



United States  
Department of the Interior  
Geological Survey, National Center  
Reston, Virginia 22092



Information Office

Don Kelly

(703) 860-7444

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MAJOR ALASKAN EARTHQUAKE -- FOCUS OF SCIENTIFIC INTEREST

The major earthquake in southern Alaska Wednesday (February 28, 1979) is of particular interest because it is the first large quake in 79 years in a major seismic "gap" area of southern Alaska, according to U.S. Geological Survey scientists.

USGS scientists have estimated the magnitude of the quake at between 7.5 and 8.0 on the Richter Scale. More exact measurements have so far been impossible because most reporting seismographs in North America were driven off scale by the earthquake. Measurable observations from Europe, South America, and Australia will be required to accurately determine the magnitude. Smaller aftershocks were reported later Wednesday and Thursday extending about 60 miles toward the southeast of the main shock.

The USGS scientists explained that seismic gaps are quiet segments along active faults where major earthquakes are expectable because the accumulated stress is high. These gaps have recently become a focus of earthquake researchers. Last year's major quake in Mexico occurred in a seismic gap that had been identified by a number of researchers. Other possible gap areas may include southern California, central Japan, and Chile.

"Frankly, at this point we do not know whether to expect additional large earthquakes in this area of Alaska," said Dr. Robert Wesson, chief, Office of Earthquake Studies, USGS National Center.

"We have been watching this area because it has been a seismic gap between two recent larger earthquakes -- the Good Friday earthquake (8.5) that hit the Anchorage area in 1964, and the 1958 Fairweather fault earthquake (7.9) that occurred to the southeast of the gap," Wesson said. The last major earthquakes reported to have occurred in the gap itself were three of about magnitude 8.0 in 1899 and 1900.

A team of USGS scientists from Anchorage will fly over the remote area as soon as weather permits to determine the nature and extent of the geologic effects from the latest quake.

The region of the earthquake is characterized by highly complex geologic structure and is at the junction between the Fairweather fault system that runs to the southeast and the Chugach-St. Elias and related fault systems running to the west.

(more)

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Wednesday's earthquake occurred at 12:27 p.m. local time (4:27 p.m., EST). The quake was centered in an uninhabited part of southern Alaska at a relatively shallow depth beneath the rugged, glacier-covered St. Elias Mountain range in the vicinity of Jefferies and Columbus glaciers. The region is about 250 miles east of Anchorage and about 250 miles northwest of Juneau. The quake was felt strongly but apparently caused only minor damage in the coastal communities of Cape Yakataga, Yakutat, and Cordova. Earthquakes of this magnitude (7.5 to 8.0) could have caused significant damage in a more populated area.

Although the epicentral area of the earthquake is a region of extremely low population density, studies of the earthquake could provide environmental data for potential future development in the Gulf of Alaska area.

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