



Hazards Assessment Laboratory
C240 Clark Building
Fort Collins, Colorado 80523
(303) 491-7347

June 6, 1990

Colorado State University
Hazards Assessment Laboratory
Department of Sociology
Fort Collins, Colorado 80523

Dear Resident:

This questionnaire concerns your experience with the 7.1 Loma Prieta earthquake that struck northern California on 17 October 1989. This information is being collected to enable the scientific community to better understand the dynamics of communities in an earthquake disaster.

Your household has been scientifically selected at random to take part in this project. Please have the head of household fill out and return the questionnaire. ALL DATA WILL BE USED IN SUMMARY FORM ONLY. NO INDIVIDUAL INFORMATION WILL BE GIVEN TO ANY STATE OR FEDERAL AGENCY. ONLY COMMUNITY RESPONSES WILL BE REPORTED. ALL INFORMATION WILL BE KEPT STRICTLY CONFIDENTIAL.

Please spend a few minutes in filling out the brief questionnaire that follows on the next few pages and return in the postage paid envelope.

Thank you for your time.

Sincerely,

A handwritten signature in cursive script, appearing to read "Dennis S. Mileti".

Dennis S. Mileti, Principal Investigator
Colorado State University

1. Prior to the October earthquake, which of the following best describes the severity of the largest earthquake you have ever experienced? (circle one)
 1. I have never experienced an earthquake
 2. I felt it, but it caused no damage
 3. Slight damage (for example, cracks in walls)
 4. Moderate damage (for example, fallen walls or chimneys)
 5. Severe damage (for example, dwelling uninhabitable)

2. Before the October earthquake, which of the following best describes what you knew about aftershocks? (circle one)
 1. I did not know about aftershocks
 2. They happen but do not cause additional damage
 3. They happen and can cause additional damage
 4. They can cause more damage than the original earthquake

3. Prior to the October earthquake had you ever done anything to prepare for an earthquake? (circle one)
 1. No
 2. Yes

4. Prior to the earthquake had you ever received any earthquake preparedness information from any of the following sources? (circle all that apply)
 1. I never received any information
 2. City government
 3. County government
 4. State government
 5. Private organizations (for example the Red Cross)

5. Did you feel the 17 October 1989 earthquake? (circle one)
 1. No
 2. Yes

6. After the earthquake, did you have access to a working radio? (circle one)
 1. No
 2. Yes

7. Did the earthquake cause you or anyone in your household bodily injury? (circle the most severe experienced)
 1. No injuries
 2. Injuries
 3. Loss of life

8. Did that earthquake cause any of the following?

Damage in your neighborhood? (circle the most severe experienced)

1. No damage
2. Slight damage (for example, cracks in walls)
3. Moderate damage (for example, fallen walls or chimneys)
4. Severe damage (for example, uninhabitable residence)

Damage to your residence? (circle the most severe experienced)

1. No damage
2. Slight damage (for example, minor cracks in walls)
3. Moderate damage (for example, fallen walls or chimney)
4. Severe damage (for example, residence uninhabitable)

Damage to your household items for example, furniture, dishes, glassware and so on? (circle the most severe experienced)

1. No damage
2. Slight damage (several things were damaged)
3. Moderate damage (more than several things were damaged)
4. Severe damage (almost all things were damaged)

9. In the first 24 hours after the earthquake, did you in any way (officially, unofficially or as a volunteer) do any of the following emergency activities? (circle all that apply)

1. No, I did none of these activities
2. Search and rescue of victims
3. Provided food or water to others
4. Provided shelter to others
5. Cleaned/removed debris
6. Helped evacuate victims
7. Counseled victims
8. Put out fires
9. Directed traffic
10. Medical attention/first aid for victims
11. Other (please specify) _____

10. How many of the first 24 hours after the earthquake did you spend doing any of the above activities? (please fill in)

_____ hours

11. In the first 24 hours after the earthquake, did you use radio, television, or newspapers more or less than usual? (circle one)

1. Less than usual
2. About the same as usual
3. More than usual

THE NEXT QUESTIONS CONCERN THE FIRST 72 HOURS AFTER THE EARTHQUAKE

12. Did you hear any of the following publicly announced aftershock warnings? (circle all that apply)

1. I did not hear any aftershock warnings
2. A 20% chance of a 6.0 magnitude aftershock within 24 hours
3. A 3-12% chance of a 5.0 magnitude aftershock within two days
4. Other (please specify) _____

13. If you did not hear any aftershock warnings, why not? (circle all that apply)

1. I did hear aftershock warnings
2. Electricity was out
3. No access to media
4. Too busy responding to the earthquake
5. Other (please tell us in detail-use back of questionnaire if necessary) _____

14. How many times did you hear aftershock warnings, even if it was the same warning repeated? (circle one)

1. None heard
2. Few warnings heard (1 to 3)
3. Some warnings heard (4 to 6)
4. Many warnings heard (over 6)

15. Did you get aftershock warnings from any of the following sources? (circle all that apply)

1. I did not get any aftershock warnings
2. Government officials
3. Scientists
4. Friends and relatives
5. Other community residents

16. Did you get aftershock warnings through any of the following channels of communication? (circle all that apply)

1. I did not get any aftershock warnings
2. Television
3. Radio
4. Newspapers
5. Word of mouth

17. Thinking about all the aftershock warnings you heard, do you agree with any of the following statements? (circle all that apply)

1. I did not hear any aftershock warnings
2. I understood the aftershock warnings
3. They were not specific about what might happen
4. They were specific about what I should do
5. They were not consistent
6. It seemed like the people giving the aftershock warnings knew what they were talking about

18. Did you believe that a damaging aftershock would occur in the first 72 hours following the October earthquake? (circle one)

1. No
2. Yes

19. Did you believe that a damaging aftershock would occur and cause you, your family or your residence injury or damage? (circle one)

1. No
2. Yes

20. Did you take any of the following actions to get ready for a damaging aftershock? (circle all that apply)

1. I did not undertake any action
 2. I sought information about earthquakes in general
 3. I sought information on what to do about aftershocks
 4. I read the earthquake page in the phone book
 5. I made household items safer
 6. I made my dwelling structurally safer
 7. I developed an emergency plan in case of aftershocks
 8. Other (please specify) _____
-
-

21. After the initial 72 hour post earthquake period, but before Christmas, did you do any of the following things? (circle all that apply)

1. I did not do anything
2. I sought information on aftershocks
3. I sought information on what to do about aftershocks
4. I read the earthquake page in the phone book
5. I made household items safer
6. I made my residence structurally safer
7. I developed an emergency plan in case of aftershocks
8. Other (please specify) _____

22. In general, with which of the following statements do you agree? (circle all that apply)

1. An earthquake larger than October's is not expected in my community
2. The California lifestyle is worth the earthquake risk
3. My community is prepared to respond to a large earthquake
4. My home is not located on bad landfill
5. A "big one" is most likely to occur in southern California
6. Most of the earthquake damage occurred on bad landfill

23. Thinking back to your feelings and experiences during and immediately after the 17 October 1989 earthquake, which of the following best describes your overall feelings?

1. Very frightened and upset
2. Somewhat frightened and upset
3. Not very frightened and upset
4. Not at all frightened and upset
5. I enjoyed the experience

THE LAST QUESTIONS ARE ABOUT YOURSELF

24. Are you (circle one)

1. Female 2. Male

25. What is your age? (please fill in)

_____ years

26. Which best describes your racial/ethnic identification? (circle one)

1. Chinese
2. Japanese
3. Other Asian
4. African-American
5. Hispanic
6. White
7. Other (please specify) _____

27. What is your lifestyle orientation? (circle one)

1. Heterosexual
2. Gay/lesbian

28. At the time of the earthquake in what part or district of your city did you live? (please fill in)

_____ city sub-division/district

29. Before the earthquake, how many years had you lived there? (please fill in)

_____ years

30. Including yourself, how many people for whom you are responsible reside in your household? (please fill in)

_____ people

31. Do you own your residence? (circle one)

1. No
2. Yes

32. How many years did you attend school? (please fill in)

_____ years

33. What is your household's before tax income? (circle one)

- | | |
|----------------------|----------------------|
| 1. Under \$5000 | 4. \$35,000-\$74,999 |
| 2. \$5000-\$14,999 | 5. \$75,000-\$99,999 |
| 3. \$15,000-\$34,999 | 6. Over \$100,000 |

34. Which of the following best describes your job. (circle one; if retired circle former occupation)

1. Manual
2. Skilled
3. Sales or service
4. Managerial/Professional

THANK YOU FOR YOUR HELP IN COMPLETING THIS QUESTIONNAIRE. SIMPLY MAIL IT IN THE ENCLOSED POSTAGE RETURN ENVELOPE PROVIDED

PLEASE FEEL FREE TO ADD ANY ADDITIONAL COMMENTS YOU MIGHT HAVE TO HELP US
BETTER UNDERSTAND YOUR EXPERIENCES AND PERSPECTIVE

PARKFIELD EARTHQUAKE PREDICTION QUESTIONNAIRE



Study on Public Response to the Parkfield Earthquake Prediction

**Colorado
State
University**

Return to:

Hazards Assessment Laboratory
Colorado State University
Fort Collins, CO 80523

April 1989
Second request

PARKFIELD EARTHQUAKE PREDICTION STUDY QUESTIONNAIRE

THE FIRST FEW QUESTIONS CONCERN ALL THE INFORMATION YOU MAY HAVE RECEIVED ABOUT THE PARKFIELD EARTHQUAKE PREDICTION FROM ALL SOURCES.

1. Have you ever heard about the Parkfield Earthquake Prediction? [CIRCLE ONE]
 - 1 Yes
 - 2 Don't know
 - 3 No [PLEASE COMPLETE AND RETURN QUESTIONNAIRE EVEN IF YOU HAVEN'T HEARD. SKIP TO QUESTION 9 ON PAGE 4]

2. Consider all the information you have received about the Parkfield earthquake prediction from all sources. Which of the following statements have you heard or seen? [CIRCLE ALL THAT APPLY]
 - 1 The earthquake may be about magnitude 6.
 - 2 This magnitude 6 earthquake has a 90% chance of happening.
 - 3 This magnitude 6 earthquake probably won't cause damage to buildings.
 - 4 This magnitude 6 earthquake will be felt in places like Paso Robles, Coalinga and Taft.

 - 5 The earthquake may be about magnitude 7.
 - 6 This magnitude 7 earthquake has a 10% chance of happening.
 - 7 This magnitude 7 earthquake probably will damage buildings.
 - 8 This magnitude 7 earthquake will affect places like Paso Robles, Coalinga and Taft.

 - 9 Regardless of the earthquake's size, it will happen by 1993.
 - 10 Earthquake scientists agree about the Parkfield earthquake prediction.

 - 11 All of the above.

3. Has any of the information you have received or heard ever advised you to do any of the following things to get ready for the predicted earthquake? [CIRCLE ALL THAT APPLY]
- 1 Store food and water
 - 2 Learn first aid
 - 3 Have first aid kit available
 - 4 Maintain emergency supply of needed medication
 - 5 Develop family emergency plan
 - 6 If indoors, stay indoors
 - 7 Get under a table or desk when the earthquake occurs
 - 8 If outdoors, get to areas clear of anything that can fall on you
 - 9 Have a flashlight handy
 - 10 Have a portable radio available and use it when the earthquake occurs
 - 11 Have heavy gloves and a crescent wrench handy
 - 12 Turn off utilities after the earthquake
 - 13 Hang up phone after the earthquake
 - 14 Do not use the phone unless there is an injury
 - 15 Learn how to prevent fires
 - 16 Keep fire extinguisher handy
 - 17 Move heavy objects off high shelves
 - 18 Do not use vehicle unless for emergency
 - 19 Anchor house to its foundation
 - 20 Buy earthquake insurance
 - 21 Strap down hot water heater
 - 22 Protect dishes and glassware
 - 23 Secure heavy furniture to walls
 - 24 Learn where you can get more information about earthquake preparedness
 - 25 Form neighborhood watch groups for earthquake preparedness
 - 26 Study emergency plans at your work
 - 27 Study your children's school emergency plans
 - 28 All of the above
4. Did any of the information you have received or heard about the Parkfield earthquake prediction state any of the following? [CIRCLE ALL THAT APPLY.]
- 1 The public may receive warning of a 72-hour period during which the earthquake could occur.
 - 2 The 72-hour warning will come from local and state officials.
 - 3 The warning will be announced over radio, television, and in newspapers.
 - 4 A telephone hotline number will be provided to the public.
 - 5 The warning will be followed by other information over radio, television, and in newspapers.
 - 6 The warning will likely be cancelled within 72 hours if the earthquake does not happen.
 - 7 Several 72-hour warnings may be issued.
 - 8 All of the above.

5. Did everyone giving information say much the same things about the Parkfield earthquake prediction? [CIRCLE ONE]
- 1 Yes, they said much the same things
 - 2 They were fairly consistent with each other
 - 3 Unsure
 - 4 They were fairly inconsistent with each other
 - 5 No, they said different things
6. Considering all the information you have received about the Parkfield earthquake prediction from all sources, how easy to understand has it been? [CIRCLE ONE]
- 1 Very easy to understand
 - 2 Easy to understand
 - 3 Unsure/it varied
 - 4 Difficult to understand
 - 5 Very difficult to understand
7. We're interested in knowing how you heard about the Parkfield earthquake prediction. Here is a list of some possible sources from which you may have received information. [CIRCLE ALL THAT APPLY]
- 1 Television
 - 2 Radio
 - 3 Newspapers
 - 4 Magazines
 - 5 Brochures
 - 6 Posters
 - 7 Meetings
 - 8 Comic books/coloring books
 - 9 Seminars, classes, workshops
 - 10 Reports
 - 11 Journal articles
 - 12 Exhibits, demonstrations
 - 13 Informal conversations
 - 14 Speeches, talks
 - 15 Telephone book
 - 16 Slide shows and films

8. We're interested in knowing who you heard from regarding the Parkfield earthquake prediction. Here is a list of some possible sources from which you may have gotten information. [CIRCLE ALL THAT APPLY]

- 1 City government
- 2 County government
- 3 State government
- 4 Federal government
- 5 Fire department
- 6 Hospital
- 7 Public school
- 8 Community college
- 9 Public library
- 10 Utility company
- 11 Telephone company
- 12 American Red Cross
- 13 Service clubs, associations
- 14 Media organizations (TV, radio, newspapers)
- 15 Local businesses
- 16 Friends, relatives, neighbors, acquaintances
- 17 Scientists

NOW HERE ARE A FEW MORE QUESTIONS ABOUT EARTHQUAKE INFORMATION IN GENERAL AND EARTHQUAKE PREDICTIONS.

9. If you were interested in knowing more, how would you most like to receive that information (for example, brochures mailed to your home, newspaper articles, others)?

10. From whom would you prefer to receive information about earthquakes and how to prepare for them (for example, public schools, local government, others)?

11. How easy to understand was the brochure about the Parkfield earthquake prediction sent to your home by the California Office of Emergency Services? [CIRCLE ONE]

- 1 Very easy to understand
- 2 Easy to understand
- 3 Unsure
- 4 Difficult to understand
- 5 Very difficult to understand
- 6 Didn't get one

12. What do you think have been the positive or negative consequences of having the Parkfield earthquake prediction?

13. Do you think scientists should continue to work on trying to predict earthquakes? [CIRCLE ONE]

- 1 Yes
 - 2 Don't know
 - 3 No
- Why do you feel this way? _____
-
-

NOW, HERE ARE A FEW QUESTIONS CONCERNING WHAT YOU BELIEVE ABOUT THE PREDICTED EARTHQUAKE AND EARTHQUAKE PREDICTION IN GENERAL.

14. About what magnitude do you think the predicted Parkfield earthquake will be when it happens? [CIRCLE ONE]

- 1 Less than magnitude 4
- 2 About magnitude 4
- 3 About magnitude 5
- 4 About magnitude 6
- 5 About magnitude 7
- 6 About magnitude 8
- 7 Don't know
- 8 I don't believe it will happen.

15. About how far away would you say your house is from the epicenter (or starting point) of the predicted earthquake?

Number of miles: _____

16. Following are some statements about future events you or your family might experience. Please check any item that you believe will occur. Please show this for both the predicted earthquake and for any other earthquake. [CIRCLE ALL THAT APPLY IN BOTH COLUMNS.]

The PREDICTED Parkfield earthquake	Any OTHER future earthquake	I believe that:
1	1	In my lifetime, I will personally experience an earthquake that causes me economic losses (for example, damage to my house).
2	2	In my lifetime, I will personally experience an earthquake that causes me or someone in my family physical harm.
3	3	In the next few years, I will personally experience an earthquake that causes me economic losses (for example, damage to my house).
4	4	In the next few years, I will personally experience an earthquake that causes me or someone in my family physical harm.
5	5	I don't believe any of these statements.

THE NEXT QUESTIONS CONCERN WHAT YOU MAY HAVE DONE TO PREPARE FOR EARTHQUAKES.

17. The following items concern attempts you may have made to get information since hearing about the Parkfield earthquake prediction. Please circle those things you have actually done. [CIRCLE ALL THAT APPLY]

- 1 Sought information about earthquake prediction/warnings from government organizations (for example, state, county, city agencies, and so on).
- 2 Sought information about earthquake prediction/warnings from non-government organizations (for example, Red Cross, schools, utilities, and so on).
- 3 Talked with other people about earthquake prediction/warnings.
- 4 Done nothing to seek information about earthquake prediction/warnings since hearing about the Parkfield earthquake prediction.
- 5 Have not heard of the Parkfield earthquake prediction.

18. The following items concern things people can do to prepare for earthquakes. Please circle those things you have done, both before and since the Parkfield earthquake prediction. [CIRCLE ALL THAT APPLY IN BOTH COLUMNS]

Did BEFORE I Heard About the Parkfield Earthquake Prediction	Did AFTER I Heard About the Parkfield Earthquake Prediction	
1	1	Sought information about what to do to <u>get ready</u> for earthquakes from government (for example, state, county, city agencies, and so on)
2	2	Sought information about what to do to <u>get ready</u> for earthquakes from non-government sources (for example, Red Cross, schools, utilities, and so on)
3	3	Talked with other people about what to do to <u>get ready</u> for earthquakes
4	4	Bought earthquake insurance
5	5	Cancelled or delayed large purchases
6	6	Cancelled or delayed investments
7	7	Saved more money
8	8	Rearranged household items so they would be safer from earthquakes (for example, moved dishes to a lower cupboard)
9	9	Did things to make my house more resistant to earthquake damage (for example, strapped down the hot water heater or anchored the house to its foundation)
10	10	Stockpiled emergency supplies (for example, water, food, flashlight or radio)
11	11	Developed a family emergency plan
12	12	Formed a neighborhood watch group for emergency response
13	13	Engaged in other community activities to get ready for earthquakes
14	14	Found out what to do when an earthquake happens or immediately thereafter (for example, getting under a table or how to turn off the gas)
15	15	Learned first aid
16	16	Did anything else (please specify)

19. Do you know anyone (for example, friends, relatives or neighbors) who has done anything to get ready for the Parkfield earthquake (for example, made their home or possessions safer)? [CIRCLE ONE]

- 1 Yes
- 2 Don't know
- 3 No

20. Do you feel your household is adequately prepared for a damaging earthquake at this time? [CIRCLE ONE]

- 1 Yes
- 2 Don't know/unsure
- 3 No

21. Do you feel your community is adequately prepared for a damaging earthquake at this time? [CIRCLE ONE]

- 1 Yes
- 2 Don't know/unsure
- 3 No

THE NEXT SET OF QUESTIONS IS ABOUT EARTHQUAKES AND OTHER DISASTERS YOU MAY HAVE EXPERIENCED.

22. In reference to the 1966 Parkfield earthquake, please circle as many of the following items as apply to you: [CIRCLE ALL THAT APPLY]

- 1 I felt it
 - 2 I had damage from it
 - 3 I had friends/relatives with damage from it
 - 4 I didn't experience it
 - 5 Other (please specify) _____
- _____
- _____

23. In reference to the 1983 Coalinga earthquake, please circle as many of the following items as apply to you: [CIRCLE ALL THAT APPLY]

- 1 I felt it
 - 2 I had damage from it
 - 3 I had friends/relatives with damage from it
 - 4 I didn't experience it
 - 5 Other (please specify) _____
- _____
- _____

FOLLOWING ARE A FEW QUESTIONS ABOUT YOU AND YOUR HOUSEHOLD.

26. Are you [CIRCLE ONE]

- 1 Male
- 2 Female

27. Do you own or rent your place of residence? [CIRCLE ONE]

- 1 Own
- 2 Rent
- 3 Other (please specify) _____

28. Excluding yourself, how many people in your household are you responsible for?

Number of people: _____

29. Besides your own household, how many of your family members or relatives live in your community?

Number of family members/relatives: _____

30. In how many local organizations do you regularly participate (for example, church, youth, and senior citizen groups)?

Number of organizations: _____

31. How many years have you lived in your community?

Number of years: _____

32. Please circle which one of the following categories most nearly describes the kind of work the chief wage earner in your immediate family does. [IF CHIEF WAGE EARNER IS UNEMPLOYED, CIRCLE WHAT TYPE OF WORK HE/SHE WOULD DO IF EMPLOYED.] [CIRCLE ONE]

- 1 Professional worker
 - 2 Skilled trade or craft worker
 - 3 Semi-skilled worker
 - 4 Manager, executive, or official
 - 5 Runs own business with one or more employees
 - 6 Farm owner, farm manager
 - 7 Clerical or office worker
 - 8 Sales worker
 - 9 Manufacturer's representative
 - 10 Service worker
 - 11 Laboring worker (other than farm)
 - 12 Farm laborer, farm helper, or farm foreman
 - 13 Retired
 - 14 Full-time student
 - 15 Housewife
 - 16 Other (please specify in detail) _____
-

33. What is the highest level of education you have completed? [CIRCLE ONE AND FILL IN BLANK IF APPROPRIATE]

- 1 Some grammar school (completed _____ years)
- 2 Grammar school graduate
- 3 Some junior high (completed _____ junior high years)
- 4 Junior high graduate
- 5 Some high school (completed _____ high school years)
- 6 High school graduate
- 7 Some trade/technical school (completed _____ trade school years)
- 8 Trade/technical school graduate
- 9 Some college (completed _____ college years)
- 10 College graduate
- 11 Some graduate school (completed _____ graduate school years)
- 12 Completed Master's degree
- 13 Completed doctorate degree

34. Which of the following best describes your racial or ethnic identification? [CIRCLE ONE]

- 1 American Indian or Alaskan Native
 - 2 Asian or Pacific Islander
 - 3 Black, not of Hispanic origin
 - 4 Hispanic
 - 5 White, not of Hispanic origin
 - 6 Other (please specify) _____
-

35. What is your age?

Number of years of age: _____

36. What is the total annual gross income of all members of your household?

\$ _____ per year

FOLLOWING IS A QUESTION ABOUT BELIEFS SOME PEOPLE HAVE.

37. Do you believe that psychics or fortune tellers can predict earthquakes? [CIRCLE ONE]

- 1 Yes
- 2 Don't know
- 3 No

38. Do you believe that scientists can predict earthquakes? [CIRCLE ONE]

- 1 Yes
- 2 Don't know
- 3 No

THANK YOU VERY MUCH FOR PARTICIPATING IN THIS SURVEY!

JUST PUT THE COMPLETED QUESTIONNAIRE IN THE POSTAGE PAID RETURN ENVELOPE AND DROP IN THE MAIL.

PLEASE FEEL FREE TO ADD ANY OTHER COMMENTS YOU MIGHT HAVE.