
NH016-07 - New records of historical tsunamis obtained from Costa Rican newspapers



Wednesday, 9 December 2020



09:35 - 09:40

Abstract

Costa Rica has few records of historical tsunamis, due to traditionally low populated coasts and moderate tsunami potential, among other reasons. As part of the writing of the first tsunami catalog of Costa Rica, the authors performed an extensive search of reports that can be associated with tsunamis on newspapers from 1851 to 1992, at the Costa Rica National Library database (SINABI, 2020). The dates searched were related to 25 earthquakes originated in Costa Rica, Nicaragua and Panamá, from 1851 to 1992, with $M_w > 6.0$ or $MMI > VII$. Also, four remote tsunamis were considered: 1906 Colombia, 1952 Kamchatka, 1960 Chile and 1964 Alaska. For each event, we searched newspapers starting from the day after the earthquake until 15 days after. We found reports that refer certainly to tsunamis for the 1906 Colombia and 1941 Osa (5 December) earthquakes. For both tsunamis there were records from witnesses at other locations in Costa Rica, and the 1941 tsunamis (5 and 6 December) were the first recorded in tide gauges in Costa Rica. We also found entries on newspapers that might refer to tsunamis but cannot be confirmed, linked to 1916 Papagayo, 1916 Bocas del Toro and 1924 Tárcoles earthquakes. Bocas del Toro tsunami was registered in Panamá; the other two earthquakes were caused by subduction in the Middle America Trench and thus very likely caused tsunamis; although there are no records linked to them. These three events were classified as probable tsunamis for the catalog. For the 1905 Nicoya Gulf earthquake, we found a reference of coastal landslides that might be related to the tsunami experienced in Cocos Island. Here we geolocalize the entries found and discuss them in terms of what is known from the respective earthquake and tsunami. We could not find any information in the newspapers related to the tsunamis: 1950 Nicoya, 1952 Kamchatka, 1960 Chile, 1964 Alaska, 1983 Golfito, 1990 Cóbano, 1991 Valle de la Estrella and 1992 Nicaragua, despite they were recorded at tide gauges and/or observed by witnesses. This was particularly unexpected for the tsunamis of 1991 and 1992, as they were the largest recorded at Caribbean and Pacific coasts of Costa Rica, respectively. The reports of abnormal sea level changes in newspapers provided a valuable complement to the records from other sources, and for some events are the only record available.

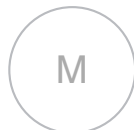
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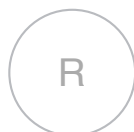
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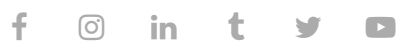
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