GEOLOGICAL SURVEY CIRCULAR 896–D

Earthquakes in the United States October–December 1982

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By C. W. Stover, J. H. Minsch, F. W. Baldwin, and L. R. Brewer

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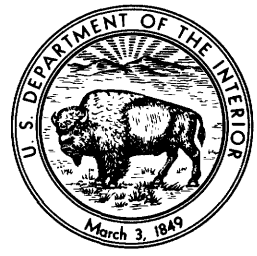
1984

United States Department of the Interior

WILLIAM P. CLARK, *Secretary*



Geological Survey

Dallas L. Peck, *Director*

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INTRODUCTION

The earthquake information in this publication supplements that published by the United States Geological Survey (USGS) in the National Earthquake Information Service (NEIS) publications, PDE ("Preliminary Determination of Epicenters") and "Preliminary Determination of Epicenters Monthly Listing," by providing detailed felt and intensity data for United States earthquakes. The purpose of this circular is to provide a complete listing of macroseismic effects of earthquakes, which can be used in risk studies, nuclear powerplant site evaluations, seismicity studies, and to answer inquiries by the public. This circular will be the last quarterly issue containing information on United States earthquakes. Beginning with 1983, the data will be published annually in a U.S. Geological Survey special publication entitled "United States Earthquakes".

This publication contains two major sections. The first section (table 1), which is mainly concerned with data obtained by seismographs, is a tabular listing of earthquakes in chronological order by State, consisting of the following basic information: date, origin time, hypocenter, magnitude, maximum intensity, and computational source of the hypocenter. The second section, which concerns intensity information, consists of isoseismal or intensity maps and table 2. This section may contain information about events that were felt but were not listed in the PDE because there was not enough instrumental data to obtain a solution. The list of earthquakes in table 1 was compiled from those located in the United States or nearby offshore areas that were published in the PDE; from aftershock studies carried out by the U.S. Geological Survey and other organizations; from hypocenters in California greater than magnitude 3.0 supplied by the California Institute of Technology, Pasadena, the University of California, Berkeley, and other offices of the U.S. Geological Survey; from hypocenters in Hawaii supplied by the U.S. Geological Survey, Hawaiian Volcano Observatory; and from other institutions as listed in the acknowledgments. Known or suspected explosions are also listed in tables 1 and 2.

The intensities and macroseismic data were compiled from information obtained from postal questionnaires (form shown as fig. 1), from newspaper articles, and from other Government agencies, State institutions, local organizations, and individuals. (See "Acknowledgments" for a list of collaborators.) Figure 1 is the questionnaire currently in use by the USGS. Other types of questionnaires are used by State agencies, engineering firms, and other Government agencies to collect intensity data. Anyone wishing to submit felt or damage information on earthquakes for inclusion in future reports should send it to the U.S. Geological Survey, United States Earthquakes Project, Mail Stop 967, Box 25046, Denver Federal Center, Denver, CO 80225. Copies of the current "Earthquake Report" questionnaire can be obtained at that address.

The USGS uses the postal questionnaire as the primary source of macroseismic data for an intensity survey; however, on-site field investigations are made following earthquakes that do significant damage. The "Earthquake Report" questionnaires (fig. 1) are mailed to postmasters within the area affected by the earthquake. The completed forms are returned to the USGS, where they are evaluated and intensity values are assigned to individual locations. For large or significant earthquakes, the intensity observations are plotted and isoseismal maps are prepared. Note that the isoseismals represent a general intensity level and that they do not necessarily agree with every individual observation.

DISCUSSION OF TABLES

The parameters for the earthquakes in tables 1 and 2 include the date, origin time, hypocenter (epicenter and focal depth), magnitude, intensity, and source of the computed solution. The origin time and date are listed in Universal Coordinated Time (UTC) and in local standard time based on the time-zone maps in figures 2 and 3. The epicenters, which were taken from those published in the PDE or from other sources as noted, are listed here to two decimals. The accuracy of the epicenters is not

U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EARTHQUAKE REPORT

Form Approved
OMB No. 42-R1700

Please answer this questionnaire and return as soon as possible

1. Was an earthquake felt by anyone in your town near the date and time indicated on the opposite page?
   ☐ No: Please refold and tape for return mail.
   ☐ Yes: Date_____ Time_____ ☐ AM ☐ PM ☐ Standard time ☐ Daylight time

Name of person filling out form _____

Address_____

City_____ County_____

State_____ Zip code_____

If you felt the earthquake, complete the following section. If others felt the earthquake but you did not, skip the personal report and complete the community report.

PERSONAL REPORT

2. Did you personally feel the earthquake? 1☐ Yes ☐ No
   Were you awakened by the earthquake? 2☐ Yes ☐ No
   Were you frightened by the earthquake? 3☐ Yes ☐ No
   Were you at 4☐ Home 5☐ Work 6☐ Other? _____
   Town and zip code of your location at time of earthquake _____
   Check your activity when the earthquake occurred:
   7☐ Walking 8☐ Sleeping 9☐ Lying down 10☐ Standing
   11☐ Driving (car in motion) 12☐ Sitting 13☐ Other_____
   Were you 14☐ Inside or 15☐ Outside?
   If inside, on what floor were you? 16 _____
   Did you have difficulty in standing or walking 17☐ Yes 18☐ No
   Vibration could be described as 19☐ Light 20☐ Moderate 21☐ Strong
   Was there earth noise? ☐ No 22☐ Faint 23☐ Moderate 24☐ Loud
   Direction of noise ☐ North ☐ South ☐ East ☐ West
   Estimated duration of shaking 25☐ Sudden, sharp (less than 10 secs) 26☐ Long (30-60 secs) 27☐ Short (10-30 secs)

Continue on to next section which should include personal as wall as raported observations.

COMMUNITY REPORT

Town and zip code _____
DO NOT INCLUDE EFFECTS FROM OTHER COMMUNITIES/TOWNS
Check one box for each question that is applicable.

3a. The earthquake was felt by ☐ No one 28☐ Few 29☐ Several 30☐ Many 31☐ All?
b. This earthquake awakened ☐ No one 32☐ Few 33☐ Several 34☐ Many 35☐ All?
c. This earthquake frightened ☐ No one 36☐ Few 37☐ Several 38☐ Many 39☐ All?

4. What indoor physical effects were noted in your community?

Windows, doors, dishes rattled	40☐ Yes	☐ No
Walls creaked	41☐ Yes	☐ No
Building trembled (shook)	42☐ Slightly	43☐ Strongly
Hanging pictures (more than one)	44☐ Swung 45☐ Out of place	46☐ Fallen
Windows 47☐ Few cracked	48☐ Some broken out	49☐ Many broken out
Small objects overturned	50☐ Few	51☐ Many
Small objects fallen	52☐ Few	53☐ Many
Glassware/dishes broken	54☐ Few	55☐ Many
Light furniture or small appliances	56☐ Overturned	57☐ Damaged seriously
Heavy furniture or appliances	58☐ Overturned	59☐ Damaged seriously
Did hanging objects or doors swing?	60☐ Slightly 61☐ Moderately	62☐ Violently
Can you estimate direction?	☐ North/South ☐ East/West	☐ Other_____
Items thrown from store shelves	63☐ Few	64☐ Many

Continued on the reverse side

FIGURE 1.--Example of the "Earthquake Report" form used for evaluating the intensities of earthquakes. A, front side.

5. Indicate effects of the following types to interior walls if any:

Plaster/stucco	65☐ Hairline cracks	66☐ Large cracks (many)	67☐ Fell in large amounts
Dry well	68☐ Hairline cracks	69☐ Large cracks (many)	70☐ Fell in large amounts

6. What outdoor physical effects were noted in your community?

Trees and bushes shaken	71☐ Slightly	72☐ Moderately	73☐ Strongly
Standing vehicles rocked	74☐ Slightly	75☐ Moderately	
Moving vehicles rocked	76☐ Slightly	77☐ Moderately	
Water splashed onto sides of lakes, ponds, swimming pools	78☐ Yes	☐ No	
Elevated water tanks	79☐ Cracked	80☐ Twisted	81☐ Fallen (thrown down)
Tombstones	82☐ Displaced	83☐ Cracked	84☐ Rotated
	85☐ Fallen		
Chimneys	86☐ Cracked	87☐ Twisted	88☐ Fallen
	89☐ Broken at roof line	90☐ Bricks fallen	
Railroad tracks bent	91☐ Slightly	92☐ Greatly	
Stone or brick fences /walls	93☐ Open cracks	94☐ Fallen	95☐ Destroyed
Underground pipes	96☐ Broken	97☐ Out of service	
Highways or streets	98☐ Large cracks	99☐ Large displacements	
Sidewalks	100☐ Large cracks	101☐ Large displacements	

7a. Check below any structural damage to buildings.

Foundation	102☐ Cracked	103☐ Destroyed	
Interior walls	104☐ Split	105☐ Fallen	106☐ Separated from ceiling or floor
Exterior walls	107☐ Large Cracks	108☐ Bulged outward	
	109☐ Partial collapse	110☐ Total collapse	

b. What type of construction was the building that showed this damage?

111☐ Wood	112☐ Stone	113☐ Brick veneer	114☐ Other _____
115☐ Brick	116☐ Cinderblock	117☐ Reinforced concrete	118☐ Mobile home

c. What was the type of ground under the building?

☐ Don't know	119☐ Sandy soil	120☐ Marshy	121☐ Fill
122☐ Hard rock	123☐ Clay soil	124☐ Sandstone, limestone, shale	

d. Was the ground: 125☐ Level 126☐ Sloping 127☐ Steep?

e. Check the approximate age of the building:

128☐ Built before 1935 129☐ Built 1935-65 130☐ Built after 1965

8. Check below any structural damage to

Bridges/Overpasses	131☐ Concrete	132☐ Wood	133☐ Steel	134☐ Other_____
Damage was	135☐ Slight	136☐ Moderate		137☐ Severe
Dams	138☐ Concrete	139☐ Large earthen		
Damage was	140☐ Slight	141☐ Moderate		142☐ Severe

9. What geologic effects were noted in your community?

Ground cracks	143☐ Wet ground	144☐ Steep slopes	145☐ Dry and level ground
Landslides	146☐ Small	147☐ Large	
Slumping	148☐ River bank	149☐ Road fill	150☐ Land fill
Were springs or well water disturbed?	151 Level changed		152☐ Flow disturbed
	153 Muddied		☐ Don't know
Were rivers or lakes changed?	154 Yes	☐ No	☐ Don't know

10a. What percentage of buildings were damaged?

Within 2 city blocks of your location	☐ None		155☐ Few (about 5%)
	156☐ Many(about 50%)		157☐ Most (about 75%)
b. In area covered by your zip code	☐ None		158☐ Few (about 5%)
	159☐ Many (about 50%)		160☐ Most (about 75%)

Thank you for your time and information. Refold this card and tape for return mail.

FIGURE 1.--Example of the "Earthquake Report" form used for evaluating the intensities of earthquakes. B, reverse side.

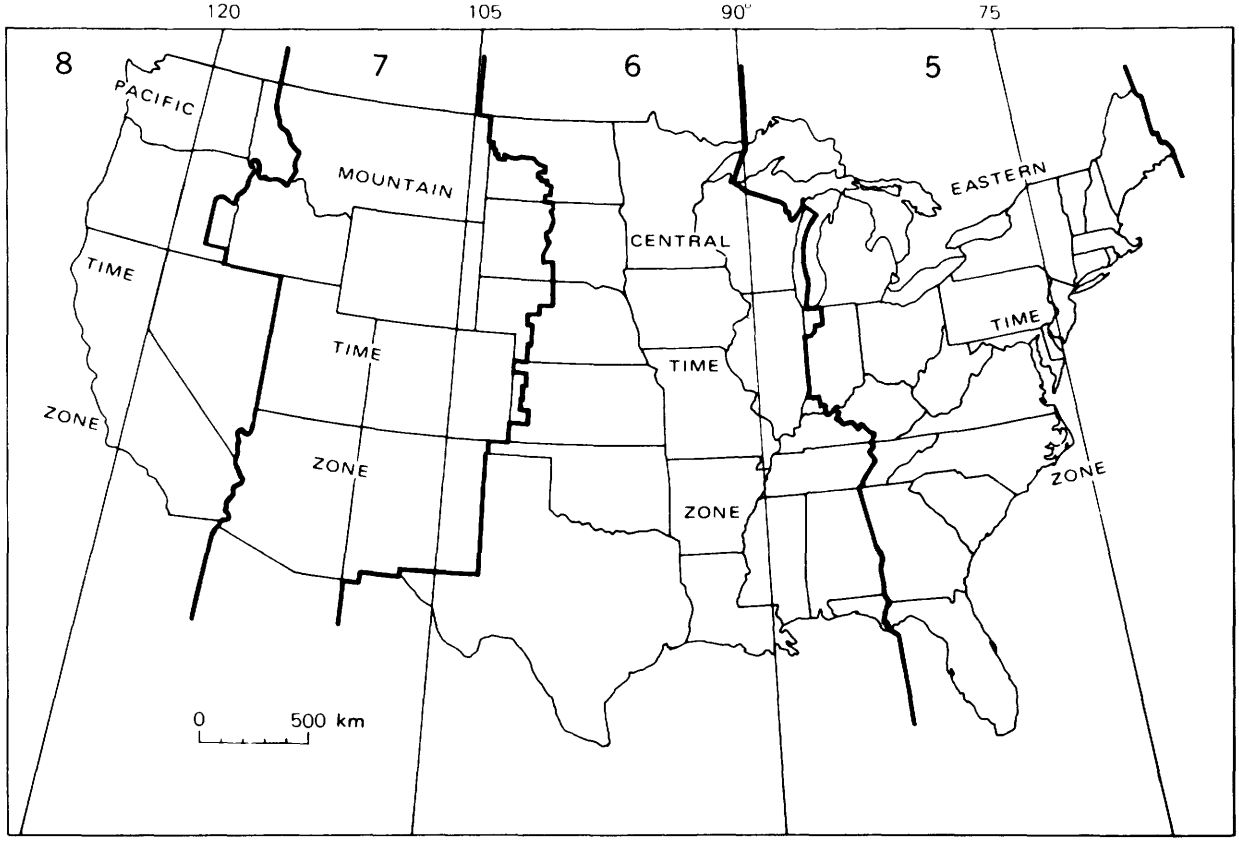

FIGURE 2.--Standard time zones of the conterminous United States. The number in each zone shows the number of hours to be subtracted from Universal Coordinated Time to convert to local standard time. (Subtract 1 hour less for local daylight-saving time.)

necessarily indicated by the number of decimals listed. The epicenters located by the NEIS usually are accurate to two-tenths of a degree or less. In general, epicenters located offshore are less accurate than those on land, even though they are listed to two decimals. In regions covered by dense networks of seismographs, such as California, epicenter accuracy is significantly better than the two-tenths of a degree listed. Depths are listed to the nearest whole kilometer.

The magnitude values listed in tables 1 and 2 were furnished by cooperating institutions or determined by USGS. The computational sources are labeled according to the assigned letter codes shown in headnotes to tables 1 and 2; the letter follows the value listed under the column heading "Magnitude." In table 1, the absence of a letter code indicates that the source is USGS. The magnitude values calculated by USGS are based on the following formulas:

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

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 $20° \leq D \leq 160°$. No depth correction is made for depths less than 50 km.

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

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

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

as defined by Richter (1958, p. 340), where A is the maximum trace amplitude in millimeters, written by a Wood-Anderson torsion seismometer, and $\log A_0$ is a standard value as a function of distance, where the distance is ≤ 600 km. ML

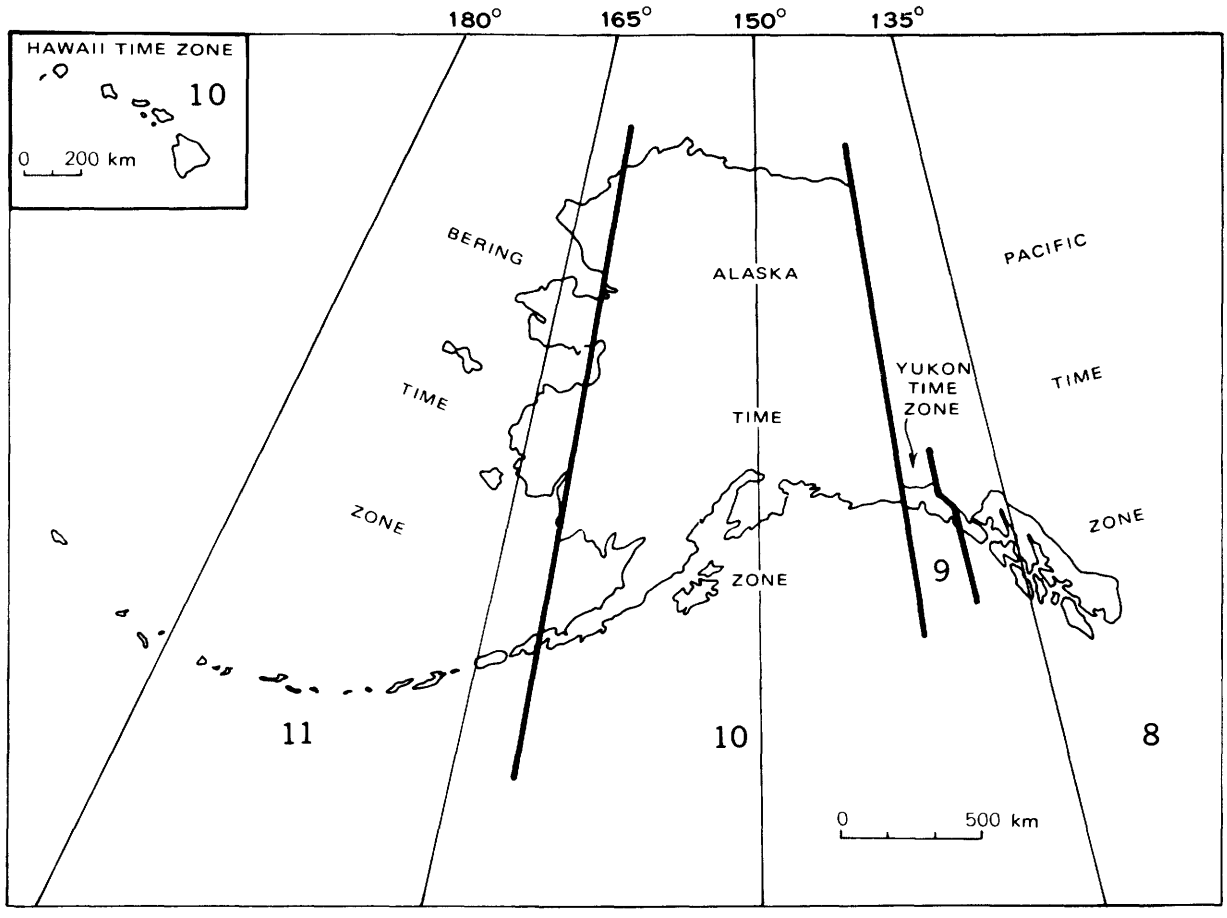

FIGURE 2.--Standard time zones of the conterminous United States. The number in each zone shows the number of hours to be subtracted from Universal Coordinated Time to convert to local standard time. (Subtract 1 hour less for local daylight-saving time.)

values are also calculated from other seismometers by conversion of recorded ground motion to the expected response of the torsion seismometer.

$$Mn=3.75+0.90(\log D)+\log(A/T) \quad (4)$$
$$0.5° \leq D \leq 4°,$$

$$Mn=3.30+1.66(\log D)+\log(A/T)$$
$$4° \leq D \leq 30°,$$

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

MD is used in this publication for the duration or coda length magnitude. MD is usually computed from the difference, in seconds, between Pn- or Pg-wave arrival time and the time the final coda amplitude decreases to the background-noise amplitude. These magnitudes are normally correlated with ML or mbLg so that resulting magnitudes are compatible. Thus the formulas vary for different geographic regions and seismograph systems.

Figures 4-6 are maps summarizing the earthquake activity for the conterminous United States, Alaska, and Hawaii for the period October-December 1982. The magnitudes represented in these figures are based on ML, Mn, or MD; if none of these were computed, then on MS; and finally on mb, when it was the only magnitude computed.

All the intensity values (indicated by Roman numerals) listed in this summary were determined, using the Modified Mercalli Intensity Scale of 1931 (Wood and Neumann, 1931) shown below, from the evaluation of "Earthquake Report" forms; from field reports by U.S. Geological Survey personnel, engineering firms, or universities; and from detailed macroseismic data communicated to the USGS by people in the area affected by the earthquake. All earthquake reports received that contain minimal or sketchy information are listed only as "FELT". This

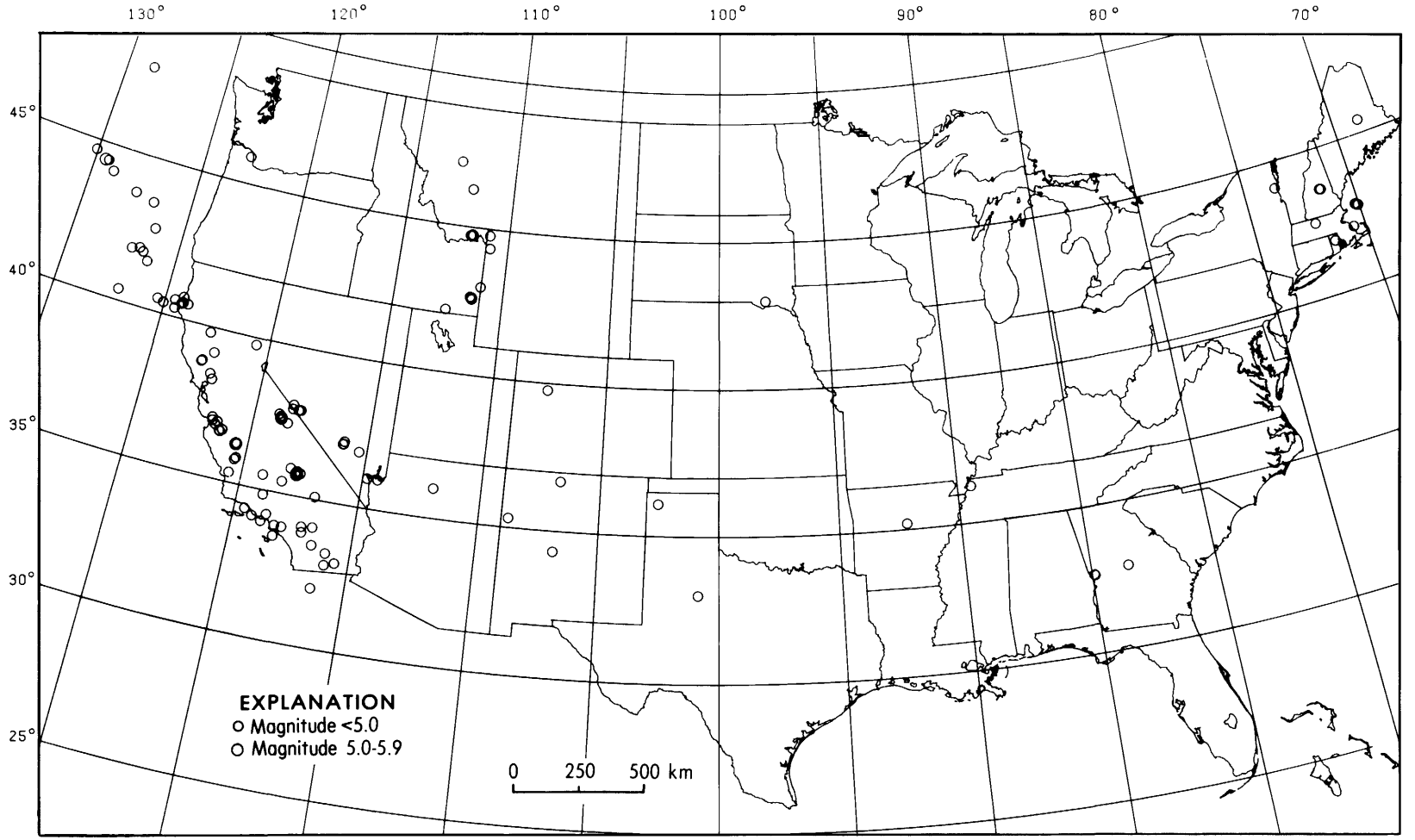

FIGURE 4.--Earthquake epicenters in the conterminous United States for October-December 1982, plotted from table 1.

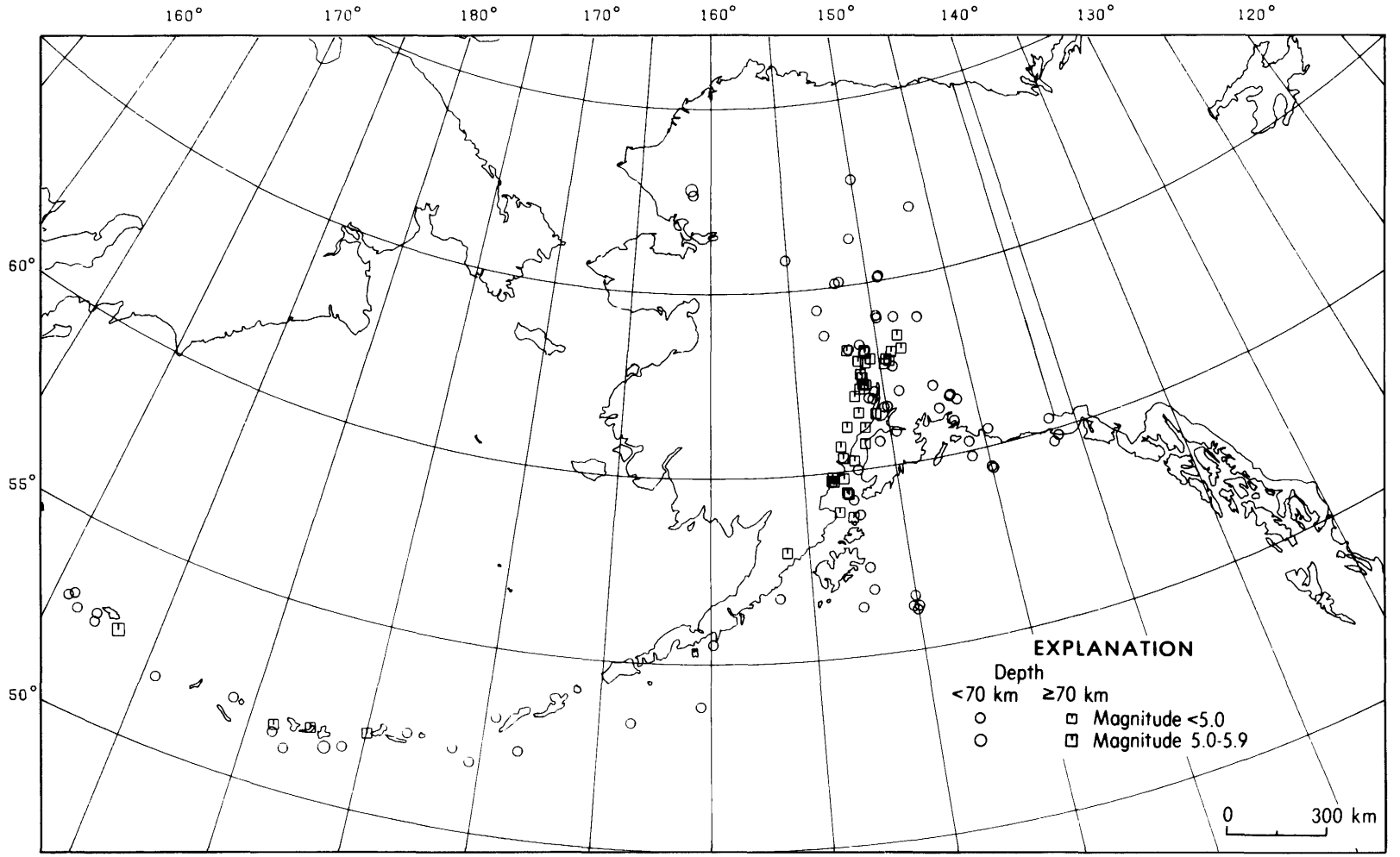

FIGURE 5.--Earthquake epicenters in Alaska for October-December 1982, plotted from table 1.

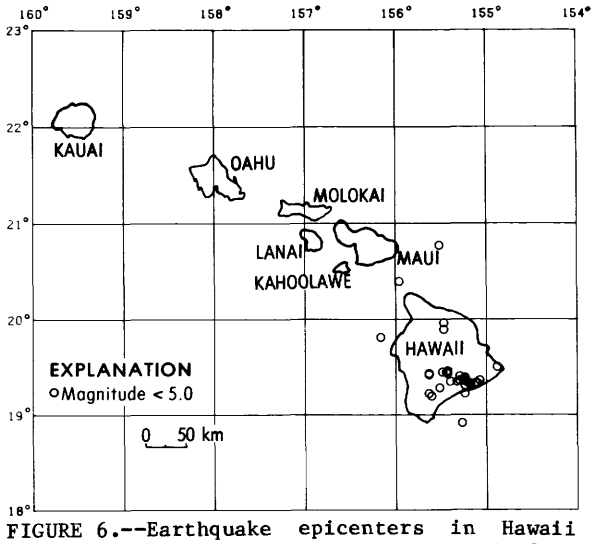

FIGURE 6.--Earthquake epicenters in Hawaii for October-December 1982, plotted from table 1.

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 valid intensity value. These reports are filed in the offices of the NEIS or in government archives and are available for detailed study.

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.

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 chimneys in some instances. Broke dishes, glassware, in considerable quantity, also some windows. Fall of knick-knacks, 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. Incaving 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 roof-line (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, including 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 and level. Threw objects upward into the air.

Table 1.--*Summary of U. S. earthquakes for October-December 1982*

[Sources of the hypocenters and magnitudes: (B) University of California, Berkeley; (C) Los Alamos National Laboratory, New Mexico; (E) U.S. Department of Energy, Las Vegas, Nev.; (F) Georgia Institute of Technology, Atlanta; (G) U.S. Geological Survey, Golden, Colo. and Menlo Park, Calif.; (H) U.S. Geological Survey, Hawaiian Volcano Observatory; (J) Weston Observatory, Mass.; (K) Tennessee Earthquake Information Center, Memphis; (L) Lamont-Doherty Geological Observatory, Palisades, N.Y.; (N) National Oceanic and Atmospheric Administration, Alaska Tsunami Warning Center, Palmer; (P) California Institute of Technology, Pasadena; (T) Oklahoma Geological Survey, Leonard; (U) University of Utah, Salt Lake City; N, Normal depth; UTC, Universal Coordinated Time. For names of local time zones, see figures 2 and 3. Leaders (...) indicate no information available]

Date (1982)	Origin time (UTC) hr	min	sec	Lat (°)	Long (°)	Depth (km)	Magnitude mb	MS	ML, Mn or MD	Maximum intensity	Hypocenter source	Local time Date	Hour
ALASKA													
OCT. 1	07	59	14.0	61.61 N.	146.36 W.	64	...	...	...	...	G	SEPT. 30	09 P.M. AST
OCT. 1	14	42	55.1	56.18 N.	149.93 W.	33N	4.4	...	...	...	G	OCT. 1	04 A.M. AST
OCT. 1	15	35	48.8	60.31 N.	141.40 W.	15	4.1	...	3.9M	...	G	OCT. 1	05 A.M. AST
OCT. 2	04	38	04.9	53.38 N.	163.58 W.	33N	4.6	...	...	...	G	OCT. 1	05 P.M. BST
OCT. 2	11	14	07.2	56.30 N.	152.61 W.	33N	4.2	...	3.3M	...	G	OCT. 2	01 A.M. AST
OCT. 3	16	18	10.6	56.07 N.	150.02 W.	33N	4.2	...	3.6M	...	G	OCT. 3	06 A.M. AST
OCT. 4	07	46	52.8	51.44 N.	176.62 W.	38	5.5	5.0	5.2M	FELT	G	OCT. 3	08 P.M. BST
OCT. 5	17	20	35.8	61.59 N.	150.13 W.	60	...	...	3.1M	...	G	OCT. 5	07 A.M. AST
OCT. 8	10	44	52.5	59.20 N.	152.48 W.	33N	3.8	...	3.8M	...	G	OCT. 8	00 A.M. AST
OCT. 11	15	31	12.1	61.60 N.	149.94 W.	59	...	...	3.2M	...	G	OCT. 11	05 A.M. AST
OCT. 12	08	47	14.3	65.85 N.	155.10 W.	33N	...	...	3.6M	...	G	OCT. 11	10 P.M. AST
OCT. 14	04	47	12.2	60.48 N.	144.74 W.	15	4.3	4.0	4.1M	...	G	OCT. 13	06 P.M. AST
OCT. 15	15	19	20.1	62.16 N.	151.36 W.	106	...	...	...	...	G	OCT. 15	05 A.M. AST
OCT. 15	19	31	29.1	51.87 N.	177.40 W.	89	4.2	...	...	...	G	OCT. 15	08 A.M. BST
OCT. 16	09	22	48.5	60.70 N.	150.65 W.	33N	...	...	3.0M	...	G	OCT. 15	11 P.M. AST
OCT. 17	18	50	00.3	59.67 N.	141.47 W.	15	...	...	3.4M	...	G	OCT. 17	08 A.M. AST
OCT. 18	04	16	34.7	52.32 N.	173.28 W.	53	4.4	...	...	...	G	OCT. 17	05 P.M. BST
OCT. 18	12	19	10.5	65.10 N.	149.33 W.	15	...	...	...	...	G	OCT. 18	02 A.M. AST
OCT. 19	19	20	08.8	59.46 N.	144.98 W.	33N	4.7	...	4.8M	...	G	OCT. 19	09 A.M. AST
OCT. 21	11	10	34.7	52.73 N.	172.13 E.	33N	4.9	...	4.3M	...	G	OCT. 21	00 A.M. BST
OCT. 23	08	51	27.6	62.81 N.	149.43 W.	78	...	...	...	...	G	OCT. 22	10 P.M. AST
OCT. 24	04	44	03.7	59.40 N.	144.91 W.	33N	4.0	...	3.8M	...	G	OCT. 23	06 P.M. AST
OCT. 25	13	48	09.6	56.72 N.	156.63 W.	66	4.8	...	...	...	G	OCT. 25	03 A.M. AST
OCT. 27	14	32	24.7	52.34 N.	168.43 W.	33N	5.1	...	3.9M	...	G	OCT. 27	03 A.M. BST
OCT. 27	16	14	04.7	62.86 N.	150.83 W.	112	...	...	...	...	G	OCT. 27	06 A.M. AST
OCT. 28	14	41	26.5	52.16 N.	171.25 W.	33N	4.9	...	4.6M	...	G	OCT. 28	03 A.M. BST
OCT. 30	09	53	13.4	51.66 N.	178.93 W.	80	...	...	...	...	G	OCT. 29	10 P.M. BST
NOV. 2	02	46	43.2	63.26 N.	151.76 W.	68	...	...	...	...	G	NOV. 1	04 P.M. AST
NOV. 2	18	00	19.5	52.65 N.	171.26 E.	33N	4.6	...	...	...	G	NOV. 2	07 A.M. BST
NOV. 3	06	34	01.9	62.56 N.	151.20 W.	115	...	...	...	...	G	NOV. 2	08 P.M. AST
NOV. 4	00	04	56.5	61.53 N.	151.62 W.	120	...	...	...	FELT	G	NOV. 3	02 P.M. AST
NOV. 4	05	18	41.2	62.92 N.	151.26 W.	156	...	...	...	...	G	NOV. 3	07 P.M. AST
NOV. 5	03	39	44.5	56.17 N.	150.22 W.	33N	...	...	4.2M	...	G	NOV. 4	05 P.M. AST
NOV. 5	13	06	46.7	67.81 N.	150.06 W.	33N	...	...	4.5M	FELT	G	NOV. 5	03 A.M. AST
NOV. 5	13	14	27.3	61.12 N.	151.35 W.	100	...	...	...	...	G	NOV. 5	03 A.M. AST
NOV. 6	00	57	47.2	62.74 N.	149.73 W.	97	3.9	...	...	...	G	NOV. 5	02 P.M. AST
NOV. 6	13	01	47.7	61.99 N.	151.73 W.	131	4.1	...	...	...	G	NOV. 6	03 A.M. AST
NOV. 6	23	34	58.7	62.93 N.	150.50 W.	121	4.5	...	...	...	G	NOV. 6	01 P.M. AST
NOV. 7	06	06	09.0	58.80 N.	152.21 W.	33N	4.3	...	3.5M	...	G	NOV. 6	08 P.M. AST
NOV. 8	14	39	35.6	65.13 N.	151.79 W.	33N	...	...	3.0M	...	G	NOV. 8	04 A.M. AST
NOV. 9	01	01	02.4	65.08 N.	152.05 W.	33N	...	...	2.8M	...	G	NOV. 8	03 P.M. AST
NOV. 9	06	48	44.7	63.35 N.	151.04 W.	22	...	...	2.5M	...	G	NOV. 8	08 P.M. AST
NOV. 9	18	55	00.4	62.29 N.	151.16 W.	113	...	...	...	...	G	NOV. 9	08 A.M. AST
NOV. 10	03	22	37.1	57.94 N.	156.12 W.	145	...	...	...	...	G	NOV. 9	05 P.M. AST
NOV. 10	04	35	12.0	66.81 N.	146.40 W.	33N	...	...	...	...	G	NOV. 9	06 P.M. AST
NOV. 10	08	14	28.9	64.42 N.	153.42 W.	33N	...	...	3.2M	...	G	NOV. 9	10 P.M. AST
NOV. 10	17	23	52.5	60.90 N.	146.42 W.	40	4.8	...	4.3M	FELT	G	NOV. 10	07 A.M. AST
NOV. 10	22	55	15.9	61.44 N.	146.03 W.	33N	...	...	3.4M	...	G	NOV. 10	12 P.M. AST
NOV. 12	22	31	54.3	58.92 N.	153.26 W.	94	...	...	...	...	G	NOV. 12	12 P.M. AST
NOV. 15	01	06	15.6	52.86 N.	170.65 E.	33N	4.6	...	...	...	G	NOV. 14	02 P.M. BST
NOV. 15	19	16	54.5	63.47 N.	148.73 W.	102	3.9	...	...	...	G	NOV. 15	09 A.M. AST
NOV. 16	22	10	12.8	60.36 N.	152.77 W.	132	...	...	...	...	G	NOV. 16	12 P.M. AST
NOV. 17	05	27	27.5	61.46 N.	150.66 W.	73	...	...	...	...	G	NOV. 16	07 P.M. AST
NOV. 17	12	01	49.8	53.15 N.	169.57 W.	33N	4.4	...	...	...	G	NOV. 17	01 A.M. BST
NOV. 18	00	14	28.7	59.85 N.	145.90 W.	33N	...	...	3.3M	...	G	NOV. 17	02 P.M. AST
NOV. 18	01	21	47.2	60.26 N.	145.88 W.	33N	...	...	3.6M	...	G	NOV. 17	03 P.M. AST
NOV. 19	16	43	56.4	59.37 N.	152.67 W.	117	...	...	...	...	G	NOV. 19	06 A.M. AST
NOV. 21	00	17	36.7	58.74 N.	152.59 W.	90	...	...	...	...	G	NOV. 20	02 P.M. AST
NOV. 21	10	48	07.3	62.46 N.	151.15 W.	106	...	...	...	...	G	NOV. 21	00 A.M. AST
NOV. 21	14	16	45.6	62.88 N.	149.59 W.	100	...	...	...	...	G	NOV. 21	04 A.M. AST

Table 1.--*Summary of U. S. earthquakes for October-December 1982*--Continued

Date (1982)	Origin time (UTC) hr	min	sec	Lat (°)	Long (°)	Depth (km)	Magnitude mb	MS	ML, Mn or MD	Maximum intensity	Hypocenter source	Local time Date	Hour
ALASKA--Continued													
NOV. 22	07	51	23.8	62.04 N.	150.57 W.	24	4.3	...	4.1M	...	G	NOV. 21	09 P.M. AST
NOV. 23	20	08	38.4	65.13 N.	149.23 W.	33N	...	...	3.3M	...	G	NOV. 23	10 A.M. AST
NOV. 24	12	17	10.1	51.13 N.	178.31 W.	33N	4.2	...	...	...	G	NOV. 24	01 A.M. BST
NOV. 24	22	15	10.8	63.98 N.	148.79 W.	33N	...	...	3.0M	...	G	NOV. 24	12 P.M. AST
NOV. 28	21	58	29.4	61.86 N.	150.71 W.	61	...	...	...	...	G	NOV. 28	11 A.M. AST
NOV. 28	22	48	44.8	51.58 N.	175.92 W.	61	4.2	...	...	...	G	NOV. 28	11 A.M. BST
NOV. 28	23	33	37.9	60.88 N.	149.66 W.	57	...	...	3.3M	...	G	NOV. 28	01 P.M. AST
NOV. 29	18	41	29.3	59.75 N.	153.40 W.	128	...	...	...	...	G	NOV. 29	08 A.M. AST
NOV. 29	21	46	32.2	61.89 N.	150.91 W.	25	...	...	3.5M	...	G	NOV. 29	11 A.M. AST
DEC. 1	12	47	04.2	59.80 N.	152.84 W.	114	...	...	...	...	G	DEC. 1	02 A.M. AST
DEC. 2	09	43	53.4	51.88 N.	170.45 W.	33N	5.5	4.8	...	...	G	DEC. 1	10 P.M. BST
DEC. 3	23	52	32.2	60.69 N.	151.45 W.	97	...	...	...	...	G	DEC. 3	01 P.M. AST
DEC. 5	12	09	51.8	60.26 N.	152.15 W.	90	4.9	...	...	IV	G	DEC. 5	02 A.M. AST
DEC. 6	12	39	26.4	56.76 N.	151.99 W.	33N	4.6	...	3.9M	...	G	DEC. 6	02 A.M. AST
DEC. 8	06	10	17.5	53.85 N.	160.45 W.	33N	4.8	...	...	...	G	DEC. 7	08 P.M. AST
DEC. 9	14	56	25.6	59.43 N.	152.74 W.	91	...	...	...	...	G	DEC. 9	04 A.M. AST
DEC. 10	09	04	09.9	62.64 N.	149.31 W.	33N	...	...	3.5M	...	G	DEC. 9	11 P.M. AST
DEC. 11	20	35	38.0	52.51 N.	172.18 E.	33N	4.6	...	...	...	G	DEC. 11	09 A.M. BST
DEC. 12	06	54	10.7	59.87 N.	153.47 W.	144	3.6	...	...	...	G	DEC. 11	08 P.M. AST
DEC. 12	11	56	04.3	51.47 N.	178.92 W.	54	4.6	...	...	...	G	DEC. 12	00 A.M. BST
DEC. 12	15	30	07.9	62.26 N.	151.11 W.	89	4.2	...	...	...	G	DEC. 12	05 A.M. AST
DEC. 13	02	01	29.4	51.82 N.	175.53 E.	59	4.4	...	...	...	G	DEC. 12	03 P.M. BST
DEC. 14	13	45	09.0	52.02 N.	179.05 E.	33N	4.4	...	...	...	G	DEC. 14	02 A.M. BST
DEC. 14	23	34	21.0	63.86 N.	147.31 W.	33N	...	...	...	...	G	DEC. 14	01 P.M. AST
DEC. 15	12	13	26.5	61.97 N.	149.15 W.	16	...	...	3.0M	...	G	DEC. 15	02 A.M. AST
DEC. 16	09	34	44.8	62.25 N.	150.97 W.	98	...	...	...	II	G	DEC. 15	11 P.M. AST
DEC. 17	10	55	54.7	60.68 N.	152.83 W.	153	...	...	...	...	G	DEC. 17	00 A.M. AST
DEC. 17	11	03	20.4	56.45 N.	150.05 W.	33N	4.4	...	4.3M	...	G	DEC. 17	01 A.M. AST
DEC. 17	12	17	19.5	64.07 N.	149.80 W.	33N	...	...	3.1M	...	G	DEC. 17	02 A.M. AST
DEC. 18	06	05	21.1	61.94 N.	147.19 W.	59	3.9	...	3.5M	...	G	DEC. 17	08 P.M. AST
DEC. 18	21	57	25.0	63.19 N.	150.84 W.	142	...	...	...	...	G	DEC. 18	11 A.M. AST
DEC. 19	17	34	32.9	57.35 N.	152.06 W.	33N	4.4	...	3.8M	...	G	DEC. 19	07 A.M. AST
DEC. 21	01	01	44.7	59.77 N.	153.52 W.	126	...	...	...	...	G	DEC. 20	03 P.M. AST
DEC. 23	08	24	54.2	63.72 N.	153.11 W.	33N	...	...	3.0M	...	G	DEC. 22	10 P.M. AST
DEC. 24	23	31	03.0	52.58 N.	173.29 E.	72	5.2	...	...	IV	G	DEC. 24	12 P.M. BST
DEC. 25	02	17	31.6	52.08 N.	174.98 W.	246	4.4	...	...	...	G	DEC. 24	03 P.M. BST
DEC. 25	02	39	44.3	52.98 N.	170.88 E.	33N	4.6	...	4.9M	...	G	DEC. 24	03 P.M. BST
DEC. 25	04	02	45.9	59.80 N.	141.14 W.	15	...	...	3.8M	...	G	DEC. 24	06 P.M. AST
DEC. 25	05	12	22.3	61.31 N.	147.10 W.	63	...	...	...	...	G	DEC. 24	07 P.M. AST
DEC. 25	09	59	16.1	63.08 N.	148.61 W.	80	3.6	...	...	...	G	DEC. 24	11 P.M. AST
DEC. 26	03	10	02.6	55.51 N.	159.88 W.	41	4.1	...	3.4M	...	G	DEC. 25	05 P.M. AST
DEC. 26	03	24	17.7	66.24 N.	150.79 W.	33N	...	...	3.1M	...	G	DEC. 25	05 P.M. AST
DEC. 27	02	38	35.8	61.19 N.	152.35 W.	144	...	...	...	...	G	DEC. 26	04 P.M. AST
DEC. 27	18	24	19.4	63.06 N.	149.23 W.	75	...	...	...	...	G	DEC. 27	08 A.M. AST
DEC. 28	19	40	02.7	61.58 N.	146.40 W.	53	3.9	...	4.4M	III	G	DEC. 28	09 A.M. AST
DEC. 29	04	34	19.8	64.02 N.	149.76 W.	14	...	...	3.5M	...	G	DEC. 28	06 P.M. AST
DEC. 30	10	09	16.3	63.25 N.	151.84 W.	89	...	...	...	...	G	DEC. 30	00 A.M. AST
DEC. 31	02	58	41.4	60.01 N.	152.07 W.	62	...	...	...	...	G	DEC. 30	04 P.M. AST
DEC. 31	07	22	17.9	67.66 N.	161.24 W.	33N	...	...	...	...	G	DEC. 30	08 P.M. BST
DEC. 31	11	04	03.6	67.81 N.	161.35 W.	33N	4.5	...	5.0M	...	G	DEC. 31	00 A.M. BST
DEC. 31	14	44	20.5	63.13 N.	150.80 W.	166	...	...	...	...	G	DEC. 31	04 A.M. AST
ARIZONA													
NOV. 1	23	14	21.8	36.03 N.	114.38 W.	5	...	...	3.3G	IV	G	NOV. 1	03 P.M. PST
NOV. 19	20	57	34.6	36.03 N.	112.01 W.	5	...	...	3.0G	FELT	G	NOV. 19	01 P.M. MST
ARKANSAS													
NOV. 21	16	27	39.4	35.19 N.	92.22 W.	3	...	...	2.9T	III	K	NOV. 21	10 A.M. CST
NOV. 21	16	35	28.3	35.19 N.	92.23 W.	3	...	...	3.4T	IV	K	NOV. 21	10 A.M. CST
NOV. 21	18	42	37.4	35.20 N.	92.22 W.	3	...	...	2.2T	...	K	NOV. 21	12 P.M. CST

Table 1.--*Summary of U. S. earthquakes for October-December 1982*-Continued

Date (1982)		Origin time (UTC) hr	min	sec	Lat (°)		Long (°)		Depth (km)	Magnitude mb	MS	ML, Mn or MD	Maximum intensity	Hypocenter source	Local time Date		Hour	
CALIFORNIA																		
OCT.	1	06	24	58.7	35.75	N.	117.75	W.	4	...	...	3.1P	...	P	SEPT.	30	10 P.M.	PST
OCT.	1	09	21	16.4	35.75	N.	117.75	W.	4	...	...	3.2P	...	P	OCT.	1	01 A.M.	PST
OCT.	1	12	19	32.8	35.73	N.	117.75	W.	5	...	...	3.4P	...	P	OCT.	1	04 A.M.	PST
OCT.	1	14	29	04.6	35.73	N.	117.75	W.	8	4.9	...	5.2P	VI	P	OCT.	1	06 A.M.	PST
OCT.	1	14	33	06.4	35.70	N.	117.73	W.	4	...	...	3.2P	...	P	OCT.	1	06 A.M.	PST
OCT.	1	14	37	15.9	35.76	N.	117.78	W.	6	...	...	3.2P	...	P	OCT.	1	06 A.M.	PST
OCT.	1	14	38	19.2	35.72	N.	117.73	W.	4	...	...	3.0P	...	P	OCT.	1	06 A.M.	PST
OCT.	1	17	14	42.1	35.75	N.	117.75	W.	8	...	...	3.8P	...	P	OCT.	1	09 A.M.	PST
OCT.	1	20	01	26.3	35.75	N.	117.75	W.	8	...	...	3.1P	...	P	OCT.	1	12 P.M.	PST
OCT.	1	20	45	55.4	35.75	N.	117.73	W.	6	...	...	3.7P	...	P	OCT.	1	12 P.M.	PST
OCT.	1	20	46	03.2	35.75	N.	117.73	W.	6	...	...	3.8P	...	P	OCT.	1	12 P.M.	PST
OCT.	1	21	14	13.3	35.73	N.	117.73	W.	5	...	...	3.1P	...	P	OCT.	1	01 P.M.	PST
OCT.	1	22	10	21.9	35.72	N.	117.77	W.	7	4.5	...	4.3P	...	P	OCT.	1	02 P.M.	PST
OCT.	1	22	11	28.8	35.72	N.	117.77	W.	7	4.3	...	4.2P	...	P	OCT.	1	02 P.M.	PST
OCT.	2	09	33	05.9	37.88	N.	118.43	W.	5	...	...	3.7B	...	B	OCT.	2	01 A.M.	PST
OCT.	2	11	52	15.6	37.47	N.	118.83	W.	5	...	...	3.7B	FELT	B	OCT.	2	03 A.M.	PST
OCT.	2	14	01	56.4	35.82	N.	117.73	W.	6	...	...	3.5P	...	P	OCT.	2	06 A.M.	PST
OCT.	2	16	01	21.1	35.75	N.	117.75	W.	8	...	...	3.5P	...	P	OCT.	2	08 A.M.	PST
OCT.	3	09	47	42.9	35.82	N.	117.75	W.	5	...	...	3.0P	...	P	OCT.	3	01 A.M.	PST
OCT.	3	10	20	50.5	32.02	N.	116.32	W.	10	...	...	3.1P	...	P	OCT.	3	02 A.M.	PST
OCT.	4	18	43	28.5	35.75	N.	117.77	W.	8	...	...	3.9P	...	P	OCT.	4	10 A.M.	PST
OCT.	4	21	06	24.2	35.75	N.	117.73	W.	5	...	...	3.0P	...	P	OCT.	4	01 P.M.	PST
OCT.	6	10	38	16.3	35.42	N.	118.27	W.	2	...	...	3.5P	...	P	OCT.	6	02 A.M.	PST
OCT.	6	11	38	40.5	35.77	N.	117.60	W.	4	...	...	3.0P	...	P	OCT.	6	03 A.M.	PST
OCT.	6	11	55	29.3	35.77	N.	117.60	W.	4	...	...	3.0P	...	P	OCT.	6	03 A.M.	PST
OCT.	7	15	50	05.0	35.72	N.	117.73	W.	5	...	...	3.2P	...	P	OCT.	7	07 A.M.	PST
OCT.	7	17	54	36.0	35.73	N.	117.73	W.	10	3.8	...	3.9P	...	P	OCT.	7	09 A.M.	PST
OCT.	8	09	42	59.1	37.52	N.	118.81	W.	5	...	...	3.1B	...	B	OCT.	8	01 A.M.	PST
OCT.	10	05	11	25.7	37.49	N.	118.82	W.	11	...	...	3.0B	...	B	OCT.	9	09 P.M.	PST
OCT.	12	08	22	46.7	35.82	N.	117.73	W.	8	...	...	3.7P	...	P	OCT.	12	00 A.M.	PST
OCT.	12	17	32	31.9	35.82	N.	117.73	W.	9	...	...	3.1P	...	P	OCT.	12	09 A.M.	PST
OCT.	14	00	51	32.3	34.20	N.	118.65	W.	2	...	...	2.2P	FELT	P	OCT.	13	04 P.M.	PST
OCT.	14	16	11	31.5	37.48	N.	118.84	W.	8	...	...	3.9B	FELT	B	OCT.	14	08 A.M.	PST
OCT.	14	16	28	06.4	37.46	N.	118.82	W.	3	...	...	3.3B	...	B	OCT.	14	08 A.M.	PST
OCT.	14	19	34	50.5	37.49	N.	118.82	W.	14	...	...	3.9B	FELT	B	OCT.	14	11 A.M.	PST
OCT.	15	09	57	20.5	34.20	N.	118.65	W.	4	...	...	3.3P	V	P	OCT.	15	01 A.M.	PST
OCT.	16	12	51	42.3	37.47	N.	118.84	W.	10	...	...	3.2B	...	B	OCT.	16	04 A.M.	PST
OCT.	16	12	54	13.9	37.45	N.	118.84	W.	7	...	...	3.9B	IV	B	OCT.	16	04 A.M.	PST
OCT.	16	13	53	21.5	37.45	N.	118.84	W.	8	...	...	3.4B	...	B	OCT.	16	05 A.M.	PST
OCT.	18	08	24	22.4	36.64	N.	121.32	W.	7	...	...	3.0B	...	B	OCT.	18	00 A.M.	PST
OCT.	19	00	49	42.2	35.52	N.	119.12	W.	6	...	...	3.6P	FELT	P	OCT.	18	04 P.M.	PST
OCT.	19	14	27	45.5	33.27	N.	115.98	W.	4	...	...	3.2P	...	P	OCT.	19	06 A.M.	PST
OCT.	19	22	04	00.8	37.03	N.	121.74	W.	11	...	...	3.7B	IV	B	OCT.	19	02 P.M.	PST
OCT.	20	04	04	53.5	35.73	N.	117.73	W.	9	...	...	3.0P	...	P	OCT.	19	08 P.M.	PST
OCT.	21	19	23	35.8	35.73	N.	117.73	W.	6	...	...	3.3P	...	P	OCT.	21	11 A.M.	PST
OCT.	24	18	34	46.6	36.61	N.	121.28	W.	9	...	...	3.0B	...	B	OCT.	24	10 A.M.	PST
OCT.	24	19	23	19.0	34.08	N.	119.22	W.	14	...	...	3.7P	V	P	OCT.	24	11 A.M.	PST
OCT.	25	20	37	32.6	36.33	N.	120.51	W.	10	...	...	2.6B	...	B	OCT.	25	12 P.M.	PST
OCT.	25	22	26	04.3	36.33	N.	120.50	W.	11	5.3	5.2	5.4B	VI	B	OCT.	25	02 P.M.	PST
OCT.	25	22	34	32.1	36.33	N.	120.51	W.	10	...	...	2.8B	...	B	OCT.	25	02 P.M.	PST
OCT.	25	23	12	18.0	36.34	N.	120.51	W.	12	4.3	...	4.2B	FELT	B	OCT.	25	03 P.M.	PST
OCT.	25	23	15	54.5	36.34	N.	120.50	W.	11	...	...	4.0B	FELT	B	OCT.	25	03 P.M.	PST
OCT.	25	23	35	20.6	36.33	N.	120.50	W.	12	...	...	2.6B	...	B	OCT.	25	03 P.M.	PST
OCT.	26	15	48	43.8	36.32	N.	120.49	W.	11	...	...	2.6B	...	B	OCT.	26	07 A.M.	PST
OCT.	26	20	42	30.4	36.34	N.	120.48	W.	12	...	...	2.6B	...	B	OCT.	26	12 P.M.	PST
OCT.	27	10	21	41.7	33.88	N.	118.22	W.	15	...	...	2.9P	FELT	P	OCT.	27	02 A.M.	PST
OCT.	27	21	29	39.3	36.35	N.	120.49	W.	13	...	...	2.9B	...	B	OCT.	27	01 P.M.	PST
OCT.	28	09	40	36.3	33.83	N.	117.10	W.	17	...	...	2.9P	FELT	P	OCT.	28	01 A.M.	PST
OCT.	29	00	52	11.2	36.34	N.	120.52	W.	11	...	...	3.0B	...	B	OCT.	28	04 P.M.	PST
OCT.	29	09	20	20.6	35.72	N.	117.73	W.	6	...	...	3.2P	...	P	OCT.	29	01 A.M.	PST
OCT.	30	08	19	51.8	35.73	N.	117.77	W.	8	...	...	3.0P	...	P	OCT.	30	00 A.M.	PST
OCT.	30	14	43	13.3	35.73	N.	117.75	W.	7	...	...	3.1P	...	P	OCT.	30	06 A.M.	PST
NOV.	4	05	47	57.3	35.88	N.	118.03	W.	7	...	...	3.0P	...	P	NOV.	3	09 P.M.	PST
NOV.	4	15	10	41.3	38.44	N.	122.27	W.	14	...	...	3.2B	FELT	B	NOV.	4	07 A.M.	PST
NOV.	4	16	13	40.7	33.88	N.	117.92	W.	6	...	...	2.8P	FELT	P	NOV.	4	08 A.M.	PST

Table 1.--*Summary of U. S. earthquakes for October-December 1982*--Continued

Date (1982)	Origin time (UTC) hr	min	sec	Lat (°)	Long (°)	Depth (km)	Magnitude mb	MS	ML, Mn or MD	Maximum intensity	Hypocenter source	Local time Date	Hour
CALIFORNIA--Continued													
NOV. 4	19	07	41.2	35.73 N.	117.73 W.	9	...	...	3.0P	...	P	NOV. 4	11 A.M. PST
NOV. 9	11	12	05.8	39.74 N.	120.60 W.	10	...	...	3.0B	IV	B	NOV. 9	03 A.M. PST
NOV. 10	04	17	26.9	38.83 N.	122.77 W.	2	...	...	2.9B	FELT	B	NOV. 9	08 P.M. PST
NOV. 10	11	21	25.7	34.05 N.	116.67 W.	8	4.1	...	3.9P	V	P	NOV. 10	03 A.M. PST
NOV. 10	13	29	57.4	37.48 N.	118.82 W.	5	...	...	3.6B	FELT	B	NOV. 10	05 A.M. PST
NOV. 12	09	33	55.2	32.98 N.	115.57 W.	14	...	...	2.6P	FELT	P	NOV. 12	01 A.M. PST
NOV. 12	21	57	11.9	35.33 N.	120.54 W.	9	...	...	3.0B	FELT	B	NOV. 12	01 P.M. PST
NOV. 13	20	18	20.5	36.69 N.	121.20 W.	9	...	...	3.7B	III	B	NOV. 13	12 P.M. PST
NOV. 15	03	48	41.7	39.80 N.	122.67 W.	16	...	...	3.0B	...	G	NOV. 14	07 P.M. PST
NOV. 21	09	28	32.5	35.82 N.	117.73 W.	5	...	...	3.1P	...	P	NOV. 21	01 A.M. PST
NOV. 21	17	22	48.8	32.88 N.	115.97 W.	3	...	...	3.0P	...	P	NOV. 21	09 A.M. PST
NOV. 23	15	48	58.2	40.72 N.	124.22 W.	8	...	...	2.9B	...	B	NOV. 23	07 A.M. PST
NOV. 26	09	29	49.1	38.28 N.	122.16 W.	11	...	...	3.3B	IV	B	NOV. 26	01 A.M. PST
NOV. 26	12	30	13.8	34.84 N.	118.96 W.	5	...	...	3.1P	IV	P	NOV. 26	04 A.M. PST
NOV. 27	17	52	24.0	33.53 N.	118.20 W.	6	...	...	3.1P	...	P	NOV. 27	09 A.M. PST
NOV. 28	14	43	19.1	37.44 N.	118.85 W.	3	...	...	3.5B	FELT	B	NOV. 28	06 A.M. PST
DEC. 2	16	02	45.9	39.17 N.	122.21 W.	10	...	...	3.0B	FELT	B	DEC. 2	08 A.M. PST
DEC. 2	22	44	25.2	34.27 N.	119.57 W.	6	...	...	3.4P	...	P	DEC. 2	02 P.M. PST
DEC. 7	23	05	39.1	36.92 N.	121.70 W.	10	...	...	3.1B	FELT	B	DEC. 7	03 P.M. PST
DEC. 9	10	15	10.5	34.02 N.	117.13 W.	20	...	...	3.1P	...	P	DEC. 9	02 A.M. PST
DEC. 12	10	38	06.0	37.54 N.	118.82 W.	6	...	...	3.6B	FELT	B	DEC. 12	02 A.M. PST
DEC. 12	20	59	08.8	37.53 N.	118.81 W.	4	...	...	3.7B	FELT	B	DEC. 12	12 P.M. PST
DEC. 14	06	46	09.9	36.91 N.	121.49 W.	5	...	...	3.2B	FELT	B	DEC. 13	10 P.M. PST
DEC. 14	19	15	31.8	40.54 N.	124.20 W.	20	...	...	3.6B	FELT	B	DEC. 14	11 A.M. PST
DEC. 16	06	53	01.3	40.50 N.	124.26 W.	18	4.8	4.5	4.4B	VI	B	DEC. 15	10 P.M. PST
DEC. 19	02	28	23.0	35.08 N.	116.82 W.	6	...	...	3.1P	...	P	DEC. 18	06 P.M. PST
DEC. 19	09	38	50.3	35.80 N.	120.43 W.	6	...	...	3.0P	...	P	DEC. 19	01 A.M. PST
DEC. 20	00	08	21.1	40.54 N.	123.97 W.	5	...	...	3.3B	FELT	B	DEC. 19	04 P.M. PST
DEC. 20	04	11	01.3	37.57 N.	118.87 W.	6	...	...	3.1P	...	P	DEC. 19	08 P.M. PST
DEC. 21	21	07	14.7	37.53 N.	118.87 W.	6	...	...	3.0P	...	P	DEC. 21	01 P.M. PST
DEC. 21	22	28	12.9	37.64 N.	118.96 W.	5	...	...	3.3B	FELT	B	DEC. 21	02 P.M. PST
DEC. 22	09	40	49.9	37.36 N.	118.52 W.	10	...	...	3.4B	FELT	B	DEC. 22	01 A.M. PST
DEC. 22	12	46	59.9	33.47 N.	116.57 W.	12	...	...	3.0P	...	P	DEC. 22	04 A.M. PST
DEC. 22	14	47	36.9	35.75 N.	117.75 W.	10	...	...	3.3P	FELT	P	DEC. 22	06 A.M. PST
DEC. 23	10	47	03.1	37.48 N.	118.87 W.	8	...	...	3.2P	...	P	DEC. 23	02 A.M. PST
DEC. 23	13	52	01.0	35.88 N.	120.38 W.	8	...	...	3.0P	...	P	DEC. 23	05 A.M. PST
DEC. 26	01	54	55.3	35.82 N.	117.73 W.	7	...	...	3.3P	...	P	DEC. 25	05 P.M. PST
DEC. 26	09	43	04.6	35.70 N.	117.73 W.	5	...	...	2.8P	...	P	DEC. 26	01 A.M. PST
DEC. 26	09	59	46.6	38.81 N.	122.78 W.	1	...	...	3.1B	IV	B	DEC. 26	01 A.M. PST
DEC. 26	10	04	24.9	36.81 N.	121.55 W.	6	...	...	3.5B	FELT	B	DEC. 26	02 A.M. PST
DEC. 28	00	49	38.8	37.49 N.	118.80 W.	3	...	...	3.6B	FELT	B	DEC. 27	04 P.M. PST
DEC. 28	07	15	14.8	37.49 N.	118.81 W.	7	...	...	3.3B	...	B	DEC. 27	11 P.M. PST
DEC. 28	07	20	23.6	35.82 N.	117.75 W.	7	...	...	...	...	P	DEC. 27	11 P.M. PST
DEC. 28	16	08	59.8	35.82 N.	117.75 W.	7	...	...	3.0P	...	P	DEC. 28	08 A.M. PST
DEC. 28	20	39	15.3	35.82 N.	117.75 W.	7	...	...	3.0P	...	P	DEC. 28	12 P.M. PST
DEC. 30	04	00	29.5	33.95 N.	118.82 W.	0	4.0	...	3.6P	III	P	DEC. 29	08 P.M. PST
DEC. 31	06	21	49.6	35.82 N.	117.73 W.	6	...	...	3.0P	...	P	DEC. 30	10 P.M. PST
DEC. 31	09	07	23.3	35.82 N.	117.73 W.	6	4.4	...	4.0P	IV	P	DEC. 31	01 A.M. PST
DEC. 31	19	50	08.8	35.82 N.	117.75 W.	6	...	...	3.5P	...	P	DEC. 31	11 A.M. PST
DEC. 31	19	52	56.7	35.80 N.	117.75 W.	5	...	...	3.0P	...	P	DEC. 31	11 A.M. PST
DEC. 31	19	56	07.6	35.80 N.	117.75 W.	6	...	...	3.6P	...	P	DEC. 31	11 A.M. PST
DEC. 31	20	46	52.8	35.82 N.	117.75 W.	7	...	...	3.0P	...	P	DEC. 31	12 P.M. PST
CALIFORNIA--OFF THE COAST													
OCT. 1	11	22	57.9	41.56 N.	126.26 W.	5	4.1	3.7	3.7B	...	B	OCT. 1	03 A.M. PST
OCT. 11	14	07	40.9	40.39 N.	125.07 W.	15	...	...	3.3B	...	B	OCT. 11	06 A.M. PST
OCT. 12	12	18	29.8	40.56 N.	124.55 W.	25	...	...	3.3B	...	B	OCT. 12	04 A.M. PST
OCT. 17	20	22	10.5	41.84 N.	126.56 W.	10	3.3	...	...	...	G	OCT. 17	12 P.M. PST
NOV. 27	10	05	49.2	40.40 N.	127.13 W.	20	...	...	3.9B	...	B	NOV. 27	02 A.M. PST
DEC. 1	10	37	41.9	41.93 N.	126.76 W.	10	...	...	...	...	G	DEC. 1	02 A.M. PST
DEC. 4	03	08	23.2	40.30 N.	124.52 W.	24	...	...	3.1B	FELT	B	DEC. 3	07 P.M. PST
DEC. 10	21	27	56.8	40.47 N.	125.34 W.	11	...	...	4.4B	...	B	DEC. 10	01 P.M. PST
DEC. 24	06	02	32.3	41.86 N.	127.08 W.	10	4.4	3.9	...	...	G	DEC. 23	10 P.M. PST

Table 1.--*Summary of U. S. earthquakes for October-December 1982*--Continued

Date (1982)	Origin time (UTC) hr	min	sec	Lat (°)	Long (°)	Depth (km)	Magnitude mb	MS	ML, Mn or MD	Maximum intensity	Hypocenter source	Local time Date	Hour
COLORADO													
NOV. 22	10	09	01.4	39.74 N.	107.58 W.	5	...	...	2.9G	FELT	G	NOV. 22	03 A.M. MST
GEORGIA													
OCT. 31	03	07	39.4	32.66 N.	84.91 W.	5	...	...	2.9G	V	G	OCT. 30	10 P.M. EST
OCT. 31	03	12	15.6	32.65 N.	84.87 W.	5	...	...	3.1G	FELT	G	OCT. 30	10 P.M. EST
DEC. 21	05	30	46.2	32.80 N.	83.52 W.	0	...	...	2.7F	III	F	DEC. 21	00 A.M. EST
HAWAII													
OCT. 2	07	04	57.6	19.42 N.	155.63 W.	2	...	...	3.0H	...	H	OCT. 1	09 P.M. HST
OCT. 5	21	39	36.8	18.91 N.	155.27 W.	17	...	...	3.9H	...	H	OCT. 5	11 A.M. HST
OCT. 7	03	35	28.6	19.43 N.	155.63 W.	3	...	...	3.4H	...	H	OCT. 6	05 P.M. HST
OCT. 11	18	59	53.5	19.38 N.	155.25 W.	3	...	...	3.1H	III	H	OCT. 11	08 A.M. HST
OCT. 13	21	12	03.7	19.45 N.	155.49 W.	11	...	...	3.0H	...	H	OCT. 13	11 A.M. HST
OCT. 14	06	54	44.6	19.51 N.	154.88 W.	38	...	...	3.3H	...	H	OCT. 13	08 P.M. HST
OCT. 15	04	30	26.5	19.43 N.	155.43 W.	10	...	...	3.5H	...	H	OCT. 14	06 P.M. HST
OCT. 17	15	09	34.1	19.22 N.	155.63 W.	8	...	...	3.1H	...	H	OCT. 17	05 A.M. HST
OCT. 20	02	14	52.4	20.40 N.	155.96 W.	33	...	...	3.1H	...	H	OCT. 19	04 P.M. HST
OCT. 22	13	13	29.0	19.33 N.	155.19 W.	10	...	...	3.3H	II	H	OCT. 22	03 A.M. HST
OCT. 23	07	42	56.4	19.35 N.	155.22 W.	9	...	...	3.0H	II	H	OCT. 22	09 P.M. HST
OCT. 25	16	19	30.6	19.33 N.	155.19 W.	10	...	...	3.2H	III	H	OCT. 25	06 A.M. HST
NOV. 1	02	24	45.7	19.33 N.	155.12 W.	8	...	...	3.0H	II	H	OCT. 31	04 P.M. HST
NOV. 10	09	04	32.7	19.33 N.	155.20 W.	10	...	...	3.2H	...	H	NOV. 9	11 P.M. HST
NOV. 13	02	18	58.2	19.45 N.	155.44 W.	15	4.4	...	4.1H	V	H	NOV. 12	04 P.M. HST
NOV. 13	02	28	29.0	19.46 N.	155.43 W.	15	...	...	3.3H	III	H	NOV. 12	04 P.M. HST
NOV. 13	11	01	27.4	20.77 N.	155.51 W.	15	...	...	3.0H	...	H	NOV. 13	01 A.M. HST
NOV. 13	23	12	12.9	19.32 N.	155.18 W.	9	...	...	3.0H	...	H	NOV. 13	01 P.M. HST
NOV. 17	09	28	43.4	19.35 N.	155.33 W.	32	...	...	3.3H	...	H	NOV. 16	11 P.M. HST
NOV. 18	07	24	44.1	19.34 N.	155.12 W.	8	...	...	3.0H	...	H	NOV. 17	09 P.M. HST
NOV. 25	14	01	01.0	19.19 N.	155.60 W.	8	...	...	3.0H	...	H	NOV. 25	04 A.M. HST
NOV. 25	19	03	36.3	19.37 N.	155.25 W.	10	...	...	3.0H	...	H	NOV. 25	09 A.M. HST
NOV. 25	19	10	37.3	19.36 N.	155.30 W.	35	...	...	3.6H	III	H	NOV. 25	09 A.M. HST
NOV. 27	20	11	57.4	19.97 N.	155.47 W.	40	...	...	3.2H	...	H	NOV. 27	10 A.M. HST
NOV. 28	02	01	25.5	19.28 N.	155.51 W.	9	...	...	3.8H	IV	H	NOV. 27	04 P.M. HST
NOV. 30	00	50	38.0	19.35 N.	155.40 W.	32	...	...	4.0H	IV	H	NOV. 29	02 P.M. HST
NOV. 30	04	01	04.7	19.31 N.	155.23 W.	9	...	...	3.1H	...	H	NOV. 29	06 P.M. HST
NOV. 30	23	15	00.4	19.36 N.	155.25 W.	10	...	...	3.0H	...	H	NOV. 30	01 P.M. HST
DEC. 5	15	37	37.7	19.81 N.	156.16 W.	39	...	...	3.8H	III	H	DEC. 5	05 A.M. HST
DEC. 8	22	21	37.6	19.36 N.	155.08 W.	9	...	...	3.3H	...	H	DEC. 8	12 P.M. HST
DEC. 10	05	38	11.7	19.40 N.	155.29 W.	3	...	...	3.1H	IV	H	DEC. 9	07 P.M. HST
DEC. 10	06	00	51.6	19.39 N.	155.24 W.	4	...	...	3.1H	IV	H	DEC. 9	08 P.M. HST
DEC. 10	21	21	12.1	19.23 N.	155.23 W.	32	...	...	3.0H	...	H	DEC. 10	11 A.M. HST
DEC. 11	04	20	14.7	19.38 N.	155.24 W.	4	...	...	3.0H	...	H	DEC. 10	06 P.M. HST
DEC. 19	12	56	52.4	19.89 N.	155.48 W.	27	...	...	3.1H	...	H	DEC. 19	02 A.M. HST
DEC. 21	22	12	59.0	19.34 N.	155.19 W.	9	...	...	3.2H	...	H	DEC. 21	12 P.M. HST
DEC. 22	03	56	16.6	19.38 N.	155.24 W.	4	...	...	3.1H	...	H	DEC. 21	05 P.M. HST
DEC. 28	09	35	01.9	19.34 N.	155.10 W.	9	...	...	3.2H	II	H	DEC. 27	11 P.M. HST
DEC. 31	13	55	10.0	19.38 N.	155.24 W.	1	...	...	3.4H	II	H	DEC. 31	03 A.M. HST
IDAHO													
OCT. 7	09	26	02.6	43.00 N.	111.07 W.	5	...	...	3.0G	IV	G	OCT. 7	02 A.M. MST
OCT. 8	09	53	32.1	42.62 N.	111.47 W.	7	...	...	3.5U	IV	U	OCT. 8	02 A.M. MST
OCT. 8	10	06	59.0	42.62 N.	111.47 W.	7	...	...	3.8U	V	U	OCT. 8	03 A.M. MST
OCT. 8	16	04	09.0	42.63 N.	111.49 W.	7	...	...	3.2U	FELT	U	OCT. 8	09 A.M. MST
OCT. 14	04	10	24.3	42.59 N.	111.43 W.	7	4.6	...	4.7U	VI	U	OCT. 13	09 P.M. MST
OCT. 14	06	28	46.7	42.58 N.	111.43 W.	7	...	...	3.9U	...	U	OCT. 13	11 P.M. MST
OCT. 14	07	33	01.0	42.61 N.	111.44 W.	7	...	...	3.3U	...	U	OCT. 14	00 A.M. MST
OCT. 14	10	40	15.4	42.58 N.	111.40 W.	7	...	...	3.6U	...	U	OCT. 14	03 A.M. MST
OCT. 14	10	56	30.8	42.57 N.	111.42 W.	7	...	...	3.6U	...	U	OCT. 14	03 A.M. MST
OCT. 14	11	03	55.0	42.58 N.	111.43 W.	7	...	...	3.6U	...	U	OCT. 14	04 A.M. MST
OCT. 14	11	09	29.5	42.60 N.	111.44 W.	7	...	...	4.1U	...	U	OCT. 14	04 A.M. MST
OCT. 14	12	21	42.9	42.58 N.	111.43 W.	7	...	...	3.4U	...	U	OCT. 14	05 A.M. MST
OCT. 14	23	44	54.4	42.60 N.	111.43 W.	7	...	...	3.5U	...	U	OCT. 14	04 P.M. MST

Table 1.--*Summary of U. S. earthquakes for October-December 1982*--Continued

Date (1982)	Origin time (UTC) hr	min	sec	Lat (°)	Long (°)	Depth (km)	Magnitude mb	MS	ML, Mn or MD	Maximum intensity	Hypocenter source	Local time Date	Hour
IDAHO--Continued													
DEC. 23	09	23	49.4	42.61 N.	111.40 W.	5	...	...	3.1G	...	G	DEC. 23	02 A.M. MST
DEC. 24	15	11	20.1	42.12 N.	112.56 W.	5	...	...	3.5U	III	G	DEC. 24	08 A.M. MST
MAINE													
OCT. 16	03	55	24.0	45.43 N.	68.81 W.	1	...	...	2.5J	...	J	OCT. 15	10 P.M. EST
MASSACHUSETTS													
OCT. 27	20	27	24.5	42.71 N.	70.06 W.	0	...	...	2.8J	...	J	OCT. 27	03 P.M. EST
OCT. 28	02	20	07.9	42.76 N.	70.15 W.	12	...	...	2.2J	...	J	OCT. 27	09 P.M. EST
NOV. 1	03	59	21.9	42.71 N.	70.11 W.	4	...	...	2.6J	...	J	NOV. 0	10 P.M. EST
NOV. 1	04	38	08.1	42.76 N.	70.17 W.	0	...	...	2.2J	...	J	NOV. 0	11 P.M. EST
NOV. 1	06	25	55.2	42.05 N.	70.54 W.	7	...	...	2.3J	...	J	NOV. 1	01 A.M. EST
NOV. 9	03	42	18.9	42.53 N.	72.19 W.	0	...	...	2.3J	...	J	NOV. 8	10 P.M. EST
MONTANA													
OCT. 21	06	05	28.2	44.72 N.	111.83 W.	5	...	...	4.4G	IV	G	OCT. 20	11 P.M. MST
OCT. 23	12	28	43.5	47.15 N.	112.71 W.	5	...	...	3.6G	...	G	OCT. 23	05 A.M. MST
OCT. 26	08	26	29.9	44.75 N.	111.75 W.	5	...	...	4.6G	IV	G	OCT. 26	01 A.M. MST
NOV. 4	09	58	29.9	44.72 N.	111.72 W.	5	...	...	4.2G	IV	G	NOV. 4	02 A.M. MST
NOV. 26	20	02	04.3	46.27 N.	111.99 W.	5	...	...	3.4G	...	G	NOV. 26	01 P.M. MST
NEVADA													
OCT. 1	01	33	35.9	37.87 N.	118.17 W.	15	...	...	4.1B	...	B	SEPT. 30	05 P.M. PST
OCT. 4	02	23	59.7	37.87 N.	118.14 W.	16	...	...	3.9B	...	B	OCT. 3	06 P.M. PST
NOV. 12	05	26	46.9	37.89 N.	118.07 W.	21	...	...	3.9B	...	B	NOV. 11	09 P.M. PST
NOV. 12	19	17	00.1	37.02 N.	116.03 W.	0	4.4	...	4.3B	...	E	NOV. 12	11 A.M. PST
DEC. 7	09	43	49.6	36.02 N.	114.83 W.	5	...	...	3.3G	II	G	DEC. 7	01 A.M. PST
DEC. 10	15	20	00.0	37.03 N.	116.07 W.	0	4.6	...	4.7B	...	E	DEC. 10	07 A.M. PST
DEC. 19	04	31	15.3	37.13 N.	116.00 W.	6	...	...	3.2P	...	P	DEC. 18	08 P.M. PST
DEC. 19	17	38	48.3	36.85 N.	115.32 W.	6	...	...	3.0P	...	P	DEC. 19	09 A.M. PST
DEC. 28	19	06	24.8	38.03 N.	118.42 W.	8	4.7	...	4.9B	IV	B	DEC. 28	11 A.M. PST
NEW HAMPSHIRE													
DEC. 1	22	52	23.0	43.61 N.	71.49 W.	0	...	...	2.9J	IV	J	DEC. 1	05 P.M. EST
DEC. 1	23	05	02.2	43.62 N.	71.55 W.	0	...	...	2.2J	FELT	J	DEC. 1	06 P.M. EST
NEW MEXICO													
OCT. 7	12	41	25.9	34.31 N.	106.82 W.	4	...	...	2.4G	FELT	G	OCT. 7	05 A.M. MST
NOV. 3	17	54	11.7	35.32 N.	108.74 W.	5	...	...	3.0G	...	C	NOV. 3	10 A.M. MST
NOV. 13	09	42	47.6	36.69 N.	106.71 W.	4	...	...	2.7C	...	C	NOV. 13	02 A.M. MST
NEW YORK													
OCT. 23	05	09	55.1	44.10 N.	73.54 W.	0	...	...	2.5L	...	L	OCT. 23	00 A.M. EST
OREGON													
NOV. 21	04	57	32.8	45.90 N.	122.89 W.	22	...	...	2.5G	FELT	G	NOV. 20	08 P.M. PST
OREGON--OFF THE COAST													
OCT. 17	05	00	32.3	44.65 N.	130.07 W.	10	4.8	4.8	...	...	G	OCT. 16	09 P.M. PST
NOV. 13	04	24	18.8	44.12 N.	128.99 W.	10	4.2	...	...	...	G	NOV. 12	08 P.M. PST
NOV. 13	15	44	45.9	44.41 N.	129.51 W.	10	5.2	5.2	...	...	G	NOV. 13	07 A.M. PST
NOV. 14	00	00	31.8	44.42 N.	129.35 W.	10	4.8	4.6	...	...	G	NOV. 13	04 P.M. PST
NOV. 14	03	50	36.9	43.67 N.	127.69 W.	10	4.3	3.5	...	...	G	NOV. 13	07 P.M. PST
DEC. 1	03	32	59.6	43.53 N.	126.77 W.	10	4.6	4.1	...	...	G	NOV. 30	07 P.M. PST
DEC. 12	11	18	16.9	42.71 N.	126.32 W.	10	4.8	...	...	...	G	DEC. 12	03 A.M. PST

Table 1.–*Summary of U. S. earthquakes for October-December 1982*--Continued

Date (1982)	Origin time (UTC) hr	min	sec	Lat (°)	Long (°)	Depth (km)	Magnitude mb	MS	ML, Mn or MD	Maximum intensity	Hypocenter source	Local time Date	Hour
RHODE ISLAND													
NOV. 6	03	50	12.4	41.79 N.	71.56 W.	2	...	...	1.8J	IV	J	NOV. 5	10 P.M. EST
SOUTH DAKOTA													
NOV. 15	02	58	22.9	43.01 N.	97.85 W.	5	...	...	4.3G	V	G	NOV. 14	08 P.M. CST
TENNESSEE													
OCT. 17	19	53	43.0	36.24 N.	89.42 W.	5	...	...	2.6K	III	K	OCT. 17	01 P.M. CST
TEXAS													
OCT. 14	12	52	46.3	36.10 N.	102.57 W.	5	...	...	3.9G	IV	G	OCT. 14	06 A.M. CST
NOV. 28	02	36	48.5	33.00 N.	100.84 W.	5	...	...	3.3T	IV	G	NOV. 27	08 P.M. CST
WASHINGTON--OFF THE COAST													
NOV. 12	02	57	52.6	47.87 N.	128.73 W.	10	4.4	...	...	...	G	NOV. 11	06 P.M. PST
WYOMING													
OCT. 1	22	55	29.6	44.33 N.	110.85 W.	5	...	...	3.0G	IV	G	OCT. 1	03 P.M. MST
NOV. 8	01	18	29.3	44.78 N.	110.92 W.	5	...	...	3.2G	III	G	NOV. 7	06 P.M. MST

Table 2.--*Summary of macroseismic data for U. S. earthquakes, October-December 1982*

[Sources of the hypocenters, magnitudes, and macroseismic data: (B) University of California, Berkeley; (D) University of Montana, Missoula. (F) Georgia Institute of Technology, Atlanta; (G) U.S. Geological Survey, Golden, Colo. and Menlo Park, Calif.; (H) U.S. Geological Survey, Hawaiian Volcano Observatory; (J) Weston Observatory, Mass.; (K) Tennessee Earthquake Information Center, Memphis; (M) National Oceanic and Atmospheric Administration, Alaska Tsunami Warning Center, Palmer; (P) California Institute of Technology, Pasadena; (T) Oklahoma Geological Survey, Leonard; (U) University of Utah, Salt Lake City. Normal depth = 33 km. Dates and origin times are listed in Universal Coordinated Time (UTC) giving the hour, minute, and second. Epicenters are shown in decimal degrees. Only earthquakes with intensity data and explosions are listed]

ALABAMA

31 October (G) Western Georgia
Origin time: 03 07 39.4

See Georgia listing.

31 October (G) Western Georgia
Origin time: 03 12 15.6

See Georgia listing.

ALASKA

4 October (G) Andreanof Islands, Aleutian Islands
Origin time: 07 46 52.8
Epicenter: 51.44 N., 176.62 W.
Depth: 38 km
Magnitude: 5.5mb(G), 5.0MS(G), 4.9MS(B) 5.2ML(M)

Felt on Adak Island (M).

4 November (G) Southern Alaska
Origin time: 00 04 56.5
Epicenter: 61.53 N., 151.62 W.
Depth: 120 km
Magnitude: None computed

Felt at Anchorage and Palmer (M).

5 November (G) Central Alaska
Origin time: 13 06 46.7
Epicenter: 67.81 N., 150.06 W.
Depth: Normal
Magnitude: 4.5ML(M)

Felt at Wiseman.

10 November (G) Southern Alaska
Origin time: 17 23 52.5
Epicenter: 60.90 N., 146.42 W.
Depth: 40 km
Magnitude: 4.8mb(G), 4.3ML(M)

Felt at Cordova and Valdez (M).

5 December (G) Southern Alaska
Origin time: 12 09 51.8
Epicenter: 60.26 N., 152.15 W.

ALASKA--Continued

Depth: 90 km
Magnitude: 4.9mb(G)
Intensity IV: Homer (press report).

16 December (G) Southern Alaska
Origin time: 09 34 44.8
Epicenter: 62.25 N., 150.97 W.
Depth: 98 km
Magnitude: None computed
Intensity II: Palmer and Sutton (M).

24 December (G) Near Islands, Aleutian Islands
Origin time: 23 31 03.0
Epicenter: 52.58 N., 173.29 E.
Depth: 72 km
Magnitude: 5.2mb(G)
Intensity IV: Shemya AFB, Shemya Island.

28 December (G) Southern Alaska
Origin time: 19 40 02.7
Epicenter: 61.58 N., 146.40 W.
Depth: 53 km
Magnitude: 3.9mb(G), 4.4ML(M)
Intensity III: Valdez (M).

ARIZONA

1 November (G) Northwestern Arizona
Origin time: 23 14 21.8
Epicenter: 36.03 N., 114.38 W.
Depth: 5 km
Magnitude: 3.3ML(G)
Intensity IV: Temple Bar.

19 November (G) Northwestern Arizona
Origin time: 20 57 34.6
Epicenter: 36.03 N., 112.01 W.
Depth: 5 km
Magnitude: 3.0ML(G)

Felt at the Grand Canyon (University of Northern Arizona--telephone report).

ARKANSAS

21 November (K) Central Arkansas
Origin time: 16 27 39.4
Epicenter: 35.19 N., 92.22 W.
Depth: 3 km
Magnitude: 2.9Mn(T)
Intensity III: Naylor (press report).
Felt: Enola (press report).

Table 2. --*Summary of macroseismic data for U. S. earthquakes, October-December 1982*--Continued

ARKANSAS--Continued

21 November (K) Central Arkansas
Origin time: 16 35 28.3
Epicenter: 35.19 N., 92.23 W.
Depth: 3 km
Magnitude: 3.4Mn(T)
Intensity IV: Naylor (press report).
Intensity III: Mount Vernon.
Felt: Enola (press report).

CALIFORNIA

1 October (P) Southern California
Origin time: 14 29 04.6
Epicenter: 35.73 N., 117.75 W.
Depth: 8 km
Magnitude: 4.9mb(G), 5.4ML(B), 5.2ML(P)

This earthquake was felt over an area of about 29,800 km² in Inyo, Kern, Los Angeles, San Bernardino, and Tulare Counties (fig. 7).

The quake, the largest of five tremors in four days, was described as a "sharp jolt" by a Ridgecrest resident (press report).

At the China Lake Naval Weapons Center, a wall in a newly constructed building was cracked. There was no damage to the underground storage facilities where missiles and bombs are stored (press report).

Intensity VI:
Barstow--many large cracks in interior dry walls.
Inyokern--many large cracks in interior dry walls and plaster/stucco walls, few items were thrown from store shelves, few small objects fell, hanging objects or doors were swung moderately, hanging pictures were swung, buildings shook strongly, felt by all, awakened and frightened several.
Little Lake--few items were thrown from store shelves, many small objects were overturned and fell, hanging pictures fell, water sloshed in swimming pools, felt by all, awakened many and frightened all.
Ridgecrest--hairline cracks in interior plaster/stucco walls, felt by many, awakened and frightened few. Much merchandise was dumped from store shelves. One resident reported that bricks in his fireplace had shifted (press report).

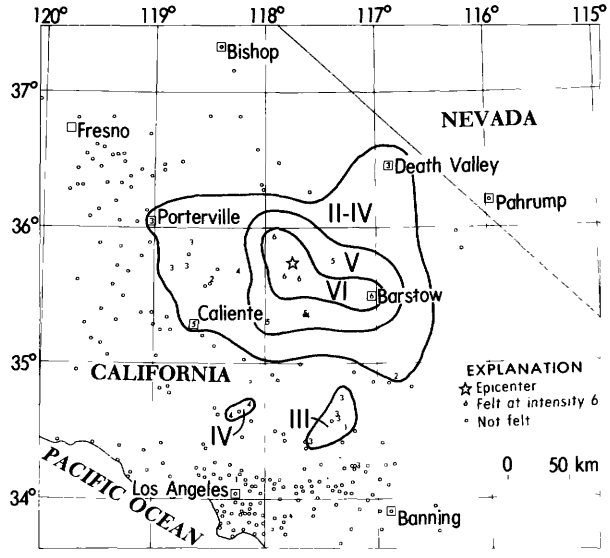

FIGURE 7.--Isoseismal map for the southern California earthquake of 01 October 1982, 14 29 04.6 UTC. Roman numerals represent Modified Mercalli intensities between isoseismals; Arabic numerals are used to represent these intensities at specific sites.

Table 2.--*Summary of macroseismic data for U. S. earthquakes, October-December 1982*--Continued

CALIFORNIA--Continued

Intensity V:
Caliente--few cracked windows, few small objects were overturned and fell, few glassware or dishes were broken, hanging pictures were swung, felt by many, awakened and frightened few.
Cantil--hairline cracks in interior plaster/stucco walls, few small objects were overturned and fell, hanging pictures were swung out of place, building shook strongly, felt by several, awakened and frightened few.
Johannesburg--few items were thrown from store shelves, few small objects were overturned and fell, few glassware or dishes were broken, hanging pictures were swung out of place, felt by many, awakened few.
Trona--hairline cracks in interior plaster/stucco walls, water sloshed in swimming pools, light furniture or small appliances were overturned, few small objects overturned and fell, hanging pictures were swung out of place, hanging objects or doors were swung moderately, felt by all.

CALIFORNIA--Continued

Intensity IV: Lancaster, Leona Valley, Onyx, Red Mountain.
Intensity III: California Hot Springs (Pine Flat area), Death Valley, George Air Force Base, Glennville, Helendale, Oro Grande, Phelan, Pioneer Point, Porterville, Skyforest, Woody.
Intensity II: Mountain Mesa, Yermo.
Felt: Glendale, Goldstone Tracking Station, and Victorville (P).

2 October (B) Mammoth Lakes area
Origin time: 11 52 15.6
Epicenter: 37.47 N., 118.83 W.
Depth: 5 km
Magnitude: 3.7ML(B)

Felt at Mammoth Lakes (B).

14 October (P) Southern California
Origin time: 00 51 32.3
Epicenter: 34.20 N., 118.65 W.
Depth: 2 km
Magnitude: 2.2ML(P)

Felt at Canoga Park (P).

14 October (B) Mammoth Lakes area
Origin time: 16 11 31.5
Epicenter: 37.48 N., 118.84 W.
Depth: 8 km
Magnitude: 3.7ML(P), 3.9ML(B)

Felt at Mammoth Lakes (B).

14 October (B) Mammoth Lakes area
Origin time: 19 34 50.5
Epicenter: 37.49 N., 118.82 W.
Depth: 14 km
Magnitude: 3.9ML(B), 3.9ML(P)

Felt at Mammoth Lakes (B).

15 October (P) Southern California
Origin time: 09 57 20.5
Epicenter: 34.20 N., 118.65 W.
Depth: 4 km
Magnitude: 3.3ML(P)
Intensity V:
Simi Valley--few items were thrown from store shelves, few small objects were overturned and fell, felt by and awakened many, frightened several.
Intensity IV: Canoga Park, Chatsworth, Northridge, Pacoima.
Felt: Malibu, Reseda, Van Nuys, Westwood (press report).

Table 2. --*Summary of macroseismic data for U. S. earthquakes, October-December 1982*--Continued

CALIFORNIA--Continued

16 October (B) Mammoth Lakes area
Origin time: 12 54 13.9
Epicenter: 37.45 N., 118.84 W.
Depth: 7 km
Magnitude: 3.9ML(B), 3.9ML(P)
Intensity IV: Bishop.
Felt: Mammoth Lakes (B).

19 October (P) Southern California
Origin time: 00 49 42.2
Epicenter: 35.52 N., 119.12 W.
Depth: 6 km
Magnitude: 3.6ML(P)

Felt at Bakersfield (P).

19 October (B) Central California
Origin time: 22 04 00.8
Epicenter: 37.03 N., 121.74 W.
Depth: 11 km
Magnitude: 3.7ML(B)

This earthquake was felt throughout the San Francisco Bay area from Marin City to Monterey (B).

Intensity IV: Aromas, Morgan Hill.
Intensity III: Aptos, Castroville, Freedom, Santa Clara, Watsonville.
Felt: Gilroy and San Martin (B).

24 October (P) Southern California
Origin time: 19 23 19.0
Epicenter: 34.08 N., 119.22 W.
Depth: 14 km
Magnitude: 3.7ML(P), 3.8ML(B)
Intensity V:
Saticoy--few windows were cracked, few small objects were overturned and fell, few glassware or dishes were broken, hanging pictures were swung, felt by many, awakened and frightened few.
Ventura--few windows were cracked, felt by many, frightened several.
Intensity IV: Oxnard.
Felt: Point Mugu (P).

25 October (B) Central California
Origin time: 22 26 04.3
Epicenter: 36.33 N., 120.50 W.
Depth: 11 km
Magnitude: 5.3mb(G), 5.2MS(G), 5.4ML(B), 5.4ML(P)

This earthquake was felt over an area of about 92,800 km² of central California (fig. 8). The earthquake was felt in at least 14 counties--from Kern County on the

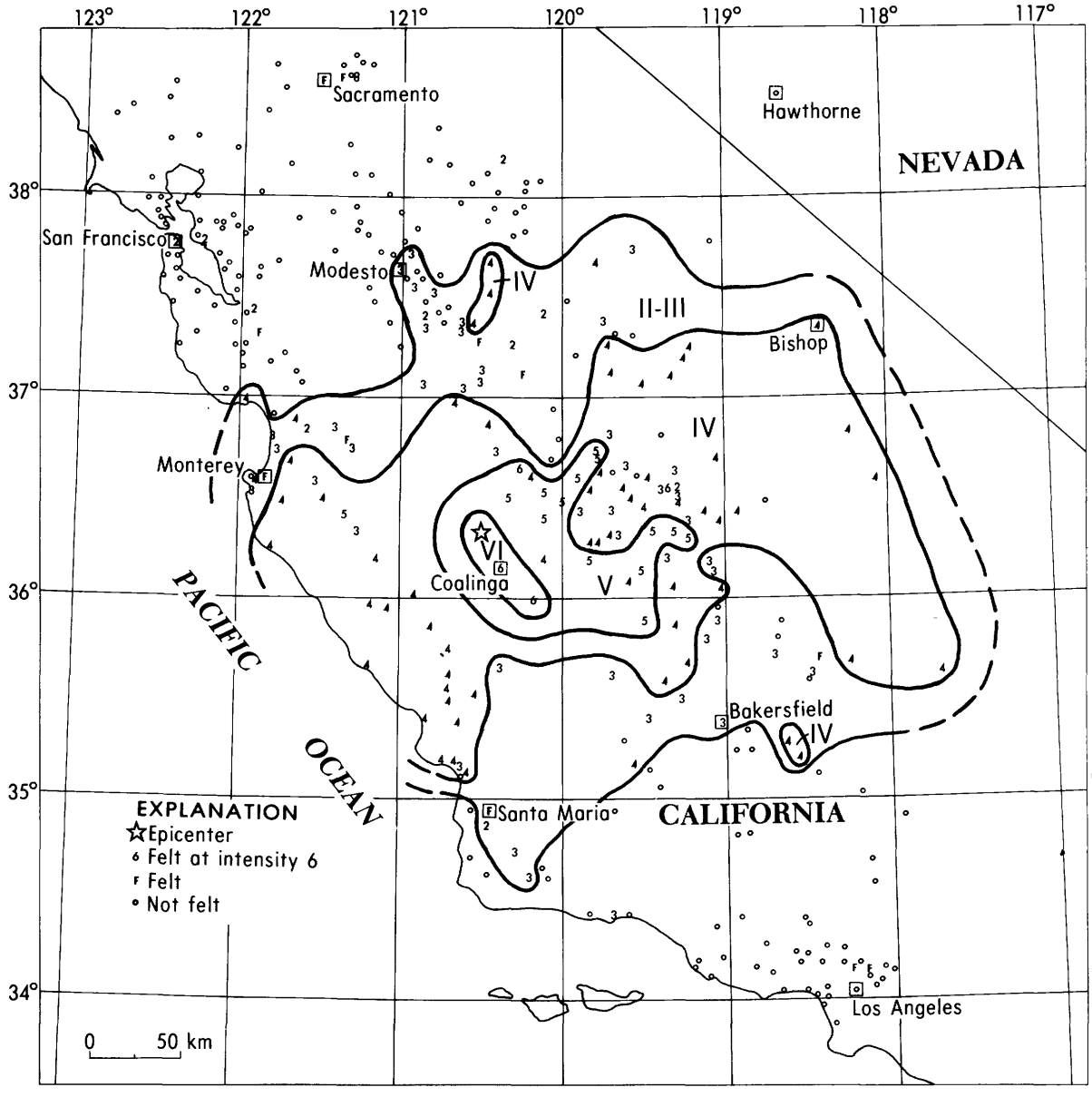

FIGURE 8.--Isoseismal map for the central California earthquake of 25 October 1982, 22 26 04.3 UTC. Roman numerals represent Modified Mercalli intensities between isoseismals; Arabic numerals are used to represent these intensities at specific sites.

south to Santa Clara County on the north and from coastal San Luis Obispo County to Mono County on the eastern slope of the Sierra Nevada (press report).

At Coalinga, Lt. McDaniel of the state Highway Parol said, "when the trembling started, we got out of the building.... telephone poles and wires were swaying." He also reported that several stores were closed due to fallen merchandise blocking the aisles (press report).

A radio announcer for KOLI in Coalinga described the earth motion as "like a big jackhammer--up and down" (press report).

A hunter, 25 miles northwest of Coalinga in the coastal mountain range (between San Lucas and Priest City), gave the following account of the earthquake. "I was sitting on a steep hillside when the rock I was sitting on began moving. I immediately jumped up. I was nearly thrown off balance. I remember reaching down to hold

onto the rock to keep from falling. The trees around me shook hard enough to knock the rainwater off their leaves. As suddenly as it began, it stopped, lasting no longer than 5-7 seconds. I don't remember feeling any aftershocks. The next day I noticed several areas where the ground had been cracked and lifted as much as five inches. All over, even on the hilltops, small cracks could be seen in the wet ground."

Intensity VI:

Avenal--small amounts of plaster fell from ceiling, some cracks in interior plaster walls, few items were thrown from store shelves, building shook strongly, a stationary 5-ton truck rocked slightly, felt by all, frightened few.

Coalinga--tiles fell from interior walls, many items were thrown from store shelves, hanging pictures were swung out of place, building shook strongly, observer experienced difficulty in standing or walking, hanging objects or doors were swung moderately, few small objects overturned and fell, felt by and frightened all.

Sultana--foundation was cracked, felt by many, frightened few.

Tranquillity--interior walls were split, hairline cracks in plaster/stucco walls, building shook strongly, felt by many, frightened few.

Intensity V:

Alpaugh--hairline cracks in plaster/stucco and dry walls, hanging pictures were swung, building shook strongly, felt by and frightened all.

Burrel--hairline cracks in interior dry wall and plaster/stucco walls, moving vehicles were rocked slightly, few items were thrown from store shelves, hanging pictures were swung out of place, few small objects were overturned and fell, few glassware or dishes were broken, light furniture or appliances were overturned, felt by many, frightened few.

Calwa--hairline cracks in plaster/stucco and drywall, felt by many.

Cantua Creek--moving vehicles were rocked moderately, few small objects were overturned, building shook strongly, observer experienced difficulty in standing or walking, felt by and frightened many.

Farmersville--moving vehicles were rocked slightly, few items were thrown from store shelves, few small objects were overturned, felt by many.

Five Points--hairline cracks in plaster or stucco interior walls, few windows were cracked, hanging objects or doors were swung moderately, hanging pictures were swung, felt by all, frightened few.

Fresno--hairline cracks in interior plaster/stucco and dry walls, few windows were cracked, few items were thrown from store shelves, few small objects were overturned and fell, few glassware or dishes were broken, hanging pictures were swung, felt by many, frightened several, awakened few.

Goshen--few windows were cracked, felt by and frightened several.

Helm--many small objects were overturned and fell, pictures were swung, felt by and frightened many.

Raisin--hanging objects or doors were swung moderately, observer experienced difficulty in standing or walking, felt by and frightened several.

Soledad--few small objects were overturned and fell, few glassware or dishes were broken, felt by and frightened several.

Stratford--few small objects were overturned and fell, hanging pictures were swung, hanging objects or doors were swung moderately, building shook strongly, felt by and frightened many.

Visalia--water splashed onto sides of swimming pools, lakes or ponds; building shook stronly; few small objects were overturned and fell; hanging pictures were swung; felt by many; frightened several.

Waukena--hairline cracks in interior dry walls; water splashed onto sides of swimming pools, lakes or ponds; few windows were cracked; few small objects were overturned and fell; few glassware or dishes were broken; hanging objects or doors were swung; felt by many; frightened few.

Intensity IV: Armona (hanging pictures were swung out of place), Aromas, Arroyo Grande, Atascadero, Auberry (hanging pictures were swung out of place), Avila Beach, Big Creek, Big Sur, Bishop (hanging pictures were swung), Bradley, Caliente, Capitola, Carmel Valley, Caruthers, Castle AFB, Coarsegold, Corcoran, Creston (hanging pictures were swung), Dos Palos, Earlimart, Easton (hanging pictures were swung), El Portal (hanging pictures were swung), Fellows, Firebaugh, Fort Hunter

Table 2.--*Summary of macroseismic data for U. S. earthquakes, October-December 1982*--Continued

CALIFORNIA--Continued

Liggett, Gonzales, Huron, Independence, Keene, King City, Kingsburg, La Grange (hanging pictures were swung), Lakeshore, Lemoncove, Lemoore (hanging pictures were swung), Lemoore--Naval Air Station (telephone service interrupted), Lockwood (hanging pictures were swung), Lone Pine (hanging pictures were swung), McFarland, Miramonte, Monterey (hanging pictures were swung), Morro Bay, O'Neals, Onyx, Paso Robles, Porterville (hanging pictures were swung), Prather, Reedley, Ridgecrest (hairline cracks in interior plaster/stucco walls, hanging picures were swung), Salinas, San Ardo (hanging pictures were swung), San Joaquin, San Luis Obispo (press report), San Miguel (hanging pictures were swung out of place), San Simeon, Santa Margarita (hanging pictures were swung), Selma, Shaver Lake, Snelling (shelves in a mobil home with ceramics were pulled away from wall causing few glassware/dishes to be broken), Templeton (hanging pictures were swung), Three Rivers, Tipton (hanging pictures were swung), Traver, Yettem, Wasco, Woodlake.
Intensity III: Ahwanee, Bakersfield (hanging pictures were swung), Buellton, Buttonwillow, Carmel, Castroville, Chualar, Clovis, Cutler, Del Rey, Denair, Dinuba, Ducor (hanging pictures were swung), El Nido, Glennville, Greenfield, Hanford, Hollister, Ivanhoe, Jolon, Keyes, Lake Isabella (hanging pictures were swung), Laton, Lindsay, Los Alamos (hanging pictures were swung), Los Banos, Lost Hills, Mendota, Modesto, Moss Landing, Orange Cove, Paicines, Pismo Beach (hanging pictures were swung), Red Top, Richgrove, Riverbank, Riverdale, Santa Rita Park (hanging pictures were swung), Shafter, Shandon, Soquel, Stevinson, Strathmore, Tulare, Ventura, Winton, Yosemite National Park.
Intensity II: Alameda, Avery, Catheys Valley, Hilmar, Milpitas, Orcutt, Orosi, Planada, San Francisco, San Juan Bautista.
Felt: Atwater, Chowchilla, Glendale (P), Merced, Monterey (P), Pasadena (P), Sacramento (P), San Jose (P), Santa Maria (P), Seaside, Tres Pinos, Wofford Heights.

25 October (B) Central California
Origin time: 23 12 18.0
Epicenter: 36.34 N., 120.51 W.
Depth: 12 km
Magnitude: 4.3mb(G), 4.2ML(P), 4.3ML(B)

Felt in the Coalinga-Hanford area (B).

Table 2.--*Summary of macroseismic data for U. S. earthquakes, October-December 1982*--Continued

CALIFORNIA--Continued

25 October (B) Central California
Origin time: 23 15 54.5
Epicenter: 36.34 N., 120.50 W.
Depth: 11 km
Magnitude: 4.0ML(P), 4.0ML(B)

Felt in the Coalinga-Hanford area (B).

27 October (P) Southern California
Origin time: 10 21 41.7
Epicenter: 33.88 N., 118.22 W.
Depth: 15 km
Magnitude: 2.9ML(P)

This earthquake was felt in portions of southern Los Angeles County (press report), including Gardena (P) and Huntington Park.

28 October (P) Southern California
Origin time: 09 40 36.3
Epicenter: 33.83 N., 117.10 W.
Depth: 17 km
Magnitude: 2.9ML(P)

Felt at Riverside (P).

4 November (B) Northern California
Origin time: 15 10 41.3
Epicenter: 38.44 N., 122.27 W.
Depth: 14 km
Magnitude: 3.2ML(B)

Felt in Napa County (press report).

4 November (P) Southern California
Origin time: 16 13 40.7
Epicenter: 33.88 N., 117.92 W.
Depth: 6 km
Magnitude: 2.8ML(P)

Felt at Anaheim, Buena Park, and Fullerton (P).

9 November (B) Northern California
Origin time: 11 12 05.8
Epicenter: 39.74 N., 120.60 W.
Depth: 10 km
Magnitude: 3.0ML(B)
Intensity IV: Blairsden, Portola.

10 November (P) Southern California
Origin time: 11 21 25.7
Epicenter: 34.05 N., 116.67 W.
Depth: 8 km
Magnitude: 4.1mb(G), 4.4ML(B), 3.9ML(P)
Intensity V:
Big Bear Lake--few windows were cracked, hanging pictures were swung out of

CALIFORNIA--Continued

place, few small objects were overturned and fell, few glassware or dishes were broken.
Desert Hot Springs--few items were thrown from store shelves, few small objects were overturned, felt by many, awakened and frightened several.
Idyllwild--few small objects fell; felt by, awakened, and frightened several.
White Water--hanging pictures fell; few small objects were overturned and fell; building shook slightly to strongly; hanging objects or doors were swung moderately; felt by, awakened , and frightened many.
Intensity IV: Cabazon, Forest Falls, Mecca, Marongo Valley.
Intensity III..: Banning, Indio, Landers, North Palm Springs, Thousand Palms.

10 November (B) Mammoth Lakes area
Origin time: 13 29 57.4
Epicenter: 37.48 N., 118.82 W.
Depth: 5 km
Magnitude: 3.6ML(B)

Felt at Mammoth Lakes.

12 November (P) Imperial Valley
Origin time: 09 33 55.2
Epicenter: 32.98 N., 115.57 W.
Depth: 14 km
Magnitude: 2.6ML(P)

Felt in the Imperial Valley (P).

12 November (B) Central California
Origin time: 21 57 11.9
Epicenter: 35.33 N., 120.54 W.
Depth: 9 km
Magnitude: 3.4ML(P), 3.0ML(B)

Felt at San Luis Obispo (B).

13 November (B) Central California
Origin time: 20 18 20.5
Epicenter: 36.69 N., 121.20 W.
Depth: 9 km
Magnitude: 3.7ML(B)
Intensity III: Prunedale, Salinas.
Felt: Hollister (B)

26 November (B) Northern California
Origin time: 09 29 49.1
Epicenter: 38.28 N., 122.16 W.
Depth: 11 km
Magnitude: 3.3ML(B)

Table 2.--*Summary of macroseismic data for U. S. earthquakes, October-December 1982*--Continued

CALIFORNIA--Continued

Intensity IV: Napa.
Felt: Fairfield (B), Martinez (press report).

26 November (P) Southern California
Origin time: 12 30 13.8
Epicenter: 34.84 N., 118.96 W.
Depth: 5 km
Magnitude: 3.1ML(P)
Intensity IV: Frazier Park.
Intensity III: Lebec.
Intensity II: Ontario.

28 November (B) Mammoth Lakes area
Origin time: 14 43 19.1
Epicenter: 37.44 N., 118.85 W.
Depth: 3 km
Magnitude: 3.5ML(B)

Felt at Mammoth Lakes.

2 December (B) Northern California
Oriin time: 16 02 45.9
Epicenter: 39.17 N., 122.21 W.
Depth: 10 km
Magnitude: 3.0ML(B)

Felt in the Lake Berryessa and Clear Lake areas (B).

4 December Southern California
Origin time: 03 08
Epicenter: Not located
Depth: Not computed
Magnitude: 2.2ML(P)
Intensity III: Inglewood (press report).

7 December (B) Central California
Origin time: 23 05 39.1
Epicenter: 36.92 N., 121.70 W.
Depth: 10 km
Magnitude: 3.1ML(B)

Felt at Watsonville (B).

12 December (B) Mammoth Lakes area
Origin time: 10 38 06.0
Epicenter: 37.54 N., 118.82 W.
Depth: 6 km
Magnitude: 3.5ML(P), 3.6ML(B)

Felt at Mammoth Lakes (B).

12 December (B) Mammoth Lakes area
Origin time: 20 59 08.8
Epicenter: 37.53 N., 118.81 W.

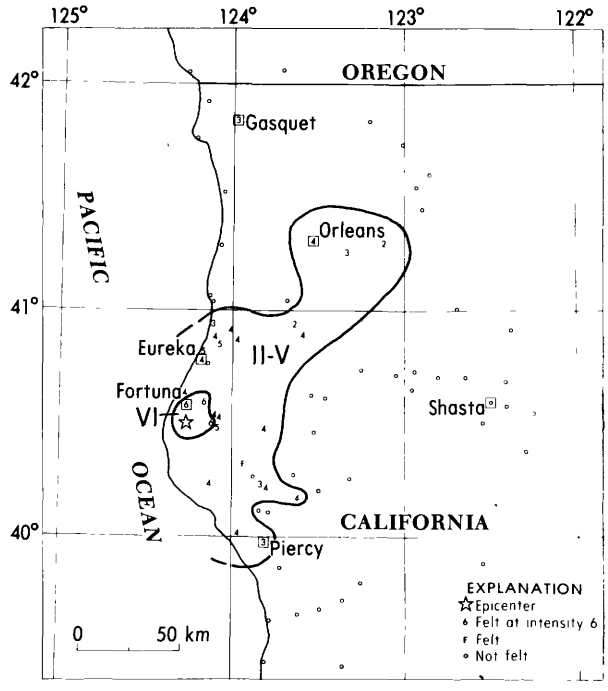

FIGURE 9.--Isoseismal map for the northern California earthquake of 16 December 1982, 06 53 01.3 UTC. Roman numerals represent Modified Mercalli intensities between isoseismals; Arabic numerals are used to represent these intensities at specific sites.

Table 2.--*Summary of macroseismic data for U. S. earthquakes, October-December 1982*--Continued

CALIFORNIA--Continued

Depth: 4 km
Magnitude: 3.8ML(P), 3.7ML(B)

Felt at Mammoth Lakes (B).

14 December (B) Central California
Origin time: 06 46 09.9
Epicenter: 36.91 N., 121.49 W.
Depth: 5 km
Magnitude: 3.2ML(B)

Felt at Hollister (B).

14 December (B) Northern California
Origin time: 19 15 31.8
Epicenter: 40.54 N., 124.20 W.
Depth: 20 km
Magnitude: 3.6ML(B)

Felt at Ferndale (B).

16 December (B) Northern California
Origin time: 06 53 01.3

Table 2.--*Summary of macroseismic data for U. S. earthquakes, October-December 1982*--Continued

CALIFORNIA--Continued

Epicenter: 40.50 N., 124.26 W.
Depth: 18 km
Magnitude: 4.8mb(G), 4.5MS(G), 4.4ML(B)

This earthquake was felt over an area of about 8,200 km² of northern California (fig. 9).

The Fortuna sheriff dispatcher gave the following account of the earthquake: "It wasn't one of the nice, gentle rollers. It was like a big bang. It shook for about 45 seconds. Then there was another, like an aftershock, for about 20 seconds, a rumbling" (press report).

Residents in Ferndale reported windows shattered, chimneys cracked, and pictures were knocked off the walls in the restored section of Victorian homes and businesses.

In Fortuna, stores had broken windows and grocery stores had cans knocked from shelves (press report).

Intensity VI:
Ferndale--chimneys were cracked, windows were shattered, pictures were knocked from walls (press report).
Fortuna--chimneys were cracked, plate glass windows were broken or shattered, much merchandise was knocked from store shelves (press report).
Rio Dell--few items were thrown from store shelves; hanging pictures were swung out of place with some fallen; some windows were broken; few small objects were overturned, fell, and were broken; light furniture or small appliances were overturned; few glassware or dishes were broken; hanging objects or doors were swung moderately; felt by all.

Intensity V:
Bayside--moving vehicles were rocked slightly, few small objects were overturned and fell, few glassware or dishes were broken.
Samoa--few items were thrown from store shelves, few small objects were overturned and fell.
Scotia--few small objects were overturned and fell, hanging doors or objects were swung moderately.
Intensity IV: Alderpoint, Arcata, Blue Lake, Bridgeville, Carlotta, Eureka, Honeydew, Hydesville, Korbel, Loleta, Orleans, Phillipsville, Salyer, Whitethorn.

Table 2.--*Summary of macroseismic data for U. S. earthquakes, October-December 1982*--Continued

CALIFORNIA--Continued

Intensity III: Forks of Salmon, Gasquet, McKinleyville, Miranda, Piercy, Swains Flat.
Intensity II: Sawyers Bar, Willow Creek.
Felt: Weott.

20 December (B) Northern California
Origin time: 00 08 21.1
Epicenter: 40.54 N., 123.97 W.
Depth: 5 km
Magnitude: 3.3 ML(B)

Felt ain the Eureka area (B).

21 December Northern California
Origin time: 09 33
Epicenter: Not located
Depth: None computed
Magnitude: 2.3ML(B)
Intensity III: Clearlake Highlands (press report).

21 December (B) Mammoth Lakes area
Origin time: 22 28 12.9
Epicenter: 37.63 N., 118.96 W.
Depth: 5 km
Magnitude: 3.7ML(P), 3.3ML(B)

Felt at Mammoth Lakes (B).

22 December (B) Owens Valley area
Origin time: 09 40 49.9
Epicenter: 37.36 N., 118.52 W.
Depth: 10 km
Magnitude: 3.4ML(P), 3.4ML(B)

Felt in the Bishop area (B).

22 December (P) Southern California
Origin time: 14 47 36.9
Epicenter: 35.75 N., 117.75 W.
Depth: 10 km
Magnitude: 3.8ML(B), 3.3ML(P)

Felt at Ridgecrest (P).

26 December (B) Northern California
Origin time: 09 59 46.6
Epicenter: 38.81 N., 122.78 W.
Depth: 1 km
Magnitude: 3.1ML(B)
Intensity IV: Cobb (press report).

26 December (B) Central California
Origin time: 10 04 24.9
Epicenter: 36.81 N., 121.55 W.

Table 2.--*Summary of macroseismic data for U. S. earthquakes, October-December 1982*--Continued

CALIFORNIA--Continued

Depth: 6 km
Magnitude: 3.5ML(B)

Felt at Hollister and San Juan Bautista (B).

28 December (B) Mammoth Lakes area
Origin time: 00 49 38.8
Epicenter: 37.49 N., 118.80 W.
Depth: 3 km
Magnitude: 3.8ML(P), 3.6ML(B)

Felt at Mammoth Lakes (B).

28 December (B) California-Nevada border region
Origin time: 19 06 24.0

See Nevada listing.

30 December (P) Southern California
Origin time: 04 00 29.5
Epicenter: 33.95 N., 118.82 W.
Depth: 0 km
Magnitude: 3.6ML(P), 4.0mb(G)
Intensity III: Malibu (press report).

31 December (P) Southern California
Origin time: 09 07 23.3
Epicenter: 35.82 N., 117.73 W.
Depth: 6 km
Magnitude: 4.4mb(G), 4.5ML(B), 4.0ML(P)
Intensity IV: Trona.

CALIFORNIA--Off the Coast

4 December (B) Northern California
Origin time: 03 08 23.2
Epicenter: 40.30 N., 124.52 W.
Depth: 24 km
Magnitude: 3.1ML(B)

Felt at Honeydew amd Petrolia (B).

COLORADO

22 November (G) Northwestern Colorado
Origin time: 10 09 01.4
Epicenter: 39.74 N., 107.58 W.
Depth: 5 km
Magnitude: 2.9ML(G)

Felt at the Rifle Fish Hatchery about 15 miles northeast of Rifle (telephone report).

Table 2.--*Summary of macroseismic data for U. S. earthquakes, October-December 1982*--Continued

GEORGIA

31 October (G) Western Georgia
Origin time: 03 07 39.4
Epicenter: 32.66 N., 84.91 W.
Depth: 5 km
Magnitude: 2.9Mn(G), 2.9MD(K)

This earthquake was felt in Harris and Muscogee Counties in Georgia and Russell County, Alabama. Many of the citizens described the earthquake sound as an explosion, a plane crash, or a train derailment (press report).

Intensity V:
Georgia--
Columbus (Beallwood)--few small objects fell, felt by many, awakened several, frightened few.
Elberslie--few small objects were overturned and fell, small amounts of plaster/stucco fell from interior walls, felt by many, awakened and frightened several.
Midland--few small objects were overturned and fell, few glassware or dishes were broken, felt by many, awakened and frightened several.
Intensity IV:
Alabama--Phenix City.
Georgia--Buena Vista, Cataula, Columbus (Windsor Park), Upatoi.
Intensity III:
Alabama--Smiths.
Georgia--Columbus (Baker Village, Lindsay Creek, Wynnton), Columbus Metropolitan Airport, Hamilton.

31 October (G) Western Georgia
Origin time: 03 12 15.6
Epicenter: 32.65 N., 84.87 W.
Depth: 5 km
Magnitude: 3.1Mn(G)

Felt in Harris and Muscogee Counties in Georgia and in the Phenix City, Alabama area (press report).

21 December (F) Central Georgia
Origin time: 05 30 46.2
Epicenter: 32.80 N., 83.52 W.
Depth: 0 km
Magnitude: 2.7MD(F)

Table 2.--*Summary of macroseismic data for U. S. earthquakes, October-December 1982*--Continued

GEORGIA--Continued

This is one of a swarm of 100 earthquakes recorded in this area from December 1982 to March 1983.

Intensity III: Macon.

HAWAII

11 October (H) Island of Hawaii
Origin time: 18 59 53.5
Epicenter: 19.38 N., 155.25 W.
Depth: 3 km
Magnitude: 3.1ML(H)
Intensity III: Hawaiian Volcano Observatory.

22 October (H) Island of Hawaii
Origin time: 13 13 29.0
Epicenter: 19.33 N., 155.19 W.
Depth: 10 km
Magnitude: 3.3ML(H)
Intensity II: Hilo, Mauna Kea Observatory.

23 October (H) Island of Hawaii
Origin time: 07 42 56.4
Epicenter: 19.35 N., 155.22 W.
Depth: 9 km
Magnitude: 3.0ML(H)
Intensity II: Volcano.

25 October (H) Island of Hawaii
Origin time: 16 19 30.6
Epicenter: 19.33 N., 155.19 W.
Depth: 10 km
Magnitude: 3.2ML(H)
Intensity III: Hilo, Volcano.

1 November (H) Island of Hawaii
Origin time: 02 24 45.7
Epicenter: 19.33 N., 155.12 W.
Depth: 8 km
Magnitude: 3.0ML(H)
Intensity II: Puu Oo.

13 November (H) Island of Hawaii
Origin time: 02 18 58.2
Epicenter: 19.45 N., 155.44 W.
Depth: 15 km
Magnitude: 4.1ML(H), 4.4mb(G)
Intensity V: Pahala.
Intensity IV: Hilo, Kurtistown, Volcano.
Intensity III: Kamuela, Kealakekua, Paauilo.

Table 2.--*Summary of macroseismic data for U. S. earthquakes, October-December 1982*--Continued

HAWAII--Continued

13 November (H) Island of Hawaii
Origin time: 02 28 29.0
Epicenter: 19.46 N., 155.43 W.
Depth: 15 km
Magnitude: 3.3ML(H)
Intensity III: Pahala.

25 November (H) Island of Hawaii
Origin time: 19 10 37.3
Epicenter: 19.36 N., 155.30 W.
Depth: 35 km
Magnitude: 3.6ML(H)
Intensity III: Hilo, Pahala.

28 November (H) Island of Hawaii
Origin time: 02 01 25.5
Epicenter: 19.28 N., 155.51 W.
Depth: 9 km
Magnitude: 3.8ML(H)
Intensity IV: Pahala.

30 November (H) Island of Hawaii
Origin time: 00 50 38.0
Epicenter: 19.35 N., 155.40 W.
Depth: 32 km
Magnitude: 4.0ML(H)
Intensity IV: Glenwood, Hilo, Kalapana, Mountain View, Pahala, Volcano.
Intensity III: Hawaiian Ocean View Estates Papaikou, Pepeekeo.

5 December (H) Island of Hawaii
Origin time: 15 37 37.7
Epicenter: 19.81 N., 156.16 W.
Depth: 39 km
Magnitude: 3.8ML(H)
Intensity III: Waikaloa.

10 December (H) Island of Hawaii
Origin time: 05 38 11.7
Epicenter: 19.40 N., 155.29 W.
Depth: 3 km
Magnitude: 3.1ML(H)
Intensity IV: Hawaii Volcanoes National Park.
Intensity III: Volcano.

10 December (H) Island of Hawaii
Origin time: 06 00 51.6
Epicenter: 19.39 N., 155.24 W.
Depth: 4 km
Magnitude: 3.1ML(H)
Intensity IV: Hawaii Volcanoes National Park.
Intensity III: Volcano.

28 December (H) Island of Hawaii
Origin time: 09 35 01.9

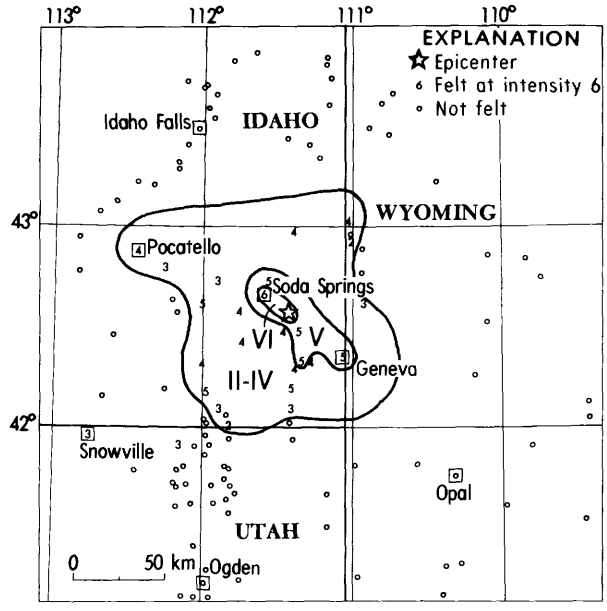

FIGURE 10.--Isoseismal map for the southeastern Idaho earthquake of 14 October 1982, 04 10 24.3 UTC. Roman numerals represent Modified Mercalli intensities between isoseismals; Arabic numerals are used to represent these intensities at

Table 2.--*Summary of macroseismic data for U. S. earthquakes, October-December 1982*--Continued

HAWAII--Continued

Epicenter: 19.34 N., 155.10 W.
Depth: 9 km
Magnitude: 3.2ML(H)
Intensity II: Hilo.

31 December (H) Island of Hawaii
Origin time: 13 55 10.0
Epicenter: 19.38 N., 155.24 W.
Depth: 1 km
Magnitude: 3.4ML(H)
Intensity II: Volcano.

IDAHO

7 October (G) Southeastern Idaho
Origin time: 09 26 02.6
Epicenter: 43.00 N., 111.07 W.
Depth: 5 km
Magnitude: 3.0ML(G), 3.5MD(D)
Intensity IV:
Wyoming--Freedom.
Intensity II:
Wyoming--Thayne.

IDAHO--Continued

8 October (U) Southeastern Idaho
Origin time: 09 53 32.1
Epicenter: 42.62 N., 111.47 W.
Depth: 7 km
Magnitude: 3.5ML(U)
Intensity IV:
Idaho--Dingle, Geneva, Georgetown, Soda Springs.
Intensity III:
Idaho--Bancroft, Bloomington.
Wyoming--Etna, Freedom.

8 October (U) Southeastern Idaho
Origin time: 10 06 59.0
Epicenter: 42.62 N., 111.47 W.
Depth: 7 km
Magnitude: 3.8ML(U), 4.0ML(D)
Intensity V:
Conda--few items were thrown from store shelves, few small objects were overturned and fell, building shook strongly, hanging pictures were swung, felt by many.
Soda Springs--a few homes reported enlarged wall cracks.

8 October (U) Southeastern Idaho
Origin time: 16 04 09.0
Epicenter: 42.63 N., 111.49 W.
Depth: 7 km
Magnitude: 3.2ML(U)

Felt at Soda Springs (press report).

14 October (U) Southeastern Idaho
Origin time: 04 10 24.3
Epicenter: 42.59 N., 111.43 W
Depth: 7 km
Magnitude: 4.6mb(G), 4.7ML(U), 4.9ML(D)

This earthquake was felt over an area of about 13,500 km² of Idaho, Utah, and Wyoming (fig. 10). The earthquake was heard but not felt at Idaho Falls where the noise was described as sounding like a "sonic boom."

Intensity VI:
Idaho--
Soda Springs--hairline cracks in interior dry walls, a crack in basement walls was enlarged, foundation was cracked, buildings shook slightly to strongly, hanging pictures were swung, hanging objects or doors were swung moderately, felt by many, awakened few, frightened several.
Soda Springs (4 miles southeast)--bricks fell from chimneys and a few buildings were reported damaged.
Intensity V:
Idaho--
Bloomington--a stack of wood fell, few small objects fell, building shook slightly to strongly, felt by several.
Clifton--hairline cracks in interior dry wall, felt by few, frightened few.
Conda--few items were thrown from store shelves, few small objects fell, felt by many, awakened few.
Geneva--few small objects were overturned and fell, hanging pictures were swung, felt by many, awakened several.
Georgetown--few items were thrown from store shelves; water sloshed in swimming pools, lakes, or ponds; few small objects overturned; hanging pictures were swung out of place; hanging objects or doors were swung moderately; buildings shook slightly to strongly; felt by all; awakened and frightened many.
Lava Hot Springs--few windows were cracked, few small objects were overturned and fell, few glassware or dishes were broken, hanging pictures were swung, felt by many.
Montpelier--few small objects were overturned and fell, hanging pictures were swung, felt by many, awakened few, frightened several.
Intensity IV:
Idaho--Dingle (pictures were swung out of place), Grace, Nounan (pictures were swung out of place), Ovid, Paris, Pocatello (few items were thrown from store shelves), Swan Lake, Thatcher, Wayan.
Wyoming--Etna (few small objects were overturned).
Intensity III:
Idaho--Bancroft, Inkom (building shook strongly), Preston, Saint Charles.
Utah--Plymouth, Snowville.
Wyoming--Smoot (water beds jiggled).
Intensity II:
Idaho--Franklin.
Wyoming--Thayne.

24 December (G) Southeastern Idaho
Origin time: 15 11 20.1
Epicenter: 42.12 N., 112.56 W.
Depth: 5 km
Magnitude: 3.5ML(U)

IDAHO--Continued

Intensity III:
Idaho--Holbrook, Malad City, Stone.
Utah--Snowville.

IOWA

15 November (G) Southeastern South Dakota
Origin time: 02 58 22.9

See South Dakota listing.

MAINE

1 December (J) Central New Hampshire
Origin time: 22 52 23.0

See New Hampshire listing.

MONTANA

21 October (G) Hebgen Lake area
Origin time: 06 05 28.2
Epicenter: 44.72 N., 111.83 W.
Depth: 5 km
Magnitude: 4.4MD(D), 4.4ML(G)
Intensity IV: Belgrade.
Intensity III: Lima, Pony.
Felt: Livingston and Virginia City (telephone report).

26 October (G) Hebgen Lake area
Origin time: 08 26 29.9
Epicenter: 44.75 N., 111.75 W.
Depth: 5 km
Magnitude: 4.3MD(D), 4.6ML(G)
Intensity IV: Virginia City.
Intensity III: Melrose, Twin Bridges.

4 November (G) Hebgen Lake area
Origin time: 09 58 29.9
Epicenter: 44.72 N., 111.72 W.
Depth: 5 km
Magnitude: 4.2ML(G), 4.1MD(D)
Intensity IV: Harrison.

NEBRASKA

15 November (G) Southeastern South Dakota
Origin time: 02 58 22.9

See South Dakota listing.

Table 2.--*Summary of macroseismic data for U. S. earthquakes, October-December 1982*--Continued

NEVADA

12 November (E) Southern Nevada
Origin time: 19 17 00.103
Epicenter: 37.02 N., 116.03 W.
Depth: 0 km
Magnitude: 4.4mb(G), 4.3ML(B)

Nevada Test Site explosion "SEYVAL" at 37°01'25.21" N., 116°01'55.49" W., surface elevation 1214 m, depth of burial 366 m.

7 December (G) Southern Nevada
Origin time: 09 43 49.6
Epicenter: 36.02 N., 114.83 W.
Depth: 5 km
Magnitude: 3.3ML(G), 3.7ML(P)
Intensity II: Boulder City.

10 December (E) Southern Nevada
Origin time: 15 20 00.090
Epicenter: 37.03 N., 116.07 W.
Depth: 0 km
Magnitude: 4.6mb(G), 4.7ML(B)

Nevada Test Site explosion "MANTECA" at 37°01'48.66" N., 116°04'18.80" W., surface elevation 1263 m, depth of burial 413 m.

28 December (B) California-Nevada border region
Origin time: 19 06 24.8
Epicenter: 38.03 N., 118.42 W.
Depth: 8 km
Magnitude: 4.7mb(G), 5.2ML(P), 4.9ML(B)
Intensity IV:
California--Benton.
Intensity III:
California--Miramonte.
Nevada--Dyer, Mina, Schurz.
Felt:
California--Bishop and in the Mono Lake area (B).

NEW HAMPSHIRE

1 December (J) Central New Hampshire
Origin time: 22 52 23.0
Epicenter: 43.61 N., 71.49 W.
Depth: 0 km
Magnitude: 2.9Mn(J)

This earthquake was felt at many towns near Lake Winnipesaukee in the Laconia-Meredith area (press report).

Residents in the Lakeport section of Laconia thought that their furnaces had exploded or they described the sound as similar to a sonic boom (press report).

Table 2.--*Summary of macroseismic data for U. S. earthquakes, October-December 1982*--Continued

NEW HAMPSHIRE--Continued

Intensity IV:
New Hampshire--Laconia (Lakeport section) (press report).
Intensity III:
Maine--Eliot.
New Hampshire--Meredith (press report).
Intensity II:
Maine--East Waterboro.
New Hampshire--Hampton, Lebanon.
Vermont--Springfield.
Felt:
Maine--North Fryeburg, Scarborough.

1 December (J) Central New Hampshire
Origin time: 23 05 02.2
Epicenter: 43.62 N., 71.55 W.
Depth: 0 km
Magnitude: 2.2Mn(J)

Felt in the Laconia-Meredith area (press report).

NEW MEXICO

7 October (G) Central New Mexico
Origin time: 12 41 25.9
Epicenter: 34.31 N., 106.82 W.
Depth: 4 km
Magnitude: 2.4ML(G)

Felt at Socorro.

14 October (G) Texas Panhandle
Origin time: 12 52 46.3

See Texas listing.

OREGON

21 November (G) Northwestern Oregon
Origin time: 04 57 32.8
Epicenter: 45.90 N., 122.89 W.
Depth: 22 km
Magnitude: 2.5ML(G)

Felt in the Woodland, Washington area (press report).

Table 2.--*Summary of macroseismic data for U. S. earthquakes, October-December 1982*--Continued

RHODE ISLAND

6 November (J) Northern Rhode Island
Origin time: 03 50 12.4
Epicenter: 41.79 N., 71.56 W.
Depth: 2 km
Magnitude: 1.8MD(J)

A group of three tremors was reported felt and heard in the Crompton area of West Warkwick. The police reported no damage, "just a lot of people shaken up and a lot of houses rattled" (press report).

Intensity IV: Crompton (press report).

SOUTH DAKOTA

15 November (G) Southeastern South Dakota
Origin time: 02 58 22.9
Epicenter: 43.01 N., 97.85 W.
Depth: 5 km
Magnitude: 4.3Mn(T), 4.3Mn(G)

This earthquake was felt over an area of about 19,700 km^2 of northeastern Nebraska, southeastern South Dakota, and western Iowa (fig. 11).

The most common report by people in the affected area was a description of the earthquake sound; they thought that their furnaces had exploded.

Intensity V:
Nebraska--
Center--hairline cracks in plaster, stucco, and drywall interior walls; few windows were cracked; few items were thrown from store shelves; few small objects were overturned and fell; few glassware or dishes were broken.
Coleridge--few small objects fell.
Crofton--few items were thrown from store shelves, few windows were cracked, few small objects were overturned and fell, few glassware or dishes were broken.
Fordyce--hairline cracks in plaster walls, felt by many.
Hoskins--few small objects were overturned and fell.
Niobrara--few items were thrown from store shelves, few small objects were overturned and fell, few glassware or

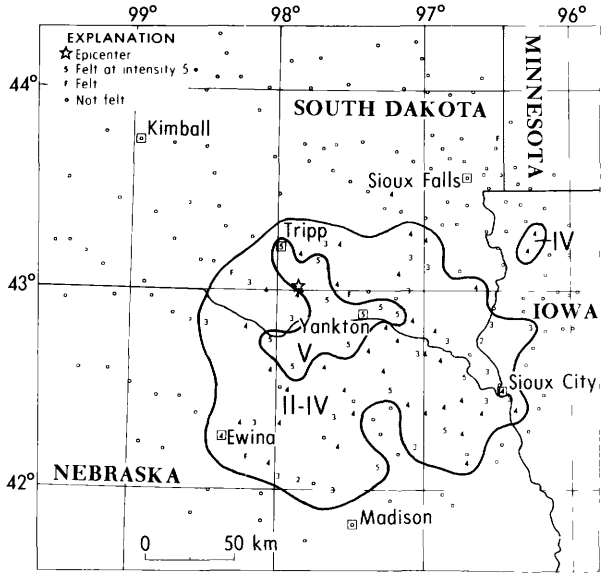

FIGURE 11.--Isoseismal map for the southeastern South Dakota earthquake of 15 November 1982, 02 58 22.9 UTC. Roman numerals represent Modified Mercalli intensities between isoseismals; Arabic numerals are used to represent these intensities at specific sites.

Table 2.--*Summary of macroseismic data for U. S. earthquakes, October-December 1982*--Continued

SOUTH DAKOTA--Continued

dishes were broken, hanging pictures were swung out of place, felt by all.
Ponca--few small objects fell, felt by many.
Wakefield--few small objects were overturned and fell, few glassware or dishes were broken.

South Dakota--
Gayville--few glassware or dishes were broken, felt by many.
Mission Hill--few items were thrown from store shelves, few small objects were overturned and fell, hairline cracks in plaster or stucco interior walls, one foundation was reported cracked.
Scotland--few windows were cracked, few small objects were overturned and fell, felt by all.
Tabor--few small objects fell, hanging pictures were swung out of place, felt by all.
Tripp--few small objects were overturned and fell, hanging pictures were swung out of place.
Yankton--hairline cracks in plaster, stucco or drywall interior walls; few

Table 2.--*Summary of macroseismic data for U. S. earthquakes, October-December 1982*--Continued

SOUTH DAKOTA--Continued

windows were cracked; hanging pictures were swung.

Intensity IV:
Iowa--Doon, Rock Valley, Sergeant Bluff, Sioux City.
Nebraska--Allen, Battle Creek, Bloomfield, Brunswick, Concord, Creighton, Emerson, Ewing, Hartington, Hubbard, Laurel, Maskell, McLean, Neligh, Newcastle (hanging pictures were swung out of place), Orchard, Pender (few small objects fell), Pierce, Saint Helena, Verdel, Verdigre, Waterbury, Wausa, Wynot.
South Dakota--Alcester, Avon, Davis, Hurley, Irene, Kaylor, Lesterville, Lindy (press report), Meckling, Menno, Monroe, Tyndall, Vermillion.

Intensity III:
Iowa--Akron, Brunsville.
Nebraska--Jackson, Lynch, Oakdale, Obert, Osmond, Royal, South Sioux City Wayne.
South Dakota--Burbank, Centerville, Dante, Jefferson, Olivet, Springfield, Viborg, Wakonda.

Intensity II:
Iowa--Westfield.
Nebraska--Tilden.

Felt:
Nebraska--Clearwater.
South Dakota--Sherman, Utica (press report), Wagner (press report).

TENNESSEE

17 October (K) Northwestern Tennessee
Origin time: 19 53 43.0
Epicenter: 36.24 N., 89.42 W.
Depth: 5 km
Magnitude: 2.6MD(K)
Intensity III: Ridgely (K).

TEXAS

14 October (G) Texas Panhandle
Origin time: 12 52 46.3
Epicenter: 36.10 N., 102.57 W.
Depth: 5 km
Magnitude: 3.9Mn(G), 3.8Mn(T)

The earthquake was described as "just like a sonic boom" and "rumbled like a big train was coming through."

Table 2.--*Summary of macroseismic data for U. S. earthquakes, October-December 1982*--Continued

TEXAS--Continued

Intensity IV:
Texas--Hartley.
Intensity III:
New Mexico--Amistad, Sedan (hanging pictures were swung).
Intensity II:
Texas--Dalhart, Texline.

28 November (G) West Texas
Origin time: 02 36 48.5
Epicenter: 33.00 N., 100.84 W.
Depth: 5 km
Magnitude: 3.3Mn(T)
Intensity IV: Synder.
Intensity III: O'Donnell.
Intensity II: Dermott.

UTAH

14 October (U) Southern Idaho
Origin time: 04 10 24.3

See Idaho listing.

24 December (G) Southeastern Idaho
Origin time: 15 11 20.1

See Idaho listing.

VERMONT

1 December (J) Central New Hampshire
Origin time: 22 52 23.0

See New Hampshire listing.

Table 2.--*Summary of macroseismic data for U. S. earthquakes, October-December 1982*--Continued

WASHINGTON

21 November (G) Northwestern Oregon
Origin time: 04 57 32.8

See Oregon listing.

WYOMING

1 October (G) Yellowstone National Park
Origin time: 22 55 29.6
Epicenter: 44.33 N., 110.85 W.
Depth: 5 km
Magnitude: 3.0ML(G)
Intensity IV: Old Faithful.

7 October (G) Southeastern Idaho
Origin time: 09 26 02.6

See Idaho listing.

8 October (U) Southeastern Idaho
Origin time: 09 53 32.1

See Idaho listing.

14 October (U) Southeastern Idaho
Origin time: 04 10 24.3

See Idaho listing.

8 November (G) Yellowstone National Park
Origin time: 01 18 29.3
Epicenter: 44.78 N., 110.92 W.
Depth: 5 km
Magnitude: 3.2ML(G), 3.6MD(D)
Intensity III: Madison Junction.

10 November Yellowstone National Park
Origin time: 03 40
Epicenter: Not located
Depth: None computed
Magnitude: None computed
Intensity IV: Grant Village.

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