. Southern Calif. 33.950N, 116.650W Magnitude 3.2 ML	North Palm Springs Post Office (USGS)	33.924°N 116.543°W	48.6	(2)		(1)	
25 May 1985 1550:45.4 G.m.t. Southern Calif. 33.950N, 116.650W Magnitude 3.2 ML	North Palm Springs Post Office (USGS)	33.924°N 116.543°W	48.6	(2)		(1)	
28 May 1985 1831:47.4 G.m.t. Eastern Calif. 37.550N, 118.850W Magnitude 3.8 ML	McGee Creek, SMA (USGS)	37.550°N 118.811°W	(3)	(2)	180° Up 090°	.05 .02 .05	--- --- ---
	McGee Creek, CRA (USGS)	37.550°N 118.811°W	50.0	(2)			
	166 m downhole					(1)	
	35 m downhole					(1)	
	Surface				360° Up 270°	.05 .02 .06	--- --- ---
15 April 1985- 7 June 1985 Southern Calif. Epicenter and magnitude unknown	Isabella Dam (ACOE)	35.645°N 118.480°W					
	Main dam Right crest		(3)	(2)		(1)	
	Auxiliary dam Right crest		(3)	(2)		(1)	
	Auxiliary dam Right abutment		(3)	(2)		(1)	
14 June 1985 1124:03.1 G.m.t. Central Calif. 36.162N, 120.268W Magnitude 3.2 ML	Coalinga Burnett Company (USGS)	36.138°N 120.357°W	05.7	2.4		(1)	
22 December 1984- 26 June 1985 Central Calif. Epicenter and magnitude unknown	Bear Valley Station 6 James Ranch (USGS)	36.504°N 121.101°W	(3)	1.1		(1)	
27 June 1985 0438:55.4 G.m.t. Central Calif. 36.510N, 121.118W Magnitude 3.3 ML	Bear Valley Station 6 James Ranch (USGS)	36.504°N 121.101°W	55.8	1.0	310° Up 220°	.15 .10 .15	0.1 1 peak 1 peak
	Bear Valley Station 10 Webb Residence (USGS)	36.532°N 121.143°W	56.5	1.1		(1)	

See footnotes at end of table.

Table 8. Summary of U.S. accelerograph records recovered during 1985—Continued

Earthquake	Station name (owner)	Station location	Trigger time	S-minus trigger (s)	Direction (az)	Maximum amplitude (g)	Duration (s)
30 June 1985 2112:24.0 G.m.t. Hawaii 19.371N, 155.299W Magnitude 4.3 ML	Hawaii National Park Volcano Observatory (USGS)	19.423°N 155.291°W	30.7 <sup>4</sup>	2.8		(1)	
31 July 1984- 2 July 1985 Alaska Epicenter and magnitude unknown	Whittier, Alaska RR Dock Building (USGS)	60.778°N 148.692°W	(3)	(2)		(1)	
4 July 1985 1305:56.9 G.m.t. Eastern Calif. 37.467N, 118.858W Magnitude 3.1 ML	McGee Creek, SMA (USGS)	37.550°N 118.811°W	(3)	(2)		(1)	
	McGee Creek, CRA (USGS)	37.550°N 118.811°W	02.1	(2)			
	166 m downhole					(1)	
	35 m downhole					(1)	
	Surface					(1)	
7 July 1985 1200:37.4 G.m.t. Hawaii 19.168N, 155.596W Magnitude 4.2 ML	Pahala, Hawaii Kau Hospital (USGS)	19.20° N 155.47° W	38.2 <sup>4</sup>	(2)		(1)	
12 July 1985 0051 G.m.t. Central Calif. Epicenter and magnitude unknown	Bear Valley Station 10 Webb Residence (USGS)	36.532°N 121.143°W	24.6	0.8		(1)	
24 July 1985 1545:44.2 G.m.t. Central Calif. 36.192N, 120.285W Magnitude 3.1 ML	Coalinga Burnett Company (USGS)	36.138°N 120.357°W	49.0	0.9		(1)	
4 August 1985 1201:57.0 G.m.t. Central Calif. 36.130N, 120.127W Magnitude 5.4 ML	Coalinga Burnett Company (USGS)	36.138°N 120.357°W	05.6	(2)	360° Up 270°	.05 .02 .06	--- --- ---
	Coalinga Oil City (USGS)	36.229°N 120.360°W	10.4	(2)		(1)	
	Pleasant Valley Pump Plant (USBR)	36.308°N 120.249°W	06.9	(2)			
	Basement					(1)	
	Main floor					(1)	
	Roof					(1)	
	Switchyard					(1)	

See footnotes at end of table.

Table 8. Summary of U.S. accelerograph records recovered during 1985—Continued

Earthquake	Station name (owner)	Station location	Trigger time	S-minus trigger (s)	Direction (az)	Maximum amplitude (g)	Duration (s)
	Terminus Dam Auxiliary Dam (ACOE)	36.404°N 119.001°W	(3)	(2)			
	Center crest					(1)	
6 November 1984- 14 August 1985 Central Calif. Epicenters and magnitudes unknown	Bear Valley Station 5 Callens Ranch (USGS)	36.673°N 121.195°W	(3)	(2)		(1)	
	Bear Valley Station 12 Williams Ranch (USGS)	36.658°N 121.249°W	(3)	(2)		(1)	
	Note: One additional record <sup>1</sup> recovered at Williams ranch.						
13 July 1985- 14 August 1985 Central Calif. Epicenters and magnitudes unknown	Bear Valley Station 10 Webb Residence (USGS)	36.532°N 121.143°W	(3)	1.7		(1)	
	Note: One additional record <sup>1</sup> recovered at Webb Residence.						
29 August 1985 0455:04.7 G.m.t. Southern Calif. 32.870N, 115.500W Magnitude 3.2 ML	El Centro Array #6 551 Huston Road (USGS)	32.839°N 115.487°W	07.3	2.6		(1)	
14 September 1985 0302:44.2 G.m.t. Central Calif. 36.266N, 120.255W Magnitude 2.8 ML	Coalinga Burnett Company (USGS)	36.138°N 120.357°W	49.2	0.7		(1)	
7 September 1985- 22 September 1985 Central Calif. Epicenter and magnitude unknown	Bear Valley Station 6 James Ranch (USGS)	36.504°N 121.101°W	(3)	0.7		(1)	
30 September 1985 0945:39.7 G.m.t. Central Calif. 36.582N, 121.225W Magnitude 3.2 ML	Bear Valley Station 1 Fire Station (USGS)	36.573°N 121.184°W	42.3	(2)		(1)	
	Bear Valley Station 10 Webb Residence (USGS)	36.532°N 121.143°W	41.9	1.7	310° Up 220°	.05 .02 .06	--- --- ---
2 October 1985 2344:12.4 G.m.t. Southern Calif. 34.030N, 117.250W Magnitude 4.8 ML	Cherry Valley (USGS)	33.98° N 116.99° W	17.7	3.8		(1)	
	Colton I-10/15 Interchange (CDOT)	34.06° N 117.30° W	(3)	(2)			
	Bridge cell					(1)	
	Ground vault				082° Up 352°	.05 .01 .05	--- --- ---

See footnotes at end of table.

Table 8. Summary of U.S. accelerograph records recovered during 1985—Continued

Earthquake	Station name (owner)	Station location	Trigger time	S-minus trigger (s)	Direction (az)	Maximum amplitude (g)	Duration (s)
3 October 1985 1612 G.m.t. Hawaii Epicenter and magnitude unknown	Diemer Filter Plant (MWD)	33.91° N 117.82° W	(3)	0.8			
	Basement					(1)	
	Reservoir roof					(1)	
	Highland Fire Station (USGS)	34.136°N 117.213°W	16.0	2.2	315° Up 225°	.05 .02 .03	--- --- ---
	Lake Mathews Dam (MWD)	33.852°N 117.451°W	(3)	(2)			
	Dike toe				252° Up 162°	.07 .03 .09	--- --- ---
	Loma Linda University Medical Center (USGS)	34.05° N 117.26° W	(3)	2.1			
	Basement					(1)	
	Loma Linda VA Hospital (VA)	34.049°N 117.248°W	(3)	1.9			
	Structure Array:						
	Channel 1 - 1st floor center				Down	.01	---
	Channel 2 - 1st floor center				180°	.04	---
	Channel 3 - 1st floor center				270°	.02	---
	Channel 4 - 4th floor center				270°	.06	---
	Channel 5 - 1st floor north				270°	.03	---
	Channel 6 - 4th floor center				180°	.03	---
	Channel 7 - 4th floor north				270°	.05	---
	Channel 8 - 1st floor south				180°	.03	---
	Channel 9 - 4th floor south				270°	.05	---
	North free field	34.051°N 117.248°W	17.3	0.3	360° Up 270°	.07 .02 .05	--- --- ---
	South free field	34.049°N 117.250°W	(3)	1.6	360° Up 270°	.06 .02 .05	--- --- ---
	Mentone Fire Station (USGS)	34.067°N 117.117°W	(3)	0.5	315° Up 225°	.05 .02 .03	--- --- ---
	Reche Canyon Olive Dell Ranch (USGS)	34.01° N 117.22° W	17.7	(2)		(1)	
	Sunnymead Egg Ranch (USGS)	33.95° N 117.15° W	19.1	(2)	315° Up 225°	.04 .02 .07	--- --- ---
	Mauna Kea, Hawaii State Park (USGS)	19.752°N 155.530°W	38.3 <sup>4</sup>	7.0		(1)	

See footnotes at end of table.

Table 8. *Summary of U.S. accelerograph records recovered during 1985—Continued*

Earthquake	Station name (owner)	Station location	Trigger time	S-minus trigger (s)	Direction (az)	Maximum amplitude (g)	Duration (s)
28 October 1985 0425:52.3 G.m.t. Central Calif. 36.547N, 121.165W Magnitude 3.2 ML	Bear Valley Station 10 Webb Residence (USGS)	36.532°N 121.143°W	54.4	0.6		(1)	
	Bear Valley Station 6 James Ranch (USGS)	36.504°N 121.101°W	54.3	1.8		(1)	
31 October 1985 1955:03.7 G.m.t. Southern Calif. 34.460N, 117.880W Magnitude 3.7 ML	Valyermo Forest Station (USGS)	34.44° N 117.85° W	05.9	1.0	300° Up 210°	.06 .04 .04	--- --- ---
	San Justo Damsite (USBR)	36.827°N 121.445°W	10.1	(2)			
	Right abutment (Dike)					(1)	
12 November 1985 0444 G.m.t. Central Calif. Epicenter and magnitude unknown	Bear Valley Station 10 Webb Residence (USGS)	36.532°N 121.143°W	53.5	(2)		(1)	
16 January 1985- 24 November 1985 Hawaii Epicenters and magnitudes unknown	Hawaii National Park Wahaula Maintenance Center (USGS)	19.329°N 155.031°W	(2)	(2)		(1)	
	Waiohinu, Hawaii Kau Baseyard (USGS)	19.070°N 155.615°W	(2)	1.8	065° Up 335°	.10 .06 .10	1-peak --- 1-peak
	Hawaii National Park Observatory Warehouse (USGS)	19.434°N 155.264°W	(2)	(2)		(1)	
	Mauna Loa, Hawaii Weather Observatory (USGS)	19.539°N 155.580°W	(2)	5.8	030° Up 300	.07 .02 .03	--- --- ---
			(2)	4.9	030° Up 300°	.05 .01 .04	--- --- ---
24 November 1985 1256:15.6 G.m.t. Central Calif. 36.360N, 120.210W Magnitude 2.8 ML	Coalinga Oil City (USGS)	36.229°N 120.360°W	19.2	2.0		(1)	
	Bear Valley Station 1 Fire Station (USGS)	36.573°N 121.184°W	(3)	0.6		(1)	
	Bear Valley Station 10 Webb Residence (USGS)	36.532°N 121.143°W	(3)	1.0		(1)	
14 August 1985- 28 November 1985 Central Calif. Epicenter and magnitude unknown	Bear Valley Station 12 Williams Ranch (USGS)	36.658°N 121.249°W	(3)	1.6	310° Up 220°	.05 .03 .05	--- --- ---

*See footnotes at end of table.*

Table 8. Summary of U.S. accelerograph records recovered during 1985—Continued

Earthquake	Station name (owner)	Station location	Trigger time	S-minus trigger (s)	Direction (az)	Maximum amplitude (g)	Duration (s)
28 November 1985 1513:57.2 G.m.t. Central Calif. 36.562N, 121.060W Magnitude 4.5 ML	Bear Valley Station 1 Fire Station (USGS)	36.573°N 121.184°W	03.4	(2)		(1)	
	Bear Valley Station 5 Callens Ranch (USGS)	36.673°N 121.195°W	04.9	(2)		(1)	
	Bear Valley Station 6 James Ranch (USGS)	36.504°N 121.101°W	00.0	2.3	310° Up 220°	.06 .02 .05	--- --- ---
	Bear Valley Station 7 Pinnacles (USGS)	36.483°N 121.180°W	00.5	2.0		(1)	
	Bear Valley Station 10 Webb Residence (USGS)	36.532°N 121.143°W	00.1	1.9	310° Up 220°	.09 .04 .12	--- --- 1 peak
	Bear Valley Station 12 Williams Ranch (USGS)	36.658°N 121.249°W	02.5	4.2		(1)	
	Bear Valley Station 14 Upper Butts Ranch (USGS)	36.569°N 121.043°W	59.3	1.3	310° Up 220°	.28 .11 .20	2.7 0.4 2.1
5 December 1985 0628:36.9 G.m.t. Northern Calif. 40.600N, 124.500W Magnitude 3.2 ML	Eel River Valley Array Centerville Beach (USGS)	40.563°N 124.348°W	42.8	(2)		(1)	
12 December 1985 1901:19.8 G.m.t. Hawaii 20.615N, 155.762W Magnitude 4.5 ML	Honokaa, Hawaii Fire Station (USGS)	20.080°N 155.465°W	33.1 <sup>4</sup>	(2)		(1)	
	Kapaau, Hawaii Kohala Police Station (USGS)	20.230°N 155.801°W	(2)	(2)	102° Up 012°	.05 .03 .06	--- --- ---
12 December 1985 2118:39.3 G.m.t. Hawaii 19.516N, 155.908W Magnitude 4.0 ML	Kealakekua, Hawaii Kona Hospital (USGS)	19.523°N 155.879°W	41.5 <sup>4</sup>	1.1		(1)	
30 December 1985 1241:02.7 G.m.t. Southern Alaska 61.541N, 150.340W Magnitude 5.5 MB	Anchorage Alaska Hospital (USGS)	61.21° N 149.82° W	(3)	7.1			
	1st floor					(1)	
	4th floor					(1)	
	7th floor					(1)	
	Anchorage, Alaska Pacific University (USGS)	61.189°N 149.801°W	(3)	7.7	360° Up 270	.07 .01 .08	--- --- ---

See footnotes at end of table.



Table 8. *Summary of U.S. accelerograph records recovered during 1985—Continued*

Earthquake	Station name (owner)	Station location	Trigger time	S-minus trigger (s)	Direction (az)	Maximum amplitude (g)	Duration (s)
31 December 1985 2334 G.m.t. Hawaii Epicenter and magnitude unknown	Anchorage, Alaska Fire Station #1 (MANC)	61.174°N 149.973°W	(3)	7.7		(1)	
	Anchorage, Alaska Fire Station #3 (MANC)	61.214°N 149.824°W	(3)	(2)		(1)	
	Anchorage, Alaska Fire Station #4 (MANC)	61.182°N 149.848°W	(3)	8.0		(1)	
	Note: One additional record <sup>1</sup> recovered at Fire Station #4.						
	Anchorage, Alaska Fire Station #7 (MANC)	61.146°N 149.950°W	(3)	7.8		(1)	
	Anchorage, Alaska Federal Building (USGS)	61.216°N 149.883°W	(3)	7.6		(1)	
	Anchorage, Alaska Russian Jack Park (USGS)	61.209°N 149.783°W	24.7 <sup>4</sup>	(2)		(1)	
	Hawaii National Park Volcano Observatory (USGS)	19.423°N 155.291°W	37.9 <sup>4</sup>	(2)		(1)	

<sup>1</sup> Less than 0.05 g at ground-level or less than 0.10 g at non-ground-level stations.

<sup>2</sup> Questionable or indeterminable.

<sup>3</sup> WWVB time code illegible, or instrument not equipped with a radio receiver; correlation of accelerogram with event may be questionable or identity of event unknown.

<sup>4</sup> Internal clock time; accuracy is variable.

*See footnotes at end of table.*

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