GEOLOGICAL SURVEY CIRCULAR 749–D

Earthquakes in the United States, October–December 1975

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By J. H. Minsch, C. W. Stover, W. J. Person, and R. B. Simon

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INTRODUCTION

The earthquake information in this publication supplements that published in the NEIS (National Earthquake Information Service) publications, PDE ("Preliminary Determination of Epicenters") and "Preliminary Determination of Epicenters, Monthly Listing," to the extent of providing detailed felt and intensity data, as well as isoseismal maps for U.S. earthquakes. The purpose is to provide a complete listing of macroseismic effects of earthquakes, which can be used in risk studies, nuclear power plant site evaluations, seismicity studies, and answering inquiries by the public.

This publication contains two major sections. The first (table 1) 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 consists of one map and table 2, which lists detailed intensity information. The list of earthquakes in table 1 was compiled from those located in the United States or off the coasts that were published in the PDE; from hypocenters in California above magnitude 3.0, supplied by California Institute of Technology, Pasadena, and the University of California, Berkeley; from hypocenters in Hawaii supplied by the Hawaiian Volcano Observatory; and from any others that were felt or that caused damage, regardless of magnitude or availability of a hypocenter. Known or suspected explosions are also listed.

The intensities and macroseismic data were compiled from information obtained through questionnaires, from newspaper articles, and with the cooperation of other government agencies, State institutions, local organizations, and individuals. (See "Acknowledgments" for a list of collaborators.) The questionnaire (fig. 1A, B) is the latest revision of this form; it was not in use for the earthquake-intensity evaluations for the years 1975-76. An interim version of the form and an earlier version that had been in use since the 1930's were the basis for intensity evaluations throughout 1975. Anyone wishing to submit felt or damage information on earthquakes for inclusion in future reports should send it to the National Earthquake Information Service, Stop 967, Box 25046, Denver Federal Center, Denver, Colo. 80225. Copies of the current "Earthquake Report" questionnaire can be obtained at this address.

The primary method used by the NEIS to collect macroseismic information is a questionnaire canvass using the "Earthquake Report" forms, which are mailed to postmasters in the area affected by the earthquake. The postmasters complete the forms and return them to the NEIS, where they are evaluated and an intensity value is assigned. The intensity observations are mapped and contoured by isoseismals. Isoseismal contours present a generalization of intensity data and an extrapolation of these data to regions from which there are no observations; they do not necessarily account for every individual observation.

The data in table 2 will be included in the "Earthquake Description" section of "United States Earthquakes," an annual publication, to which later data from other sources may be added for the purpose of updating and completeness. "United States Earthquakes" is published jointly by the U.S. Geological Survey, Department of the Interior, and the Environmental Data Service, NOAA, Department of Commerce.

DISCUSSION OF TABLES

The parameters for the earthquakes in table 1 and table 2 include the date, origin time, hypocenter (epicenter and focal depth), magnitude, intensity, and hypocenter source. The origin time and date are listed in Universal Coordinated Time (UTC) and 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 that claimed by the institution supplying the hypocenter and is not necessarily the accuracy indicated by the number of decimals listed. The epicenters located by the NEIS have a varying degree of accuracy, usually two-tenths of a degree or less, depending on their continental or oceanic location. The oceanic hypocenters are less accurate than those on the continent, even though both are listed to two decimals. Depths are listed to the nearest whole kilometer.

U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

EARTHQUAKE REPORT

Form Approved
OMB No. 42-R1700

Please answer this questionnaire carefully and return as soon as possible.

1. Was an earthquake felt by anyone in your town or zip code area recently?
   - ☐ Not felt: Please refold and tape for return mail.
   - ☐ Felt: 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

2a. Did you personally feel the earthquake? 1☐ Yes ☐ No
b. Were you awakened by the earthquake? 2☐ Yes ☐ No
c. Were you frightened by the earthquake? 3☐ Yes ☐ No
d. Were you at 4☐ Home 5☐ Work 6☐ Other?
e. Town and zip code of your location at time of earthquake _____

f. 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
g. Were you 14☐ Inside or 15☐ Outside?
h. If inside, on what floor were you? 16☐☐

Continue on to next section which should include personal as well as reported observations.

COMMUNITY REPORT

Check one box for each question that is applicable.

3a. The earthquake was felt by	☐ No one	17☐ Few	18☐ Several	19☐ Many	20☐ All?
b. This earthquake awakened	☐ No one	21☐ Few	22☐ Several	23☐ Many	24☐ All?
c. This earthquake frightened	☐ No one	25☐ Few	26☐ Several	27☐ Many	28☐ All?

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

Parapets or cornices fallen	29☐ Yes	☐ No	
Trees and bushes shaken	30☐ Slightly	31☐ Moderately	32☐ Strongly
Standing vehicles rocked	33☐ Slightly	34☐ Moderately	35☐ Strongly
Moving vehicles rocked	36☐ Slightly	37☐ Moderately	38☐ Strongly
Ground cracks	39☐ Wet ground	40☐ Steep slopes	41☐ Dry and level ground
Landslides	42☐ Small	43☐ Large	
Underground pipes	44☐ Broken	45☐ Out of service	
Water splashed onto sides of lakes, ponds, swimming pools	46☐ Yes	☐ No	
Elevated water tanks	47☐ Cracked	48☐ Twisted	49☐ Fallen (thrown down)
Air coolers	50☐ Displaced	51☐ Rotated	52☐ Fallen
Railroad tracks bent	53☐ Slightly	54☐ Greatly	
Stone or brick fences	55☐ Cracked	56☐ Fallen	57☐ Destroyed
Tombstones	58☐ Displaced 61☐ Fallen	59☐ Cracked	60☐ Rotated
Chimneys	62☐ Cracked 65☐ Broken at roof line	63☐ Twisted	64☐ Fallen 66☐ Bricks fallen
Highways or streets	67☐ Cracked slightly	68☐ Large cracks	69☐ Displaced
Sidewalks	70☐ Cracked slightly	71☐ Large cracks	72☐ Displaced

Continued on the reverse side

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

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

Windows, doors, dishes rattled	73 ☐ Yes	☐ No		
Buildings creaked	74 ☐ Yes	☐ No		
Building trembled (shook)	75 ☐ Yes	☐ No		
Hanging pictures	76 ☐ Swung	77 ☐ Out of place	78 ☐ Fallen	
Water in small containers	79 ☐ Spilled	80 ☐ Slightly disturbed		
Windows	81 ☐ Few cracked	82 ☐ Some broken	83 ☐ Many broken	

6a. Did hanging objects, doors swing? ☐ No 84 ☐ Slightly 85 ☐ Moderately 86 ☐ Violently

b. Can you estimate direction? ☐ No 87 ☐ North/South 88 ☐ East/West 89 ☐ Other

7a. Were small objects (dishes, knick-knacks, pictures) ☐ Unmoved 90 ☐ Shifted 91 ☐ Overturned 92 ☐ Fallen, not broken 93 ☐ Broken?

b. Was light furniture ☐ Unmoved 94 ☐ Shifted 95 ☐ Overturned 96 ☐ Fallen, not broken 97 ☐ Broken?

c. Were heavy furniture or appliances ☐ Unmoved 98 ☐ Overturned 99 ☐ Shifted 100 ☐ Broken?

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

Plaster	101 ☐ Cracked	102 ☐ Fell
Dry wall	103 ☐ Cracked	104 ☐ Fell
Ceiling tiles	105 ☐ Cracked	106 ☐ Fell

9a. Check below any damage to buildings or structures.

Foundation	107 ☐ Cracked	108 ☐ Destroyed		
Interior walls	109 ☐ Split	110 ☐ Fallen	111 ☐ Separated from ceiling or floor	
Exterior walls	112 ☐ Hairline cracks	113 ☐ Large cracks	114 ☐ Bulged outward	
	115 ☐ Partial collapse	116 ☐ Total collapse		
Building	117 ☐ Moved on foundation	118 ☐ Shifted off foundation		

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

119 ☐ Wood 120 ☐ Stone 121 ☐ Brick veneer 122 ☐ Other
123 ☐ Brick 124 ☐ Cinderblock 125 ☐ Reinforced concrete

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

126 ☐ Don't know 127 ☐ Sandy soil 128 ☐ Marshy 129 ☐ Fill
130 ☐ Hard rock 131 ☐ Clay soil 132 ☐ Sandstone, limestone, shale

d. Was the ground: 133 ☐ Level 134 ☐ Sloping 135 ☐ Steep?

e. Check the approximate age of the building:

136 ☐ Built before 1935 137 ☐ Built 1935-65 138 ☐ Built after 1965

10a. What percentage of buildings were damaged?

Within 2 city blocks of your location ☐ None 139 ☐ Few (about 5%) 140 ☐ Many(about 50%) 141 ☐ Most (about 75%)

b. In area covered by your zip code ☐ None 142 ☐ Few (about 5%) 143 ☐ Many (about 50%) 144 ☐ Most (about 75%)

11a. Were springs or well water disturbed? 145 ☐ Level changed 146 ☐ Flow disturbed 147 ☐ Muddied ☐ Don't know

b. Were rivers or lakes changed? 148 ☐ Yes ☐ No ☐ Don't know

12a. Was there earth noise? ☐ No 149 ☐ Faint 150 ☐ Moderate 151 ☐ Loud

b. Direction of noise 152 ☐ North 153 ☐ South 154 ☐ East 155 ☐ West

c. Estimated duration of shaking 156 ☐ Sudden, sharp (less than 10 secs) 157 ☐ Long (30-60 secs) 158 ☐ Short (10-30 secs) 159 ☐ Other

13. What is the approximate population of your city/town? Or are you in a

160 ☐ Less than 1,000 161 ☐ 10,000 to 100,000 164 ☐ Rural area?
162 ☐ 1,000 to 10,000 163 ☐ Over 100,000

This community report is associated with what town or zip code? _____

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.

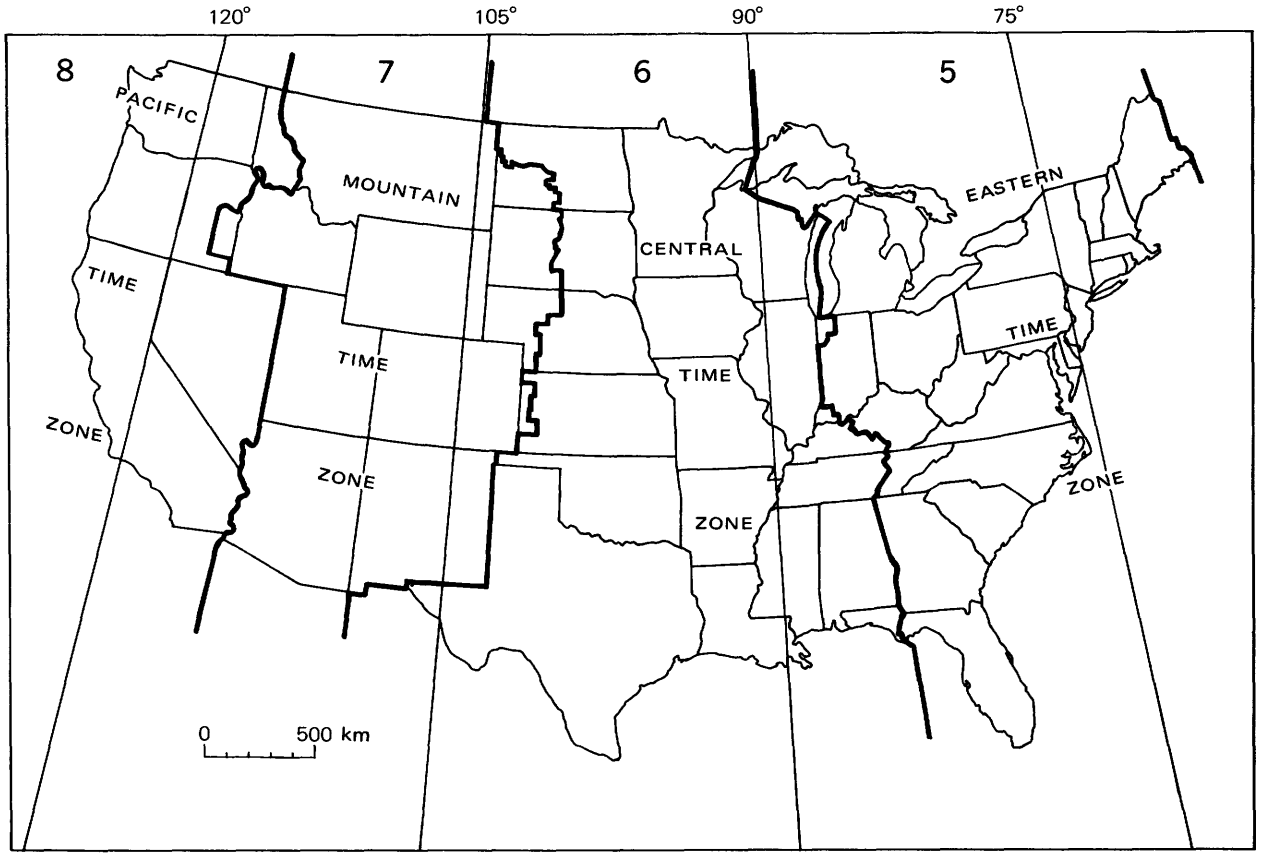

FIGURE 2.--Standard time zones of the conterminous United States. The number in each zone shows the number of hours to be subtracted from Universal Coordinated Time to convert to local standard time. (Subtract 1 hour less for local daylight-saving time.)

Figures 4-6 are maps summarizing the earthquake activity for the conterminous United States, Alaska, and Hawaii for the period October-December 1975. The annual summaries are shown in figures 7-9. The magnitudes plotted in these figures are based on ML or mbLg; if neither was computed, then on MS; and finally on mb, when it was the only magnitude computed.

The magnitude values listed in tables 1 and 2 were furnished by cooperating institutions or determined by the NEIS. 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 NEIS is the source. In table 2 the magnitude source is the same as the location source unless indicated otherwise, by an alphabetic character to the right of the magnitude value. The magnitude values calculated by the NEIS 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 horizontal surface-wave ground amplitude, in micrometers; T is the period, in seconds, and $18 \leq T \leq 22$; and D is the distance, in geocentric degrees (station to epicenter), and $20^\circ \leq D \leq 160^\circ$. 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 $D \geq 5^\circ$.

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

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

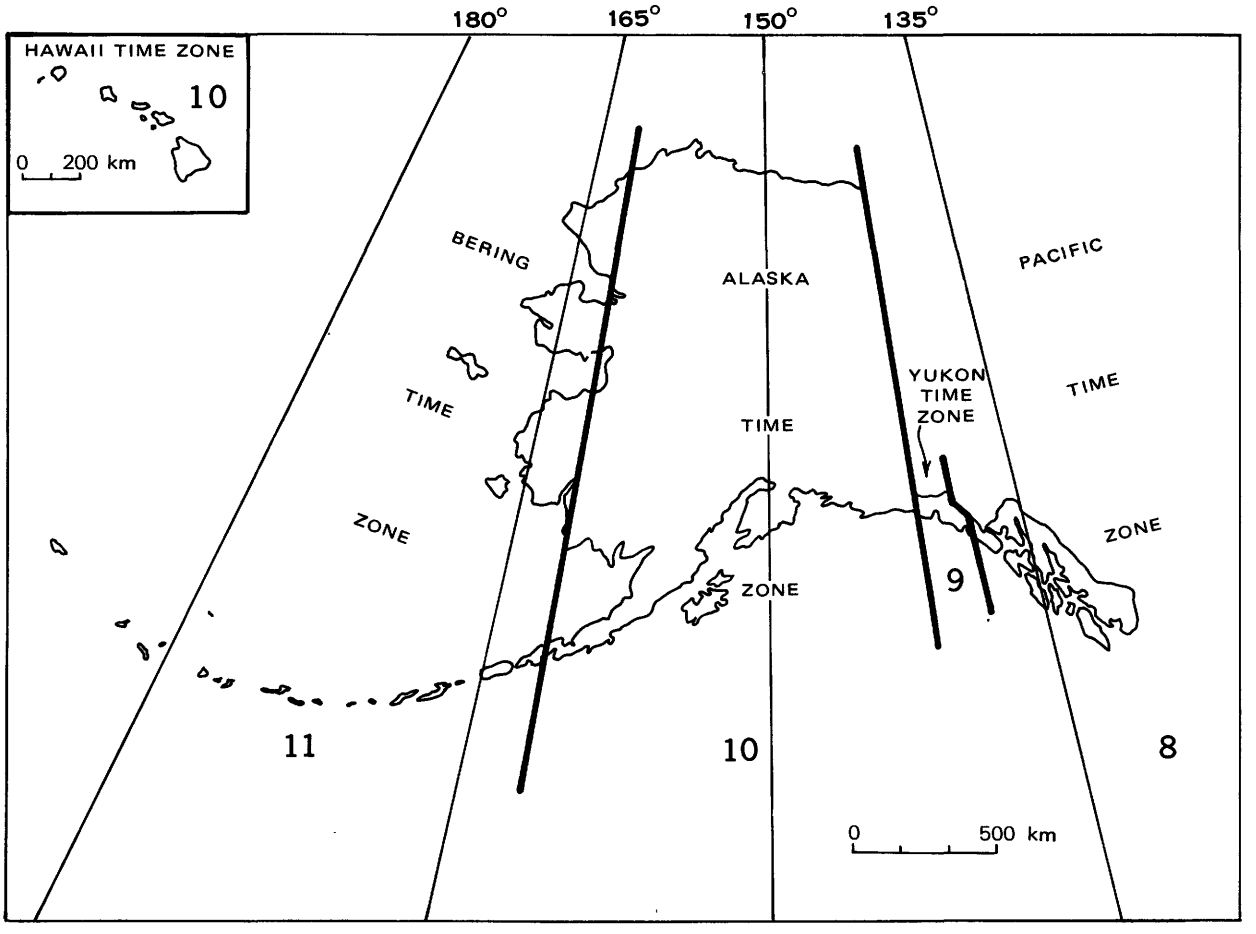

FIGURE 3.--Standard time zones of Alaska and Hawaii. The number in each zone shows the number of hours to be subtracted from Universal Coordinated Time to convert to local standard time. (Subtract 1 hour less for local daylight-saving time.)

and log A_o is a standard value as a function of distance, where the distance is $\leq$600 km. ML values are also calculated from other seismometers by conversion of recorded ground motion to the expected response of the torsion seismometer.

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

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

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.

All of the intensity values (indicated by Roman numerals) listed in this summary were derived, using the Modified Mercalli Intensity Scale of 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 NEIS by people in the area affected by the earthquake. All earthquake reports received which contain minimal information are assigned an Intensity II. 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

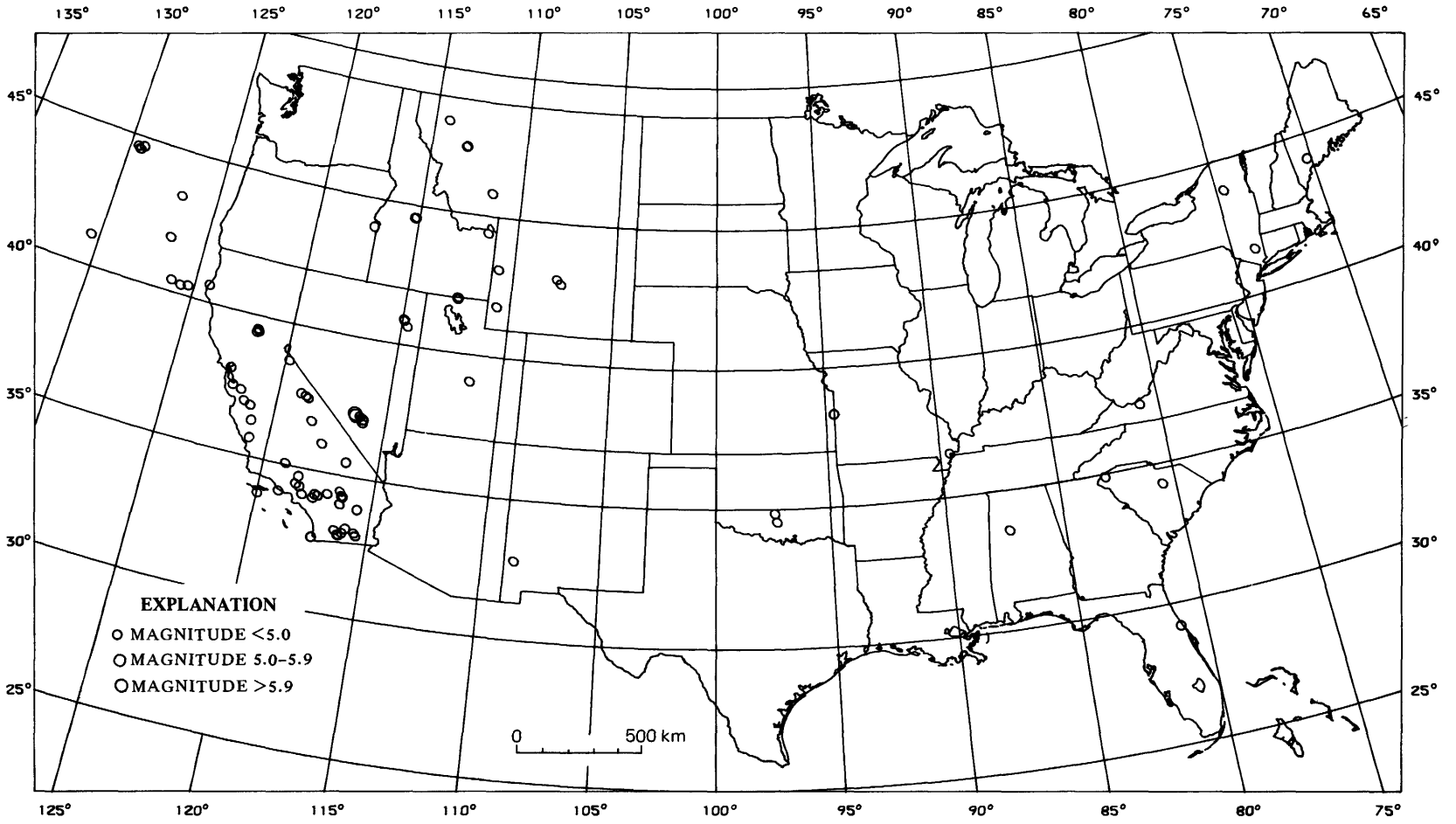

FIGURE 4.--Earthquake epicenters in the conterminous United States for October-December 1975, plotted from table 1.

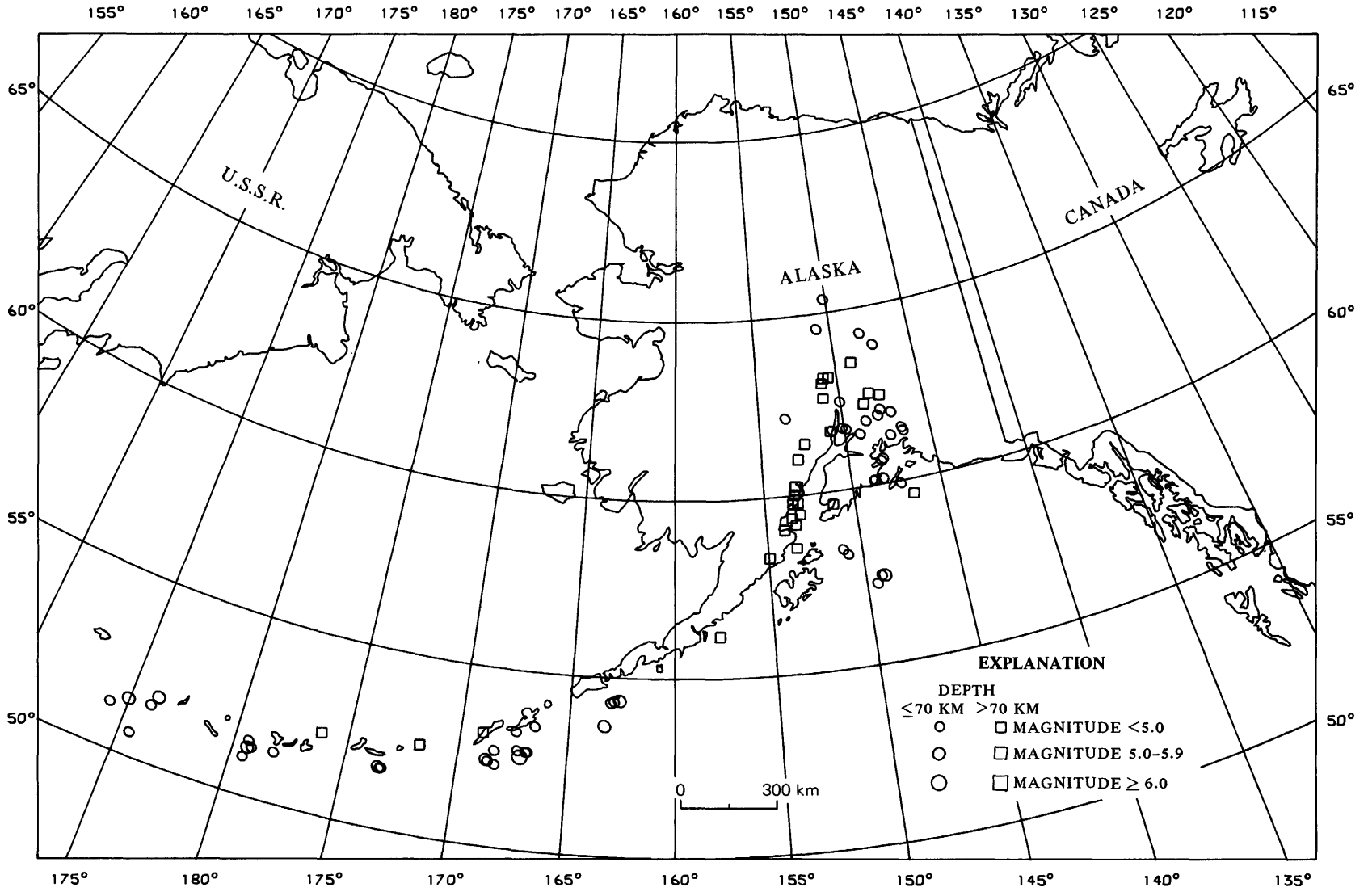

FIGURE 5.--Earthquake epicenters in Alaska for October-December 1975, plotted from table 1.

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, also ground on steep slopes. Twisting, fall, of chimneys, columns, monuments, also factory stacks, towers. Moved conspicuously, overturned, very heavy furniture.

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

X. Cracked ground, especially when loose and wet, up to widths of several inches; fissures up to a yard in width ran parallel to canal and stream banks. Landslides considerable from river banks and steep coasts. Shifted sand and mud horizontally on beaches and flat land. Changed level of water in wells. Threw water on banks of canals, lakes, rivers, etc. Damage serious to dams, dikes, embankments. Severe to well-built wooden structures and bridges, some destroyed. Developed dangerous cracks in excellent brick walls. Destroyed most masonry and frame structures, also their foundations. Bent railroad rails slightly. Tore apart, or crushed endwise, pipe lines buried in earth. Open cracks and broad wavy folds in cement pavements and asphalt road surfaces.

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

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

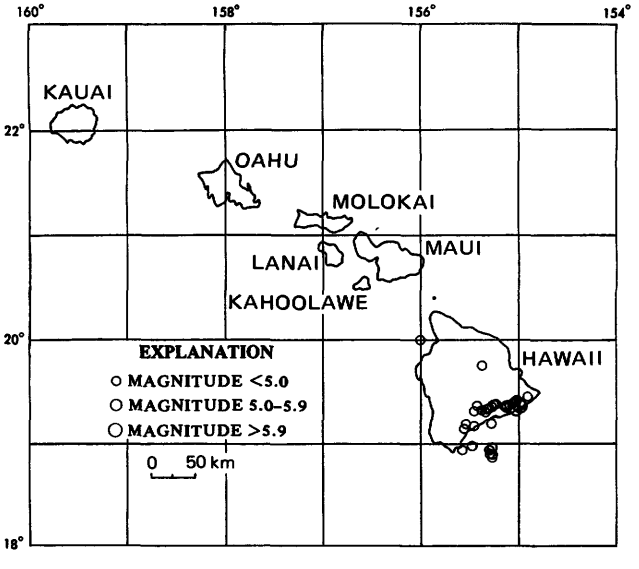

FIGURE 6.--Earthquake epicenters in Hawaii for October-December 1975, plotted from table 1.

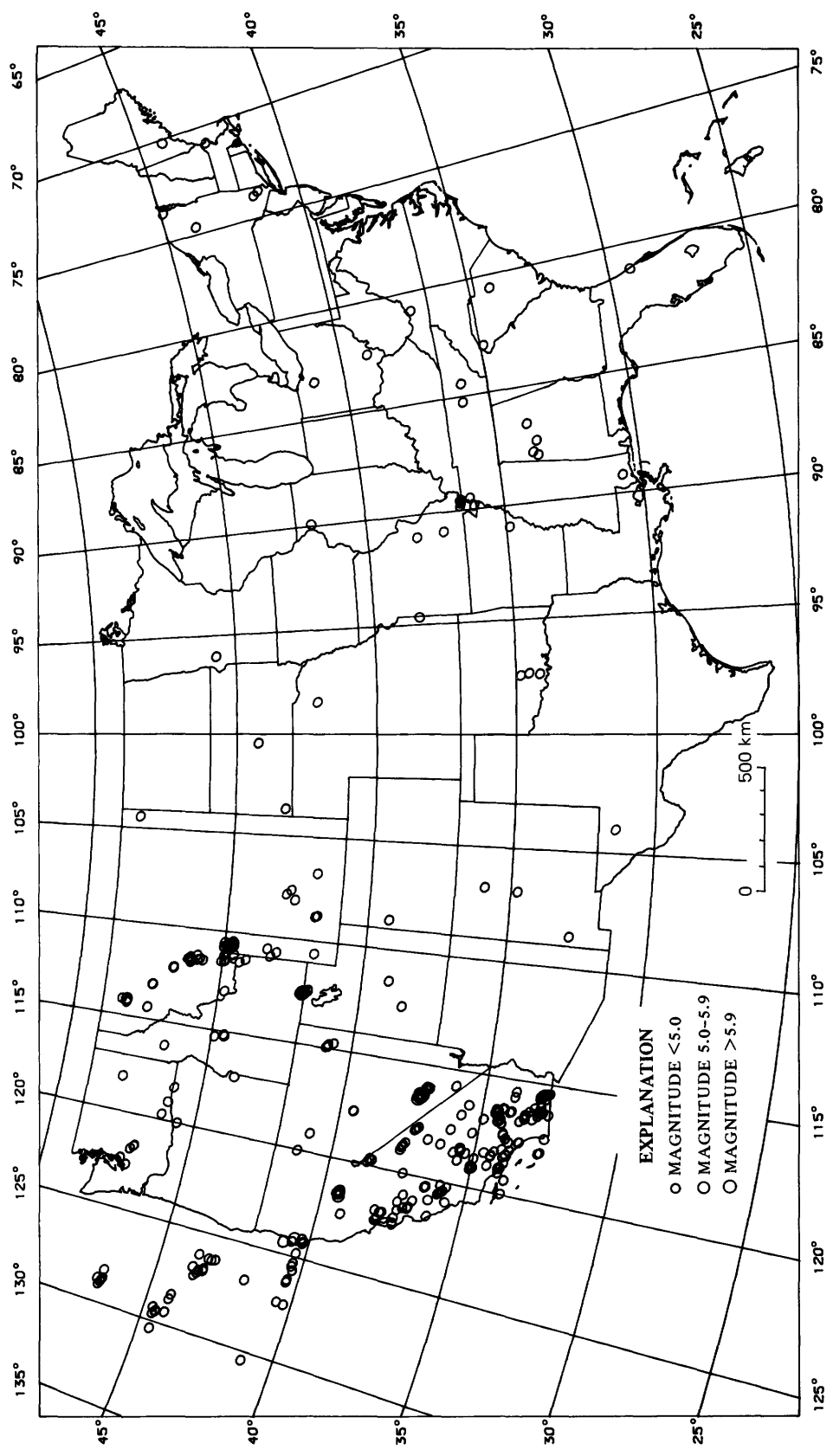

FIGURE 7.--Summary of earthquake epicenters in the conterminous United States for January-December 1975.

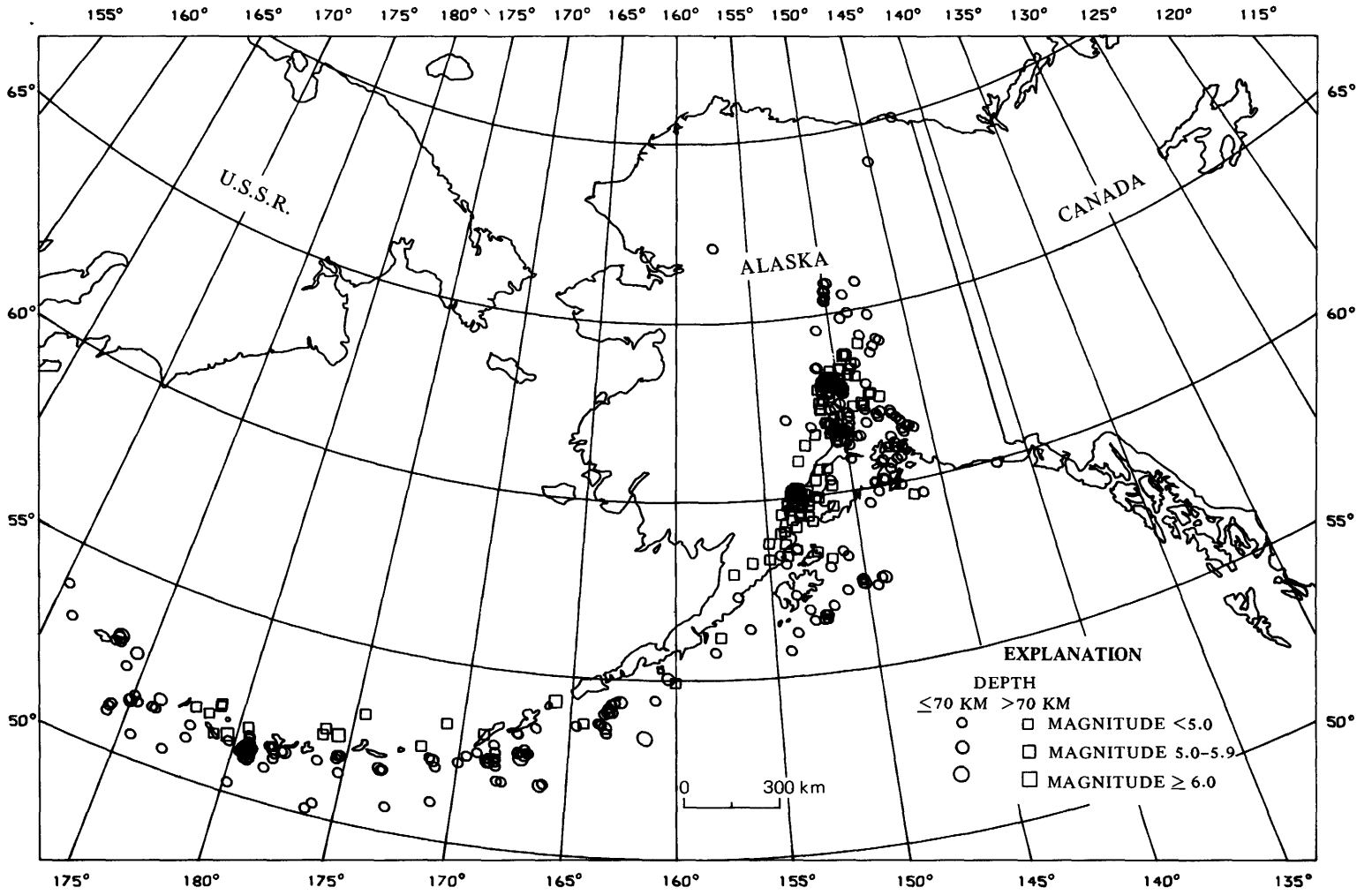

FIGURE 8.--Summary of earthquake epicenters in Alaska for January-December 1975.

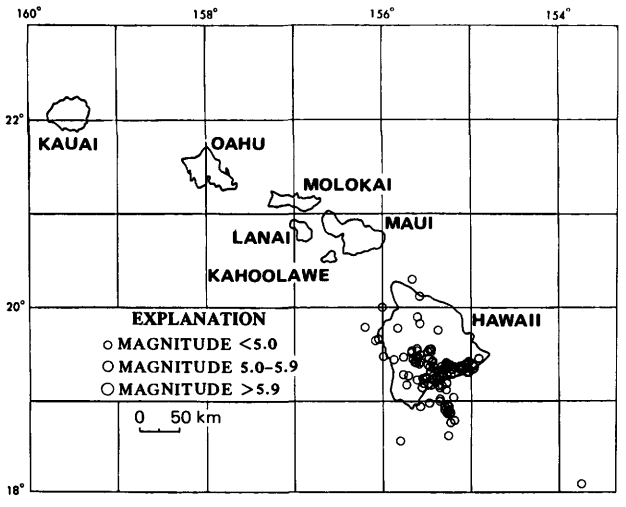

FIGURE 9.--Summary of earthquake epicenters in Hawaii for January-December 1975.

Table 1.–*Summary of U.S. earthquakes for October-December 1975*

[Sources of the hypocenter and magnitudes: (A) U.S. Energy Research and Development Administration; (B) University of California, Berkeley; (D) Montana School of Mines, Missoula; (G) U.S. Geological Survey, National Earthquake Information Service; (H) U.S. Geological Survey, Hawaiian Volcano Observatory; (L) Lamont-Doherty Geological Observatory, Palisades, New York; (M) NOAA, Palmer Observatory, Alaska; (P) California Institute of Technology, Pasadena; (S) St. Louis University, St. Louis, Missouri; (T) University of Oklahoma, Tulsa; (U) University of Utah, Salt Lake City; (V) Virginia Polytechnic Institute and State University, Blacksburg. N, normal depth; UTC, Universal Coordinated Time. For names of local time zones, see figures 2 and 3. Leaders (...) indicate no information available]

Date (1975)	Origin time (UTC) hr	min	s	Lat	Long	Depth (km)	Magnitude mb	MS	ML or mbLg	Maximum intensity	Hypocenter source	Local time Date	Hour
ALABAMA													
NOV. 7	23	39	32.7	33.55 N.	87.36 W.	5	...	...	3.5S	II	G	NOV. 7	05P.M. CST
ALASKA													
OCT. 3	09	53	22.6	51.54 N.	174.95 E.	13	5.2	5.2	...	...	G	OCT. 2	10P.M. BST
OCT. 5	11	58	00.2	60.26 N.	153.21 W.	151	...	...	...	...	G	OCT. 5	01A.M. AST
OCT. 8	06	27	47.4	59.65 N.	151.19 W.	78	3.7	...	...	...	G	OCT. 7	08P.M. AST
OCT. 8	12	21	03.0	62.18 N.	153.40 W.	56	...	...	...	...	G	OCT. 8	02A.M. AST
OCT. 9	13	26	41.6	60.15 N.	148.18 W.	33N	...	...	3.3M	...	G	OCT. 9	03A.M. AST
OCT. 14	06	08	55.7	61.93 N.	147.92 W.	45	...	...	...	...	G	OCT. 13	08P.M. AST
OCT. 16	13	12	06.8	60.20 N.	153.18 W.	99	5.3	...	...	...	G	OCT. 16	03A.M. AST
OCT. 16	20	55	12.9	62.61 N.	150.99 W.	119	...	...	...	...	G	OCT. 16	10A.M. AST
OCT. 17	19	39	12.5	57.45 N.	149.01 W.	33	5.7	5.5	...	...	G	OCT. 17	09A.M. AST
OCT. 18	19	59	20.8	60.12 N.	148.68 W.	66	...	...	...	...	G	OCT. 18	09A.M. AST
OCT. 18	23	18	29.4	60.11 N.	148.72 W.	36	...	...	...	...	G	OCT. 18	01P.M. AST
OCT. 21	01	16	28.7	61.31 N.	147.37 W.	33N	4.6	...	...	...	G	OCT. 20	03P.M. AST
OCT. 21	04	46	22.8	51.27 N.	174.23 E.	33N	4.4	...	...	...	G	OCT. 20	05P.M. BST
OCT. 22	15	27	04.0	61.68 N.	149.88 W.	61	...	...	...	IV	G	OCT. 22	05A.M. AST
OCT. 22	19	22	16.4	51.53 N.	179.33 W.	33N	3.8	...	...	...	G	OCT. 22	08A.M. BST
OCT. 22	19	35	37.7	59.78 N.	153.17 W.	144	...	...	...	...	G	OCT. 22	09A.M. AST
OCT. 23	23	11	31.6	61.73 N.	150.12 W.	33N	...	...	3.2M	III	G	OCT. 23	01P.M. AST
OCT. 28	06	40	59.0	61.42 N.	152.42 W.	132	4.5	...	...	III	G	OCT. 27	08P.M. AST
OCT. 29	03	19	04.0	58.18 N.	150.78 W.	33N	...	...	4.2M	...	G	OCT. 28	05P.M. AST
OCT. 30	12	31	44.2	51.07 N.	179.42 W.	52	4.6	...	...	...	G	OCT. 30	01A.M. BST
OCT. 30	12	36	11.5	51.36 N.	179.34 W.	50	5.0	5.0	...	II	G	OCT. 30	01A.M. BST
NOV. 1	00	48	23.4	53.66 N.	163.37 W.	25	5.7	5.7	...	...	G	OCT. 31	01P.M. BST
NOV. 1	04	48	50.1	60.01 N.	153.28 W.	144	...	...	...	...	G	OCT. 31	06P.M. AST
NOV. 1	17	04	00.2	60.70 N.	148.02 W.	54	...	...	...	...	G	NOV. 1	07A.M. AST
NOV. 2	14	32	20.4	59.36 N.	153.55 W.	112	4.8	...	...	...	G	NOV. 2	04A.M. AST
NOV. 4	04	10	56.8	61.00 N.	152.90 W.	160	...	...	...	...	G	NOV. 3	06P.M. AST
NOV. 5	11	53	19.3	58.35 N.	151.02 W.	33N	...	...	4.2M	...	G	NOV. 5	01A.M. AST
NOV. 6	01	06	42.1	51.87 N.	176.23 E.	61	5.4	...	...	V	G	NOV. 5	02P.M. BST
NOV. 7	06	53	57.8	50.67 N.	175.49 E.	22	4.6	...	...	...	G	NOV. 6	07P.M. BST
NOV. 7	17	07	17.4	59.05 N.	154.03 W.	131	...	...	...	...	G	NOV. 7	07A.M. AST

Table 1.–*Summary of U.S. earthquakes for October-December 1975*–Continued

Date (1975)	Origin time (UTC) hr	min	s	Lat	Long	Depth (km)	Magnitude mb	MS	ML or mbLg	Maximum intensity	Hypocenter source	Local time Date	Hour
ALASKA--Continued													
NOV. 8	04	11	06.8	59.45 N.	153.07 W.	131	...	...	...	...	G	NOV. 7	06P.M. AST
NOV. 10	11	02	43.5	51.38 N.	179.15 W.	57	4.5	...	...	...	G	NOV. 10	12A.M. BST
NOV. 11	08	38	06.7	51.60 N.	176.00 E.	63	4.6	...	...	...	G	NOV. 10	09P.M. BST
NOV. 12	17	38	52.5	58.51 N.	153.47 W.	85	...	...	...	...	G	NOV. 12	07A.M. AST
NOV. 13	02	54	01.2	54.37 N.	162.66 W.	33N	5.3	...	...	V	G	NOV. 12	03P.M. BST
NOV. 13	23	26	07.1	51.72 N.	173.31 W.	37	4.2	...	...	...	G	NOV. 13	12P.M. BST
NOV. 13	23	31	13.3	51.67 N.	173.34 W.	27	4.2	...	...	...	G	NOV. 13	12P.M. BST
NOV. 16	18	36	47.1	62.48 N.	147.59 W.	215	...	...	...	...	G	NOV. 16	08A.M. AST
NOV. 18	13	00	42.4	64.56 N.	150.84 W.	33N	...	...	3.6M	...	G	NOV. 18	03A.M. AST
NOV. 21	10	51	23.7	63.20 N.	150.48 W.	132	...	...	...	...	G	NOV. 21	12A.M. AST
NOV. 22	02	36	15.8	57.26 N.	149.45 W.	33N	4.3	...	...	...	G	NOV. 21	04P.M. AST
NOV. 22	08	50	09.1	51.72 N.	173.43 W.	54	5.2	...	...	...	G	NOV. 21	09P.M. BST
NOV. 22	12	13	50.0	59.17 N.	153.38 W.	224	...	...	...	...	G	NOV. 22	02A.M. AST
NOV. 22	16	45	12.6	59.57 N.	146.69 W.	121	...	...	...	...	G	NOV. 22	06A.M. AST
NOV. 23	13	55	12.3	52.57 N.	171.76 W.	133	4.2	...	...	...	G	NOV. 23	02A.M. BST
NOV. 23	21	10	11.3	63.89 N.	147.45 W.	56	...	...	...	...	G	NOV. 23	11A.M. AST
NOV. 26	22	50	08.4	61.69 N.	150.73 W.	64	...	...	...	...	G	NOV. 26	12P.M. AST
NOV. 30	05	31	25.7	52.30 N.	176.27 W.	99	4.8	...	...	III	G	NOV. 29	06P.M. BST
NOV. 30	10	42	00.0	64.28 N.	148.15 W.	33N	...	...	...	...	G	NOV. 30	12A.M. AST
NOV. 30	20	30	17.0	52.60 N.	167.18 W.	24	5.7	6.3	...	...	G	NOV. 30	09A.M. BST
NOV. 30	21	06	49.3	52.78 N.	167.30 W.	33N	4.3	...	...	...	G	NOV. 30	10A.M. BST
DEC. 1	02	05	23.4	53.30 N.	167.44 W.	53	4.7	...	...	...	G	NOV. 30	03P.M. BST
DEC. 1	05	52	22.8	52.76 N.	166.94 W.	30	4.3	...	...	...	G	NOV. 30	06P.M. BST
DEC. 1	21	32	43.7	52.70 N.	168.38 W.	61	4.2	...	...	...	G	DEC. 1	10A.M. BST
DEC. 1	22	15	21.2	61.47 N.	149.14 W.	42	3.7	...	...	IV	G	DEC. 1	12P.M. AST
DEC. 3	07	38	10.2	61.67 N.	150.83 W.	78	...	...	...	II	G	DEC. 2	09P.M. AST
DEC. 4	09	43	19.8	65.37 N.	150.12 W.	33N	...	...	3.4M	...	G	DEC. 3	11P.M. AST
DEC. 5	17	54	39.6	54.36 N.	162.94 W.	45	4.7	...	...	...	G	DEC. 5	06A.M. BST
DEC. 8	21	19	47.8	52.76 N.	166.86 W.	19	4.9	...	...	...	G	DEC. 8	10A.M. BST
DEC. 11	03	40	38.0	51.43 N.	178.13 W.	66	4.5	...	...	...	G	DEC. 10	04P.M. BST
DEC. 11	14	42	31.0	53.51 N.	166.61 W.	53	4.1	...	...	...	G	DEC. 11	03A.M. BST
DEC. 14	03	48	50.9	59.77 N.	153.43 W.	136	4.3	...	...	...	G	DEC. 13	05P.M. AST
DEC. 15	22	54	48.1	56.20 N.	157.73 W.	77	4.5	...	...	...	G	DEC. 15	12P.M. AST
DEC. 20	08	14	10.8	61.36 N.	146.61 W.	37	...	...	3.1M	...	G	DEC. 19	10P.M. AST
DEC. 20	13	11	11.2	57.48 N.	149.19 W.	33N	...	...	...	...	G	DEC. 20	03A.M. AST
DEC. 20	14	00	01.6	61.47 N.	146.66 W.	24	...	...	3.2M	...	G	DEC. 20	04A.M. AST
DEC. 21	13	24	05.1	53.16 N.	168.97 W.	72	4.3	...	...	IV	G	DEC. 21	02A.M. BST
DEC. 21	19	09	47.5	60.66 N.	148.17 W.	33N	...	...	3.6M	...	G	DEC. 21	09A.M. AST
DEC. 22	14	54	33.3	59.93 N.	147.28 W.	33N	...	...	3.7M	...	G	DEC. 22	04A.M. AST
DEC. 24	01	32	26.9	63.19 N.	150.81 W.	135	...	...	...	...	G	DEC. 23	03P.M. AST
DEC. 24	14	25	21.6	62.57 N.	148.19 W.	72	4.1	...	...	...	G	DEC. 24	04A.M. AST
DEC. 24	23	32	39.6	52.43 N.	168.68 W.	33N	5.0	...	...	...	G	DEC. 24	12P.M. BST
DEC. 25	16	50	42.0	61.82 N.	148.67 W.	25	...	...	2.8M	II	G	DEC. 25	06A.M. AST
DEC. 25	19	59	32.5	54.29 N.	163.09 W.	33N	4.4	...	...	...	G	DEC. 25	08A.M. BST
DEC. 26	13	40	07.8	62.47 N.	150.04 W.	58	...	...	...	IV	G	DEC. 26	03A.M. AST
DEC. 27	00	36	32.8	61.95 N.	147.13 W.	32	...	...	3.2M	...	G	DEC. 26	02P.M. AST
DEC. 27	01	31	50.5	62.05 N.	147.70 W.	63	...	...	...	...	G	DEC. 26	03P.M. AST
DEC. 28	15	06	35.1	52.30 N.	168.30 W.	29	4.6	...	...	...	G	DEC. 28	04A.M. BST
DEC. 28	15	20	50.8	52.39 N.	168.59 W.	38	4.3	...	...	...	G	DEC. 28	04A.M. BST
DEC. 28	18	06	16.7	58.30 N.	154.96 W.	94	...	...	...	...	G	DEC. 28	08A.M. AST
DEC. 29	00	36	18.0	63.50 N.	148.98 W.	104	...	...	3.3M	...	G	DEC. 28	02P.M. AST
DEC. 29	17	52	33.5	62.30 N.	148.63 W.	73	...	...	3.9M	IV	G	DEC. 29	07A.M. AST
DEC. 30	02	22	02.9	63.03 N.	150.96 W.	136	3.8	...	3.3M	...	G	DEC. 29	04P.M. AST
CALIFORNIA													
OCT. 2	06	59		NEAR NELSON		..	...	...	2.5B	V	.	OCT. 1	10P.M. PST
OCT. 3	09	44		NEAR DANVILLE		..	...	...	2.5B	II	.	OCT. 3	01A.M. PST
OCT. 4	09	53	12.3	37.39 N.	118.94 W.	6	...	...	3.1P	...	P	OCT. 4	01A.M. PST
OCT. 5	19	08	57.2	36.72 N.	118.30 W.	5	...	...	3.5B	...	G	OCT. 5	11A.M. PST
OCT. 7	21	12	44.4	37.56 N.	118.75 W.	2	...	...	3.7B	IV	G	OCT. 7	01P.M. PST
OCT. 10	03	35	37.7	38.70 N.	119.85 W.	5	...	...	3.1B	...	G	OCT. 9	07P.M. PST
OCT. 10	07	44	47.4	39.47 N.	121.50 W.	6	3.9	...	3.5B	IV	B	OCT. 9	11P.M. PST
OCT. 11	16	55	01.2	34.09 N.	118.09 W.	5	...	...	3.1P	III	P	OCT. 11	08A.M. PST
OCT. 13	16	06	50.7	39.53 N.	121.57 W.	10	...	...	3.0B	...	G	OCT. 13	08A.M. PST
OCT. 14	10	13	07.6	33.06 N.	116.44 W.	13	4.2	...	3.4P	IV	P	OCT. 14	02A.M. PST
OCT. 14	11	11	19.4	33.06 N.	116.47 W.	16	4.0	...	3.4P	IV	P	OCT. 14	03A.M. PST
OCT. 15	14	30		NEAR LANCASTER		..	...	...	...	IV	.	OCT. 15	06A.M. PST
OCT. 21	09	15	51.9	33.96 N.	116.41 W.	15	4.8	...	3.7B	IV	.	OCT. 21	01A.M. PST
OCT. 23	07	53		NEAR PALO ALTO		..	...	...	2.4B	IV	.	OCT. 22	11P.M. PST
OCT. 23	10	40		NEAR GILROY		..	...	...	...	IV	.	OCT. 23	02A.M. PST

Table 1.–*Summary of U.S. earthquakes for October-December 1975*–Continued

Date (1975)	Origin time (UTC) hr min s	Lat	Long	Depth (km)	Magnitude mb	Magnitude MS	Magnitude ML or mbLg	Maximum intensity	Hypocenter source	Local time Date	Local time Hour
CALIFORNIA--Continued											
OCT. 23	22 14 02.4	34.43 N.	118.42 W.	9	...	...	3.1P	III	.	OCT. 23	02P.M. PST
OCT. 28	03 41 15.0	39.52 N.	121.56 W.	10	...	...	3.4B	IV	G	OCT. 27	07P.M. PST
NOV. 1	12 28 45.4	32.59 N.	117.27 W.	8	...	...	3.0P	...	P	NOV. 1	04A.M. PST
NOV. 3	21 20	NEAR HONCUT		..	...	...	...	III	.	NOV. 3	01P.M. PST
NOV. 5	02 37 19.8	34.16 N.	117.38 W.	7	3.9	...	3.0P	II	P	NOV. 4	06P.M. PST
NOV. 5	05 37 45.9	39.40 N.	121.59 W.	9	...	...	3.3B	II	G	NOV. 4	09P.M. PST
NOV. 5	23 12 53.2	33.89 N.	115.54 W.	0	...	...	3.1P	...	P	NOV. 5	03P.M. PST
NOV. 5	23 18	NEAR PALERMO		..	...	...	...	II	.	NOV. 5	03P.M. PST
NOV. 7	22 10 45.9	34.44 N.	116.47 W.	8	...	...	3.3P	...	P	NOV. 7	02P.M. PST
NOV. 13	02 36 33.3	35.67 N.	120.78 W.	8	...	...	3.4P	...	P	NOV. 12	06P.M. PST
NOV. 14	09 29 48.5	40.62 N.	124.31 W.	23	4.9	4.5	4.8B	VI	G	NOV. 14	01A.M. PST
NOV. 15	03 35 01.6	39.42 N.	121.57 W.	5	4.7	3.3	4.0B	IV	B	NOV. 14	07P.M. PST
NOV. 15	06 13 27.6	34.30 N.	116.34 W.	6	4.6	...	4.6P	IV	P	NOV. 14	10P.M. PST
NOV. 15	06 20 46.9	34.29 N.	116.36 W.	12	...	...	3.2P	...	P	NOV. 14	10P.M. PST
NOV. 15	07 43 48.4	34.26 N.	116.36 W.	8	...	...	3.3P	...	P	NOV. 14	11P.M. PST
NOV. 15	22 05 51.3	34.25 N.	116.36 W.	8	3.5	...	3.1P	II	P	NOV. 15	02P.M. PST
NOV. 18	11 50 30.8	36.93 N.	121.45 W.	11	...	...	3.0B	II	B	NOV. 18	03A.M. PST
NOV. 18	16 04 45.0	34.03 N.	117.59 W.	5	...	...	3.0P	II	P	NOV. 18	08A.M. PST
NOV. 18	18 22 30.3	34.26 N.	116.37 W.	8	...	...	3.1P	...	P	NOV. 18	10A.M. PST
NOV. 22	08 34	NEAR WILLITS		..	...	...	...	IV	.	NOV. 22	12A.M. PST
NOV. 29	08 17 02.2	37.53 N.	118.47 W.	3	...	...	3.1P	...	P	NOV. 29	12A.M. PST
NOV. 29	11 44 15.9	33.50 N.	116.50 W.	8	...	...	3.2P	...	P	NOV. 29	03A.M. PST
DEC. 2	07 12	NEAR OROVILLE		..	...	...	...	IV	.	DEC. 1	11P.M. PST
DEC. 6	01 22 11.0	36.06 N.	115.54 W.	13	...	...	3.1P	II	P	DEC. 5	05P.M. PST
DEC. 7	18 59 10.1	37.97 N.	122.36 W.	6	3.1	...	3.0B	IV	B	DEC. 7	10A.M. PST
DEC. 8	07 04 07.6	33.15 N.	116.06 W.	1	...	...	3.2P	...	P	DEC. 7	11P.M. PST
DEC. 9	08 35 34.8	36.24 N.	120.99 W.	8	...	...	3.3P	...	P	DEC. 9	12A.M. PST
DEC. 9	11 01 43.3	34.03 N.	117.59 W.	5	...	...	3.0P	III	P	DEC. 9	03A.M. PST
DEC. 10	19 19 26.8	37.50 N.	118.47 W.	10	...	...	3.5B	...	G	DEC. 10	11A.M. PST
DEC. 12	09 57 59.0	32.96 N.	115.49 W.	14	3.4	...	3.8P	V	P	DEC. 12	01A.M. PST
DEC. 14	11 56 27.1	34.29 N.	117.00 W.	8	3.3	...	3.3P	...	P	DEC. 14	03A.M. PST
DEC. 14	18 16 20.1	34.29 N.	116.32 W.	2	4.5	...	4.7P	VI	P	DEC. 14	10A.M. PST
DEC. 17	04 37 39.0	34.25 N.	116.33 W.	8	...	...	3.1P	...	P	DEC. 16	08P.M. PST
DEC. 19	05 02 00.4	36.02 N.	117.61 W.	6	...	...	3.9P	...	P	DEC. 18	09P.M. PST
DEC. 22	03 33 19.8	35.01 N.	119.01 W.	12	4.0	...	3.5P	IV	P	DEC. 21	07P.M. PST
DEC. 25	04 45 07.0	37.30 N.	121.68 W.	6	...	...	3.3B	...	B	DEC. 24	08P.M. PST
DEC. 25	07 18 52.3	32.90 N.	116.26 W.	4	...	...	4.0P	...	P	DEC. 24	11P.M. PST
DEC. 25	09 20 39.3	32.90 N.	116.26 W.	4	4.4	...	3.7P	...	P	DEC. 25	01A.M. PST
DEC. 25	09 31 10.9	32.91 N.	116.27 W.	2	...	...	3.5P	...	P	DEC. 25	01A.M. PST
DEC. 25	14 35 19.8	33.99 N.	119.09 W.	15	3.5	...	3.4P	...	P	DEC. 25	06A.M. PST
DEC. 27	21 08 37.5	34.32 N.	118.30 W.	2	...	...	3.1P	...	P	DEC. 27	01P.M. PST
DEC. 27	23 20 04.6	32.90 N.	116.27 W.	2	...	...	3.0P	...	P	DEC. 27	03P.M. PST
DEC. 29	15 07 32.3	36.82 N.	121.13 W.	9	...	...	3.4B	...	B	DEC. 29	07A.M. PST
CALIFORNIA-OFF THE COAST											
OCT. 14	06 11 38.1	41.89 N.	126.70 W.	10	4.1	...	...	...	G	OCT. 13	10P.M. PST
NOV. 12	07 00 22.9	40.37 N.	125.27 W.	33N	4.3	...	3.6B	...	G	NOV. 11	11P.M. PST
NOV. 16	17 29 32.4	40.43 N.	126.11 W.	33N	4.9	4.0	4.9B	...	G	NOV. 16	09A.M. PST
DEC. 11	07 35 37.3	40.33 N.	125.65 W.	33N	3.8	...	3.7B	...	G	DEC. 10	11P.M. PST
DEC. 21	01 41 48.9	33.69 N.	120.20 W.	12	...	...	3.4P	...	P	DEC. 20	05P.M. PST
FLORIDA											
NOV. 4	11 57	NEAR DAYTONA BEACH		..	...	...	2.9V	IV	.	NOV. 4	06A.M. EST
HAWAII											
OCT. 2	07 34 39.5	19.32 N.	155.23 W.	8	...	...	3.6H	IV	H	OCT. 1	09P.M. HST
OCT. 3	10 48 18.5	18.98 N.	155.26 W.	10	...	...	3.0H	...	H	OCT. 3	12A.M. HST
OCT. 9	04 05 37.7	19.27 N.	155.39 W.	7	...	...	3.4H	...	H	OCT. 8	06P.M. HST
OCT. 19	11 05 46.2	19.13 N.	155.55 W.	34	...	...	3.6H	...	H	OCT. 19	01A.M. HST
OCT. 19	19 00 53.0	18.88 N.	155.26 W.	10	...	...	3.2H	...	H	OCT. 19	09A.M. HST
OCT. 22	22 39 14.0	19.74 N.	155.38 W.	23	...	...	3.1H	...	H	OCT. 22	12P.M. HST
OCT. 23	02 52 54.7	18.90 N.	155.28 W.	13	...	...	3.2H	...	H	OCT. 22	04P.M. HST
OCT. 27	09 37 40.2	19.31 N.	155.46 W.	8	...	...	3.3H	III	H	OCT. 26	11P.M. HST
OCT. 28	05 35 52.8	19.32 N.	155.23 W.	8	...	...	3.6H	IV	H	OCT. 27	07P.M. HST
OCT. 28	05 37 37.5	18.90 N.	155.27 W.	9	...	...	3.3H	...	H	OCT. 27	07P.M. HST
OCT. 31	03 47 34.2	18.91 N.	155.29 W.	8	...	...	3.2H	...	H	OCT. 30	05P.M. HST
OCT. 31	14 50 53.6	19.18 N.	155.64 W.	8	...	...	3.8H	IV	H	OCT. 31	04A.M. HST
NOV. 1	20 22 03.8	18.92 N.	155.29 W.	14	...	...	3.2H	...	H	NOV. 1	10A.M. HST
NOV. 3	05 25 31.2	18.92 N.	155.28 W.	12	...	...	3.1H	...	H	NOV. 2	07P.M. HST
NOV. 6	12 05 28.4	19.32 N.	155.31 W.	28	4.4	...	4.6H	V	H	NOV. 6	02A.M. HST

Table 1.–*Summary of U.S. earthquakes for October–December 1975*–Continued

Date (1975)	Origin time (UTC) hr	min	s	Lat	Long	Depth (km)	Magnitude mb	MS	ML or mbLg	Maximum intensity	Hypocenter source	Local time Date	Hour
HAWAII--Continued													
NOV. 6	13	21	18.7	19.31 N.	155.31 W.	28	...	...	4.1H	IV	H	NOV. 6	03A.M. HST
NOV. 6	14	02	56.5	19.32 N.	155.31 W.	27	...	...	3.8H	IV	H	NOV. 6	04A.M. HST
NOV. 8	05	12	14.6	19.35 N.	155.28 W.	26	...	...	3.3H	...	H	NOV. 7	07P.M. HST
NOV. 8	19	59	38.5	19.29 N.	155.86 W.	12	...	...	3.5H	...	H	NOV. 8	09A.M. HST
NOV. 10	11	26	29.8	19.35 N.	155.04 W.	8	...	...	4.1H	IV	H	NOV. 10	01A.M. HST
NOV. 11	16	09	12.1	19.35 N.	155.26 W.	8	...	...	3.2H	...	H	NOV. 11	06A.M. HST
NOV. 14	09	02	04.8	19.36 N.	155.07 W.	7	...	...	3.6H	IV	H	NOV. 13	11P.M. HST
NOV. 14	11	23	25.8	19.32 N.	155.34 W.	31	...	...	3.8H	IV	H	NOV. 14	01A.M. HST
NOV. 14	11	51	45.3	18.97 N.	155.48 W.	39	...	...	3.3H	III	H	NOV. 14	01A.M. HST
NOV. 14	17	58	45.5	18.92 N.	155.57 W.	39	...	...	3.1H	...	H	NOV. 14	07A.M. HST
NOV. 15	22	55	21.2	19.32 N.	155.22 W.	8	...	...	4.3H	IV	H	NOV. 15	12P.M. HST
NOV. 17	23	59	02.7	19.16 N.	156.45 W.	8	...	...	3.2H	...	H	NOV. 17	01P.M. HST
NOV. 18	23	10	01.9	19.37 N.	155.07 W.	7	...	...	3.1H	III	H	NOV. 18	01P.M. HST
NOV. 29	13	35	41.0	19.35 N.	155.06 W.	5	5.8	5.1	5.7H	VI	H	NOV. 29	03A.M. HST
NOV. 29	14	47	40.3	19.34 N.	155.03 W.	5	6.0	7.1	7.2H	VIII	H	NOV. 29	04A.M. HST
NOV. 29	18	43	59.8	19.19 N.	155.28 W.	2	4.9	...	4.6H	...	.	NOV. 29	08A.M. HST
DEC. 1	22	19	03.0	19.36 N.	155.01 W.	8	...	...	3.4H	III	H	DEC. 1	12P.M. HST
DEC. 2	04	33	04.2	19.37 N.	155.12 W.	7	...	...	3.4H	...	H	DEC. 1	06P.M. HST
DEC. 2	10	15	47.9	19.36 N.	155.25 W.	8	...	...	3.6H	IV	H	DEC. 2	12A.M. HST
DEC. 2	17	24	05.7	19.31 N.	155.34 W.	9	...	...	3.3H	...	H	DEC. 2	07A.M. HST
DEC. 2	20	11	26.1	19.39 N.	155.05 W.	1	...	...	3.1H	...	H	DEC. 2	10A.M. HST
DEC. 2	21	18	52.3	19.41 N.	155.02 W.	1	...	...	3.0H	...	H	DEC. 2	11A.M. HST
DEC. 3	00	21	25.7	19.31 N.	155.38 W.	7	...	...	3.2H	III	H	DEC. 2	02P.M. HST
DEC. 3	04	56	24.9	19.38 N.	155.11 W.	4	...	...	3.9H	IV	H	DEC. 2	06P.M. HST
DEC. 3	05	00	07.7	19.38 N.	154.98 W.	1	...	...	4.1H	...	H	DEC. 2	07P.M. HST
DEC. 4	06	27	56.6	19.34 N.	155.09 W.	5	...	...	3.6H	III	H	DEC. 2	08P.M. HST
DEC. 4	06	43	53.8	19.31 N.	155.34 W.	8	...	...	3.1H	III	H	DEC. 2	08P.M. HST
DEC. 4	11	09	07.7	19.38 N.	154.98 W.	1	...	...	4.1H	IV	H	DEC. 4	01A.M. HST
DEC. 4	11	41	33.5	19.33 N.	155.20 W.	7	...	...	3.0H	...	H	DEC. 4	01A.M. HST
DEC. 4	21	39	09.8	19.36 N.	154.98 W.	4	...	...	3.5H	III	H	DEC. 4	11A.M. HST
DEC. 5	00	21	33.0	19.43 N.	154.90 W.	6	...	...	3.7H	...	H	DEC. 4	02P.M. HST
DEC. 5	03	32	17.1	19.36 N.	155.09 W.	6	...	...	3.6H	...	H	DEC. 4	05P.M. HST
DEC. 6	04	11	55.0	19.29 N.	155.35 W.	8	...	...	3.9H	IV	H	DEC. 5	06P.M. HST
DEC. 6	13	50	25.9	19.34 N.	155.29 W.	7	...	...	3.2H	...	H	DEC. 6	03A.M. HST
DEC. 7	13	47	20.8	19.36 N.	155.26 W.	9	...	...	3.2H	...	H	DEC. 7	03A.M. HST
DEC. 7	23	09	22.2	19.27 N.	155.20 W.	6	...	...	3.2H	...	H	DEC. 7	01P.M. HST
DEC. 8	12	24	50.9	19.31 N.	155.34 W.	9	...	...	3.3H	...	H	DEC. 8	02A.M. HST
DEC. 9	01	26	42.7	19.33 N.	155.12 W.	1	...	...	3.4H	...	H	DEC. 8	03P.M. HST
DEC. 9	05	47	31.7	19.37 N.	155.12 W.	8	...	...	3.1H	...	H	DEC. 8	07P.M. HST
DEC. 9	08	35	45.4	19.34 N.	155.12 W.	6	...	...	3.1H	...	H	DEC. 8	10P.M. HST
DEC. 9	17	01	59.9	19.36 N.	155.25 W.	9	...	...	3.1H	...	H	DEC. 8	07A.M. HST
DEC. 9	19	32	40.7	19.31 N.	155.34 W.	8	...	...	3.7H	...	H	DEC. 9	09A.M. HST
DEC. 9	23	55	54.4	19.36 N.	155.13 W.	8	...	...	3.9H	IV	H	DEC. 9	01P.M. HST
DEC. 10	21	18	36.9	19.36 N.	155.42 W.	10	...	...	3.1H	...	H	DEC. 10	11A.M. HST
DEC. 11	01	43	16.7	19.34 N.	155.20 W.	8	...	...	3.8H	IV	H	DEC. 10	03P.M. HST
DEC. 11	15	41	18.9	19.37 N.	155.12 W.	7	...	...	3.0H	III	H	DEC. 11	05A.M. HST
DEC. 13	01	36	54.5	19.36 N.	155.14 W.	7	...	...	4.3H	IV	H	DEC. 12	03P.M. HST
DEC. 13	10	53	36.0	19.37 N.	155.05 W.	8	...	...	4.4H	IV	H	DEC. 13	12A.M. HST
DEC. 14	20	48	49.1	19.35 N.	155.11 W.	7	...	...	3.1H	...	H	DEC. 14	10A.M. HST
DEC. 15	00	09	27.1	19.31 N.	155.35 W.	9	...	...	3.5H	...	H	DEC. 14	02P.M. HST
DEC. 27	08	55	24.0	20.00 N.	156.00 W.	30	...	...	4.1H	II	H	DEC. 26	10P.M. HST
IDAHO													
OCT. 13	06	59	25.2	42.00 N.	112.56 W.	5	...	...	...	...	G	OCT. 12	11P.M. MST
DEC. 5	11	06	40.5	44.42 N.	111.44 W.	10	...	...	2.4A	...	G	DEC. 5	04A.M. MST
DEC. 20	01	44	12.9	42.00 N.	112.53 W.	5	...	...	2.7G	...	G	DEC. 19	06P.M. MST
DEC. 26	04	44	09.5	44.60 N.	115.15 W.	5	3.5	...	2.9G	...	G	DEC. 25	09P.M. MST
DEC. 26	04	46	47.2	44.55 N.	115.22 W.	5	...	...	3.1G	...	G	DEC. 25	09P.M. MST
KANSAS													
DEC. 4	18	59	59.9	38.24 N.	94.62 W.	0	...	...	3.3S	...	G	DEC. 4	12P.M. CST
MAINE													
OCT. 10	04	54		NEAR LEWISTON		..	...	...	...	II		OCT. 9	11P.M. EST
MISSOURI													
DEC. 3	03	00	33.3	36.54 N.	89.57 W.	5	...	...	2.8S	V	S	DEC. 2	09P.M. CST

Table 1.–*Summary of U.S. earthquakes for October-December 1975*–Continued

Date (1975)	Origin time (UTC) hr	min	s	Lat	Long	Depth (km)	Magnitude mb	MS	ML or mbLg	Maximum intensity	Hypocenter source	Local time Date	Hour
MONTANA													
OCT. 20	14	17	54.8	48.20 N.	114.27 W.	25	4.3	...	3.6G	IV	G	OCT. 20	07A.M. MST
OCT. 30	19	06		NEAR SOMERS		..	...	...	2.5G	II	.	OCT. 30	12P.M. MST
NOV. 3	04	56	39.7	45.81 N.	111.49 W.	19	...	...	3.4A	...	G	NOV. 2	09P.M. MST
DEC. 11	11	50	36.6	47.35 N.	113.15 W.	10	...	...	2.7D	...	G	DEC. 11	04A.M. MST
DEC. 11	16	01	07.0	47.39 N.	113.13 W.	10	...	...	2.8D	...	G	DEC. 11	09A.M. MST
NEVADA													
OCT. 2	14	58	29.0	40.69 N.	114.71 W.	5	...	...	...	...	G	OCT. 2	06A.M. PST
OCT. 6	00	41	58.1	40.91 N.	114.93 W.	5	...	...	...	...	G	OCT. 5	04P.M. PST
OCT. 12	09	47	03.9	40.88 N.	114.90 W.	5	...	...	3.7A	...	G	OCT. 12	01A.M. PST
OCT. 24	17	11	26.1	37.22 N.	116.18 W.	0	4.7	...	4.7B	...	A	OCT. 24	09A.M. PST
OCT. 28	14	30	00.2	37.29 N.	116.41 W.	0	6.4	5.4	6.3P	VI	A	OCT. 28	06A.M. PST
NOV. 3	02	19	47.0	37.29 N.	116.41 W.	0	4.5	...	4.7B	...	G	NOV. 2	06P.M. PST
NOV. 18	15	30	00.3	36.99 N.	116.03 W.	5	4.4	...	4.1B	...	G	NOV. 18	07A.M. PST
NOV. 20	15	00	00.1	37.22 N.	116.37 W.	0	6.0	...	6.0P	...	A	NOV. 20	07A.M. PST
NOV. 26	15	30	00.2	37.12 N.	116.02 W.	0	5.0	...	4.4B	...	A	NOV. 26	07A.M. PST
DEC. 20	20	00	00.2	37.13 N.	116.06 W.	0	5.7	4.0	5.6B	...	A	DEC. 20	12P.M. PST
NEW MEXICO													
DEC. 3	10	12	22.8	32.83 N.	108.66 W.	27	...	...	3.9G	V	G	DEC. 3	03A.M. MST
NEW YORK													
OCT. 24	07	43	12.4	41.59 N.	73.93 W.	3	...	...	2.2L	II	L	OCT. 24	02A.M. EST
NOV. 3	20	54	55.9	43.89 N.	74.64 W.	3	4.0	...	3.9L	IV	L	NOV. 3	03P.M. EST
OKLAHOMA													
OCT. 12	02	58	11.2	34.82 N.	97.41 W.	20	...	...	3.2T	...	G	OCT. 11	08P.M. CST
NOV. 29	14	29	40.9	34.52 N.	97.35 W.	5	...	...	3.6T	VI	G	NOV. 29	08A.M. CST
OREGON													
NOV. 8	00	37		NEAR VALE		..	...	...	1.8G	III	.	NOV. 7	05P.M. MST
OREGON-OFF THE COAST													
OCT. 28	10	14	38.5	44.57 N.	129.45 W.	33N	4.0	...	...	...	G	OCT. 28	02A.M. PST
NOV. 8	20	51	29.9	44.59 N.	129.43 W.	33	4.8	4.4	...	...	G	NOV. 8	12P.M. PST
NOV. 8	21	23	02.4	44.70 N.	129.29 W.	33N	4.6	4.1	...	...	G	NOV. 8	01P.M. PST
NOV. 8	21	43	13.6	44.65 N.	129.60 W.	34	4.5	4.4	...	...	G	NOV. 8	01P.M. PST
NOV. 22	22	54	03.1	43.42 N.	126.75 W.	33N	4.3	4.0	...	...	G	NOV. 22	02P.M. PST
SOUTH CAROLINA													
OCT. 18	04	31		NEAR SALEM		..	...	...	...	IV	.	OCT. 17	11P.M. EST
NOV. 16	01	01	03.5	34.26 N.	80.57 W.	7	...	...	2.8G	II	G	NOV. 15	08P.M. EST
NOV. 25	15	17	33.7	34.87 N.	82.96 W.	5	...	...	3.2S	IV	G	NOV. 25	10A.M. EST
UTAH													
OCT. 6	15	50	46.9	39.07 N.	111.45 W.	5	4.2	...	3.2U	II	G	OCT. 6	08A.M. MST
NOV. 9	08	55	46.9	41.99 N.	112.52 W.	5	...	...	...	...	G	NOV. 9	01A.M. MST
NOV. 17	08	21	11.1	41.95 N.	112.53 W.	7	...	...	3.0U	...	U	NOV. 17	01A.M. MST
VIRGINIA													
NOV. 11	08	10	39.3	37.19 N.	80.84 W.	15	...	...	3.2S	V	G	NOV. 11	03A.M. EST
WYOMING													
NOV. 11	00	19	16.3	41.82 N.	110.60 W.	10	...	...	...	...	G	NOV. 10	05P.M. MST
DEC. 19	23	26	19.5	42.85 N.	107.65 W.	0	...	...	3.5A	...	G	DEC. 19	04P.M. MST
DEC. 27	21	53	09.8	43.15 N.	110.75 W.	5	...	...	3.1A	...	G	DEC. 27	02P.M. MST
DEC. 30	23	12	48.0	42.98 N.	107.86 W.	5	...	...	...	...	G	DEC. 30	04P.M. MST

Table 2.–*Summary of macroseismic data for U.S. earthquakes, October-December 1975*

[Sources of the hypocenter and magnitudes: (A) U.S. Energy Research and Development Administration; (B) University of California, Berkeley; (G) U.S. Geological Survey, National Earthquake Information Service; (H) U.S. Geological Survey, Hawaiian Volcano Observatory; (L) Lamont-Doherty Geological Observatory, Palisades, New York; (M) NOAA, Palmer Observatory, Alaska; (P) California Institute of Technology, Pasadena; (S) St. Louis University, St. Louis, Missouri; (T) University of Oklahoma, Tulsa; (U) University of Utah, Salt Lake City; (V) Virginia Polytechnic Institute and State University, Blacksburg; (W) University of Washington, Seattle. 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

7 November (G) Northwestern Alabama
Origin time: 23 39 32.7
Epicenter: 33.55 N., 87.36 W.
Depth: 5 km
Magnitude: 3.5 mbLg(S)
Intensity II: Felt north of Tuscaloosa (telephone report).

Alaska

22 October (G) Southern Alaska
Origin time: 15 27 04.0
Epicenter: 61.68 N., 149.88 W.
Depth: 61 km
Magnitude: None computed
Intensity IV: Anchorage (rattled windows), Nancy, Palmer (press report)

23 October (G) Southern Alaska
Origin time: 23 11 31.6
Epicenter: 61.73 N., 150.12 W.
Depth: Normal
Magnitude: 3.2 ML(M)
Intensity III: Palmer, Willow.

28 October (G) Southern Alaska
Origin time: 06 40 59.0
Epicenter: 61.42 N., 152.42 W.
Depth: 132 km
Magnitude: 4.5 mb
Intensity III: Anchorage area.

30 October (G) Andreanof Islands, Aleutian Islands
Origin time: 12 36 11.5
Epicenter: 51.36 N., 179.34 W.
Depth: 50 km
Magnitude: 5.0 mb, 5.0 MS
Intensity II: Adak.

6 November (G) Near Islands, Aleutian Islands
Origin time: 01 06 42.1
Epicenter: 51.87 N., 176.23 E.
Depth: 61 km
Magnitude: 5.4 mb
Intensity V: Shemya AFB.

Table 2.–*Summary of macroseismic data for U.S. earthquakes, October-December 1975*–Continued

Alaska--Continued

13 November (G) Alaska Peninsula
Origin time: 02 54 01.2
Epicenter: 54.37 N., 162.66 W.
Depth: Normal.
Magnitude: 5.3 mb
Intensity V: Cold Bay.

30 November (G) Andreanof Islands, Aleutian Islands
Origin time: 05 31 25.7
Epicenter: 52.30 N., 176.27 W.
Depth: 99 km
Magnitude: 4.8 mb
Intensity III: Adak.

1 December (G) Southern Alaska
Origin time: 22 15 21.2
Epicenter: 61.47 N., 149.14 W.
Depth: 42 km
Magnitude: 3.7 mb
Intensity IV: Palmer, Wasilla.
Intensity II: Anchorage.

3 December (G) Southern Alaska
Origin time: 07 38 10.2
Epicenter: 61.67 N., 150.83 W.
Depth: 78 km
Magnitude: None computed.
Intensity II: Anchorage, Palmer.

21 December (G) Fox Islands, Aleutian Islands
Origin time: 13 24 05.1
Epicenter: 53.16 N., 168.97 W.
Depth: 72 km
Magnitude: 4.3 mb
Intensity IV: Nikolski Village.

25 December (G) Southern Alaska
Origin time: 16 50 42.0
Epicenter: 61.82 N., 148.67 W.
Depth: 25 km
Magnitude: 2.8 ML(M)
Intensity II: Sutton.

26 December (G) Central Alaska
Origin time: 13 40 07.8
Epicenter: 62.47 N., 150.04 W.
Depth: 58 km
Magnitude: None computed.
Intensity IV: Talkeetna.
Intensity III: Gold Creek.

29 December (G) Central Alaska
Origin time: 17 52 33.5
Epicenter: 62.30 N., 148.63 W.
Depth: 73 km
Magnitude: 3.9 ML(M)
Intensity IV: Talkeetna.

Table 2.–*Summary of macroseismic data for U.S. earthquakes, October-December 1975*–Continued

California

2 October Northern California
Origin time: 06 59
Epicenter: Not located.
Depth: None computed.
Magnitude: 2.5 ML(B)
Intensity V: Nelson.

3 October Northern California
Origin time: 09 44
Epicenter: Not located.
Depth: None computed.
Magnitude: 2.5 ML(B)
Intensity II: Danville Fire Dept. (telephone report).

7 October (G) Central California
Origin time: 21 12 44.4
Epicenter: 37.56 N., 118.75 W.
Depth: 2 km
Magnitude: 3.7 ML(B)
Intensity IV: Mono County, Crowley Lake Dam area. (Many felt the quake; windows, doors, and dishes rattled faintly, the building creaked, and the duration was estimated to be one second.)

10 October (B) Northern California
Origin time: 07 44 47.4
Epicenter: 39.47 N., 121.50 W.
Depth: 6 km
Magnitude: 3.9 mb(G), 3.5 ML
Intensity IV: Marysville, Palermo.
Intensity II: Grass Valley, Oroville (press report).

11 October (P) Southern California
Origin time: 16 55 01.2
Epicenter: 34.09 N., 118.09 W.
Depth: 5 km
Magnitude: 3.1 ML
Intensity III: Felt in Pasadena area (P), Wildomar.

14 October (P) Southern California
Origin time: 10 13 07.6
Epicenter: 33.06 N., 116.44 W.
Depth: 13 km
Magnitude: 4.2 mb(G), 3.4 ML
Intensity IV: Cuyamaca Dam area.
Intensity II: Anza-Borrego State Park (press report), San Diego area (P).

14 October (P) Southern California
Origin time: 11 11 19.4
Epicenter: 33.06 N., 116.47 W.
Depth: 16 km
Magnitude: 4.0 mb(G), 3.4 ML
Intensity IV: Cuyamaca Dam area.
Intensity II: Anza-Borrego State Park (press report).

Table 2.–*Summary of macroseismic data for U.S. earthquakes, October-December 1975*–Continued

California--Continued

15 October Southern California
Origin time: 14 30
Epicenter: Not located.
Depth: None computed.
Magnitude: None computed.
Intensity IV: Fairmont Reservoir (near Lancaster).

21 October (P) Southern California
Origin time: 09 15 51.9
Epicenter: 33.96 N., 116.41 W.
Depth: 15 km
Magnitude: 4.8 mb(G), 3.7 ML
Intensity IV: Desert Hot Springs, Indio, Palm Desert, Palm Springs (all from press reports--awakened sleepers, rattled windows.)

23 October San Francisco Bay area
Origin time: 07 53
Epicenter: Not located.
Depth: None computed.
Magnitude: 2.4 ML(B)
Intensity IV: Menlo Park, Mountain View, Palo Alto-Woodside area (many awakened, press report).

23 October Central California
Origin time: 10 40
Epicenter: Not located.
Depth: None computed.
Magnitude: None computed.
Intensity IV: Gilroy.

23 October (P) Southern California
Origin time: 22 14 02.4
Epicenter: 34.43 N., 118.42 W.
Depth: 9 km
Magnitude: 3.1 ML
Intensity III: Newhall area (telephone report).

28 October (G) Northern California
Origin time: 03 41 15.0
Epicenter: 39.52 N., 121.56 W.
Depth: 10 km
Magnitude: 3.4 ML(B)
Intensity IV: Storrie.
Intensity III: Oroville area (B).

3 November Northern California
Origin time: 21 20
Epicenter: Not located.
Depth: None computed.
Magnitude: None computed.
Intensity III: Honcut.

5 November (P) Southern California
Origin time: 02 37 19.8
Epicenter: 34.16 N., 117.38 W.
Depth: 7 km
Magnitude: 3.9 mb(G), 3.0 ML
Intensity II: Fontana area.

Table 2.–*Summary of macroseismic data for U.S. earthquakes, October-December 1975*–Continued

California--Continued

5 November (G) Northern California
Origin time: 05 37 45.9
Epicenter: 39.40 N., 121.59 W.
Depth: 9 km
Magnitude: 3.3 ML(B)
Intensity II: Grass Valley.

5 November Northern California
Origin time: 23 18
Epicenter: Not located.
Depth: None computed.
Magnitude: None computed.
Intensity II: Palermo.

14 November (G) Northern California
Origin time: 09 29 48.5
Epicenter: 40.62 N., 124.31 W.
Depth: 23 km
Magnitude: 4.9 mb, 4.5 MS, 4.8 ML(B)
Felt from San Francisco into Oregon (press reports).
Intensity VI: Eureka (slight damage).
Intensity V: Bayside, Bridgeville, Ferndale, Rio Dell, Willits.
Intensity IV: Arcata, Fortuna, Little River, McKinleyville, Mendocino, Miranda, Petrolia, Phillipsville, Westport.
Intensity III: Trinidad.

15 November (B) Northern California
Origin time: 03 35 01.6
Epicenter: 39.42 N., 121.57 W.
Depth: 5 km
Magnitude: 4.7 mb(G), 3.3 MS(G), 4.0 ML
Felt in Oroville area (B) and throughout Butte and Yuba Counties (press report).
Intensity IV: Storrie.
Intensity III: Grass Valley, Strawberry Valley.

15 November (P) Southern California
Origin time: 06 13 27.6
Epicenter: 34.30 N., 116.34 W.
Depth: 6 km
Magnitude: 4.6 mb(G), 4.6 ML(B), 4.6 ML
Intensity IV: Mecca, Morongo Valley.
Intensity II: Beaumont, Palm Springs (press report).

15 November (P) Southern California
Origin time: 22 05 51.3
Epicenter: 34.25 N., 116.36 W.
Depth: 8 km
Magnitude: 3.5 mb(G), 3.1 ML
Intensity II: Palm Springs area.

18 November (B) Central California
Origin time: 11 50 30.8
Epicenter: 36.93 N., 121.45 W.
Depth: 11 km
Magnitude: 3.0 ML
Intensity II: Hollister area (telephone report).

Table 2.–*Summary of macroseismic data for U.S. earthquakes, October-December 1975*–Continued

California--Continued

18 November (P) Southern California
Origin time: 16 04 45.0
Epicenter: 34.03 N., 117.59 W.
Depth: 5 km
Magnitude: 3.0 ML
Intensity II: Riverside-Fontana area, Mira Loma (press report), also in San Bernardino County (press report).

22 November Northern California
Origin time: 08 34
Epicenter: Not located.
Depth: None computed.
Magnitude: None computed.
Intensity IV: Willits.

2 December Northern California
Origin time: 07 12
Epicenter: Not located.
Depth: None computed.
Magnitude: None computed.
Intensity IV: Oroville (awakened a few people).

6 December (P) Southern California
Origin time: 01 22 11.0
Epicenter: 33.06 N., 115.54 W.
Depth: 13 km
Magnitude: 3.1 ML
Intensity II: Brawley area.

7 December (B) Northern California
Origin time: 18 59 10.1
Epicenter: 37.97 N., 122.36 W.
Depth: 6 km
Magnitude: 3.1 mb(G), 3.0 ML
Intensity IV: Richmond (rattled many windows, press report).
Intensity III: Albany, El Cerrito (telephone report).

9 December (P) Southern California
Origin time: 11 01 43.3
Epicenter: 34.03 N., 117.59 W.
Depth: 5 km
Magnitude: 3.0 ML
Intensity III: Etiwanda, Ontario (press report).
Intensity II: Corona (press report).

12 December (P) Southern California
Origin time: 09 57 59.0
Epicenter: 32.96 N., 115.49 W.
Depth: 14 km
Magnitude: 3.4 mb(G), 3.8 ML
Intensity V: Brawley (awakened many in community, buildings creaked, windows rattled, rumbling heard after jolt.)

14 December (P) Southern California
Origin time: 18 16 20.1
Epicenter: 34.29 N., 116.32 W.
Depth: 2 km
Magnitude: 4.5 mb(G), 4.4 ML(B), 4.7 ML

Table 2.–*Summary of macroseismic data for U.S. earthquakes, October-December 1975*–Continued

California--Continued

Intensity VI: Amboy (cracked plaster).
Intensity V: Yucca Valley.
Intensity IV: Big Bear City, East Highlands, Indio.
Intensity III: Mecca, Morongo Valley, Palm Springs, Rancho Mirage.
Intensity II: Coachella.

22 December (P) Central California
Origin time: 03 33 19.8
Epicenter: 35.01 N., 119.01 W.
Depth: 12 km
Magnitude: 4.0 mb(G), 3.5 ML
Intensity IV: Frazier Park (press report).

Florida

4 December Central Florida
Origin time: 11 57
Epicenter: Not located.
Depth: None computed.
Magnitude: 2.9 mbLg(V)
Intensity IV: Daytona Beach (windows and dishes rattled, buildings shook; same type of felt reports 20-25 km south and west of Daytona Beach area--National Weather Service report), Holly Hill.
Intensity III: Felt throughout eastern Volusia County (press report).

Hawaii

2 October (H) Hawaii Island
Origin time: 07 34 39.5
Epicenter: 19.32 N., 155.23 W.
Depth: 8 km
Magnitude: 3.6 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity IV: Puna District, Amaloa Subdivision, Glenwood, Hilo, Pohakuloa Training area (National Weather Service report), Volcano.

27 October (H) Hawaii Island
Origin time: 09 37 40.2
Epicenter: 19.31 N., 155.46 W.
Depth: 8 km
Magnitude: 3.3 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity III: Kau District, Pahala, Kapapala.

28 October (H) Hawaii Island
Origin time: 05 35 52.8
Epicenter: 19.32 N., 155.23 W.
Depth: 8 km
Magnitude: 3.6 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity IV: Puna District, Hilo, Volcano.

Table 2.–*Summary of macroseismic data for U.S. earthquakes, October-December 1975*–Continued

Hawaii--Continued

31 October (H) Hawaii Island
Origin time: 14 50 53.6
Epicenter: 19.18 N., 155.64 W.
Depth: 8 km
Magnitude: 3.8 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity IV: Kona District.

6 November (H) Hawaii Island
Origin time: 12 05 28.4
Epicenter: 19.32 N., 155.31 W.
Depth: 28 km
Magnitude: 4.4 mb(G), 4.6 ML
Except for Honolulu, the intensity data are from the Hawaiian Volcano Observatory.
Intensity V: Kau District.
Intensity III: Honolulu and islandwide on Hawaii.

6 November (H) Hawaii Island
Origin time: 13 21 18.7
Epicenter: 19.31 N., 155.31 W.
Depth: 28 km
Magnitude: 4.1 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity IV: Kau District.
Intensity III: Hilo-Puna area. Felt islandwide.

6 November (H) Hawaii Island
Origin time: 14 02 56.5
Epicenter: 19.32 N., 155.31 W.
Depth: 27 km
Magnitude: 3.8 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity IV: Kau District.
Intensity III: Hilo-Puna area. Felt islandwide.

10 November (H) Hawaii Island
Origin time: 11 26 29.8
Epicenter: 19.35 N., 155.04 W.
Depth: 8 km
Magnitude: 4.1 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity IV: Puna District.
Intensity III: Hilo, Honokaa, Volcano. Felt islandwide.

14 November (H) Hawaii Island
Origin time: 09 02 04.8
Epicenter: 19.36 N., 155.07 W.
Depth: 7 km
Magnitude: 3.6 ML
Intensity data from the Hawaiian Volcano Observatory
Intensity IV: Puna District, Hilo.

Table 2.–*Summary of macroseismic data for U.S. earthquakes, October-December 1975*–Continued

Hawaii--Continued

14 November (H) Hawaii Island
Origin time: 11 23 25.8
Epicenter: 19.32 N., 155.34 W.
Depth: 31 km
Magnitude: 3.8 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity IV: Kau and Kona Districts.

14 November (H) Hawaii Island
Origin time: 11 51 45.3
Epicenter: 18.97 N., 155.48 W.
Depth: 39 km
Magnitude: 3.3 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity III: Kau and Kona Districts.

15 November (H) Hawaii Island
Origin time: 22 55 21.2
Epicenter: 19.32 N., 155.22 W.
Depth: 8 km
Magnitude: 4.3 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity IV: Hilo and Puna Districts.

18 November (H) Hawaii Island
Origin time: 23 10 01.9
Epicenter: 19.37 N., 155.07 W.
Depth: 7 km
Magnitude: 3.1 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity III: Hilo District.

The list of Hawaii earthquakes is incomplete for the period between 19 November and 31 December owing to the swarm of aftershocks that occurred after the 29 November earthquake (H).

29 November (H) Hawaii Island
Origin time: 13 35 41.0
Epicenter: 19.35 N., 155.06 W.
Depth: 5 km
Magnitude: 5.8 mb(G), 5.1 MS(G), 5.7 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity VI: Hilo and Puna Districts.

29 November (H) Hawaii Island
Origin time: 14 47 40.3
Epicenter: 19.34 N., 155.03 W.
Depth: 5 km
Magnitude: 6.0 mb(G), 7.1 MS(G), 7.2 ML

This is the largest earthquake to strike Hawaii since 1868. It was felt throughout Hawaii Island and on Lanai, Molokai, and Oahu (fig. 10). Much of the description and detailed damage data listed below were taken from Tilling and others (1976).

Table 2.–*Summary of macroseismic data for U.S. earthquakes, October-December 1975*–Continued

Hawaii--Continued

The hypocenter was centered about 5 km beneath the Kalapana area on the southeastern coast of the island. The earthquake was preceded by numerous foreshocks and was accompanied, or closely followed, by a tsunami (seismic sea wave), massive ground movements, hundreds of aftershocks, and a volcanic eruption.

The tsunami reached a height of 12.2-14.6 m above sea level on the southeastern coast about 25 km west of the earthquake center; elsewhere its height was generally 8 m or less. The south flank of Kilauea Volcano, which forms the southeastern part of the island, was deformed by dislocations of old and new faults along a zone 25 km long. Downward and seaward, fault displacements resulted in widespread subsidence, locally as much as 3.5 m; coconut palms were left standing in the sea and a small nearshore island was nearly submerged. A brief, small-volume volcanic eruption, triggered by the earthquake, and associated ground movements occurred at Kilauea's summit about three-quarters of an hour later. The earthquake, together with the tsunami it generated, locally caused severe property damage in the southeastern part of the island; the tsunami also caused two deaths. Damage from the earthquake and related catastrophic events is estimated by the Hawaii Civil Defense Agency at about $4.1 million.

Intensity VIII:
Hilo--Extensive damage in downtown area. Minor cracks in road, water pipes, concrete walls and floors, plaster. The hospital and several schools and libraries experienced structural damage; these steel-reinforced concrete structures had minor cracks, floor-to-wall separations that were fractions of an inch wide, and bowing of the walls. Some of these buildings suffered 2.5- to 5-cm vertical drops in some floor sections. Churches in Hilo reported damage to a pipe organ; cracks in hollow tile blocks and breaks in a swimming pool and waterlines were also reported. Hotels, apartments, and business buildings suffered structural and equipment damage. Shelved items in markets fell or tumbled over. Fifty-one home owners in Hilo reported losses due to broken water pipes, windows, plate glass, gutters; cracks in concrete walls and steps; cupboards torn away from walls and breakage of chinaware; collapse of stone walls and

Table 2.–*Summary of macroseismic data for U.S. earthquakes, October-December 1975*–Continued

Hawaii--Continued
fences; plumbing damage and cesspool cave-ins; houses and garages shifting from foundation; doors and doorways distorted; leaks in roofs; minor ground cracks; chipping of ceramic tile floors; collapse of stairways; and cracking or crumbling of brick fireplace chimneys. Hawaii Volcanoes National Park--Extensive ground cracking caused heavy road damage in the national park. On the Crater Rim, road damage was reported in the Waldron Ledge section, Kilauea Military Camp section, Halemaumau section, and Keanakakoi section. Damage was also noted on the Chain of Craters, Ainahou, and Hilina Pali roads. Water tanks at the Youth Conservation Corps and at Kipuka Nene were damaged. Waterlines at several roads broke. Fireplace chimneys at Kilauea Military Camp collapsed. Kurtistown--Damage in seven residential

Table 2.–*Summary of macroseismic data for U.S. earthquakes, October-December 1975*–Continued

Hawaii--Continued
homes; cracked concrete steps; house moved from foundation, 10-cm wall separation, roof separation, garage off foundation; chinaware broken from falling out of cupboards. Rock wall damaged. Opihikao--Two water tanks at a church destroyed. Pahoa--Three homes moved from foundation. Other damage included a broken waterline, a collapsed water tank, and a collapsed toolshed. Intensity VII: Black Sands Subdivision--Damage reports from two homes. One house dropped 7.5 cm; walls cracked, loose objects fell. At the other residence, water tank fell and house beams cracked. Hawaiian Paradise Park--One house shifted off foundation; cabinets toppled from walls. Kalapana--A wood frame residential

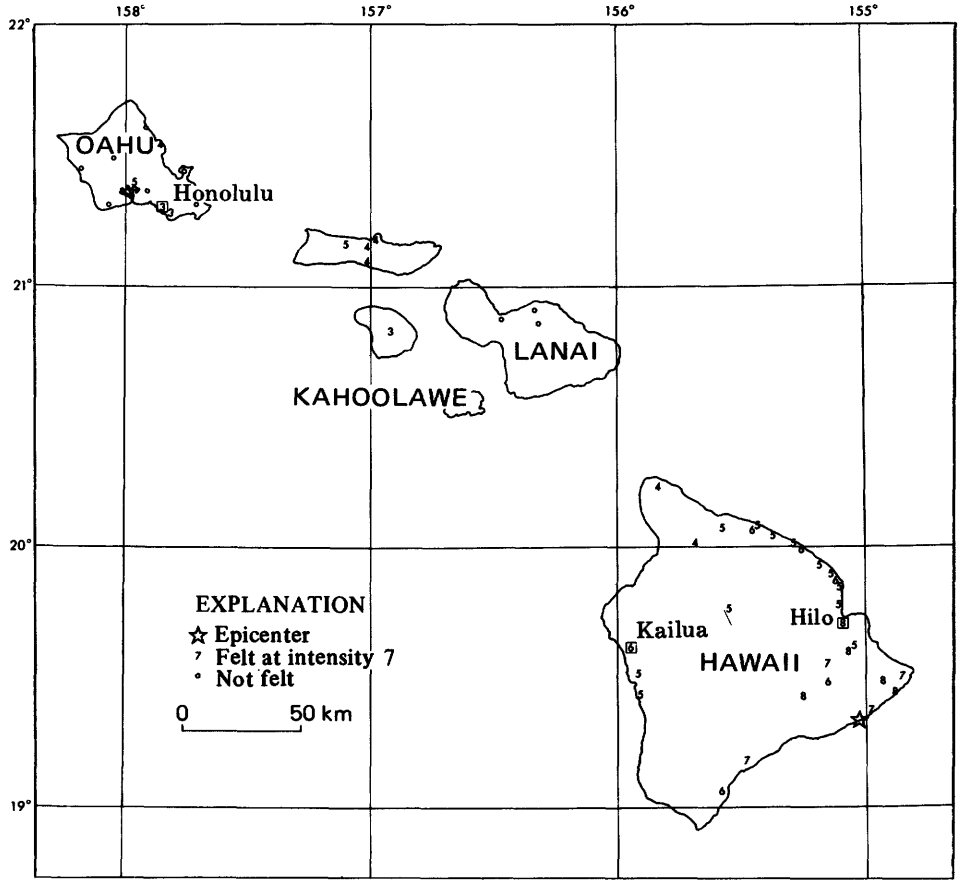

FIGURE 10.--Intensity map for the Hawaii Island earthquake of 29 November 1975, 14 47 40.3 UTC. Arabic numbers are used to represent modified Mercalli intensities at specific sites.

Table 2.–*Summary of macroseismic data for U.S. earthquakes, October-December 1975*–Continued

Hawaii--Continued

house shifted 0.9-1.2 m from foundation. One water tank damaged. Many small road cracks. Residents reported that loose objects fell off shelves and strong shaking occurred.
Kapoho--Minor ground cracks and small rockfalls from walls of cinder cones.
Mountain View--Water-tank floor cracked; Plexiglass cracked; TV set shifted off stand and fell to the floor; rock wall damaged.
Pahala--One homeowner reported doors distorted, house moved from concrete foundation, furniture and stereo fell.
Volcano--A residential home collapsed. About three wooden water tanks were destroyed, and several others were partially damaged.

Intensity VI:
Glenwood--Loose objects fell off shelves; water splashed out of fish bowl.
Hawaiian Beaches--A garage concrete slab cracked.
Holualoa--Slight damage.
Honokaa--Slight damage.
Honomu--Landslides on coast road; loose objects fell from shelves.
Kailua--Slight damage.
Laupahoehoe--Landslides on coast road; loose objects fell from shelves.
Naalehu--Foundation to one ranchhouse cracked, and roof damaged.

Intensity V:
Hakalau, Hawaiian Volcano Observatory, Honaunau, Hoolehua, Keaau, Kealakekua, Kukuihaele, Ninole, Ookala, Paauhau, Paauilo, Papaikou, Pearl City, Pepeekeo, Pohakuloa Training area.

Intensity IV:
Hawi, Kaaawa, Kalaupapa, Kamuela, Kaunakakai, Kualapuu.

Intensity III:
Hawaiian Village, Honolulu, Lanai City.

1 December (H) Hawaii Island
Origin time: 22 19 03.0
Epicenter: 19.36 N., 155.01 W.
Depth: 8 km
Magnitude: 3.4 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity III: Hilo District.

2 December (H) Hawaii Island
Origin time: 10 15 47.9
Epicenter: 19.36 N., 155.25 W.
Depth: 8 km
Magnitude: 3.6 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity IV: Hilo, Puna District, Volcano.

Table 2.–*Summary of macroseismic data for U.S. earthquakes, October-December 1975*–Continued

Hawaii--Continued

3 December (H) Hawaii Island
Origin time: 00 21 25.7
Epicenter: 19.31 N., 155.38 W.
Depth: 7 km
Magnitude: 3.2 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity III: Hilo, Puna District, Volcano.

3 December (H) Hawaii Island
Origin time: 04 56 24.9
Epicenter: 19.38 N., 155.11 W.
Depth: 4 km
Magnitude: 3.9 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity IV: Hilo District, Pahala, Papaikuu.

4 December (H) Hawaii Island
Origin time: 06 27 56.6
Epicenter: 19.34 N., 155.09 W.
Depth: 5 km
Magnitude: 3.6 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity III: Naalehu, Puna District.

4 December (H) Hawaii Island
Origin time: 06 43 53.8
Epicenter: 19.31 N., 155.34 W.
Depth: 8 km
Magnitude: 3.1 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity III: Puna District, Volcano.

4 December (H) Hawaii Island
Origin time: 11 09 07.7
Epicenter: 19.38 N., 154.98 W.
Depth: 1 km
Magnitude: 4.1 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity IV: Puna District.

4 December (H) Hawaii Island
Origin time: 21 39 09.8
Epicenter: 19.36 N., 154.98 W.
Depth: 4 km
Magnitude: 3.5 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity III: Kalapana, Puna District, Volcano.

6 December (H) Hawaii Island
Origin time: 04 11 55.0
Epicenter: 19.29 N., 155.35 W.
Depth: 8 km
Magnitude: 3.9 ML

Table 2.–*Summary of macroseismic data for U.S. earthquakes, October-December 1975*–Continued

Hawaii--Continued

Intensity data from the Hawaiian Volcano Observatory.
Intensity IV: Hilo, Puna District, Volcano.

9 December (H) Hawaii Island
Origin time: 23 55 54.4
Epicenter: 19.36 N., 155.13 W.
Depth: 8 km
Magnitude: 3.9 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity IV: Kalapana, Puna District, Volcano.

11 December (H) Hawaii Island
Origin time: 01 43 16.7
Epicenter: 19.34 N., 155.20 W.
Depth: 8 km
Magnitude: 3.8 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity IV: Hilo, Puna District, Volcano.

11 December (H) Hawaii Island
Origin time: 15 41 18.9
Epicenter: 19.37 N., 155.12 W.
Depth: 7 km
Magnitude: 3.0 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity III: Puna District, Volcano.

13 December (H) Hawaii Island
Origin time: 01 36 54.5
Epicenter: 19.36 N., 155.14 W.
Depth: 7 km
Magnitude: 4.3 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity IV: Hilo, Kalapana, Puna District, Volcano.

13 December (H) Hawaii Island
Origin time: 10 53 36.0
Epicenter: 19.37 N., 155.05 W.
Depth: 8 km
Magnitude: 4.4 ML
Intensity data from the Hawaiian Volcano Observatory.
Intensity IV: Hilo, Kalapana, Puna District.

27 December (H) Hawaii Island
Origin time: 08 55 24.0
Epicenter: 20.00 N., 156.00 W.
Depth: 30 km
Magnitude: 4.1 ML
Intensity II: Northern Hawaii.

Table 2.–*Summary of macroseismic data for U.S. earthquakes, October-December 1975*–Continued

Kansas

4 December (G) Eastern Kansas
Origin time: 18 59 59.9
Epicenter: 38.24 N., 94.62 W.
Depth: 0 km
Magnitude: 3.3 mbLg(S)
Explosion by the U.S. Army, northeast of Pleasanton.

Maine

10 October Southwestern Maine
Origin time: 04 54
Epicenter: Not located.
Depth: None computed.
Magnitude: None computed.
Intensity II: Near Lewiston.

Missouri

3 December (S) New Madrid region
Origin time: 03 00 33.3
Epicenter: 36.54 N., 89.57 W.
Depth: 5 km
Magnitude: 2.8 mbLg
Intensity V: New Madrid (cracked plaster 8 km northeast of town--telephone report).

Montana

20 October (G) Northwestern Montana
Origin time: 14 17 54.8
Epicenter: 48.20 N., 114.27 W.
Depth: 25 km
Magnitude: 4.3 mb, 3.6 ML
Intensity IV: Big Arm.
Intensity III: Somers.

30 October Northwestern Montana
Origin time: 19 06
Epicenter: Not located.
Depth: None computed.
Magnitude: 2.5 ML(G)
Intensity II: Somers (telephone report).

Nevada

24 October (A) Southern Nevada
Origin time: 17 11 26.1
Epicenter: 37.22 N., 116.18 W.
Depth: 0 km
Magnitude: 4.7 mb(G), 4.7 ML(B)
Nevada Test Site explosion at 37°13′17.89″N., 116°10′46.88″W.

28 October (A) Southern Nevada
Origin time: 14 30 00.2
Epicenter: 37.29 N., 116.41 W.
Depth: 0 km
Magnitude: 6.4 mb(G), 5.4 MS(G), 6.3 ML(P), 6.2 ML(B)

Table 2.–*Summary of macroseismic data for U.S. earthquakes, October-December 1975*–Continued

Nevada--Continued

Nevada Test Site explosion at 37°17′ 24.18"N., 116°24′41.57"W. Felt in portions of Arizona, California, Nevada, and Utah. All intensities for this earthquake are based on press reports.

Intensity VI:
These cities reported minor damage consisting of cracked windows, plaster, and cement.
California--Benton.
Nevada--Goldfield, Las Vegas, Mt. Charleston.

Intensity IV:
California--Dinuba, Fresno, Lemoore, Los Angeles, Ridgecrest, Sacramento.
Arizona--northwestern part.

Intensity III:
California--Antelope Valley.
Utah--southwestern part.

3 November (G) Southern Nevada
Origin time: 02 19 47.0
Epicenter: 37.29 N., 116.41 W.
Depth: 0 km
Magnitude: 4.5 mb(G), 4.7 ML(B)
Nevada Test Site collapse from the explosion on October 28.

20 November (A) Southern Nevada
Origin time: 15 00 00.1
Epicenter: 37.22 N., 116.37 W.
Depth: 0 km
Magnitude: 6.0 mb(G), 5.8 ML(B), 6.0 ML(P), 5.8 ML(B)
Nevada Test Site explosion at 37°13′ 29.83"N., 116°22′03.22"W.

26 November (A) Southern Nevada
Origin time: 15 30 00.2
Epicenter: 37.12 N., 116.02 W.
Depth: 0 km
Magnitude: 5.0 mb(G), 4.4 ML(B)
Nevada Test Site explosion at 37°07′ 02.13"N., 116°01′07.97"W.

20 December (A) Southern Nevada
Origin time: 20 00 00.2
Epicenter: 37.13 N., 116.06 W.
Depth: 0 km
Magnitude: 5.7 mb(G), 4.0 MS(G), 5.6 ML(B)
Nevada Test Site explosion at 37°07′ 39.53"N., 116°03′41.64"W.

New Mexico

3 December (G) Southern New Mexico
Origin time: 10 12 22.8
Epicenter: 32.83 N., 108.66 W.
Depth: 27 km
Magnitude: 3.9 ML

Intensity V:
New Mexico--Mule Creek, Redrock.
Arizona--Duncan.

Table 2.–*Summary of macroseismic data for U.S. earthquakes, October-December 1975*–Continued

New Mexico--Continued

Intensity IV:
New Mexico--Buckhorn, Cliff, Ft. Bayard, Gila.

Intensity III:
New Mexico--Silver City area (press report).

New York

24 October (L) Southeastern New York
Origin time: 07 43 12.4
Epicenter: 41.59 N., 73.93 W.
Depth: 3 km
Magnitude: 2.2 ML
This event was one of a swarm of five small earthquakes felt in this area (L).

Intensity II: Poughkeepsie, Wappingers Falls.

3 November (L) Northern New York
Origin time: 20 54 55.9
Epicenter: 43.89 N., 74.64 W.
Depth: 3 km
Magnitude: 4.0 mb(G), 3.9 ML
This earthquake was widely felt in the following counties: Essex, Franklin, Fulton, Hamilton, Herkimer, Lewis, and Warren. Electrical service was interrupted for 1,000 Harrisville area residents for 42 minutes (press report). Aftershocks were reported at 3 November 21:06, 4 November 15:26, 5 November 11:53, all in the vicinity of Racquette Lake (L).

Intensity IV: Hague, Keene Valley, Minerva, Mineville, North Creek, Olmstedville (electricity out momentarily), South Schroon, Tahawus, Westport.

Intensity III: Cleverdale, Essex, Grant (press report), Indian Lake (press report), Long Lake (press report), Moriah Center, Newcomb, North Hudson, Silver Bay.

Intensity II:
New York--Blue Mountain Lake (L), Copenhagen (press report), Fort Drum (press report), Gloversville (L), North River, Old Forge (L), Saranac Lake (L), Watertown (L).
Ontario, Canada--Belleville (L), Brockville (L).

Oklahoma

29 November (G) Southern Oklahoma
Origin time: 14 29 40.9
Epicenter: 34.52 N., 97.35 W.
Depth: 5 km
Magnitude: 3.6 mbLg(T), 3.5 mbLg(S)

Table 2.–*Summary of macroseismic data for U.S. earthquakes, October-December 1975*–Continued

Oklahoma--Continued

Intensity VI: Foundations cracked at two homes 5 km northwest of Foster (press report).
Intensity IV: Pernell.
Intensity III: Alpers, Hennepin, Maysville.

Oregon

8 November Eastern Oregon
Origin time: 00 37
Epicenter: Not located.
Depth: None computed.
Magnitude: 1.8 ML(G)
Intensity III: Vale (felt by a farmer 6 km east of Vale--telephone report).

South Carolina

18 October Northwestern South Carolina
Origin time: 04 31
Epicenter: Not located.
Depth: None computed.
Magnitude: None computed.
Intensity IV: Jocassee Lake Dam, Keowee River Dam.
Intensity II: Ten km east-northeast of Salem.

16 November (G) Northern South Carolina
Origin time: 01 01 03.5
Epicenter: 34.26 N., 80.57 W.
Depth: 7 km
Magnitude: 2.8 ML(G)
Intensity II: Camden (telephone report).

25 November (G) Northwestern South Carolina
Origin time: 15 17 33.7
Epicenter: 34.87 N., 82.96 W.
Depth: 5 km
Magnitude: 3.2 mbLg(S)
Intensity IV:
South Carolina--Longcreek, Mountain Rest, Salem, Tamassee, and communities in Oconee County (press report).
North Carolina--Lake Toxaway and communities in Transylvania County (press report).
Intensity III:
South Carolina--Newry, Walhalla.
North Carolina--Almond, Brevard (press report), Cashiers, Roseman, Seneca (press report).
Intensity II:
South Carolina--Madison.
North Carolina--felt in parts of Jackson and Swain Counties (press reports).

Table 2.–*Summary of macroseismic data for U.S. earthquakes. October-December 1975*–Continued

Utah

6 October (G) Central Utah
Origin time: 15 50 46.9
Epicenter: 39.07 N., 111.45 W.
Depth: 5 km
Magnitude: 4.2 mb, 3.2 ML(U)
Intensity II: Manti.

Virginia

11 November (G) Southwestern Virginia
Origin time: 08 10 39.3
Epicenter: 37.19 N., 80.84 W.
Depth: 15 km
Magnitude: 3.2 mbLg(S)
There were unconfirmed reports of window breakage in the Blacksburg area (press reports).
Intensity V: Ripplemead.
Intensity IV: Eggleston, Pearisburg, Radford, Rich Creek.
Intensity III: Giles, Pulaski, and Montgomery Counties (press report).

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