

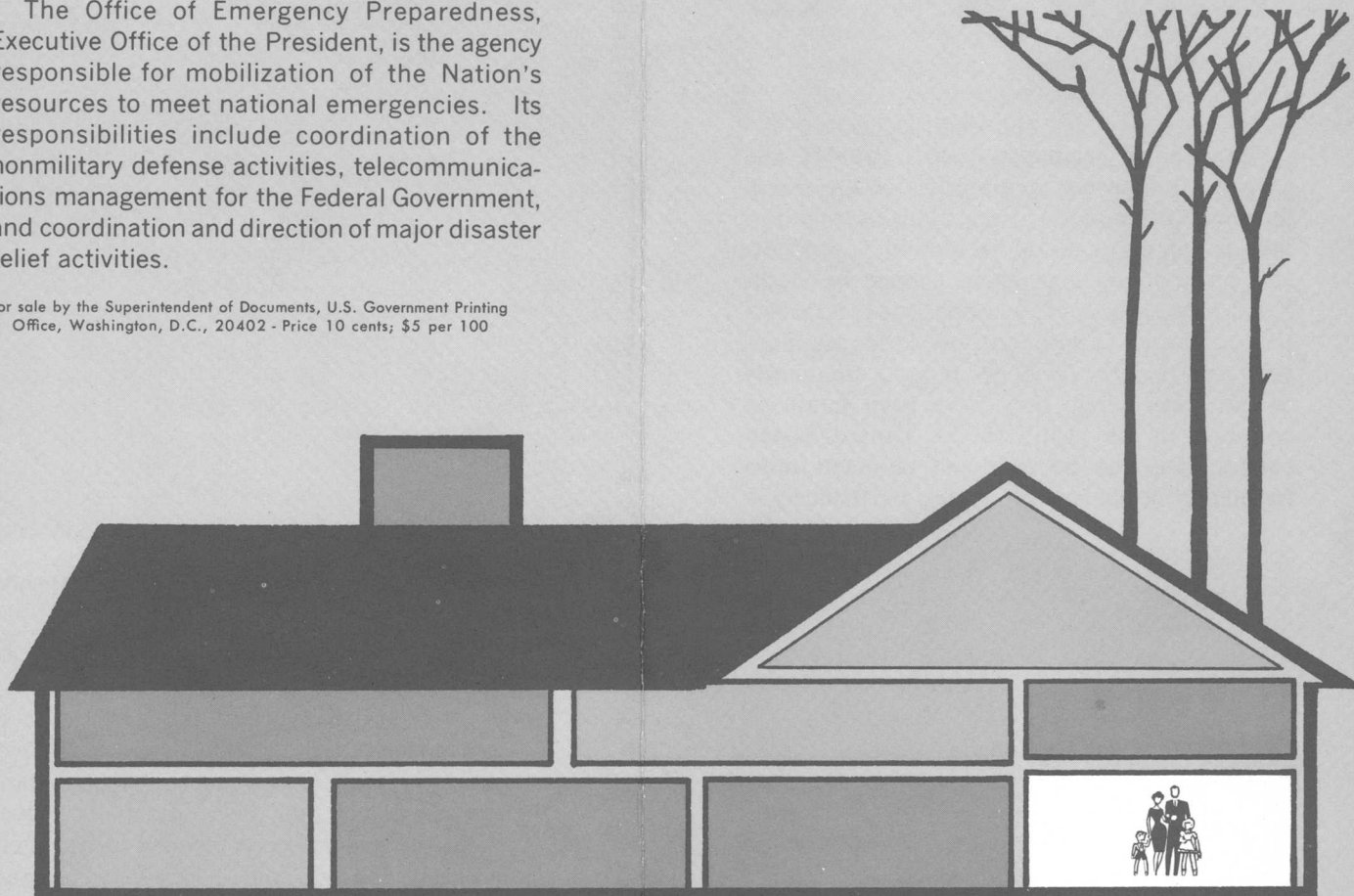
As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities for water, fish, wildlife, mineral, land, park, and recreational resources. Indian and Territorial affairs are other major concerns of America's "Department of Natural Resources."

The Department works to assure the wisest choice in managing all our resources so each will make its full contribution to a better United States—now and in the future.

The Office of Emergency Preparedness, Executive Office of the President, is the agency responsible for mobilization of the Nation's resources to meet national emergencies. Its responsibilities include coordination of the nonmilitary defense activities, telecommunications management for the Federal Government, and coordination and direction of major disaster relief activities.

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SAFETY and SURVIVAL in an EARTHQUAKE



Prepared jointly by:
U.S. Dept. of the Interior/Geological Survey
and the Office of Emergency Preparedness

SAFETY and SURVIVAL in an EARTHQUAKE

Many earth scientists in this country and abroad are focusing their studies on the search for means of predicting impending earthquakes, but, as yet, an accurate prediction of the time and place of such an event cannot be made. From past experience, however, one can assume that earthquakes will continue to harass mankind and that they will occur most frequently in the areas where they have been relatively common in the past. In the United States, earthquakes can be expected to occur most frequently in the western states, particularly in



Government Hill slide area, Anchorage showing damage to elementary school. (Alaska earthquake March, 1964).

Alaska, California, Washington, Oregon, Nevada, Utah, and Montana. The danger, however, is not confined to any one part of the country; major earthquakes have occurred at widely scattered locations.



Collapse of city streets in Anchorage, Alaska due to landslide caused by the earthquake.

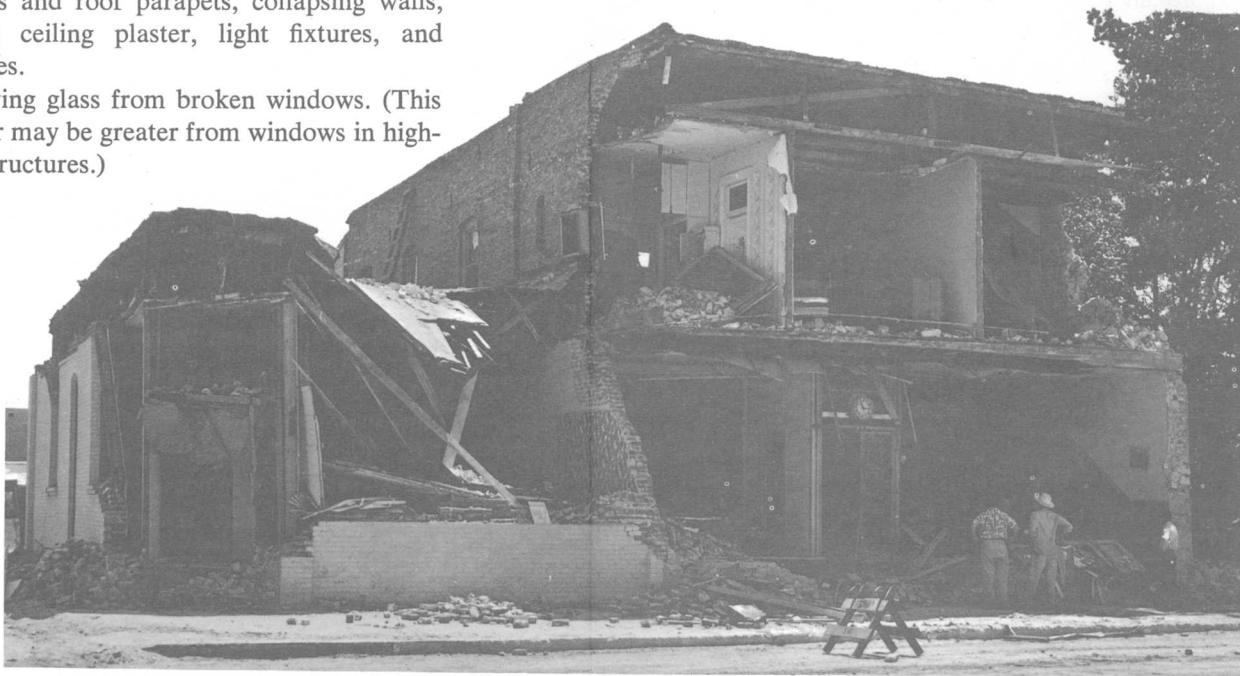
The Alaska earthquake of 1964 caused damages exceeding \$300 million and the loss of more than 100 lives. Had this earthquake occurred in a more densely populated area, the losses would have been much greater. Although earthquake losses can only be substantially reduced by adequate and enforced building codes, zoning provisions, and vigorous community programs designed to strengthen disaster preparedness, an individual can lessen the dangers to himself and his family by learning what to do in the event of an earthquake.

THE DANGERS

The actual movement of the ground in an earthquake is seldom the direct cause of death or injury. Most casualties result from falling objects and debris because the shocks can shake, damage, or demolish buildings and other structures. Earthquakes may also trigger landslides and generate huge ocean waves (seismic sea waves), each of which can cause great damage.

Injuries are commonly caused by:

1. Partial building collapses, such as toppling of chimneys, falling brick from wall facings and roof parapets, collapsing walls, falling ceiling plaster, light fixtures, and pictures.
2. Flying glass from broken windows. (This danger may be greater from windows in high-rise structures.)



3. Overturned bookcases, fixtures, and other furniture and appliances.
4. Fires from broken chimneys, broken gas lines, and similar causes. The danger may be aggravated by the lack of water due to broken mains.
5. Fallen power lines.
6. Drastic human actions resulting from panic.

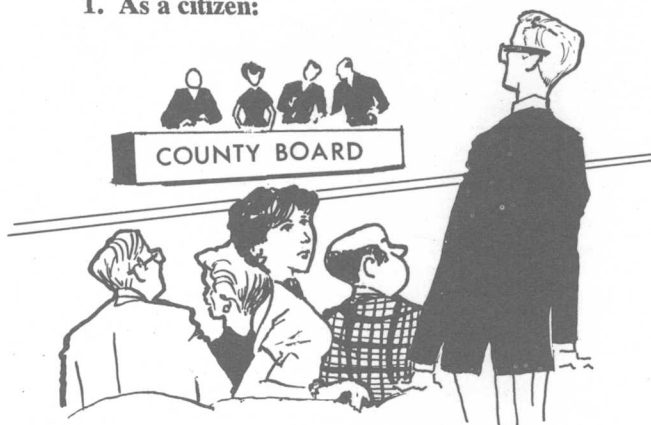


WHAT CAN YOU DO?

There are many actions which you can take to reduce the dangers from earthquakes to yourself, your family, and others.

A. BEFORE AN EARTHQUAKE OCCURS

1. As a citizen:



a. In those areas where damaging earthquakes can be expected, support local safe building codes with efficient inspection and firm enforcement. (Modern engineering can provide structures which resist earthquake damage many times better than older masonry buildings. If no such regulations or codes exist in your community, you should support their enactment).

b. Support school building programs which provide for the strengthening of old, weak school buildings or their replacement with earthquake-resistive structures on ground reasonably safe from failure during a strong earthquake.

c. Support community efforts to replace old weak buildings and to insure that loose objects on building exteriors (e.g. cornices) are either removed or securely fastened.

d. Organize and support programs to prepare for future earthquakes. (Schools and civic organizations could provide a very

beneficial community service by holding earthquake drills and training sessions to prepare citizens to react properly when earthquakes occur).

e. Support research to learn more about the earthquake problem and to supply information needed to plan wisely the siting, design, and construction of man-made structures.

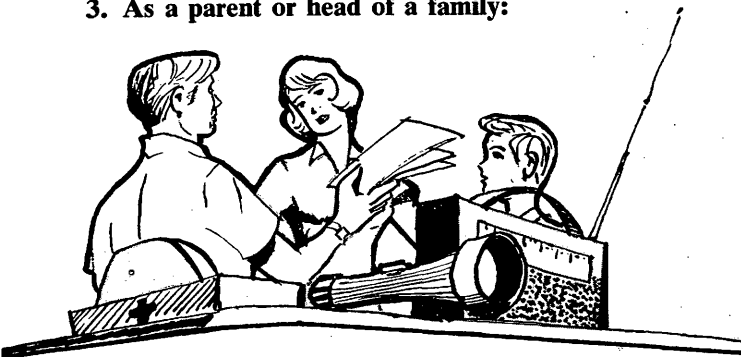
2. As a homeowner or tenant:

a. Check your home for earthquake hazards. Bolt down or provide other strong support for water heaters and other gas appliances since fire damage can result from broken gas lines and appliance connections. Use flexible connections wherever possible. Place large and heavy objects on the lower shelves. Securely fasten shelves to walls. Brace or anchor high or top-heavy objects.

b. In new construction and alterations follow building codes to minimize earthquake hazards. Sites for construction should be selected and engineered to reduce the hazard of damage from an earthquake.



3. As a parent or head of a family:



a. Hold occasional home earthquake drills to provide your family with the knowledge to avoid injury and panic during an earthquake.

b. Teach responsible members of your family how to turn off electricity, gas, and water at main switch and valves. Check with your local utilities office for instructions.

c. Provide for responsible members of your family to receive basic first aid instruction because medical facilities may be overloaded immediately after a severe earthquake. Call your local Red Cross or civil defense director for information about classes.

d. Keep a flashlight and a battery-powered transistor radio in the home, ready for use at all times.

e. Keep immunizations up to date for all family members.

f. Conduct calm family discussions about earthquakes and other possible disasters. Do not tell frightening stories about disasters.

4. As an individual:



Think about what you should do if an earthquake strikes when you are at home; driving your car; at work; in a store, a public hall, a theatre or a stadium; visiting friends; or involved in any of your other regular activities. Your planning may enable you to act calmly and constructively in an emergency.

B. DURING AN EARTHQUAKE



1. Remain calm. Think through the consequences of any action you take. Try to calm and reassure others.

2. If indoors, watch for falling plaster, bricks, light fixtures, and other objects. Watch out for high bookcases, china cabinets, shelves, and other furniture which might slide or topple. Stay away from windows, mirrors, and chimneys. If in danger, get under a table, desk, or bed; in a corner away from windows; or in a strong doorway. Encourage others to follow your example. Usually it is best not to run outside.

3. If in a high-rise office building, get under a desk. Do not dash for exits, since stairways may be broken and jammed with people. Power for elevators may fail.

4. If in a crowded store, do not rush for a doorway since hundreds may have the same idea. If you must leave the building, choose your exit as carefully as possible.

5. If outside, avoid high buildings, walls, power poles, and other objects which could fall. Do not run through streets. If possible, move to an open area away from all hazards. If in an automobile, stop in the safest place available, preferably an open area.

C. AFTER AN EARTHQUAKE



1. Check for injuries in your family and neighborhood. Do not attempt to move seriously injured persons unless they are in immediate danger of further injury.
2. Check for fires or fire hazards.
3. Wear shoes in all areas near debris or broken glass.
4. Check utility lines and appliances for damage. If gas leaks exist, shut off the main gas valve. Shut off electrical power if there is damage to your house wiring. Report damage to the appropriate utility companies and follow their instructions. Do not use matches, lighters, or open flame appliances until you are sure no gas leaks exist. Do not operate electrical switches or appliances if gas leaks are suspected. This creates sparks which can ignite gas from broken lines.
5. Do not touch downed power lines or objects touched by the downed wires.
6. Immediately clean up spilled medicines, drugs, and other potentially harmful materials.
7. If water is off, emergency water may be obtained from water heaters, toilet tanks, melted ice cubes, and canned vegetables.
8. Check to see that sewage lines are intact before permitting continued flushing of toilets.
9. Do not eat or drink anything from open containers near shattered glass. Liquids may be strained through a clean handkerchief or cloth if danger of glass contamination exists.
10. If power is off, check your freezer and plan meals to use up foods which will spoil quickly.
11. Use outdoor charcoal broilers for emergency cooking.

12. Do not use your telephone except for genuine emergency calls. Turn on your radio for damage reports and information.

13. Check your chimney over its entire length for cracks and damage, particularly in the attic and at the roof line. Unnoticed damage could lead to a fire. The initial check should be made from a distance. Approach chimneys with caution.

14. Check closets and storage shelf areas. Open closet and cupboard doors carefully and watch for objects falling from shelves.

15. Do not spread rumors. They often do great harm following disasters.

16. Do not go sightseeing immediately, particularly in beach and waterfront areas where seismic sea waves could strike. Keep the street clear for passage of emergency vehicles.

17. Be prepared for additional earthquake shocks called "aftershocks." Although most of these are smaller than the main shock, some may be large enough to cause additional damage.

18. Respond to requests for help from police, fire fighting, civil defense, and relief organizations, but do not go into damaged areas unless your help has been requested. Cooperate fully with public-safety officials. In some areas, you may be arrested for getting in the way of disaster operations.

There are no rules which can eliminate all earthquake danger. However, damage and injury can be greatly reduced by following the simple rules contained in this leaflet.



Prepared in cooperation with Regional Office 7, Office of Emergency Preparedness. OEP Region 7, Santa Rosa, California, covers the States of Arizona, California, Hawaii, Nevada, and Utah and the territories of Guam, American Samoa, and the Trust Territory of the Pacific Islands.