GEOLOGICAL SURVEY CIRCULAR 836–B

Earthquakes in the United States, April–June 1979

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By C. W. Stover, P. Hubiak, J. H. Minsch, and W. J. Person

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1980

United States Department of the Interior

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CONTENTS

	Page
Introduction	B1
Discussion of tables	4
Modified Mercalli Intensity Scale of 1931	5
Acknowledgments	34
References cited	34

ILLUSTRATIONS

		Page
FIGURE 1.	"Earthquake Report" form	B2
2.	Map showing standard time zones of the conterminous United States.	5
3.	Map showing standard time zones of Alaska and Hawaii	6
4.	Map of earthquake epicenters in the conterminous United States for April-June 1979	7
5.	Map of earthquake epicenters in Alaska for April-June 1979	8
6.	Map of earthquake epicenters in Hawaii for April-June 1979	9
7.	Isoseismal map for the central California earthquake of 28 April 1979	20
8.	Isoseismal map for the central California earthquake of 8 May 1979	21
9.	Isoseismal map for the southern California earthquake of 29 June 1979	24
10.	Isoseismal map for the southern California earthquake of 30 June 1979	26
11.	Isoseismal map for the southern Maine earthquake of 18 April 1979.	28

TABLES

		Page
TABLE 1.	Summary of U.S. earthquakes for April-June 1979:	
	Alaska	B11
	Arkansas	13
	California	13
	California--Off the coast	15
	Hawaii	15
	Idaho	15
	Maine	15
	Missouri	15
	Montana	16
	Nebraska	16
	Nevada	16
	New Hampshire	16
	New York	16
	Oklahoma	16
	Oregon--Off the coast	16
	Utah	16
	Washington	16
	Washington--Off the coast	16

Page

2. Summary of macroseismic data for U.S. earthquakes, April-June 1979:
Alaska..... B17
Arkansas..... 18
California..... 19
Hawaii..... 25
Idaho..... 27
Kansas..... 27
Maine..... 27
Massachusetts..... 31
Missouri..... 31
Montana..... 31
Nebraska..... 32
Nevada..... 32
New Hampshire..... 33
Oklahoma..... 33
Oregon..... 33
Tennessee..... 33
Utah..... 33
Washington..... 33
Wyoming..... 33

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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 five maps and table 2, which lists detailed intensity information. The list of earthquakes in table 1 was compiled from those located in Alaska or off the coasts that were published in the PDE; from hypocenters located in the conterminous United States using the U.S. Geological Survey program SEDAS; from hypocenters in California above magnitude 3.0, supplied by 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 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.) Figure 1 is the questionnaire in current use by the NEIS. Other versions of this questionnaire 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 National Earthquake Information Service, Stop 967, Box 25046, Denver Federal Center, Denver, CO 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

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

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
i. Vibration could be described as 17 Light 18 Heavy
j. Was there earth noise? No 19 Faint 20 Moderate 21 Loud
k. Direction of noise North South East West
l. Estimated duration of shaking 22 Sudden, sharp (less than 10 secs) 23 Long (30-60 secs) 24 Short (10-30 secs)

Continue on to next section which should include personal as well as reported 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 25 Few 26 Several 27 Many 28 All?
b. This earthquake awakened No one 29 Few 30 Several 31 Many 32 All?
c. This earthquake frightened No one 33 Few 34 Several 35 Many 36 All?

4. What indoor physical effects were noted in your community?
   Windows, doors, dishes rattled 37 Yes No
   Buildings creaked 38 Yes No
   Building trembled (shook) 39 Slightly 40 Strongly
   Hanging pictures (more than one) 41 Swung 42 Out of place 43 Fallen
   Liquid in small containers 44 Spilled 45 Slightly disturbed
   Windows 46 Few cracked 47 Some broken 48 Many broken
   Were small objects (dishes, knick-knacks, lamps) Unmoved 49 Moved 50 Overturned 51 Broken?
   Were light furniture or small appliances Unmoved 52 Moved 53 Overturned 54 Damaged seriously
   Were heavy furniture or appliances Unmoved 55 Overturned 56 Moved 57 Damaged seriously
   Did hanging objects or doors swing? 58 Slightly 59 Moderately 60 Violently
   Can you estimate direction? North/South East/West Other
   Pendulum clocks 61 Stopped 62 Started 63 Faster or slower

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	64	Large cracks	65	Fell in large amounts	
Dry wall	66	Large cracks	67	Fell in large amounts	
Ceiling tiles	68	Large cracks	69	Fell in large amounts	

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

Trees and bushes shaken	70	Slightly	71	Moderately	72	Strongly
Standing vehicles rocked	73	Slightly	74	Moderately		
Moving vehicles rocked	75	Slightly	76	Moderately		
Water splashed onto sides of lakes, ponds, swimming pools	77	Yes		No		
Elevated water tanks	78	Cracked	79	Twisted	80	Fallen (thrown down)
Industrial cooling units	81	Displaced	82	Rotated	83	Fallen
Tombstones	84	Displaced	85	Cracked	86	Rotated
	87	Fallen				
Chimneys	88	Bricks loosened	89	Twisted	90	Fallen
	91	Broken at roof line	92	Bricks fallen		
Railroad tracks bent	93	Slightly	94	Greatly		
Stone or brick fences /walls	95	Open cracks	96	Fallen	97	Destroyed
Underground pipes	98	Broken	99	Out of service		
Highways or streets	100	Large cracks	101	Large displacements		
Sidewalks	102	Large cracks	103	Large displacements		

7a. Check below any structural damage to buildings.

Foundation	104	Cracked		105	Destroyed	
Interior walls	106	Split	107 Fallen	108	Separated from ceiling or floor	
Exterior walls	109	Large Cracks		110	Bulged outward	
	111	Partial collapse		112	Total collapse	
Building	113	Moved on foundation		114	Shifted off foundation	

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

115	Wood	116	Stone	117	Brick veneer	118	Other
119	Brick	120	Cinderblock	121	Reinforced concrete	122	Mobile home

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

	Don't know	123	Sandy soil	124	Marshy	125	Fill
126	Hard rock	127	Clay soil	128	Sandstone, limestone, shale		

d. Was the ground: 129 Level 130 Sloping 131 Steep?

e. Check the approximate age of the building:

132 Built before 1935 133 Built 1935–65 134 Built after 1965

8. Check below any structural damage to

Bridges/Overpasses	135	Concrete	136	Wood	137	Steel	138 Other
Damage was	139	Slight	140	Moderate			141 Severe
Dams	142	Concrete	143	Large earthen			
Damage was	144	Slight	145	Moderate			146 Severe

9. What geologic effects were noted in your community?

Ground cracks	147	Wet ground	148	Steep slopes	149	Dry and level ground
Landslides	150	Small	151	Large		
Slumping	152	River bank	153	Road fill	154	Land fill
Were springs or well water disturbed?	155	Level changed			156	Flow disturbed
	157	Muddied				Don't know
Were rivers or lakes changed?	158	Yes		No		Don't know

10a. What percentage of buildings were damaged?

Within 2 city blocks of your location		None	159	Few (about 5%)
	160	Many(about 50%)	161	Most (about 75%)
b. In area covered by your zip code		None	162	Few (about 5%)
	163	Many (about 50%)	164	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.

and completeness. "United States Earthquakes" is published jointly by the U.S. Geological Survey, Department of the Interior, and the Environmental Data Service, National Oceanic and Atmospheric Administration, 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.

Figures 4-6 are maps summarizing the earthquake activity for the conterminous United States, Alaska, and Hawaii for the period April-June 1979. 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:

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

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.

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

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 $D \geq 5°$.

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

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

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

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

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.

All of the intensity values (indicated by Roman numerals) listed in this summary were derived, 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 NEIS by people in the area affected by the earthquake. All earthquake reports received

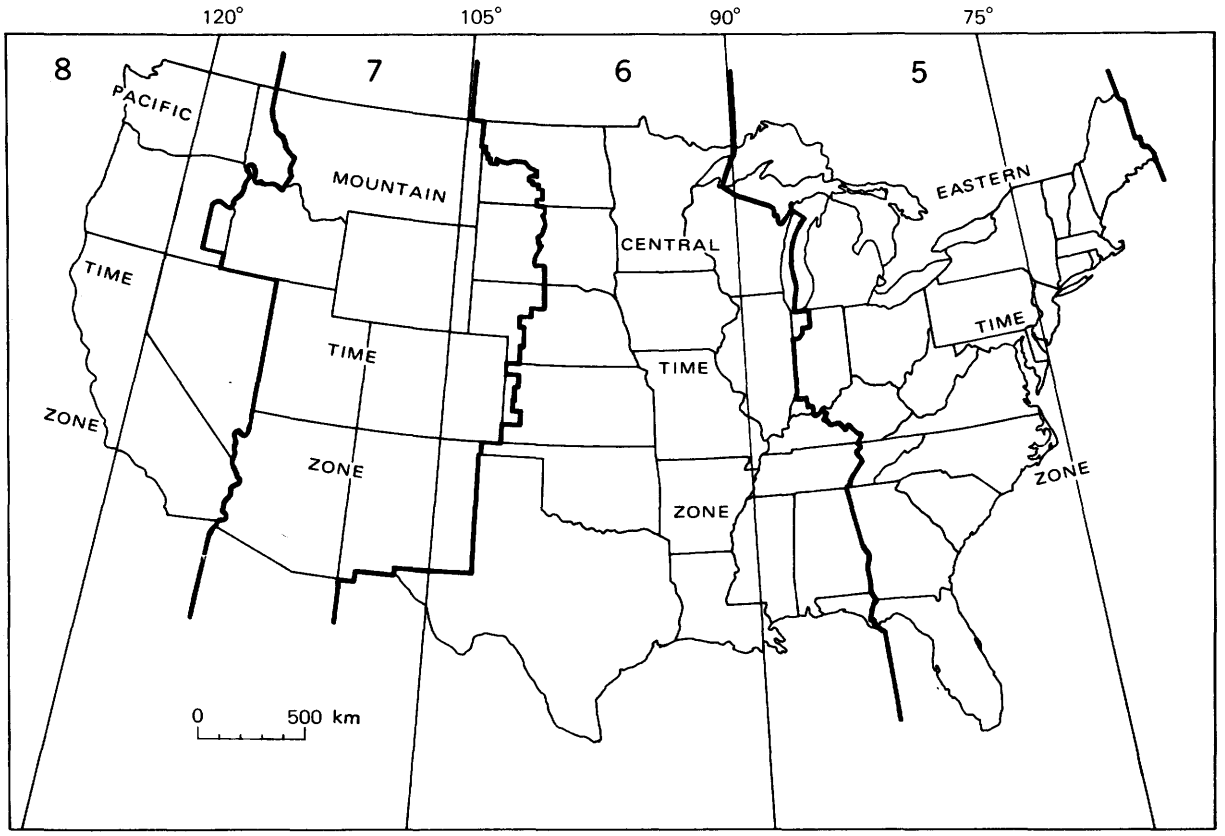

FIGURE 2.--Standard time zones of the conterminous United States. The number in each zone shows the number of hours to be subtracted from Universal Coordinated Time to convert to local standard time. (Subtract 1 hour less for local daylight-saving time.)

which contain minimal or sketchy information are listed only as "FELT." This does not imply a minimal intensity but indicates that the available data is 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.

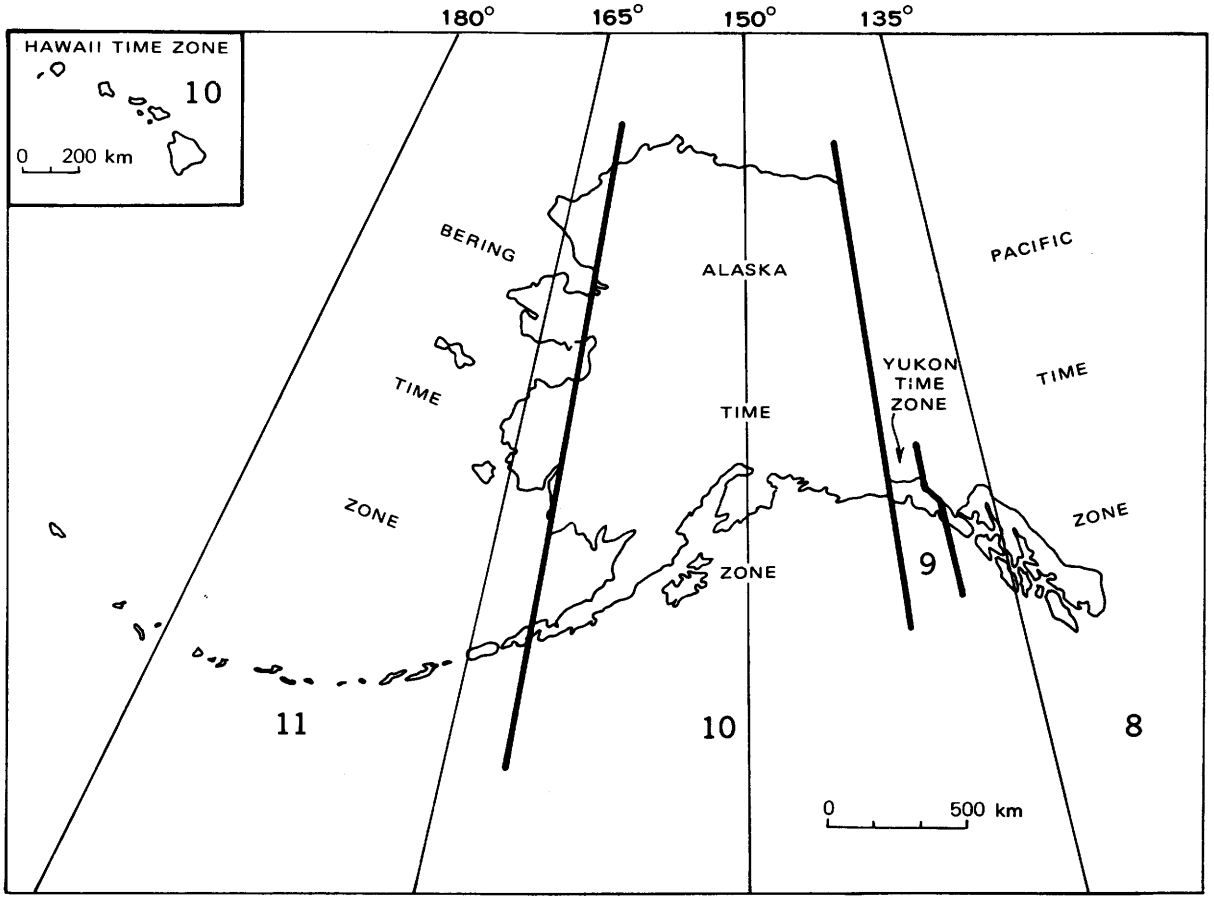

FIGURE 3.--Standard time zones of Alaska and Hawaii. The number in each zone shows the number of hours to be subtracted from Universal Coordinated Time to convert to local standard time. (Subtract 1 hour less for local daylight-saving time.)

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

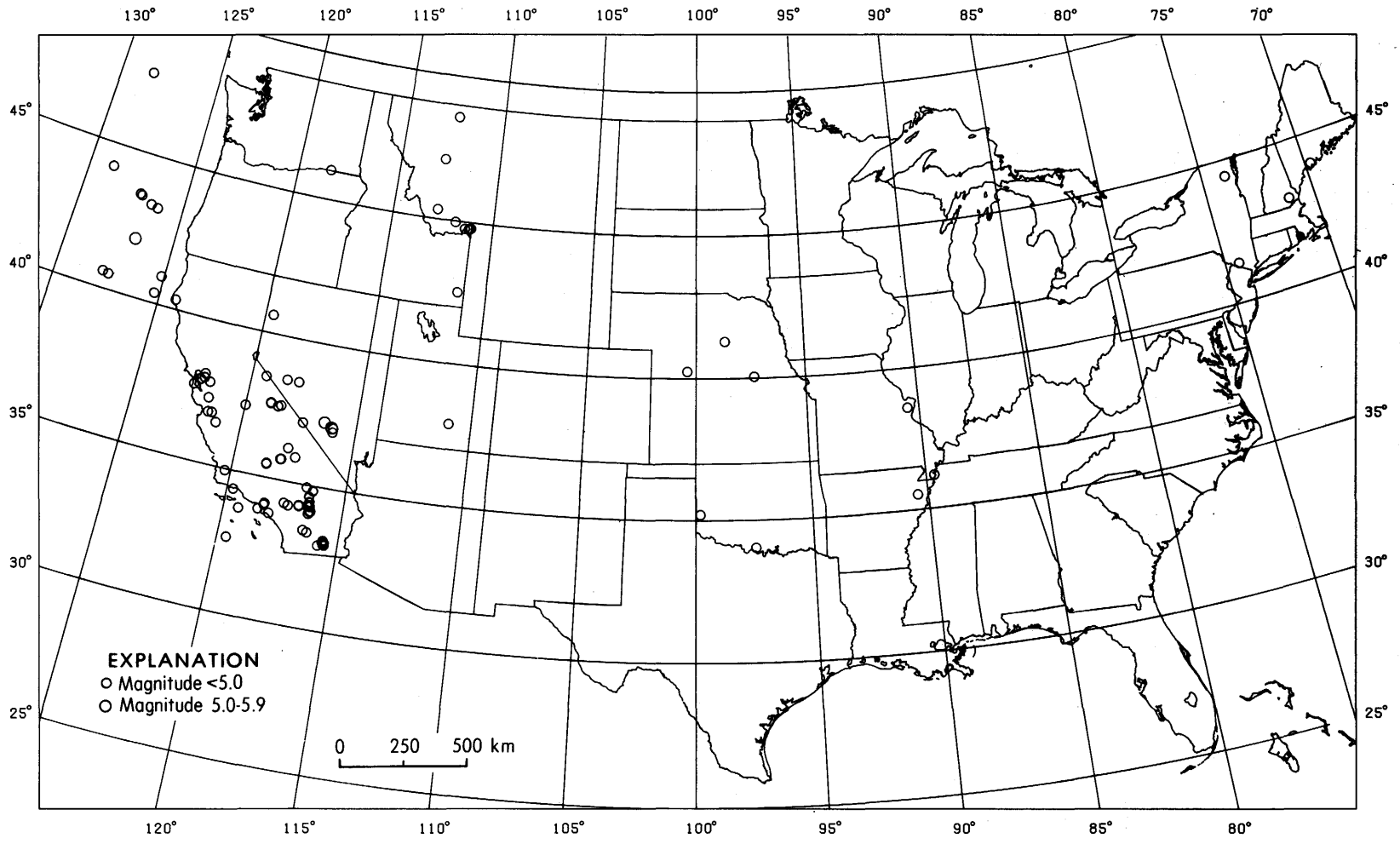

FIGURE 4.--Earthquake epicenters in the conterminous United States for April-June 1979, plotted from table 1.

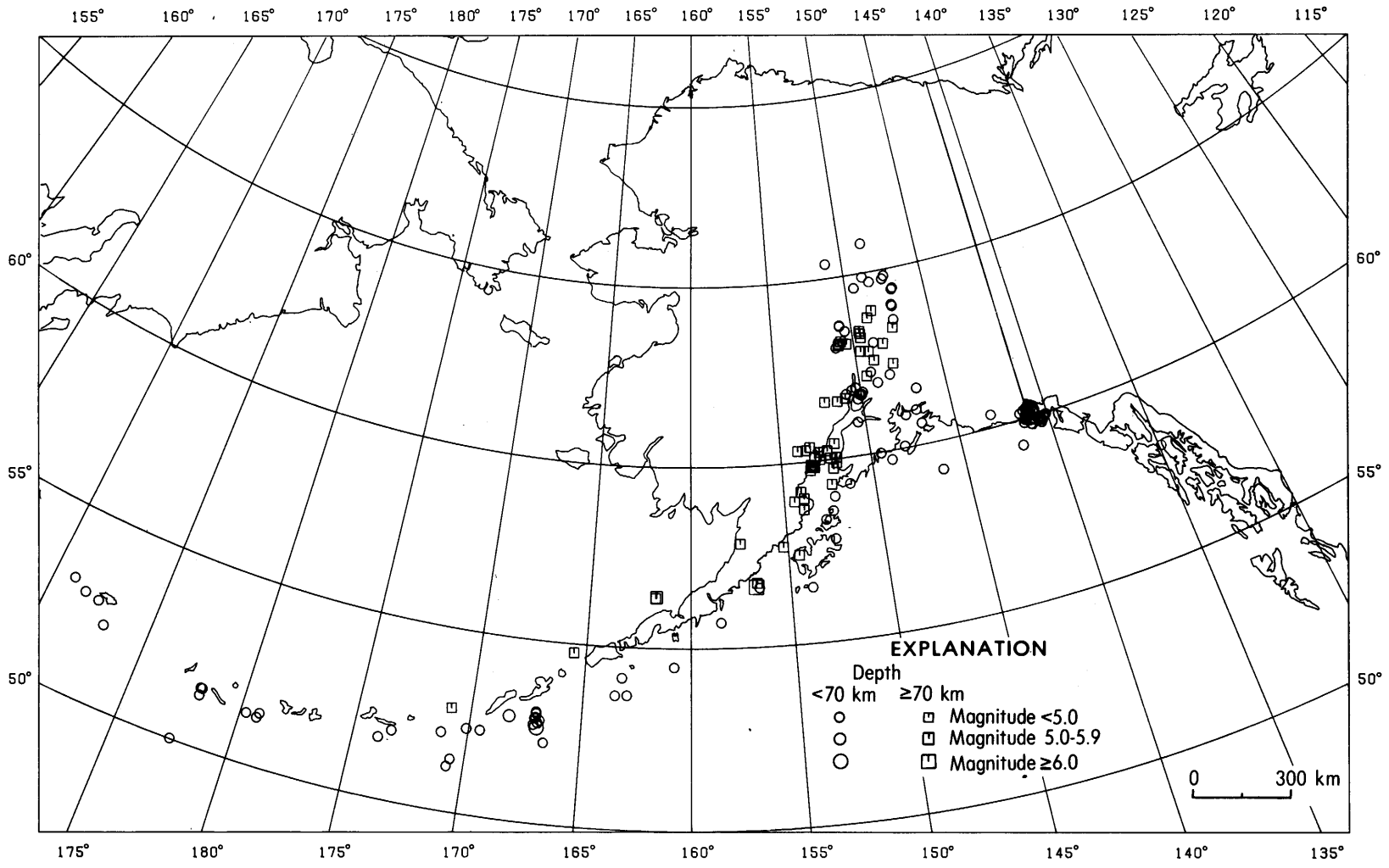

FIGURE 5.--Earthquake epicenters in Alaska for April-June 1979, plotted from table 1.

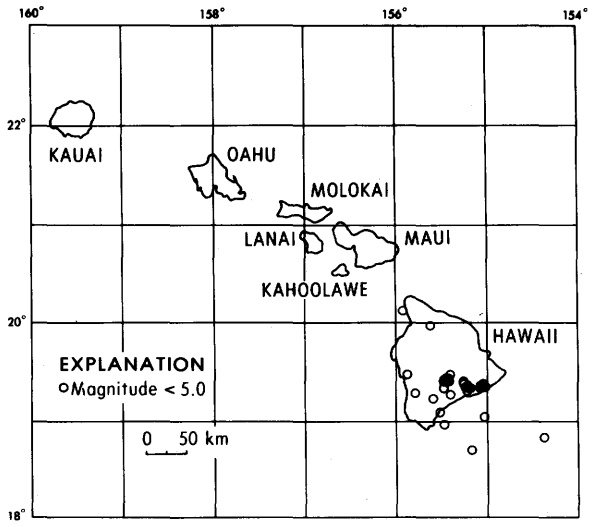

FIGURE 6.--Earthquake epicenters in Hawaii for April-June 1979, plotted from table 1.

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.

Table 1.--*Summary of U.S. earthquakes for April-June 1979*

[Sources of the hypocenters and magnitudes: (B) University of California, Berkeley; (E) U.S. Department of Energy, Las Vegas, Nevada; (G) U.S. Geological Survey, National Earthquake Information Service; (H) U.S. Geological Survey, Hawaiian Volcano Observatory; (J) Weston Observatory, Massachusetts; (L) Lamont-Doherty Geological Observatory, Palisades, N.Y.; (M) National Oceanic and Atmospheric Administration, Alaska Tsunami Warning Center, Palmer; (O) Earth Physics Branch, Seismological Service of Canada, Ottawa; (P) California Institute of Technology, Pasadena; (S) St. Louis University, St. Louis, Missouri; (T) University of Oklahoma, Leonard; (U) University of Utah, Salt Lake City; (W) University of Washington, Seattle. N, Normal depth; UTC, Universal Coordinated Time. For names of local time zones, see figures 2 and 3. Leaders (...) indicate no information available]

Date (1979)	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													
APR. 1	14	16	56.5	59.95 N.	140.40 W.	15	...	...	3.2M	...	G	APR. 1	05 A.M. YST
APR. 2	02	00	56.3	61.62 N.	150.99 W.	74	...	...	...	...	G	APR. 1	04 P.M. AST
APR. 2	02	15	31.4	64.81 N.	147.43 W.	10	...	...	3.1M	FELT	G	APR. 1	04 P.M. AST
APR. 2	16	04	58.9	61.58 N.	146.78 W.	33N	...	...	3.0M	...	G	APR. 2	06 A.M. AST
APR. 3	11	35	49.4	59.77 N.	140.92 W.	15	...	...	3.1M	...	G	APR. 3	02 A.M. YST
APR. 3	16	13	26.7	59.86 N.	140.87 W.	15	...	...	3.9M	...	G	APR. 3	07 A.M. YST
APR. 3	20	08	30.4	65.40 N.	151.05 W.	33N	...	...	3.4M	...	G	APR. 3	10 A.M. AST
APR. 4	02	34	25.2	60.38 N.	153.36 W.	166	4.3	...	...	...	G	APR. 3	04 P.M. AST
APR. 4	04	51	35.8	60.43 N.	151.95 W.	101	...	...	...	...	G	APR. 3	06 P.M. AST
APR. 4	08	16	15.3	60.32 N.	153.59 W.	174	4.5	...	...	FELT	G	APR. 3	10 P.M. AST
APR. 4	15	51	30.9	51.40 N.	178.07 E.	42	5.1	4.6	...	...	G	APR. 4	04 A.M. BST
APR. 5	17	49	15.8	59.97 N.	141.25 W.	15	...	...	3.5M	...	G	APR. 5	07 A.M. AST
APR. 5	23	07	6.2	59.97 N.	140.09 W.	18	4.0	...	4.2M	...	G	APR. 5	02 P.M. YST
APR. 6	09	18	59.4	59.00 N.	153.93 W.	139	...	...	...	...	G	APR. 5	11 P.M. AST
APR. 8	03	13	24.1	58.36 N.	152.86 W.	33N	4.3	...	3.4M	...	G	APR. 7	05 P.M. AST
APR. 10	08	30	42.8	62.24 N.	149.23 W.	33N	3.3	...	3.2M	...	G	APR. 9	10 P.M. AST
APR. 10	21	41	4.5	53.68 N.	163.00 W.	17	4.0	...	4.5M	...	G	APR. 10	10 A.M. BST
APR. 11	01	42	44.3	60.17 N.	140.63 W.	15	3.9	...	4.0M	...	G	APR. 10	04 P.M. YST
APR. 11	11	15	46.1	59.83 N.	140.35 W.	15	4.0	...	3.3M	...	G	APR. 11	02 A.M. YST
APR. 11	12	46	34.9	60.07 N.	141.22 W.	15	2.9	...	3.1M	...	G	APR. 11	02 A.M. AST
APR. 11	15	33	2.3	54.49 N.	160.81 W.	33N	4.7	...	4.3M	...	G	APR. 11	05 A.M. AST
APR. 11	20	48	57.5	59.75 N.	152.17 W.	89	...	...	...	...	G	APR. 11	10 A.M. AST
APR. 13	01	07	56.5	61.60 N.	152.18 W.	137	...	...	...	...	G	APR. 12	03 P.M. AST
APR. 13	13	26	25.8	60.05 N.	141.21 W.	15	...	...	...	...	G	APR. 13	03 A.M. AST
APR. 14	08	46	7.6	55.71 N.	158.55 W.	47	4.7	...	...	...	G	APR. 13	10 P.M. AST
APR. 14	13	04	52.5	54.15 N.	163.25 W.	55	4.7	...	...	...	G	APR. 14	02 A.M. BST
APR. 15	10	27	52.8	63.11 N.	150.94 W.	147	...	...	...	...	G	APR. 15	00 A.M. AST
APR. 16	08	33	46.6	52.33 N.	170.10 W.	39	4.6	...	...	...	G	APR. 15	09 P.M. BST
APR. 16	11	10	36.8	59.18 N.	154.07 W.	156	4.1	...	...	...	G	APR. 16	01 A.M. AST
APR. 16	13	08	46.4	60.26 N.	141.08 W.	15	3.2	...	...	...	G	APR. 16	03 A.M. AST
APR. 16	20	56	22.4	51.45 N.	179.17 W.	50	4.6	4.2	...	...	G	APR. 16	09 A.M. BST
APR. 17	00	09	1.5	60.10 N.	141.04 W.	15	...	...	3.5M	...	G	APR. 16	02 P.M. AST
APR. 17	02	59	20.3	61.68 N.	150.12 W.	33N	...	...	2.7M	II	G	APR. 16	04 P.M. AST
APR. 17	17	06	19.5	62.16 N.	149.52 W.	79	...	...	...	II	G	APR. 17	07 A.M. AST
APR. 18	05	20	4.4	51.67 N.	173.90 W.	49	4.9	4.2	...	...	G	APR. 17	06 P.M. BST
APR. 18	13	21	4.7	51.24 N.	170.75 W.	33N	5.1	4.1	...	...	G	APR. 18	02 A.M. BST
APR. 18	15	14	8.2	51.45 N.	170.62 W.	33N	...	...	...	...	G	APR. 18	04 A.M. BST
APR. 18	17	06	19.5	62.16 N.	149.52 W.	79	...	...	...	II	G	APR. 18	07 A.M. AST
APR. 19	05	07	9.7	59.90 N.	141.05 W.	15	...	...	3.2M	...	G	APR. 18	07 P.M. AST
APR. 19	23	03	45.3	60.30 N.	140.86 W.	15	3.9	...	3.0M	...	G	APR. 19	02 P.M. YST
APR. 20	03	31	49.9	63.20 N.	150.74 W.	147	...	...	...	...	G	APR. 19	05 P.M. AST
APR. 20	08	42	30.7	59.32 N.	152.36 W.	85	4.4	...	...	...	G	APR. 19	10 P.M. AST
APR. 20	12	49	6.5	60.28 N.	140.78 W.	8	5.3	4.9	5.0Z	IV	G	APR. 20	03 A.M. YST
APR. 20	21	58	37.9	60.30 N.	140.75 W.	15	4.4	...	4.4M	...	G	APR. 20	12 P.M. YST
APR. 20	23	06	50.9	60.41 N.	140.82 W.	15	...	...	3.6M	...	G	APR. 20	02 P.M. YST
APR. 21	03	23	46.4	63.24 N.	149.53 W.	107	...	...	...	...	G	APR. 20	05 P.M. AST
APR. 21	12	36	53.9	60.31 N.	140.77 W.	15	4.0	...	4.3M	...	G	APR. 21	03 A.M. YST
APR. 21	13	23	12.4	52.34 N.	169.51 W.	36	4.8	4.5	...	...	G	APR. 21	02 A.M. BST
APR. 21	15	08	3.9	63.57 N.	147.30 W.	10	4.1	...	3.5M	...	G	APR. 21	05 A.M. AST
APR. 21	21	19	33.8	59.91 N.	153.36 W.	168	...	...	...	...	G	APR. 21	11 A.M. AST
APR. 22	09	24	56.7	61.68 N.	149.98 W.	52	...	...	...	...	G	APR. 21	11 P.M. AST
APR. 22	14	04	35.1	59.96 N.	141.28 W.	15	4.2	3.6	4.0M	...	G	APR. 22	04 A.M. AST
APR. 22	16	11	38.2	60.23 N.	140.63 W.	15	3.0	...	3.2M	...	G	APR. 22	07 A.M. YST
APR. 22	17	05	6.1	58.58 N.	152.44 W.	33N	3.7	...	3.3M	...	G	APR. 22	07 A.M. AST
APR. 23	05	20	30.5	63.63 N.	150.72 W.	33N	...	...	3.3M	...	G	APR. 22	07 P.M. AST
APR. 23	13	45	12.5	63.66 N.	150.72 W.	33N	...	...	3.3M	...	G	APR. 23	03 A.M. AST
APR. 24	13	57	48.9	60.23 N.	141.27 W.	15	...	...	...	...	G	APR. 24	03 A.M. AST

Table 1.--*Summary of U.S. earthquakes for April-June 1979*--Continued

Date (1979)	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													
APR. 24	20	14	6.3	62.09 N.	148.12 W.	33N	...	...	3.2M	...	G	APR. 24	10 A.M. AST
APR. 24	23	32	21.1	50.02 N.	177.48 E.	33N	4.4	...	...	...	G	APR. 24	12 P.M. BST
APR. 25	00	27	57.6	63.35 N.	149.50 W.	119	3.9	...	...	FELT	G	APR. 24	02 P.M. AST
APR. 25	09	39	0.0	64.88 N.	148.83 W.	11	...	...	3.3M	III	G	APR. 24	11 P.M. AST
APR. 26	12	34	7.5	59.97 N.	149.42 W.	36	3.2	...	3.0M	...	G	APR. 26	02 A.M. AST
APR. 27	08	28	59.7	52.82 N.	171.65 E.	33N	4.2	...	...	...	G	APR. 26	09 P.M. BST
APR. 28	07	33	6.0	64.61 N.	149.46 W.	28	...	...	3.0M	FELT	G	APR. 27	09 P.M. AST
APR. 28	16	20	48.5	65.80 N.	148.50 W.	33N	...	...	3.1M	...	G	APR. 28	06 A.M. AST
APR. 29	07	08	28.7	60.01 N.	141.21 W.	15	3.6	...	4.0M	...	G	APR. 28	09 P.M. AST
APR. 30	20	46	21.6	63.95 N.	147.25 W.	10	...	...	3.3M	...	G	APR. 30	10 A.M. AST
MAY 1	01	48	31.2	61.55 N.	150.24 W.	33N	...	...	3.0M	...	G	APR. 30	03 P.M. AST
MAY 2	13	40	45.1	60.89 W.	140.89 W.	15	3.5	...	4.3M	...	G	MAY 2	04 A.M. YST
MAY 4	11	37	58.7	59.21 N.	146.25 W.	25	3.2	...	3.1M	...	G	MAY 4	01 A.M. AST
MAY 4	13	36	12.8	51.35 N.	179.73 W.	53	4.8	...	...	...	G	MAY 4	02 A.M. BST
MAY 4	19	16	54.6	60.30 N.	141.00 W.	15	3.1	...	3.8M	...	G	MAY 4	10 A.M. YST
MAY 5	06	50	38.8	62.97 N.	148.23 W.	77	4.6	...	...	FELT	G	MAY 4	08 P.M. AST
MAY 5	16	13	35.2	63.14 N.	150.88 W.	147	...	...	...	...	G	MAY 5	06 A.M. AST
MAY 5	16	54	20.5	59.88 N.	141.38 W.	15	3.4	...	3.6M	...	G	MAY 5	06 A.M. AST
MAY 5	17	00	46.5	51.92 N.	173.38 W.	33N	4.4	...	4.6M	...	G	MAY 5	06 A.M. BST
MAY 7	11	01	7.2	59.75 N.	153.45 W.	144	...	...	...	...	G	MAY 7	01 A.M. AST
MAY 7	21	24	22.5	60.91 N.	150.44 W.	66	...	...	...	...	G	MAY 7	11 A.M. AST
MAY 8	12	56	14.8	52.84 N.	168.30 W.	39	5.1	5.0	...	...	G	MAY 8	01 A.M. BST
MAY 9	14	22	21.0	61.93 N.	148.92 W.	12	...	...	2.9M	III	G	MAY 9	04 A.M. AST
MAY 10	21	38	51.4	60.24 N.	152.38 W.	134	...	...	...	...	G	MAY 10	11 A.M. AST
MAY 10	21	57	39.1	60.24 N.	141.03 W.	15	4.4	...	4.4M	...	G	MAY 10	11 A.M. AST
MAY 12	19	13	30.5	54.76 N.	165.59 W.	111	4.5	...	...	...	G	MAY 12	08 A.M. BST
MAY 14	09	19	9.6	60.08 N.	140.94 W.	15	...	...	3.5M	...	G	MAY 14	00 A.M. YST
MAY 14	20	14	36.0	61.73 N.	150.89 W.	45	...	...	...	II	G	MAY 14	10 A.M. AST
MAY 15	03	54	38.8	52.18 N.	172.97 E.	33N	4.4	...	...	...	G	MAY 14	04 P.M. BST
MAY 16	09	57	13.0	64.73 N.	147.56 W.	14	...	...	3.0M	...	G	MAY 15	11 P.M. AST
MAY 16	14	19	19.2	60.23 N.	141.04 W.	15	4.6	...	4.4M	...	G	MAY 16	04 A.M. AST
MAY 17	14	04	14.7	60.99 N.	147.02 W.	10	...	...	3.2M	...	G	MAY 17	04 A.M. AST
MAY 18	05	35	22.6	64.41 N.	147.08 W.	28	...	...	3.2M	III	G	MAY 17	07 P.M. AST
MAY 19	18	05	23.6	60.21 N.	141.01 W.	15	4.2	...	4.6M	...	G	MAY 19	08 A.M. AST
MAY 19	18	21	42.7	60.07 N.	141.23 W.	15	...	...	3.6M	...	G	MAY 19	08 A.M. AST
MAY 20	02	27	42.3	52.12 N.	171.21 W.	33N	4.8	...	...	...	G	MAY 19	03 P.M. BST
MAY 20	08	14	0.1	56.65 N.	156.73 W.	71	6.4	6.1P	...	VI	G	MAY 19	10 P.M. AST
MAY 20	11	24	10.4	56.63 N.	156.59 W.	68	4.4	...	...	...	G	MAY 20	01 A.M. AST
MAY 20	22	28	38.1	62.83 N.	149.17 W.	95	...	...	...	FELT	G	MAY 20	12 P.M. AST
MAY 21	01	37	30.7	60.31 N.	154.02 W.	170	3.8	...	...	...	G	MAY 20	03 P.M. AST
MAY 21	05	35	22.6	64.44 N.	147.02 W.	34	...	...	3.2M	...	G	MAY 20	07 P.M. AST
MAY 21	10	05	11.6	64.71 N.	148.43 W.	33N	...	...	3.0M	II	G	MAY 21	00 A.M. AST
MAY 22	03	48	11.2	58.68 N.	153.98 W.	84	...	...	...	...	G	MAY 21	05 P.M. AST
MAY 23	13	44	40.8	56.76 N.	156.67 W.	71	4.9	...	...	...	G	MAY 23	03 A.M. AST
MAY 23	20	15	39.3	57.87 N.	157.45 W.	150	3.7	...	...	...	G	MAY 23	10 A.M. AST
MAY 24	07	28	53.6	62.55 N.	148.92 W.	84	...	...	...	...	G	MAY 23	09 P.M. AST
MAY 25	14	14	16.7	51.59 N.	178.03 E.	33N	4.8	...	...	...	G	MAY 25	03 A.M. BST
MAY 25	14	50	16.9	51.59 N.	178.11 E.	33N	...	...	...	...	G	MAY 25	03 A.M. BST
MAY 25	16	45	27.3	52.61 N.	167.02 W.	23	6.0	6.2	...	IV	G	MAY 25	05 A.M. BST
MAY 25	17	46	57.5	52.22 N.	166.65 W.	33N	4.8	...	...	...	G	MAY 25	06 A.M. BST
MAY 25	18	10	43.7	52.90 N.	167.09 W.	33N	4.6	...	...	...	G	MAY 25	07 A.M. BST
MAY 26	13	43	5.7	52.81 N.	166.90 W.	26	4.5	...	...	...	G	MAY 26	02 A.M. BST
MAY 26	14	35	38.3	52.87 N.	167.14 W.	33N	4.6	...	...	...	G	MAY 26	03 A.M. BST
MAY 27	07	33	56.1	59.26 N.	151.37 W.	59	4.3	...	...	...	G	MAY 26	09 P.M. AST
MAY 27	09	00	51.7	59.88 N.	151.95 W.	78	...	...	...	...	G	MAY 26	11 P.M. AST
MAY 27	09	12	20.3	56.55 N.	153.91 W.	27	4.1	...	4.0M	...	G	MAY 26	11 P.M. AST
MAY 27	10	30	19.1	52.68 N.	167.16 W.	33N	4.7	...	...	...	G	MAY 26	11 P.M. BST
MAY 27	15	38	4.3	63.05 N.	151.13 W.	33N	...	...	3.0M	...	G	MAY 27	05 A.M. AST
MAY 28	06	58	27.6	52.75 N.	167.01 W.	33N	4.4	...	...	...	G	MAY 27	07 P.M. BST
MAY 28	17	50	14.3	61.64 N.	150.02 W.	45	...	...	...	II	G	MAY 28	07 A.M. AST
MAY 29	15	21	41.5	53.04 N.	170.94 E.	33N	4.6	...	...	...	G	MAY 29	04 A.M. BST
MAY 29	21	53	43.9	52.83 N.	170.89 W.	102	4.9	...	...	...	G	MAY 29	10 A.M. BST
MAY 30	18	25	40.9	60.23 N.	152.84 W.	115	...	...	...	...	G	MAY 30	08 A.M. AST

Table 1.--*Summary of U.S. earthquakes for April-June 1979*--Continued

Date (1979)	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													
MAY 30	19	20	27.5	56.40 N.	161.72 W.	206	5.0	...	...	...	G	MAY 30	08 A.M. BST
MAY 31	04	22	54.3	61.74 N.	149.88 W.	55	3.4	...	...	FELT	G	MAY 30	06 P.M. AST
MAY 31	04	38	32.8	60.05 N.	152.26 W.	86	3.6	...	...	...	G	MAY 30	06 P.M. AST
JUNE 3	15	02	4.0	60.22 N.	140.99 W.	15	4.2	...	4.5M	...	G	JUNE 3	06 A.M. YST
JUNE 3	20	41	4.1	63.48 N.	150.40 W.	33N	...	...	3.1M	...	G	JUNE 3	10 A.M. AST
JUNE 4	02	05	57.6	62.86 N.	149.66 W.	99	...	...	...	...	G	JUNE 3	04 P.M. AST
JUNE 4	05	06	58.2	59.85 N.	153.21 W.	121	4.2	...	...	...	G	JUNE 3	07 P.M. AST
JUNE 4	20	39	1.0	53.04 N.	167.10 W.	33N	4.6	...	...	...	G	JUNE 4	09 A.M. BST
JUNE 8	05	12	31.2	63.99 N.	147.26 W.	33N	...	...	3.6M	...	G	JUNE 7	07 P.M. AST
JUNE 8	17	37	39.9	63.03 N.	148.80 W.	33N	...	...	3.0M	...	G	JUNE 8	07 A.M. AST
JUNE 9	09	39	4.2	60.10 N.	153.14 W.	133	...	...	...	...	G	JUNE 8	11 P.M. AST
JUNE 10	03	53	21.6	60.03 N.	152.85 W.	122	...	...	...	...	G	JUNE 9	05 P.M. AST
JUNE 12	22	20	25.9	52.99 N.	167.09 W.	40	4.5	...	...	...	G	JUNE 12	11 A.M. BST
JUNE 13	09	51	26.1	59.74 N.	148.88 W.	33N	...	...	3.0M	...	G	JUNE 12	11 P.M. AST
JUNE 15	01	12	58.6	60.25 N.	140.94 W.	15	3.8	...	4.1M	...	G	JUNE 14	04 P.M. YST
JUNE 15	16	51	52.6	59.93 N.	140.81 W.	15	...	...	3.0M	...	G	JUNE 15	07 A.M. YST
JUNE 15	17	23	57.5	58.94 N.	154.47 W.	151	...	...	...	...	G	JUNE 15	07 A.M. AST
JUNE 15	18	54	36.0	57.81 N.	152.47 W.	60	3.7	...	...	...	G	JUNE 15	08 A.M. AST
JUNE 16	20	06	16.5	63.74 N.	148.90 W.	124	...	...	...	...	G	JUNE 16	10 A.M. AST
JUNE 17	08	08	52.4	51.32 N.	179.27 W.	55	4.7	...	...	...	G	JUNE 16	09 P.M. BST
JUNE 17	17	58	20.4	60.22 N.	140.87 W.	15	4.4	...	4.4M	...	G	JUNE 17	08 A.M. YST
JUNE 17	18	21	27.6	60.12 N.	140.90 W.	15	...	...	3.5M	...	G	JUNE 17	09 A.M. YST
JUNE 18	04	52	7.7	60.36 N.	143.02 W.	15	...	...	3.0M	...	G	JUNE 17	06 P.M. AST
JUNE 18	08	29	26.9	57.45 N.	154.44 W.	139	...	...	...	...	G	JUNE 17	10 P.M. AST
JUNE 18	10	49	32.7	56.39 N.	161.74 W.	204	...	...	...	...	G	JUNE 17	11 P.M. BST
JUNE 19	21	10	56.9	52.74 N.	172.33 E.	33N	4.6	...	...	...	G	JUNE 19	10 A.M. BST
JUNE 20	08	18	30.8	60.88 N.	147.69 W.	33N	...	...	3.3M	FEL	G	JUNE 19	10 P.M. AST
JUNE 21	07	33	36.1	58.97 N.	152.25 W.	33N	...	...	3.0M	...	G	JUNE 20	09 P.M. AST
JUNE 22	23	38	41.1	53.65 N.	163.54 W.	33N	4.6	...	...	...	G	JUNE 22	12 P.M. BST
JUNE 23	08	41	3.1	57.70 N.	155.22 W.	86	4.2	...	...	...	G	JUNE 22	10 P.M. AST
JUNE 23	10	46	58.6	61.87 N.	150.28 W.	33N	3.1	...	3.1M	IV	G	JUNE 23	00 A.M. AST
JUNE 23	12	11	23.6	59.31 N.	141.76 W.	15	...	...	3.5M	...	G	JUNE 23	02 A.M. AST
JUNE 23	18	39	32.2	58.03 N.	134.91 W.	15	3.8	...	...	IV	G	JUNE 23	10 A.M. PST
JUNE 24	05	24	33.4	63.12 N.	150.45 W.	151	...	...	...	...	G	JUNE 23	07 P.M. AST
JUNE 24	12	41	33.7	60.04 N.	148.05 W.	33N	4.1	...	3.3M	...	G	JUNE 24	02 A.M. AST
JUNE 24	13	41	46.8	63.93 N.	148.58 W.	118	3.3	...	...	...	G	JUNE 24	03 A.M. AST
JUNE 25	01	38	21.9	63.40 N.	149.56 W.	123	...	...	...	...	G	JUNE 24	03 P.M. AST
JUNE 25	04	28	37.9	60.59 N.	146.89 W.	33N	...	...	3.0M	...	G	JUNE 24	06 P.M. AST
JUNE 25	05	07	59.3	60.27 N.	140.82 W.	19	4.6	...	4.8M	...	G	JUNE 24	08 P.M. YST
JUNE 25	11	36	7.1	63.36 N.	147.44 W.	103	...	...	...	...	G	JUNE 25	01 A.M. AST
JUNE 26	04	26	33.4	59.84 N.	153.30 W.	132	4.0	...	...	...	G	JUNE 25	06 P.M. AST
JUNE 26	19	08	21.3	62.36 N.	147.83 W.	86	3.8	...	...	IV	G	JUNE 26	09 A.M. AST
JUNE 28	02	09	47.1	61.83 N.	150.52 W.	33N	...	...	3.2M	...	G	JUNE 27	04 P.M. AST
JUNE 28	02	36	11.9	61.58 N.	151.43 W.	113	3.7	...	...	...	G	JUNE 27	04 P.M. AST
JUNE 29	06	51	49.6	60.04 N.	151.92 W.	71	...	...	...	...	G	JUNE 28	08 P.M. AST
JUNE 29	09	12	12.2	60.16 N.	141.47 W.	15	...	...	3.5M	...	G	JUNE 28	11 P.M. AST
ARKANSAS													
JUNE 25	17	11	13.4	35.53 N.	90.43 W.	11	...	...	3.2S	IV	S	JUNE 25	11 A.M. CST
CALIFORNIA													
APR. 2	10	27	28.6	34.28 N.	116.50 W.	1	...	...	3.2P	...	P	APR. 2	02 A.M. PST
APR. 2	10	56	23.6	38.48 N.	119.36 W.	24	...	...	3.0B	...	B	APR. 2	02 A.M. PST
APR. 2	21	15	4.1	34.28 N.	116.50 W.	3	...	...	3.3P	...	P	APR. 2	01 P.M. PST
APR. 6	16	13	5.4	34.60 N.	116.52 W.	3	...	...	3.7P	...	P	APR. 6	08 A.M. PST
APR. 7	05	55	39.5	34.28 N.	116.42 W.	3	...	...	3.0P	...	P	APR. 6	09 P.M. PST
APR. 9	17	32	24.9	34.42 N.	116.47 W.	3	...	...	3.5P	...	P	APR. 9	09 A.M. PST
APR. 11	23	53	55.9	34.25 N.	116.43 W.	3	...	...	3.0P	...	P	APR. 11	03 P.M. PST
APR. 12	04	44	44.7	34.28 N.	116.50 W.	1	...	...	3.2P	...	P	APR. 11	08 P.M. PST
APR. 12	06	52	3.7	34.27 N.	116.52 W.	1	...	...	3.0P	...	P	APR. 11	10 P.M. PST
APR. 18	23	21	35.4	36.15 N.	117.77 W.	4	...	...	3.1P	...	P	APR. 18	03 P.M. PST

Table 1.--*Summary of U.S. earthquakes for April-June 1979*--Continued

Date (1979)	Origin time (UTC) hr	min	s	Lat	Long	Depth (km)	Magnitude mb	MS	ML or mbLg	Maximum intensity	Hypocenter source	Local time Date	Hour
CALIFORNIA--Continued													
APR. 19	14	22	47.3	34.10 N.	118.33 W.	7	...	...	2.5P	FELT	P	APR. 19	06 A.M. PST
APR. 19	22	39	56.8	34.37 N.	119.73 W.	4	...	...	3.3P	III	P	APR. 19	02 P.M. PST
APR. 21	06	00	38.3	33.78 N.	118.07 W.	5	...	...	3.1P	IV	P	APR. 20	10 P.M. PST
APR. 22	06	23	25.2	36.83 N.	121.40 W.	10	...	...	3.1B	FELT	B	APR. 21	10 P.M. PST
APR. 22	16	52	16.9	33.43 N.	116.55 W.	6	...	...	3.3P	...	P	APR. 22	08 A.M. PST
APR. 24	16	05	54.5	34.00 N.	116.45 W.	5	...	...	3.0P	...	P	APR. 24	08 A.M. PST
APR. 28	00	44	44.8	37.65 N.	122.46 W.	13	...	...	4.4B	V	B	APR. 27	04 P.M. PST
APR. 28	07	52	4.5	34.17 N.	117.33 W.	5	...	...	3.1P	...	P	APR. 27	11 P.M. PST
MAY 2	22	22	52.7	33.00 N.	115.57 W.	5	...	...	2.9P	FELT	P	MAY 2	02 P.M. PST
MAY 4	16	05	56.3	35.48 N.	118.57 W.	1	...	...	3.2P	...	P	MAY 4	08 A.M. PST
MAY 4	20	03	49.9	35.47 N.	118.57 W.	1	...	...	3.1P	...	P	MAY 4	12 P.M. PST
MAY 5	03	49	4.2	35.50 N.	118.57 W.	5	...	...	3.0P	...	P	MAY 4	07 P.M. PST
MAY 5	23	13	34.2	34.30 N.	116.45 W.	4	...	...	3.1P	...	P	MAY 5	03 P.M. PST
MAY 8	05	11	7.7	37.30 N.	121.68 W.	6	4.3	4.0	4.8B	VI	B	MAY 7	09 P.M. PST
MAY 11	01	06	52.8	34.30 N.	116.48 W.	5	...	...	3.3P	...	P	MAY 10	05 P.M. PST
MAY 12	02	03	55.6	34.22 N.	117.53 W.	6	...	...	3.4P	...	P	MAY 11	06 P.M. PST
MAY 12	10	11	2.3	34.30 N.	116.47 W.	7	...	...	3.3P	...	P	MAY 12	02 A.M. PST
MAY 16	03	25	23.6	33.85 N.	118.55 W.	5	...	...	2.7P	FELT	P	MAY 15	07 P.M. PST
MAY 16	04	26	0.8	33.37 N.	116.35 W.	5	...	...	3.2P	...	P	MAY 15	08 P.M. PST
MAY 16	10	24	52.2	32.98 N.	115.82 W.	5	...	...	3.4P	...	P	MAY 16	02 A.M. PST
MAY 20	12	04	47.9	34.07 N.	116.37 W.	5	...	...	3.7P	III	P	MAY 20	04 A.M. PST
MAY 21	05	19	4.0	34.10 N.	116.37 W.	8	...	...	3.0P	III	P	MAY 20	09 P.M. PST
MAY 27	14	28	7.5	36.52 N.	121.13 W.	4	...	...	3.4B	...	B	MAY 27	06 A.M. PST
MAY 27	14	51	51.7	37.61 N.	118.90 W.	9	...	...	3.4B	...	B	MAY 27	06 A.M. PST
MAY 27	16	28	4.1	36.52 N.	121.12 W.	3	...	...	3.3B	...	B	MAY 27	08 A.M. PST
MAY 28	10	59	46.3	34.93 N.	116.68 W.	5	...	...	3.3P	...	P	MAY 28	02 A.M. PST
MAY 29	20	50	20.0	37.58 N.	118.44 W.	10	...	...	3.4B	...	B	MAY 29	12 P.M. PST
MAY 30	13	08	34.1	35.88 N.	117.42 W.	4	...	...	3.1P	...	P	MAY 30	05 A.M. PST
JUNE 1	23	58	26.3	37.87 N.	122.21 W.	10	...	...	2.6B	FELT	B	JUNE 1	03 P.M. PST
JUNE 3	04	07	29.4	40.34 N.	124.23 W.	12	...	...	3.2B	III	B	JUNE 2	08 P.M. PST
JUNE 8	18	39	33.8	36.82 N.	121.55 W.	6	...	...	3.2B	...	B	JUNE 8	10 A.M. PST
JUNE 11	11	51	56.8	37.97 N.	122.05 W.	12	...	...	2.8B	IV	B	JUNE 11	03 A.M. PST
JUNE 13	03	36	15.9	33.17 N.	115.62 W.	6	...	...	3.0P	...	P	JUNE 12	07 P.M. PST
JUNE 13	07	09	58.1	33.08 N.	115.62 W.	6	...	...	3.7P	FELT	P	JUNE 12	11 P.M. PST
JUNE 13	19	37	52.3	33.12 N.	115.62 W.	6	...	...	3.0P	...	P	JUNE 13	11 A.M. PST
JUNE 13	19	46	45.9	33.10 N.	115.65 W.	6	...	...	4.1P	V	P	JUNE 13	11 A.M. PST
JUNE 13	20	19	30.9	33.07 N.	115.58 W.	6	...	...	3.0P	...	P	JUNE 13	12 P.M. PST
JUNE 13	20	21	11.3	33.12 N.	115.62 W.	6	...	...	3.3P	FELT	P	JUNE 13	12 P.M. PST
JUNE 14	07	35	4.9	35.73 N.	118.00 W.	5	...	...	3.4P	...	P	JUNE 13	11 P.M. PST
JUNE 14	07	39	27.9	35.72 N.	118.02 W.	5	4.2	...	4.6P	VI	P	JUNE 13	11 P.M. PST
JUNE 14	08	45	45.7	35.73 N.	118.00 W.	5	...	...	3.7P	...	P	JUNE 14	00 A.M. PST
JUNE 15	08	38	41.3	33.05 N.	115.60 W.	9	...	...	3.1P	...	P	JUNE 15	00 A.M. PST
JUNE 15	12	01	7.0	34.83 N.	116.40 W.	7	...	...	3.9P	...	P	JUNE 15	04 A.M. PST
JUNE 15	16	09	5.5	33.07 N.	115.60 W.	10	...	...	3.0P	...	P	JUNE 15	08 A.M. PST
JUNE 15	22	31	37.2	33.10 N.	115.62 W.	2	...	...	3.4P	...	P	JUNE 15	02 P.M. PST
JUNE 16	00	25	14.1	33.07 N.	115.58 W.	15	...	...	3.9P	...	P	JUNE 15	04 P.M. PST
JUNE 16	02	10	3.2	33.07 N.	115.60 W.	12	...	...	3.0P	...	P	JUNE 15	06 P.M. PST
JUNE 16	03	07	17.4	33.10 N.	115.60 W.	11	...	...	3.3P	...	P	JUNE 15	07 P.M. PST
JUNE 16	04	13	59.1	33.08 N.	115.62 W.	9	...	...	3.2P	...	P	JUNE 15	08 P.M. PST
JUNE 16	22	44	59.5	37.58 N.	118.92 W.	13	...	...	4.3B	IV	B	JUNE 16	02 P.M. PST
JUNE 16	22	57	27.9	37.58 N.	118.92 W.	16	...	...	3.7B	...	B	JUNE 16	02 P.M. PST
JUNE 17	03	59	45.8	37.97 N.	122.04 W.	18	...	...	2.7B	FELT	B	JUNE 16	07 P.M. PST
JUNE 17	04	01	34.9	38.10 N.	122.04 W.	16	...	...	2.9B	FELT	B	JUNE 16	08 P.M. PST
JUNE 17	18	06	37.7	37.34 N.	119.98 W.	5	...	...	3.1B	IV	B	JUNE 17	10 A.M. PST
JUNE 19	17	17	19.9	33.10 N.	115.62 W.	6	...	...	3.1P	...	P	JUNE 19	09 A.M. PST
JUNE 20	05	30	35.8	34.03 N.	118.35 W.	5	...	...	3.0P	III	P	JUNE 19	09 P.M. PST
JUNE 22	06	54	58.4	34.95 N.	120.27 W.	4	...	...	2.5P	FELT	P	JUNE 21	10 P.M. PST
JUNE 25	09	04	37.0	37.85 N.	121.76 W.	8	...	...	3.3B	...	B	JUNE 25	01 A.M. PST
JUNE 26	14	28	55.6	37.52 N.	118.58 W.	10	...	...	3.7B	FELT	B	JUNE 26	06 A.M. PST
JUNE 26	15	13	58.2	37.53 N.	118.58 W.	10	...	...	3.4B	FELT	B	JUNE 26	07 A.M. PST
JUNE 29	05	53	20.5	34.25 N.	116.90 W.	6	4.1	...	4.5P	VI	P	JUNE 28	09 P.M. PST
JUNE 30	00	34	11.6	34.25 N.	116.90 W.	10	4.6	...	4.9P	VI	P	JUNE 29	04 P.M. PST
JUNE 30	00	42	43.5	34.25 N.	116.88 W.	10	...	...	3.2P	...	P	JUNE 29	04 P.M. PST
JUNE 30	06	56	32.9	34.23 N.	116.90 W.	10	...	...	3.4P	...	P	JUNE 29	10 P.M. PST
JUNE 30	07	03	52.9	34.25 N.	116.90 W.	10	4.0	...	4.4P	FELT	P	JUNE 29	11 P.M. PST

Table 1.--*Summary of U.S. earthquakes for April-June 1979*--Continued

Date (1979)	Origin time (UTC) hr	min	s	Lat	Long	Depth (km)	Magnitude mb	MS	ML or mbLg	Maximum intensity	Hypocenter source	Local time Date	Hour
CALIFORNIA--OFF THE COAST													
APR. 7	06	18	33.0	41.99 N.	126.82 W.	15	5.5	5.3	5.0B	...	G	APR. 6	10 P.M. PST
APR. 7	10	17	38.2	40.55 N.	127.52 W.	5	3.6	...	3.8B	...	B	APR. 7	02 A.M. PST
APR. 13	08	07	43.2	40.60 N.	127.83 W.	5	4.4	...	4.7B	...	B	APR. 13	00 A.M. PST
APR. 15	03	12	6.7	37.13 N.	117.37 W.	6	...	...	3.2P	...	P	APR. 14	07 P.M. PST
APR. 25	04	48	8.8	40.35 N.	125.28 W.	5	...	...	3.4B	...	B	APR. 24	08 P.M. PST
APR. 25	19	29	57.2	33.75 N.	119.37 W.	7	...	...	3.5P	...	P	APR. 25	11 A.M. PST
MAY 8	02	49	4.7	32.68 N.	119.60 W.	5	...	...	3.1P	...	P	MAY 7	06 P.M. PST
MAY 28	04	12	13.1	40.98 N.	125.12 W.	5	...	...	3.9B	...	B	MAY 27	08 P.M. PST
HAWAII													
APR. 5	06	14	58.7	19.35 N.	155.02 W.	7	...	...	3.3H	III	H	APR. 4	08 P.M. HST
APR. 9	04	08	57.9	19.44 N.	155.45 W.	10	...	...	3.1H	...	H	APR. 8	06 P.M. HST
APR. 12	18	39	46.4	19.33 N.	155.22 W.	9	...	...	3.0H	...	H	APR. 12	08 A.M. HST
APR. 14	13	31	12.7	19.40 N.	155.27 W.	5	...	...	3.4H	III	H	APR. 14	03 A.M. HST
APR. 17	06	29	53.9	19.26 N.	155.40 W.	47	...	...	3.6H	III	H	APR. 16	08 P.M. HST
APR. 21	22	14	52.3	19.33 N.	155.48 W.	8	...	...	3.0H	...	H	APR. 21	12 P.M. HST
APR. 22	04	57	06.8	19.31 N.	155.22 W.	11	...	...	3.0H	...	H	APR. 22	06 P.M. HST
APR. 24	11	12	38.1	20.12 N.	155.91 W.	31	...	...	3.1H	...	H	APR. 24	01 A.M. HST
APR. 28	00	26	55.3	18.97 N.	155.47 W.	37	...	...	3.4H	...	H	APR. 27	02 P.M. HST
MAY 1	08	03	32.5	18.71 N.	155.18 W.	7	...	...	3.0H	...	H	APR. 30	10 P.M. HST
MAY 3	07	08	47.9	19.42 N.	155.48 W.	11	...	...	3.2H	...	H	MAY 2	09 P.M. HST
MAY 6	04	51	07.3	19.22 N.	155.59 W.	8	...	...	3.1H	...	H	MAY 5	06 P.M. HST
MAY 6	07	22	47.4	19.08 N.	155.52 W.	57	...	...	3.0H	...	H	MAY 5	09 P.M. HST
MAY 10	20	37	45.8	19.43 N.	155.41 W.	11	...	...	3.0H	...	H	MAY 10	10 A.M. HST
MAY 11	23	59	37.3	19.34 N.	155.07 W.	9	...	...	3.3H	III	H	MAY 11	01 P.M. HST
MAY 12	22	26	17.3	19.38 N.	155.06 W.	9	...	...	3.1H	...	H	MAY 12	12 P.M. HST
MAY 13	21	38	39.8	19.38 N.	155.05 W.	10	...	...	3.0H	...	H	MAY 13	11 A.M. HST
MAY 14	20	57	31.4	19.28 N.	155.78 W.	9	...	...	3.5H	...	H	MAY 14	10 A.M. HST
MAY 15	04	38	45.1	19.04 N.	155.03 W.	51	...	...	3.0H	...	H	MAY 14	06 P.M. HST
MAY 17	15	30	52.3	19.47 N.	155.40 W.	10	...	...	3.4H	III	H	MAY 17	05 A.M. HST
MAY 22	07	42	26.2	19.33 N.	155.20 W.	9	...	...	3.2H	II	H	MAY 21	09 P.M. HST
MAY 23	13	09	44.3	19.40 N.	155.45 W.	9	...	...	3.3H	...	H	MAY 23	03 A.M. HST
MAY 24	02	51	14.1	19.96 N.	155.62 W.	11	...	...	3.2H	...	H	MAY 23	04 P.M. HST
MAY 25	02	26	06.1	19.38 N.	155.25 W.	3	...	...	3.2H	III	H	MAY 24	04 P.M. HST
MAY 28	16	44	58.3	18.83 N.	154.36 W.	7	...	...	3.1H	...	H	MAY 28	06 A.M. HST
MAY 29	04	50	33.8	19.37 N.	155.08 W.	9	...	...	3.0H	III	H	MAY 28	06 P.M. HST
MAY 30	03	43	55.4	19.37 N.	155.21 W.	7	...	...	3.0H	III	H	MAY 29	05 P.M. HST
MAY 30	03	44	55.0	19.37 N.	155.21 W.	5	...	...	3.1H	III	H	MAY 29	05 P.M. HST
MAY 30	03	48	07.5	19.37 N.	155.22 W.	0	...	...	3.1H	III	H	MAY 29	05 P.M. HST
MAY 30	03	52	17.0	19.36 N.	155.22 W.	7	...	...	3.2H	III	H	MAY 29	05 P.M. HST
JUNE 1	10	16	11.6	19.34 N.	155.23 W.	10	...	...	3.0H	...	H	JUNE 1	00 A.M. HST
JUNE 1	10	54	58.2	19.37 N.	155.08 W.	9	...	...	3.0H	...	H	JUNE 1	00 A.M. HST
JUNE 5	22	16	36.5	19.36 N.	155.08 W.	9	...	...	3.1H	III	H	JUNE 5	12 P.M. HST
JUNE 9	19	07	53.3	19.41 N.	155.47 W.	11	...	...	3.1H	...	H	JUNE 9	09 A.M. HST
JUNE 13	02	55	48.8	19.41 N.	155.42 W.	12	...	...	3.1H	...	H	JUNE 12	04 P.M. HST
JUNE 20	01	17	38.3	19.33 N.	155.18 W.	10	...	...	3.2H	III	H	JUNE 19	03 P.M. HST
JUNE 27	07	47	59.8	19.48 N.	155.87 W.	10	...	...	3.4H	III	H	JUNE 26	09 P.M. HST
IDAHO													
JUNE 3	04	58	25.4	42.51 N.	111.36 W.	5	...	...	3.7U	IV	U	JUNE 2	09 P.M. MST
MAINE													
APR. 18	02	34	14.4	43.95 N.	69.75 W.	4	3.8	...	4.1O	V	J	APR. 17	09 P.M. EST
MISSOURI													
JUNE 3	05	50	24.6	38.61 N.	90.52 W.	5	...	...	2.1S	FELT	S	JUNE 2	11 P.M. CST
JUNE 11	04	12	16.9	36.17 N.	89.65 W.	12	...	...	3.8G	IV	S	JUNE 10	10 P.M. CST

Table 1.--*Summary of U.S. earthquakes for April-June 1979*--Continued

Date (1979)	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													
APR. 14	09	39	6.4	48.59 N.	112.41 W.	5	...	...	3.2G	...	G	APR. 14	02 A.M. MST
MAY 4	18	58	49.3	47.09 N.	112.79 W.	5	...	...	3.5G	...	G	MAY 4	11 A.M. MST
MAY 7	17	15	43.4	44.76 N.	111.14 W.	5	...	...	3.2G	III	G	MAY 7	10 A.M. MST
MAY 8	00	56	34.1	44.77 N.	111.12 W.	5	...	...	3.3G	III	G	MAY 7	05 P.M. MST
MAY 8	00	57	42.9	44.74 N.	111.20 W.	5	...	...	3.9G	IV	G	MAY 7	05 P.M. MST
MAY 8	00	58	44.8	44.75 N.	111.38 W.	5	...	...	4.6G	IV	G	MAY 7	05 P.M. MST
MAY 8	01	23	18.3	44.78 N.	111.08 W.	5	...	...	3.4G	III	G	MAY 7	06 P.M. MST
MAY 30	15	19	25.7	44.95 N.	111.87 W.	5	...	...	3.6G	...	G	MAY 30	08 A.M. MST
JUNE 22	12	02	26.8	45.32 N.	112.83 W.	5	...	...	4.4G	IV	G	JUNE 22	05 A.M. MST
NEBRASKA													
APR. 8	22	46	6.6	41.31 N.	98.69 W.	5	...	...	2.8G	...	G	APR. 8	04 P.M. CST
JUNE 6	16	16	21.5	40.23 N.	100.40 W.	5	...	...	2.7G	FELT	G	JUNE 6	10 A.M. CST
JUNE 30	20	46	39.3	40.05 N.	97.34 W.	5	...	...	3.3G	VI	G	JUNE 30	02 P.M. CST
NEVADA													
APR. 3	12	08	30.7	40.64 N.	119.66 W.	5	4.0	...	3.8B	...	G	APR. 3	04 A.M. PST
MAY 11	15	59	59.7	36.99 N.	116.01 W.	2	...	...	4.3B	...	G	MAY 11	07 A.M. PST
JUNE 6	01	49	56.4	38.49 N.	118.42 W.	12	4.3	...	4.2B	IV	B	JUNE 5	05 P.M. PST
JUNE 8	05	44	3.6	38.51 N.	117.88 W.	5	...	...	4.0G	IV	G	JUNE 7	09 P.M. PST
JUNE 11	14	00	0.2	37.29 N.	116.45 W.	0	5.5	4.4	5.4B	...	E	JUNE 11	06 A.M. PST
JUNE 20	15	00	13.5	37.11 N.	116.02 W.	0	4.0	...	4.3B	...	E	JUNE 20	07 A.M. PST
JUNE 28	14	44	0.2	37.14 N.	116.09 W.	0	5.0	...	5.0B	...	E	JUNE 28	06 A.M. PST
NEW HAMPSHIRE													
APR. 23	00	05	45.7	43.04 N.	71.24 W.	0	...	...	3.1J	IV	J	APR. 22	07 P.M. EST
NEW YORK													
JUNE 7	13	45	53.3	44.43 N.	73.86 W.	0	...	...	3.1L	...	L	JUNE 7	08 A.M. EST
JUNE 20	19	20	17.8	41.35 N.	74.38 W.	0	...	...	3.0L	...	L	JUNE 20	02 P.M. EST
OKLAHOMA													
MAY 22	03	49	23.8	34.03 N.	97.47 W.	4	...	...	1.9T	III	T	MAY 21	09 P.M. CST
JUNE 7	07	39	35.6	35.19 N.	99.81 W.	5	...	...	3.0T	IV	T	JUNE 7	01 A.M. CST
OREGON--OFF THE COAST													
MAY 4	08	08	49.9	43.57 N.	127.21 W.	15	4.3	3.6	...	...	G	MAY 4	00 A.M. PST
MAY 22	14	41	15.9	44.21 N.	128.86 W.	15	4.7	...	...	...	G	MAY 22	06 A.M. PST
JUNE 7	09	50	30.4	43.53 N.	127.09 W.	15	4.9	4.2	...	...	G	JUNE 7	01 A.M. PST
JUNE 19	18	44	38.2	43.26 N.	126.20 W.	15	4.2	...	...	...	G	JUNE 19	10 A.M. PST
JUNE 27	12	48	21.5	43.30 N.	126.55 W.	15	4.5	...	...	...	G	JUNE 27	04 A.M. PST
UTAH													
APR. 30	02	07	10.3	37.88 N.	111.02 W.	7	...	...	3.8G	III	U	APR. 29	07 P.M. MST
WASHINGTON													
APR. 8	07	29	37.4	46.00 N.	118.45 W.	5	...	...	3.2G	V	W	APR. 7	11 P.M. PST
WASHINGTON--OFF THE COAST													
APR. 14	08	57	6.8	47.72 N.	128.40 W.	15	4.1	...	...	...	G	APR. 14	00 A.M. PST

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*

[Sources of the hypocenters, magnitudes, and macroseismic data: (B) University of California, Berkeley; (D) University of Montana, Missoula; (E) U.S. Department of Energy, Las Vegas, Nevada; (G) U.S. Geological Survey, National Earthquake Information Service; (H) U.S. Geological Survey, Hawaiian Volcano Observatory; (J) Weston Observatory, Massachusetts; (L) Lamont-Doherty Geological Observatory, Palisades, N.Y.; (M) National Oceanic and Atmospheric Administration, Alaska Tsunami Warning Center, Palmer; (O) Earth Physics Branch, Seismological Service of Canada, Ottawa; (P) California Institute of Technology, Pasadena; (S) St. Louis University, St. Louis, Missouri; (T) University of Oklahoma, Leonard; (U) University of Utah, Salt Lake City; (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]

Alaska

2 April (G) Central Alaska
- Origin time: 02 15 31.4
- Epicenter: 64.81 N., 147.43 W.
- Depth: 10 km
- Magnitude: 3.1 ML(M)

Felt at Fairbanks (M).

4 April (G) Southern Alaska
- Origin time: 08 16 15.3
- Epicenter: 60.32 N., 153.59 W.
- Depth: 174 km
- Magnitude: 4.5 mb(G)

Felt at Chugiak (M).

17 April (G) Southern Alaska
- Origin time: 02 59 20.3
- Epicenter: 61.68 N., 150.12 W.
- Depth: Normal.
- Magnitude: 2.7 ML(M)
- Intensity II: Palmer (M).

18 April (G) Southern Alaaka
- Origin time: 17 06 19.5
- Epicenter: 62.16 N., 149.52 W.
- Depth: 79 km
- Magnitude: None computed.
- Intensity II: Palmer (M).

20 April (G) Southeastern Alaska
- Origin time: 12 49 06.5
- Epicenter: 60.28 N., 140.78 W.
- Depth: 8 km
- Magnitude: 5.3 mb(G), 4.9 MS(G), 5.0 ML(Z)
- Intensity IV: Cape Yakataga, Icy Bay, Yakutat.

25 April (G) Central Alaska
- Origin time: 00 27 57.6
- Epicenter: 63.35 N., 149.50 W.
- Depth: 119 km
- Magnitude: 3.9 mb(G)

Felt at Curry and Gold Creek (M).

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

Alaska--Continued

25 April (G) Central Alaska
- Origin time: 09 39 00.0
- Epicenter: 64.88 N., 148.83 W.
- Depth: 11 km
- Magnitude: 3.3 ML(M)
- Intensity III: Fairbanks.

28 April (G) Central Alaska
- Origin time: 07 33 06.0
- Epicenter: 64.61 N., 149.46 W.
- Depth: 28 km
- Magnitude: 3.0 ML(M)

Felt at Fairbanks and Nenana (M).

5 May (G) Southern Alaska
- Origin time: 06 50 38.8
- Epicenter: 62.97 N., 148.23 W.
- Depth: 77 km
- Magnitude: 4.6 mb(G)

Felt at Anchorage and Palmer (M).

9 May (G) Southern Alaska
- Origin time: 14 22 21.0
- Epicenter: 61.93 N., 148.92 W.
- Depth: 12 km
- Magnitude: 2.9 ML(M)
- Intensity III: Palmer (M).

13 May Andreanof Islands, Aleutian Islands
- Origin time: 18 51
- Epicenter: Not located.
- Depth: None computed.
- Magnitude: None computed.

Felt on Adak.

14 May (G) Southern Alaska
- Origin time: 20 14 36.0
- Epicenter: 61.73 N., 150.89 W.
- Depth: 45 km
- Intensity II: Palmer (M).

18 May (G) Central Alaska
- Origin time: 05 35 22.6
- Epicenter: 64.41 N., 147.08 W.
- Depth: 28 km
- Magnitude: 3.2 ML(M)
- Intensity III: Fairbanks, Harding Lake, and Salcha River areas (M).

20 May (G) Alaska Peninsula area
- Origin time: 08 14 00.1
- Epicenter: 56.65 N., 156.73 W.
- Depth: 71 km
- Magnitude: 6.4 mb(G), 6.5 mb(P), 6.1 MS(P),

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

Alaska--Continued

6.2 mb(B)

Felt strongly at Dillingham (press report).

Intensity VI: Larsen Bay (plaster and dry wall cracked; hairline cracks in exterior walls, small objects shifted and fell, hanging pictures fell, felt by all, awakened many).
Intensity V:
Chignik (small objects fell, hanging objects swung violently, hanging pictures swung, water splashed onto sides of lakes and ponds, vehicles rocked strongly, felt by and awakened many).
Ivanof Bay (light furniture shifted, small objects fell, water spilled from containers, felt by all).
Kodiak (light and heavy furniture shifted, water spilled from small containers, hanging pictures fell, small landslides, standing vehicles rocked moderately).
Perryville (water spilled from small containers, many awakened, felt by all).
Intensity IV: Akhiok, Egegik, King Salmon, Pilot Point, Port Heiden, Port Lions, Sand Point.

20 May (G) Southern Alaska
Origin time: 22 28 38.1
Epicenter: 62.83 N., 149.17 W.
Depth: 95 km
Magnitude: None computed.

Felt along the Alaska Railroad at Gold Creek and Chulitna (M).

21 May (G) Central Alaska
Origin time: 10 05 11.6
Epicenter: 64.71 N., 148.43 W.
Depth: Normal.
Magnitude: 3.0 ML(M)
Intensity II: Fairbanks (M).

25 May (G) Fox Islands, Aleutian Islands
Origin time: 16 45 27.3
Epicenter: 52.61 N., 167.02 W.
Depth: 23 km
Magnitude: 6.0 mb(G), 6.2 MS(G), 6.0 MS(B)
Intensity IV: Nikolski (M).

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

Alaska--Continued

28 May (G) Southern Alaska
Origin time: 17 50 14.3
Epicenter: 61.64 N., 150.02 W.
Depth: 45 km
Magnitude: None computed.
Intensity II: Anchorage, Palmer, Wasilla (M).

31 May (G) Southern Alaska
Origin time: 04 22 54.3
Epicenter: 61.74 N., 149.88 W.
Depth: 55 km
Magnitude: 3.4 mb(G)

Felt in Anchorage area (M).

20 June (G) Southern Alaska
Origin time: 08 18 30.8
Epicenter: 60.88 N., 147.69 W.
Depth: Normal.
Magnitude: 3.3 ML(M)

Felt at mile 2 of Parks Highway and at Goat Creek (M).

23 June (G) Southern Alaska
Origin time: 10 46 58.6
Epicenter: 61.87 N., 150.28 W.
Depth: Normal.
Magnitude: 3.1 mb(G), 3.1 ML(M)
Intensity IV: Willow (M).

23 June (G) Southern Alaska
Origin time: 18 39 32.2
Epicenter: 58.03 N., 134.91 W.
Depth: 15 km
Magnitude: 3.8 mb(G)
Intensity IV: Juneau-Douglas area (M)

26 June (G) Southern Alaska
Origin time: 19 08 21.3
Epicenter: 62.36 N., 147.83 W.
Depth: 86 km
Magnitude: 3.8 mb(G)
Intensity IV: Palmer-Talkeetna area (M).

Arkansas

11 June (S) New Madrid region
Origin time: 04 12 16.9

See Missouri listing.

25 June (S) Northeastern Arkansas
Origin time: 17 11 13.4

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

Arkansas--Continued

Epicenter: 35.53 N., 90.43 W.
Depth: 11 km
Magnitude: 3.0 mbLg(T), 3.2mbLg(S)

Felt throughout Poinsett County (press report).

Intensity IV: Lepanto, Marked Tree, Payneway, Tyronza.
Intensity III: Gilmore.

California

19 April (P) Southern California
Origin time: 14 22 47.3
Epicenter: 34.10 N., 118.33 W.
Depth: 7 km
Magnitude: 2.5 ML(P)

Felt at Alhambra (P).

19 April (P) Southern California
Origin time: 22 39 56.8
Epicenter: 34.37 N., 119.73 W.
Depth: 4 km
Magnitude: 3.3 ML(P)
Intensity III: Santa Barbara (press report).

21 April (P) Southern Caliiornia
Origin time: 06 00 38.3
Epicenter: 33.78 N., 118.07 W.
Depth: 5 km
Magnitude: 3.1 ML(P)
Intensity IV: Long Beach.

22 April (B) Central California
Origin time: 06 23 25.2
Epicenter: 36.83 N., 121.40 W.
Depth: 10 km
Magnitude: 3.1 ML(B)

Felt at Hollister (B).

28 April (B) Central California
Origin time: 00 44 44.8
Epicenter: 37.65 N., 122.46 W.
Depth: 13 km
Magnitude: 4.4 ML(B)

This earthquake knocked out traffic signals in western San Francisco and disrupted telephone service. A power pole fell on Market Street. The BART underground transportation system was halted

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

California--Continued

10 minutes for emergency checks. The press reported cans and boxes tumbled from shelves in some markets in the San Francisco area. It was felt over an area of approximately 6,300 sq km in the San Francisco Bay area of Central California (fig. 7).

Intensity V:
Daly City (felt strongly in the Westlake District, one person ran out of a restaurant without finishing his food, buildings shook strongly--press report).
Petaluma (few windows cracked, light furniture and small objects moved, hanging pictures swung).
South San Francisco (small objects overturned and broken, hanging pictures fell, felt by many).
Intensity IV: Alameda (press report), Berkeley (press report), Bolinas, Burlingame (press report), El Granada, Emeryville, Fairfax, Forest Knolls, Half Moon Bay, La Honda, Millbrae, Montara, Novato, Pacifica, Redwood City, Ross, San Anselmo, San Francisco (Embarcadero Center, Mission District), San Francisco International Airport, Sausalito, Woodacre.
Intensity III: Alamo, Albany (press report), Belmont, Benicia, Concord (press report), Danville, El Cerrito, Inverness, Larkspur, Livermore, Marshall, Mill Valley, Moraga, Moss Beach, Nicasio, Oakland, Orinda, Palo Alto, Point Reyes Station, Port Costa, Richmond, San Bruno, San Carlos, San Leandro, San Lorenzo, San Mateo, Stinson Beach, Union City, Vallejo.
Intensity II: San Jose (press report), Santa Rosa (press report).

2 May (P) Imperial Valley
Origin time: 22 22 52.7
Epicenter: 33.00 N., 115.57 W.
Depth: 5 km
Magnitude: 2.9 ML(P)

Felt at Brawley (P).

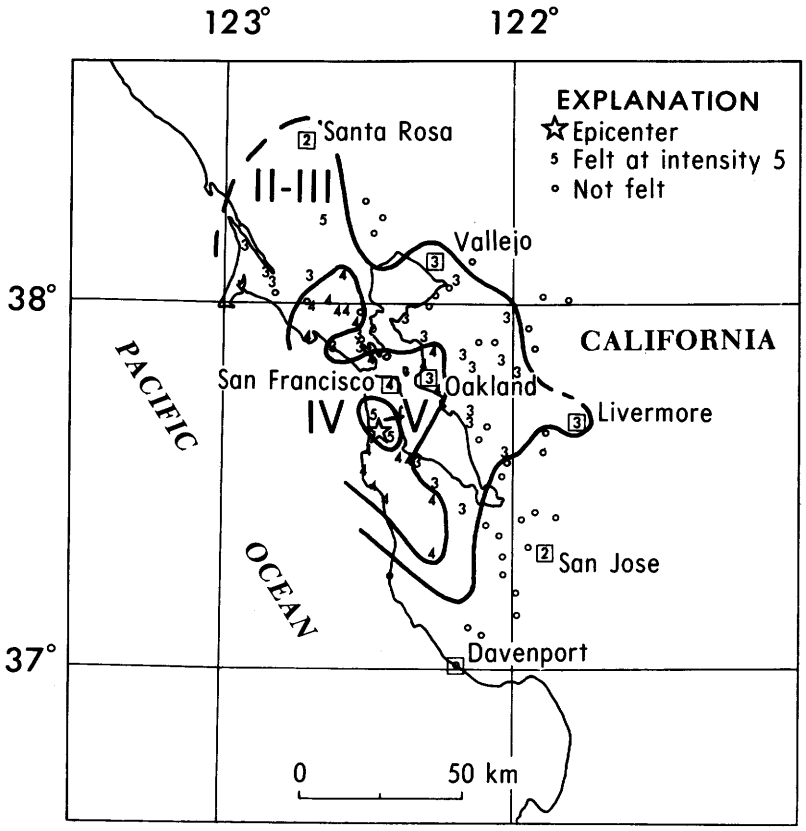

FIGURE 7.--Isoseismal map for the central California earthquake of 28 April 1979, 00 44 44.8 UTC. Roman numerals represent Modified Mercalli intensities between isoseismals; Arabic numerals are used to represent these intensities at specific sites.

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

California--Continued

8 May (B) Central California
Origin time: 05 11 07.7
Epicenter: 37.30 N., 121.68 W.
Depth: 6 km
Magnitude: 4.3 mb(G), 4.0 MS(G), 4.8 ML(B)

The press reported this earthquake was felt most strongly in east San Jose where pictures fell from walls, one refrigerator fell over, and objects fell from table tops. It was felt over an area of approximately 9,800 sq km of the coastal area around San Francisco Bay (fig. 8).

Intensity VI:
East San Jose (cracked plaster on walls, windows broken, hanging pictures fell, one refrigerator fell over, felt by many).

Intensity V:
Alviso (light and heavy furniture moved; small objects moved; hanging pictures out of place; windows, doors, and dishes rattled).
Larkspur (light furniture and small appliances moved; liquid spilled from small containers; windows, doors, and dishes rattled; felt by many).
Los Gatos (windows broken; small objects moved; hanging pictures out of place; windows, doors, and dishes rattled; felt by many).
Pescadero (light furniture and small objects moved; hanging

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

California--Continued

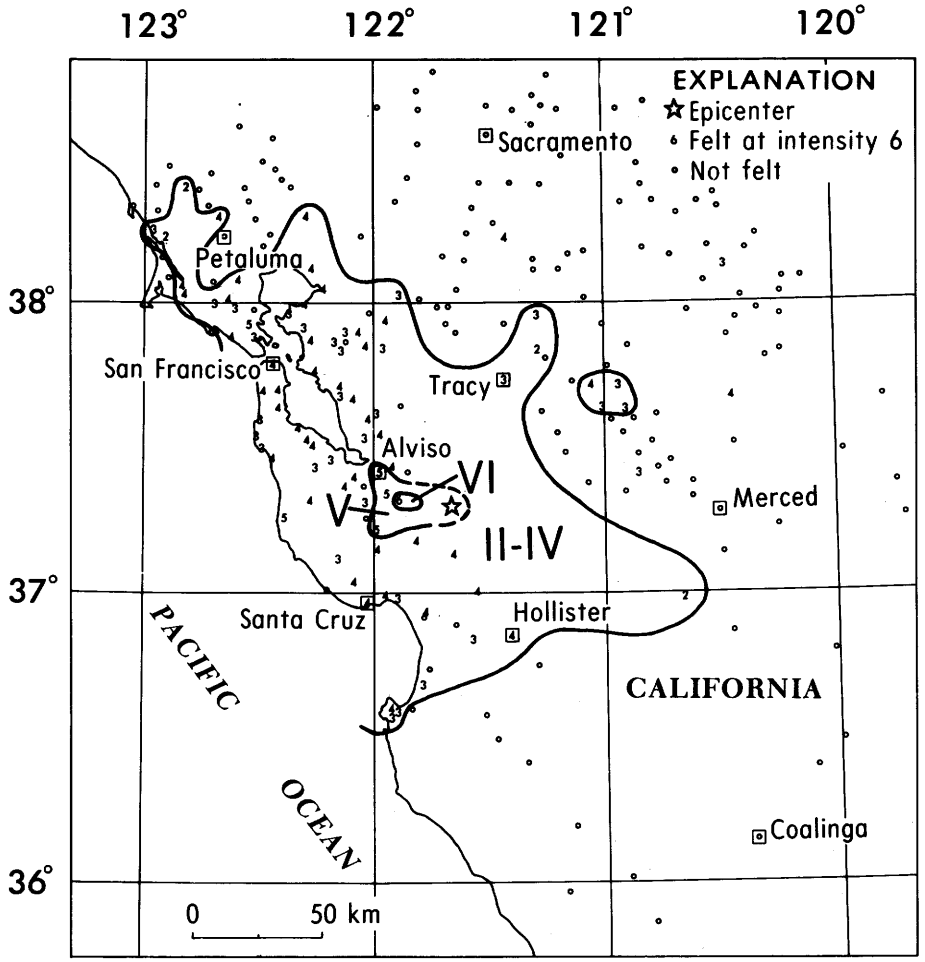

FIGURE 8.--Isoseismal map for the central California earthquake of 8 May 1979, 05 11 07.7 UTC. Roman numerals represent Modified Mercalli intensities between isoseismals; Arabic numerals are used to represent these intensities at specific sites.

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

California--Continued
pictures out of place; windows, doors, and dishes rattled; felt by many).
Santa Clara (light and heavy furniture or appliances moved; small objects moved; buildings shook strongly; windows, doors, and dishes rattled; felt by many).
Intensity IV: Alameda, Alamo, Belmont, Berkeley, Brisbane, Capitola, Clayton, Crockett, Daly City, El Sobrante, Felton, Freedom, Freemont, Gilroy (12.8 km northeast), Half Moon Bay, Hayward, Hollister, Holy City, La Grange, La Honda, Los Altos, Los Osos, Milpitas, Morgan Hill (press report), Mountain View, Mount Hermon, Napa, New Almaden, Novato, Olema, Pacific Grove, Penngrove, Point Reyes Station, Redwood Estates, Ross, Salida, San Carlos, San Francisco, San Jose, San Leandro, San Mateo, Santa Cruz, Sausalito, Soquel, South San Francisco, Stinson Beach, Thornton, Union City, Vallejo, Walnut Creek, Woodacre.
Intensity III: Aptos, Boulder

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

California--Continued

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

California--Continued

Creek, Cupertino (press report), Diablo, Dillon Beach, El Cerrito, El Granada, Empire, Fairfax, Forest Knolls, Hilmar, Lafayette, Marina, Menlo Park, Mill Valley, Modesto (press report), Montara, Monterey (press report), Moraga, Murphys, Newark, Orinda, Pacifica, Palo Alto, Pebble Beach, Pittsburg, Redwood City, Richmond, Riverbank, San Juan Bautista, San Lorenzo, Stockton, Tracy.

Intensity II: Albany, Dos Palos, Lathrop, Sebastopol, Tomales.

16 May (P) Southern California
Origin time: 03 25 23.6
Epicenter: 33.85 N., 118.55 W.
Depth: 5 km
Magnitude: 2.7 ML(P)

Felt at Redondo Beach (P).

20 May (P) Southern California
Origin time: 12 04 47.9
Epicenter: 34.07 N., 116.37 W.
Depth: 5 km
Magnitude: 3.7 ML(P)

Felt at Yucca Valley (P).

Intensity III: Morongo Valley.

21 May (P) Southern California
Origin time: 05 19 04.0
Epicenter: 34.10 N., 116.37 W.
Depth: 8 km
Magnitude: 3.0 ML(P)

Felt at Yucca Valley (P).

Intensity III: Morongo Valley.

1 June (B) Central California
Origin time: 23 58 26.3
Epicenter: 37.87 N., 122.21 W.
Depth: 10 km
Magnitude: 2.6 ML(B)

Felt on the University of California-Berkeley campus and in the Concord-Pittsburg area (B).

3 June (B) Northern California
Origin time: 04 07 29.4
Epicenter: 40.34 N., 124.23 W.
Depth: 12 km
Magnitude: 3.2 ML(B)

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

California--Continued

Intensity III: Rio Dell.

11 June (B) Central California
Origin time: 11 51 56.8
Epicenter: 37.97 N., 122.05 W.
Depth: 12 km
Magnitude: 2.8 ML(B)

Felt at Berkeley and Oakland (B).

Intensity IV: Clayton, Concord, Martinez, Orinda, Walnut Creek.
Intensity III: Pittsburg (press report), Port Costa.

13 June (P) Imperial Valley
Origin time: 07 09 58.1
Epicenter: 33.08 N., 115.62 W.
Depth: 6 km
Magnitude: 3.7 ML(P)

Felt at Brawley (P).

13 June (P) Imperial Valley
Origin time: 19 46 45.9
Epicenter: 33.10 N., 115.65 W.
Depth: 6 km
Magnitude: 4.1 (P)

This is the largest of a swarm of earthquakes in the Imperial Valley.

Intensity V: Brawley (concrete-slab porch floor cracked, small objects overturned, felt by all).
Intensity IV: Westmorland (felt by all).
Intensity III: Auga Caliente Springs (Canebrake Canyon), Palo Verde.
Intensity II: Aguanga.

13 June (P) Imperial Valley
Origin time: 20 21 11.3
Epicenter: 33.12 N., 115.62 W.
Depth: 6 km
Magnitude: 3.3 ML(P)

Felt at Brawley (P).

14 June (P) Central California
Origin time: 07 39 27.9
Epicenter: 35.72 N., 118.02 W.
Depth: 5 km
Magnitude: 4.2 mb(G), 4.4 ML(B), 4.6 ML(P)

Felt at Kernville (P).

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

California--Continued

Intensity VI: Onyx (large cracks in plaster walls, open cracks in brick fences and walks, small objects moved, a few people awakened, felt by many).
Intensity IV: Inyokern, Lake Isabella, Ridecrest, Weldon, Wofford Heights.
Intensity III: Randsburg.

16 June (B) California-Nevada border region
Origin time: 22 44 59.5
Epicenter: 37.58 N., 118.92 W.
Depth: 13 km
Magnitude: 4.2 ML(P), 4.3 ML(B)
Intensity IV: Benton, Mammoth Lakes.
Intensity III: Crowley Lake, Mono Hot Springs.

17 June (B) Central California
Origin time: 03 59 45.8
Epicenter: 37.97 N., 122.04 W.
Depth: 18 km
Magnitude: 2.7 ML(B)

Felt at Concord and Walnut Creek.

17 June (B) Central California
Origin time: 04 01 34.9
Epicenter: 38.10 N., 122.04 W.
Depth: 16 km
Magnitude: 2.9 ML(B), 3.7 ML(P)

Felt at Concord and Walnut Creek (B).

17 June (B) Central California
Origin time: 18 06 37.7
Epicenter: 37.34 N., 119.98 W.
Depth: 5 km
Magnitude: 3.1 ML(B)
Intensity IV: Mariposa.

20 June (P) Southern California
Origin time: 05 30 35.8
Epicenter: 34.03 N., 118.35 W.
Depth: 5 km
Magnitude: 3.0 ML(P)

Felt at Beverly Hills, Compton, and Culver City (P).

Intensity III: Los Angeles area.

22 June (P) Central California
Origin time: 06 54 58.4
Epicenter: 34.95 N., 120.27 W.
Depth: 4 km
Magnitude: 2.5 ML(P)

Felt at Santa Maria (P).

26 June (B) Owens Valley
Origin time: 14 28 55.6
Epicenter: 37.52 N., 118.58 W.
Depth: 10 km
Magnitude: 3.7 ML(B), 3.3 ML(P)

Felt north of Bishop (P).

26 June (B) Owens Valley
Origin time: 15 13 58.2
Epicenter: 37.53 N., 118.58 W.
Depth: 10 km
Magnitude: 3.4 ML(B), 3.3 ML(P)

Felt north of Bishop (P).

29 June (P) Southern California
Origin time: 05 53 20.5
Epicenter: 34.25 N., 116.90 W.
Depth: 6 km
Magnitude: 4.1 mb(G), 4.5 ML(P)

Felt strongly in the Big Bear Lake recreation area. Also felt in the Los Angeles Basin and as far away as Sacramento and San Diego. It was felt over an area of approximately 13,000 sq km of southern California (fig. 9).

Intensity VI: Big Bear Lake (several burglar alarms triggered, a plate glass window shattered in a bank--press report, large cracks in plaster, foundation cracked, few windows cracked, liquid spilled from small containers, several awakened, felt by many).
Intensity V:
Angelus Oaks (light furniture and small objects moved; hanging pictures swung; windows, doors, and dishes rattled; awakened and felt by many).
Calimesa (bricks in chimney loosened, light furniture and small objects moved, few windows cracked, liquid spilled from small containers, awakened

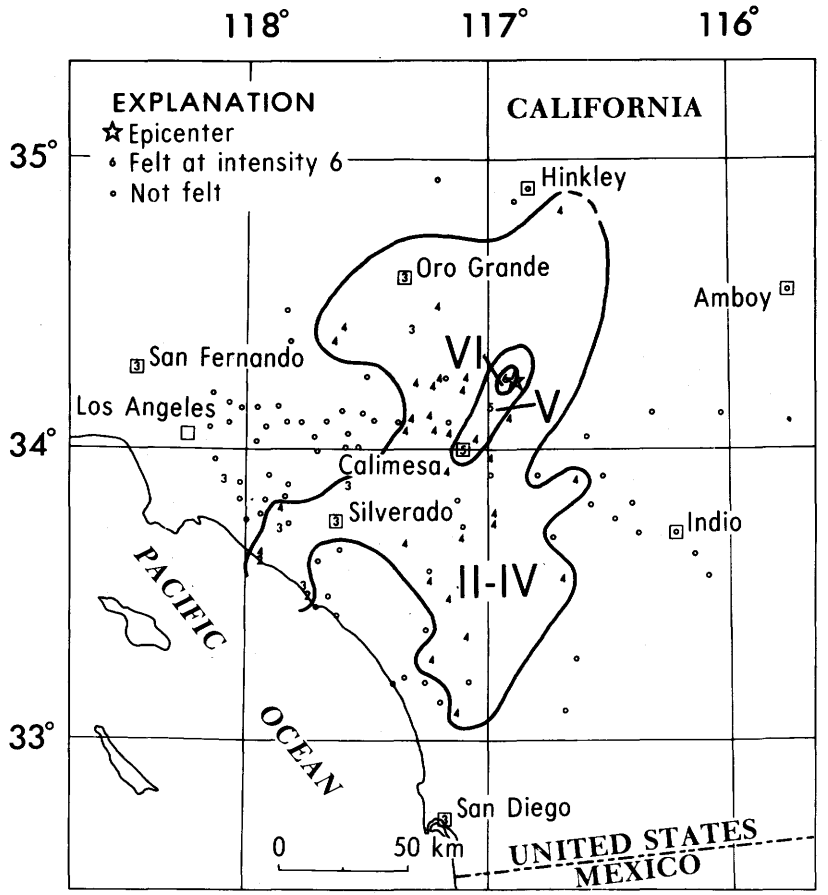

FIGURE 9.--Isoseismal map for the southern California earthquake of 29 June 1979, 05 53 20.5 UTC. Roman numerals represent Modified Mercalli intensities between isoseismals; Arabic numerals are used to represent these intensities at specific sites.

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

California--Continued

and felt by many).
Intensity IV: Anza, Apple Valley, Bonsall, Cherry Valley, Colton, Costa Mesa, Crestline, Escondido, Fawnskin, Forest Falls, Green Valley Lake, Hemet (press report), Highland, Lake Arrowhead, Lake Elsinore, Mentone, Moreno, Murrieta, Newberry Springs, Orange, Pala, Perris, Phelan, Redlands, Running Springs, San Bernardino, San Jacinto, Temecula, Twin Peaks, White Water, Winchester, Wrightwood, Yucaipa.
Intensity III: Corona Del Mar, Crest Park, Hesperia, Laguna

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

California--Continued

Beach (P), Norwalk (P), Oro Grande, Sacramento (press report), San Diego (press report), San Fernando (press report), Santa Ana (P), Silverado.
Intensity II: Laguna Niguel, Newport Beach.

30 June (P) Southern California
Origin time: 00 34 11.6
Epicenter: 34.25 N., 116.90 W.
Depth: 10 km
Magnitude: 4.6 mb(G), 4.8 ML(B), 4.9 ML(P)

This is the largest of a series of

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

California--Continued

earthquakes in the Big Bear Lake area. It caused minor damage on the south shore of the lake and was felt over an area of approximately 20,300 sq km of southern California (fig. 10).

Intensity VI:
Big Bear City (walls were cracked, several windows broken, mirrors fell from walls and broke, large section of acoustic-tile ceiling in the sheriff's station shook down).
Sugarloaf (bricks loosened on chimneys, ceiling tile cracked, foundation cracked, light and heavy furniture moved, small objects overturned and broken, few windows cracked, felt by all).

Intensity V:
Angelus Oaks (small landslides, standing vehicles rocked moderately, light furniture and small objects moved, few windows cracked, liquid spilled from small containers, felt by many).
Calimesa (few windows cracked, small objects moved, hanging pictures swung, felt by many).
Fawnskin (light furniture or small appliances moved, small objects overturned or broken, few windows cracked, liquid spilled from small containers, felt by many).
Forest Falls (small landslides, light furniture and small objects moved, standing and moving vehicles rocked slightly, hanging pictures out of place, felt by all).
Westside, San Bernardino (bricks loosened in chimney, few windows cracked, hanging pictures swung, felt by many).

Intensity IV: Adelanto, Anza, Beaumont, Cabazon, Colton, Crest Park, Crestline, Cucamonga, El Cajon, Escondido, Fallbrook, Green Valley Lake, Hesperia, Highland, Indio, Lake Arrowhead, Lakeside, Loma Linda, Long Beach, Lytle Creek, Mead Valley, Murrieta, Norco, North Palm Springs, Oro Grande, Palm Springs, Palm Springs (Smoke Tree), Perris, Redlands, Rialto, San Bernardino, San Jacinto, San Luis Rey, Skyforest, Spring Valley, Temecula, Twin Peaks, Victorville (press report), Winchester, Woodland Hills, Yale, Yermo, Yucaipa.

Intensity III: Apple Valley, Azusa (P), Blue Jay, Cedar Glen, Del Rosa, La Jolla (press report), Lake Elsinore, Morongo Valley, Norton AFB, Pasadena (P), Patton, Phelan, Pomona, San Diego (press report), San Dimas, White Water, Riverside (Magnolia Center).

Intensity II: Lakewood, Moreno.

30 June (P) Southern California
Origin time: 07 03 52.9
Epicenter: 34.25 N., 116.90 W.
Depth: 10 km
Magnitude: 4.0 mb(G), 4.4 ML(P)

This earthquake is one of a series in the Big Bear Lake area beginning on June 29.

Felt at Redlands, San Bernardino, and Pasadena (P).

Hawaii

5 April (H) Island of Hawaii
Origin time: 06 14 58.7
Epicenter: 19.35 N., 155.02 W.
Depth: 7 km
Magnitude: 3.3 ML(H)
Intensity III: Hilo (H).

14 April (H) Island of Hawaii
Origin time: 13 31 12.7
Epicenter: 19.40 N., 155.27 W.
Depth: 5 km
Magnitude: 3.4 ML(H)
Intensity III: Hawaii Volcanoes National Park (H), Volcano (H).

17 April (H) Island of Hawaii
Origin time: 06 29 53.9
Epicenter: 19.26 N., 155.40 W.
Depth: 47 km
Magnitude: 3.6 ML(H)
Intensity III: Hawaiian Ocean View Estates (H), Kona (H), Pahala (H).
Intensity II: Ainaloa (H), Mountain View (H), Volcano (H).

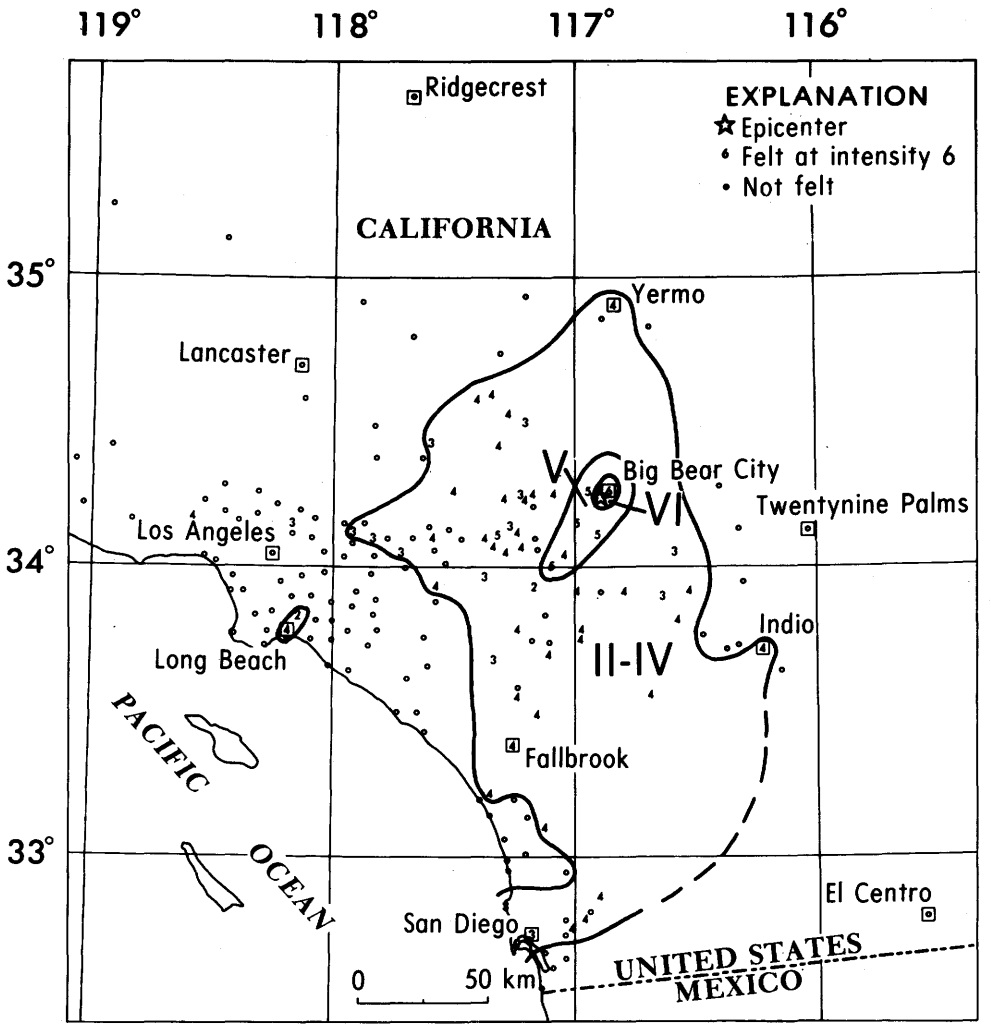

FIGURE 10.--Isoseismal map for the southern California earthquake of 30 June 1979, 00 34 11.6 UTC. Roman numerals represent Modified Mercalli intensities between isoseismals; Arabic numerals are used to represent these intensities at specific sites.

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

Hawaii--Continued

11 May (H) Island of Hawaii
Origin time: 23 59 37.3
Epicenter: 19.34 N., 155.07 W.
Depth: 9 km
Magnitude: 3.3 ML(H)
Intensity III: Glenwood (H), Hilo (H).

17 May (H) Island of Hawaii
Origin time: 15 30 52.3
Epicenter: 19.47 N., 155.40 W.
Depth: 10 km
Magnitude: 3.4 ML(H)
Intensity III: Volcano (H).

22 May (H) Island of Hawaii
Origin time: 07 42 26.2
Epicenter: 19.33 N., 155.20 W.
Depth: 9 km
Magnitude: 3.2 ML(H)
Intensity II: Volcano (H).

25 May (H) Island of Hawaii
Origin time: 02 26 06.1

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

Hawaii--Continued

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

Hawaii--Continued

Epicenter: 19.38 N., 155.25 W.
Depth: 3 km
Magnitude: 3.2 ML(H)
Intensity III: Hawaii Volcanoes National Park (H), Volcano (H).

29 May (H) Island of Hawaii
Origin time: 04 50 33.8
Epicenter: 19.37 N., 155.08 W.
Depth: 9 km
Magnitude: 3.0 ML(H)
Intensity III: Glenwood (H).

30 May (H) Island of Hawaii
Origin time: 03 43 55.4
Epicenter: 19.37 N., 155.21 W.
Depth: 7 km
Magnitude: 3.0 ML(H)
Intensity III: Hawaii Volcanoes National Park (H), Volcano (H).

30 May (H) Island of Hawaii
Origin time: 03 44 55.0
Epicenter: 19.37 N., 155.21 W.
Depth: 5 km
Magnitude: 3.1 ML(H)
Intensity III: Hawaii Volcanoes National Park (H), Volcano (H).

30 May (H) Island of Hawaii
Origin time: 03 48 07.5
Epicenter: 19.37 N., 155.22 W.
Depth: 0 km
Magnitude: 3.1 ML(H)
Intensity III: Hawaii Volcanoes National Park (H), Volcano (H).

30 May (H) Island of Hawaii
Origin time: 03 52 17.0
Epicenter: 19.36 N., 155.22 W.
Depth: 7 km
Magnitude: 3.2 ML(H)
Intensity III: Hawaii Volcanoes National Park (H), Volcano (H).

5 June (H) Island of Hawaii
Origin time: 22 16 36.5
Epicenter: 19.36 N., 155.08 W.
Depth: 9 km
Magnitude: 3.1 ML(H)
Intensity III: Kalalua (H).
Intensity II: Kalapana (H).

20 June (H) Island of Hawaii
Origin time: 01 17 38.3
Epicenter: 19.33 N., 155.18 W.
Depth: 10 km
Magnitude: 3.2 ML(H)
Intensity III: Hilo (H), Volcano (H).

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

Hawaii--Continued

27 June (H) Island of Hawaii
Origin time: 07 47 59.8
Epicenter: 19.48 N., 155.87 W.
Depth: 10 km
Magnitude: 3.4 ML(H)
Intensity III: Kona (H).

Idaho

3 June (U) Southeastern Idaho
Origin time: 04 58 25.4
Epicenter: 42.51 N., 111.36 W.
Depth: 5 km
Magnitude: 3.7 ML(U)
Intensity IV: Georgetown.
Intensity III: Montpelier (telephone report).

Kansas

30 June (G) Southeastern Nebraska
Origin time: 20 46 39.3

See Nebraska listing.

Maine

18 April (J) Southern Maine
Origin time: 02 34 14.4
Epicenter: 43.95 N., 69.75 W.
Depth: 4 km
Magnitude: 3.8 mbLg(G), 4.0 DUR(J), 4.1 mbLg(O)

The press reported windows and dishes broken in the epicentral area. Eleven aftershocks were recorded by Weston Observatory, ten on April 18 and one on April 19. The magnitudes ranged from 3.0 to less than 1.0. This earthquake was felt over an area of approximately 55,500 sq km along the coasts of Maine, Massachusetts, and New Hampshire (fig. 11). Some of the data listed below are from a questionnaire canvass made by the Maine Geological Survey and evaluated by the USGS.

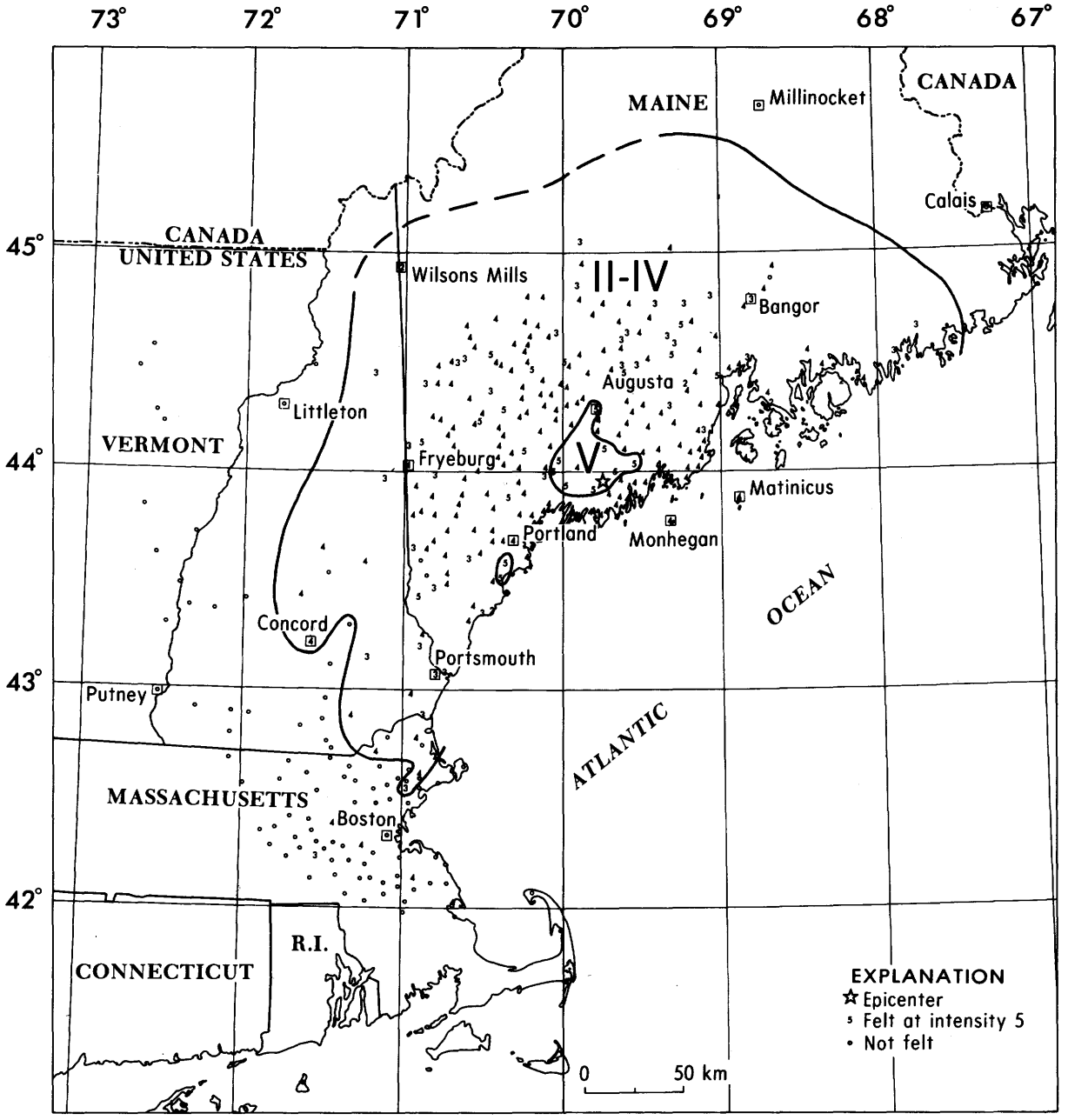

FIGURE 11.--Isoseismal map for the southern Maine earthquake of 18 April 1979, 02 34 14.4 UTC. Roman numerals represent Modified Mercalli intensities between isoseismals; Arabic numerals are used to represent these intensities at specific sites.

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

Maine--Continued

Intensity V:

Maine--

Auburn (few windows cracked; hanging pictures swung; windows, doors, and dishes rattled; felt by many).

Augusta (few windows cracked; hanging pictures swung; windows, doors, and dishes rattled; felt by all).

Belfast (few windows cracked; windows, doors, and dishes rattled; felt by many).

Buckfield (few windows cracked; hanging pictures swung; windows, doors, and dishes rattled; felt by many).

Damariscotta (few windows cracked; hanging pictures out of place; windows, doors, and dishes rattled; felt by many).

Dresden (few windows broken; liquid spilled from small containers; windows, doors, and dishes rattled; people awakened; felt by all).

East Vassalboro (few windows cracked; hanging pictures swung; windows, doors, and dishes rattled; felt by many).

Freedom (few windows cracked; light furniture or small appliances moved; small objects moved; hanging pictures swung; windows, doors, and dishes rattled; felt by many).

Gray (few windows cracked, light furniture or small appliances moved, small objects moved, chimney bricks loosened, felt by many).

Hallowell (few windows broken; small objects moved; hanging pictures swung; windows, doors, and dishes rattled; several awakened; felt by many).

Lebanon (light furniture or small appliances moved; small objects moved; windows, doors, and dishes rattled; few awakened; felt by many).

Lisbon Falls (few windows cracked; hanging pictures swung; windows, doors, and dishes rattled; few awakened; felt by many).

Livermore Falls (light furniture or small appliances moved; small objects moved; windows, doors, and dishes rattled; felt by all).

Lovell (few windows cracked; small objects moved; hanging pictures out of place; windows, doors, and dishes rattled; few awakened; felt by many).

Mount Vernon (small objects broken; windows, doors, and dishes rattled; few awakened; felt by many).

Old Orchard Beach (few windows cracked; small objects moved; hanging pictures out of place; windows, doors, and dishes rattled; several awakened; felt by many).

Scarborough (few windows cracked; small objects moved; windows, doors, and dishes rattled; several awakened).

South Paris (few windows cracked; windows, doors, and dishes rattled; felt by many).

Topsham (few windows cracked; small objects moved; hanging pictures swung; building shook strongly; felt by all).

Troy (few windows cracked; small objects moved; hanging pictures out of place; windows, doors, and dishes rattled; few awakened; felt by many).

West Bowdoin (few windows cracked, light furniture or small appliances moved, small objects moved, hanging pictures out of place, felt by all).

West Peru (few windows cracked; small objects moved; hanging pictures swung; windows, doors, and dishes rattled; felt by many).

Wiscasset (small objects moved and fell; small cracks in house foundation; hanging objects swung moderately; house vibrated; felt by all).

Woolwich (some windows broken; small objects moved; hanging pictures out of place; water

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

Maine--Continued

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

Maine--Continued

splashed onto sides of lakes and ponds; well water muddied; buildings shook strongly; windows, doors, and dishes rattled; felt by all).

Intensity IV:

Maine--Albion, Alfred, Alna, Bath, Belgrade, Belgrade Lakes, Bethel, Boothbay, Boothbay Harbor, Bowdoin, Bowdoinham, Bremen, Bristol, Brooks, Brooksville, Brownfield, Brunswick, Burnham, Buxton, Canaan, Canton, Cape Elizabeth, Casco, Castine, Chebeague Island, Chesterville, Clinton, Coopers Mills, Cornish, Cumberland Center, Cumberland Mills, Cundys Harbor, Danville, Deer Isle, Dexter, Dixmont, Dryden, East Baldwin, East Boothbay, East Dixfield, East Livermore, East Poland, East Peru, East Sebago, East Stoneham, East Waterford, East Wilton, East Winthrop, Edgecomb, Ellsworth, Farmington, Farmington Falls, Five Islands, Freeport, Friendship, Frye, Fryeburg, Gardiner, Georgetown, Glen Cove, Gorham, Greene, Hampden, Hanover, Harpswell, Harrison, Hebron, Hinckley, Hiram, Islesboro, Jay, Jefferson, Kennebunk, Kents Hill, Kezar Falls, Lamoine, Leeds, Lewiston, Liberty, Limerick, Limington, Lincolnville, Lincolnville Center, Lisbon, Lisbon Center, Litchfield, Little Deer Isle, Livermore, Locke Mills, Long Island, Lyman, Madison, Manchester, Matinicus, Mechanic Falls, Mexico, Milo, Minot, Monhegan, Monmouth, Monroe, Morrill, Naples, New Gloucester, New Harbor, New Vineyard, Newcastle, Newfield, Newagen, Newry, Nobleboro, Norridgewock, North Edgecomb, North Jay, North Leeds, North Monmouth, North Sebago, North Turner, North Waterboro, North Waterford, North Whitefield, North Windham, Norway, Oakland, Old Town, Orrs Island, Owls Head, Palermo, Paris, Permaquid Harbor, Peru, Phippsburg, Poland, Poland Spring, Porter, Portland, Pownal, Raymond, Readfield, Richmond, Rockland, Round Pond, Roxbury, Rumford, Sabattus, Saco, Saint George, Salem, Searsmont, Searsport, Skowhegan, Small Point, Solon, Somerville, South Bristol, South Freeport, South Gardiner, South Harpswell, South Hiram, South Portland, South Thomaston, South Waterford, South Windham, Southport, Spruce Head, Standish, Stockton Springs, Stonington, Strong, Sunset, Temple, Tenants Harbor, Thomaston, Turner, Turner Center, Union, Vassalboro, Veazie, Vienna, Vinalhaven, Waldoboro, Walpole, Warren, Washington, Waterboro, Waterford, Waterville, Wayne, Weld, Wells, West Baldwin, West Boothbay, West Farmington, West Kennebunk, West Minot, West Paris, West Poland, West Rockport, Westbrook, Westport, Whitefield, Windsor, Winslow, Winter Harbor, Winthrop, Yarmouth.

Massachusetts--Duxbury, Lawrence, Needham, Newburyport, Rockland, South Hamilton, Sudbury.

New Hampshire--Concord, Derry, Exeter, Franklin, Meredith, Somersworth, Wolfeboro.

Intensity III:

Maine--Anson, Bangor, Biddeford, Bingham, Bristol Mills, Brunswick, Burkettville, Carmel, China, Cliff Island, Columbia Falls, Denmark, Dixfield, Durham, Fairfield, Georgetown, Hollis Center, Kennebunkport, Kittery, Maplewood, Milbridge, Milford, New Sharon, North Anson, North Brigeton, North Fryeburg, North Haven, North Vassalboro, North Yarmouth, Parson Field, Pittsfield, Plymouth, Rockport, Rumford Center, Rumford Point, Sandy Point, Sebago Lake, Shawmut, South China, Springvale, Steep Falls, Thorndike, Unity, Wales, Weeks Mills, West Bethel, West Newfield, West Southport, West Sumner, Wilton.

Massachusetts--Hopkinton, Pea-

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

Maine--Continued

body.
New Hampshire--Berlin, Conway, Deerfield, Dover (press report), Portsmouth (press report), Seabrook (press report).
Intensity II:
Maine--Bar Harbor, Cape Porpoise, North Searsmont, Sargentville, Wilsons Mills.

Massachusetts

18 April (J) Southern Maine
Origin time: 02 34 14.4

See Maine listing.

23 April (J) Southern New Hampshire
Origin time: 00 05 45.7

See New Hampshire listing.

Missouri

3 June (S) Eastern Missouri
Origin time: 05 50 24.6
Epicenter: 38.61 N., 90.52 W.
Depth: 5 km
Magnitude: 2.1 mbLg(S)

Felt in southwest Ladue and at Jennings (S).

11 June (S) New Madrid region
Origin time: 04 12 16.9
Epicenter: 36.17 N., 89.65 W.
Depth: 12 km
Magnitude: 3.8 mbLg(S)
Intensity IV:
Arkansas--Armorel.
Missouri--Cooter, Deering, Marston, Rives.
Tennessee--Bogota, Elbridge, Finley, Hornbeak, Lenox, Ridgely, Samburg.
Intensity III:
Missouri--Car, Gideon, Pascola.
Tennessee--Caruthersville (press report), Dyersburg.

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

Montana

7 May (G) Hebgen Lake region
Origin time: 17 15 43.4
Epicenter: 44.76 N., 111.14 W.
Depth: 5 km
Magnitude: 3.2 ML(G), 3.6 ML(D)
Intensity III: Old Faithful, Wyoming.

8 May (G) Hebgen Lake region
Origin time: 00 56 34.1
Epicenter: 44.77 N., 111.12 W.
Depth: 5 km
Magnitude: 3.3 ML(G), 3.5 ML(D)
Intensity III: West Yellowstone.

8 May (G) Hebgen Lake region
Origin time: 00 57 42.9
Epicenter: 44.74 N., 111.20 W.
Depth: 5 km
Magnitude: 3.9 ML(G), 4.2 ML(D)

Intensity IV:
Montana--West Yellowstone.
Wyoming--Madison Junction.
Intensity III:
Wyoming--Mammoth Hot Springs, Old Faithful.

8 May (G) Hebgen Lake region
Origin time: 00 58 44.8
Epicenter: 44.75 N., 111.38 W.
Depth: 5 km
Magnitude: 4.6 ML(G), 4.7 ML(D)
Intensity IV:
Montana--West Yellowstone (cars rocked noticeably, doors swung, windows rattled, few books fell from shelves, felt by many).
Montana--Madison Junction (windows rattled, house plants vibrated).
Intensity III:
Wyoming--Canyon Village, Old Faithful.
Intensity II:
Wyoming--Mammoth Hot Springs.

8 May (G) Hebgen Lake region
Origin time: 01 23 18.3
Epicenter: 44.78 N., 111.08 W.
Depth: 5 km
Magnitude: 3.4 ML(G), 3.5 ML(D)
Intensity III: West Yellowstone.

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

Montana--Continued

10 May Hebgen Lake region
Origin time: 13 24
Epicenter: Not located.
Depth: None computed.
Magnitude: None computed.
Intensity III: West Yellowstone.

22 June (G) Southwestern Montana
Origin time: 12 02 26.8
Epicenter: 45.32 N., 112.83 W.
Depth: 5 km
Magnitude: 4.5 ML(D), 4.4 ML(G)
Intensity IV: Dillon, Polaris.

Nebraska

6 June (G) Southwestern Nebraska
Origin time: 16 16 21.5
Epicenter: 40.23 N., 100.40 W.
Depth: 5 km
Magnitude: 2.7 mbLg(G)

Felt at Bartly and 7 miles south of Bartly (telephone report).

30 June (G) Southeastern Nebraska
Origin time: 20 46 39.3
Epicenter: 40.05 N., 97.34 W.
Depth: 5 km
Magnitude: 3.3 mbLg(G)

Intensity VI:
Kansas--
Mahaska (foundation of a cinderblock building cracked, plaster cracked and fell in large amounts, small objects broken, felt by many).
Intensity V:
Kansas--
Haddam (few windows cracked, small objects moved, hanging pictures swung, felt by many).
Norka (few windows cracked, standing and moving vehicles rocked slightly, small objects and hanging pictures moved, felt by many).
Morrowville (foundation of wood building cracked, light furniture and small objects moved, felt by several).
Intensity IV:
Kansas--Cuba, Hollenberg, Washington.

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

Nebraska--Continued

Nebraska--Chester, Reynolds.
Intensity III:
Kansas--Munden.
Intensity II:
Kansas--Belleville, Linn.

Nevada

6 June (B) Western Nevada
Origin time: 01 49 56.4
Epicenter: 38.49 N., 118.42 W.
Depth: 12 km
Magnitude: 4.3 mb(G), 4.2 ML(B)
Intensity IV: Luning.
Intensity III: Babbitt, Hawthorne, Mina.

8 June (G) Western Nevada
Origin time: 05 44 03.6
Epicenter: 38.51 N., 117.88 W.
Depth: 5 km
Magnitude: 4.0 ML(G)
Intensity IV: Gabbs, Luning, Mina.

11 June (E) Southern Nevada
Origin time: 14 00 00.170
Epicenter: 37.29 N., 116.45 W.
Depth: 0 km
Magnitude: 5.5 mb(G), 4.4 MS(G), 5.4 ML(B)

Nevada test site explosion "PEPATO" at 37°17'22.88" N., 116°27'18.91" W., surface elevation 1941 m, depth of burial 681 m.

20 June (E) Southern Nevada
Origin time: 15 00 13.542
Epicenter: 37.11 N., 116.02 W.
Depth: 0 km
Magnitude: 4.0 mb(G), 4.3 ML(B)

Nevada test site explosion "CHESS" at 37°06'27.46" N., 116°00'54.31" W., surface elevation 1336 m, depth of burial 335 m.

28 June (E) Southern Nevada
Origin time: 14 44 00.168
Epicenter: 37.14 N., 116.09 W.
Depth: 0 km
Magnitude: 5.0 mb(G), 5.0 ML(B)

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

Nevada--Continued

Nevada test site explosion "FAJY"
at 37°08'35.39" N., 116°05'15.06"
W., surface elevation 1330 m,
depth of burial 537 m.

New Hampshire

18 April (J) Southern Maine
Origin time: 02 34 14.4

See Maine listing.

23 April (J) Southern New Hampshire
Origin time: 00 05 45.7
Epicenter: 43.04 N., 71.24 W.
Depth: 0 km
Magnitude: 3.1 mbLg(J),
2.9 mbLg(L)

Intensity IV:
Massachusetts--West Boxford, West Newbury.
New Hampshire--Candia, Derry, East Candia, East Rochester, Exeter, Gilmanton Iron Works, Greenland, Hampton Falls, Milton, Portsmouth, Rochester, Rye Beach, Salem.
Intensity III:
Massachusetts--Haverhill.
New Hampshire--Alton Bay, Brentwood (press report), Epping, Gonic, Hooksett (press report), Raymond, Rollinsford.
Intensity II:
Massachusetts--Ward Hill.
New Hampshire--East Derry, Farmington, Kingston, Newmarket, Ward Hill.

Oklahoma

22 May (T) Southern Oklahoma
Origin time: 03 49 23.8
Epicenter: 34.03 N., 97.47 W.
Depth: 4 km
Magnitude: 1.9 mbLg(T)
Intensity III: Wilson.

7 June (T) Western Oklahoma
Origin time: 07 39 35.6
Epicenter: 35.19 N., 99.81 W.
Depth: 5 km
Magnitude: 3.0 mbLg(T)
Intensity IV: Texola.

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

Oklahoma--Continued

Intensity III: Sayre (T).

Oregon

8 April (W) Oregon-Washington border
Origin time: 07 29 37.8

See Washington listing.

Tennessee

11 June (S) New Madrid region
Origin time: 04 12 16.9

See Missouri listing.

Utah

30 April (U) Southern Utah
Origin time: 02 07 10.3
Epicenter: 37.88 N., 111.02 W.
Depth: 7 km
Magnitude: 3.8 ML(G)
Intensity III: Boulder.

Washington

8 April (W) Oregon-Washington border
Origin time: 07 29 37.8
Epicenter: 46.00 N., 118.45 W.
Depth: 5 km
Magnitude: 3.2 ML(G),
4.1 ML(W)
Intensity V:
Washington--Walla Walla.
Intensity IV:
Oregon--Milton-Freewater.
Washington--College Place.
Intensity III:
Oregon--Athena, Weston.

Wyoming

7 May (G) Hebgen Lake region
Origin time: 17 15 43.4

See Montana listing.

8 May (G) Hebgen Lake region

Table 2.--*Summary of macroseismic data for U.S. earthquakes, April-June 1979*--Continued

Wyoming--Continued

Origin time: 00 57 42.9

See Montana listing.

8 May (G) Hebgen Lake region
Origin time: 00 58 44.8

See Montana listing.

30 June Yellowstone National Park
Origin time: 06 55
Epicenter: Not located.
Depth: None computed.
Magnitude: None computed.
Intensity II: Old Faithful.

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