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Mexican Scientists Recommend More Efficient Tsunami-Alert System

by LADB Staff

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Mexican scientists are urging the government to create a more accurate system to monitor tsunamis and alert communities along the Pacific Coast whenever danger exists. The concerns were raised in the wake of a tsunami in the Indian Ocean on Dec. 26, 2004, that killed at least 200,000 people in nine countries in Asia and two in Africa.

The impact of the Asian tsunami, which was caused by an earthquake off the coast of Sumatra in Indonesia, was felt as far away as Colima and Baja California Sur in Mexico, where a slight increase in water levels was noted. The Mexican government has responded to the disaster in Asia by sending 300 metric tons of food, medication, clothing, and other supplies to the region.

In addition, Mexico has dispatched hundreds of specialists to help with recovery and relief efforts, including a team of epidemiologists and other specialists and a group of technicians from the Comision Nacional del Agua (CNA) to help with water-purification efforts.

Mexico's southern Pacific Coast considered vulnerable

Scientists at the Universidad Nacional Autonoma de Mexico (UNAM), the Centro de Investigacion Cientifica y de Educacion Superior de Ensenada in Baja California state (CICESE), and the Centro Nacional de Prevencion de Desastres (CENAPRED) are concerned that seismic activity off the Mexican Pacific Coast could unleash a tsunami similar to the one in the Indian Ocean.

The area off the Mexican Pacific Coast from Chiapas to Jalisco is especially susceptible to earthquakes because of geologic features in the area, researchers said. "The MesoAmerican Trench, formed by the Cocos and the Caribbean Faults, is only 80 km off the coast and a potential source of tsunamis," said Osvaldo Sanchez, director of UNAM's Servicio Mareografico Nacional.

CICESE said Mexico has experienced 30 tsunamis in the southern Pacific coastal region since 1732, 18 of which caused significant damage. The most recent disaster occurred in June 1932 off the coast of Colima, where a giant wave swept the resort community of Coyutlan. The resort was a frequent vacation destination for Mexican presidents and their families. "This was a very important vacation spot," said historian Rafael Tortajada in an interview with the Mexico City daily newspaper La Cronica de Hoy.

Unlike the recent tsunami in Asia, the disaster in Colima was localized in Coyutlan and some nearby areas. The devastation, however, was large enough to cause numerous deaths. "Because of the time period, we lacked the instruments to count the number of deceased," said Tortajada. Tortajada noted that the earthquake that caused the tsunami was one of three tremors felt in the state in June 1932.

Two others were centered inland, causing very little water displacement but damaging land structures. Housing, tourist developments encroach on vulnerable areas. Scientists note that some coastal areas are now in more danger than in 1932 because housing and tourist-related infrastructure are increasingly encroaching into vulnerable, low-lying areas. "The potential exists for much more serious consequences from this type of disaster," said CICESE researcher Cuauhtemoc Nava.

The possibility of other tsunamis off Mexico's southern Pacific Coast has also raised concerns within the scientific community because the country lacks appropriate monitoring capabilities and a plan to respond to a disaster. Mexico has joined other countries in an international tsunami-monitoring network, which sends information to a warning center near Honolulu. As part of its responsibilities to the network,

Mexico has installed 22 sensors along the Pacific Coast, but the main function of these instruments is simply to measure ocean levels. Scientists say inadequate instruments and a lack of a disaster-prevention plan leave Mexico very vulnerable to a tsunami. "We are a highly seismic country and face a risk of experiencing a tsunami similar to the one that hit Asia at the end of last year," said UNAM's Sanchez.

Some scientists are urging the government to pay special attention to the region off the coast of Guerrero state near Acapulco, which may be due for a major tremor. "There is a strong probability that, in the short or medium term, this area will experience a strong earthquake," said Vladimir Kostoglodov, a seismologist at UNAM's Instituto de Geofisica.

Oscar Fuentes Morales, a researcher at CENAPRED, also urged authorities to conduct evacuation drills in the lower-lying and most vulnerable areas. "We need to improve our response plan," said Fuentes. Some public officials have endorsed CENAPRED's proposal. "We do not want to cause alarm among the population, but we do want to better prepare ourselves for any contingency," said Colima Gov. Gustavo Vazquez Montes.

Several relief organizations noted that the Mexican government lacks the financial resources and an adequate plan to respond to a major disaster like a tsunami. "Mexico would be unable to respond to a natural disaster like the one that occurred in Asia," said Alejandro de Hoyos, director of the private organization Caritas Emergencia. (Sources: Frontera, 01/09/05; Associated Press, 01/10/05; Agencia de noticias Proceso, 01/11/05; El Financiero, 01/12/05, 01/13/05; The Herald-Mexico City, Reuters, 01/14/05; Notimex, 12/29/04, 01/11/05, 01/13-15/05; La Cronica de Hoy, 01/13-16/05; Agence France-Presse, 01/16/05)

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