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Earthquakes, Tsunamis, and Urban Planning in Chile

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The earthquake that hit Chile in 2010 was the sixth strongest in recorded history. It left 525 dead, and 25 missing. Chile is relatively prepared for earthquakes, and experiences one above 8.0 on the Richter scale every 17 years; but Chile is relatively unprepared for tsunamis, despite experiencing a major one every 40 years (every part of the long coastline of Chile has been hit by a major tsunami in the past 200 years). Because of tsunami unpreparedness compared to earthquake preparedness, the 2010 earthquake resulted in 1 casualty for every 32,000 exposed to the quake, but the tsunami that followed led to 1 casualty for every 2,300 people exposed to the tsunami.

Strong earthquakes in populated areas have triggered government regulation regarding construction standards; the lag time between a major earthquake and adopting policy ranges from 1 to 13 years; the response to tsunamis, however, is slower and only recent. In 1997 the Chilean Navy started making tsunami flood maps, but they were not used in urban planning until after 2010 except in creating some evacuation routes. Part of the reason for the death toll from the 2010 tsunami was that after people had fled to the hills as a precaution following the earthquake, the government emergency agency announced over the radio that there was no tsunami, so people returned to the coast and were killed.

Chile is in the process of adopting ordinances for structural design for buildings in tsunami flood zones from Hawaii and FEMA. Rebuilding efforts have relied a lot on local business donors for local reconstruction. While some reconstruction plans have recommended re-locating residents from tsunami-prone coastal areas, the population is unwilling to be relocated, and there are property title problems with putting people on already owned land in higher elevations. In Chile there has been a discussion of mandatory disaster insurance for public buildings and low-income housing.