

Tsunami Event Information

Tsunami Event Information											
Year	Mo	Dy	Hr	Mn	Sec	Country	Tsunami Event Validity	Tsunami Cause Code	Location	Latitude	Longitude
2022	1	15	4	14	45	TONGA	4	6	TONGA ISLANDS	-20.536	-175.382

Tsunami Parameters					
Maximum Water Height (m)		Number of Runups		Number of Deposits	
22		658			

Tsunami Effects											
Deaths	Death Description	Missing	Missing Description	Injuries	Injuries Description	Damage (\$Mil)	Damage Description	Houses Destroyed	Houses Destroyed Description	Houses Damaged	Houses Damaged Description
6	1			20	1		4	284	3	182	3

Total Effects (Earthquake and Tsunami, Volcano, etc.)											
Total Deaths	Total Death Description	Total Missing	Total Missing Description	Total Injuries	Total Injuries Description	Total Damage (\$Mil)	Total Damage Description	Total Houses Destroyed	Total Houses Destroyed Description	Total Houses Damaged	Total Houses Damaged Description
6	1			20	1	107.768	4	284	3	182	3

Comments

DeathsInjuriesTsunami Damages (\$ m)

Tonga	4	14	Yes
New Zealand			3.973
Fiji			Yes
Peru	2		Yes
Japan		3	Yes
Chile			Yes
Mexico			Yes (very minor)
U.S. (CA)	3		10
U.S. (Hawaii)			3.32 Oahu
			0.075 Hawaii Is

Ref #13107:

Two fatalities occurred in Peru while in Japan national authorities reported several evacuations and two injured people.

Ref #13144:

a spill of over 10,000 barrels has caused widespread environmental damage. The spill took place on the Pacific Ocean just off the coast of Lima on Jan. 15, which the company has blamed on unusual waves triggered by a volcanic eruption thousands of miles away in Tonga.

Ref #13108, 13122, 13149:

[...] all houses were destroyed on Mango island; only 2 houses remain on Fonoifua island with extensive damage on Nomuka island. [...] Parts of the western side of Tongatapu including Kanokupolu (21 houses were completely damaged and 35 severely damaged) has also been evacuated to the evacuation centers [...] In the central district, Kolomotu'a reported 8 houses completely damaged and 20 severely damaged. The island of 'Eua has also reported 2 houses completely damaged and 45 severely damaged [...] There were 8 reported injuries on Nomuka Island, 4 minor injuries on Fonoï Island and 2 minor injuries on Tungua Island.

The loss in the agricultural sector is estimated at US\$ 17 million, according to the Ministry of Agriculture, Food and Forests. These comprehensive satellite-derived analysis covered 98 per cent of the landmass (366km2 of 372km2), identifying 2,935 buildings/structures with visible damages and 463 road/bridge obstacles. Only **four people have been confirmed dead and 14 people injured**. The Government reports that an estimated **84,800 people (84 per cent of the total population of 101,000 people) have been affected by the ashfall and the tsunami rising up to 15 m**. Initial assessment data indicate that at least 293 houses have been damaged or destroyed, the majority in the main island Tongatapu (174 houses).

Ref #13133:

The Prime Minister said the **number of people who died from the tsunami triggered by the Hungas volcanic eruption was now four**. He did not give any details of the fourth deceased. As we reported recently, a 65-year-old man, Telai Tutu'ila of Mango Island, was killed by the powerful waves. The other two were a British national Angela Glover as well as a 49-year-old woman from Nomuka Island.

Ref #13167:

\$90.4 million estimated in direct damage [from tsunami and eruption] to Tonga. Around 600 structures in total, including at least 300 residential buildings, have been damaged or destroyed by the tsunami waves in Tonga (around half of these in Tongatapu Island, followed by 'Eua, Fonoifua, Lifuka Mango and Tafisi islands)

Ref #13230: 5.93 m NZ dollars in costs in NZ (accessed 10 May 2022)

Ref #13247:

tsunami was driven by a constantly moving source in which the acoustic-gravity waves radiating from the eruption excite the ocean and transfer energy into it via resonance

Ref #13344:

there was a small tsunami source before the main eruption [...] it is plausible that the tsunami was generated by an earlier minor eruption and/or a submarine mass movement occurring between 04:00 and 04:05 UTC

Note: time based on Ref #1053 main eruption

References for the Tsunami Event

Id	Author	Year	Citation
13397	Borrero, J.C., Cronin, S., Latu'ila, F.H., Tukuafu, P., Heni, N., Tupou, A.M., Kula, T., Fa'anunu, O., Vaimounga, R., Kong, L.	2022	Field Survey of Runup and Inundation in Tonga following the Hunga Ha'apai Volcano. SPC Technical Report
13394	Borrero, J.C., Cronin, S.J., Latu'ila, F. H., Tukuafu, P. Heni, N., Tupou, A. M., Kula, T., Fa'anunu, O., Bosserelle, C., Lane, E., Lynett, P., Kong, L.	2022	Tsunami Runup and Inundation in Tonga following the Hunga Ha'apai Volcano. Applied Geophysics. (In Press)
13107	Emergency Response Coordination Centre (ERCC)	2022	ECHO Daily Flash, Tonga and Pacific Ocean: Link
13108	Government of Tonga, The Prime Minister's Office	2022	First Official Update Following the Volcanic Eruption
13122	Government of Tonga, The Prime Minister's Office	2022	Second Official Update Following the Volcanic Eruption