

probably been as much as several hundred miles during the past 100 million years of the earth's history, and that fault movements associated with earthquakes have a tendency to occur repeatedly along the very same fault strands, rather than through broad fault zones.

Engineering-geology studies of earthquake hazards in Alaska and California are also under way. These studies include research on the stability of San Francisco Bay muds, submarine slides associated with the 1964 Alaska earthquake, and on geologic and seismic hazards associated with nuclear-reactor siting problems in California.

At the present state of our knowledge, a good geologic map showing the accurate locations of active faults is the most reliable and useful earthquake-hazard map available. The usefulness of such geologic maps will, of course, be greatly enhanced as our understanding of the geophysical observations of earthquake phenomena in relation to the geologic framework and history is improved.

#### *Conclusion*

The earthquake studies reviewed above have as their goal a substantial reduction of potential earthquake losses of life and property during the next ten years, especially in establishing reliable guidelines that will permit Americans to live in relative safety in earthquake-prone areas. As our knowledge of earthquakes expands, we may acquire a capability for specific earthquake prediction—the time, place, and magnitude of future earthquakes. Such knowledge would be of great value in warning people to stay away from particularly hazardous areas, and in alerting police and fire departments and public and private officials responsible for the continued availability of water and power and access to transportation routes, so that they could make adequate advanced preparations for a future earthquake.

The U.S. Geological Survey regards earthquake research as an opportunity for science and the community to form a partnership in tackling the many problems associated with earthquake hazards. We believe that this partnership will protect our society, enrich our culture, and strengthen our science.