

EGU22 - NH5.1 - Tsunamis: from source processes to coastal hazard and warning

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The Role of Communication and Public Education in Tsunami Early Warnings and Responses in New Zealand

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Project Overview

- People respond in different ways to official and natural tsunami warnings
- Comparison of the different methods used to communicate tsunami early warnings
- Underlying issues involved in using technology to communicate tsunami warnings to the public

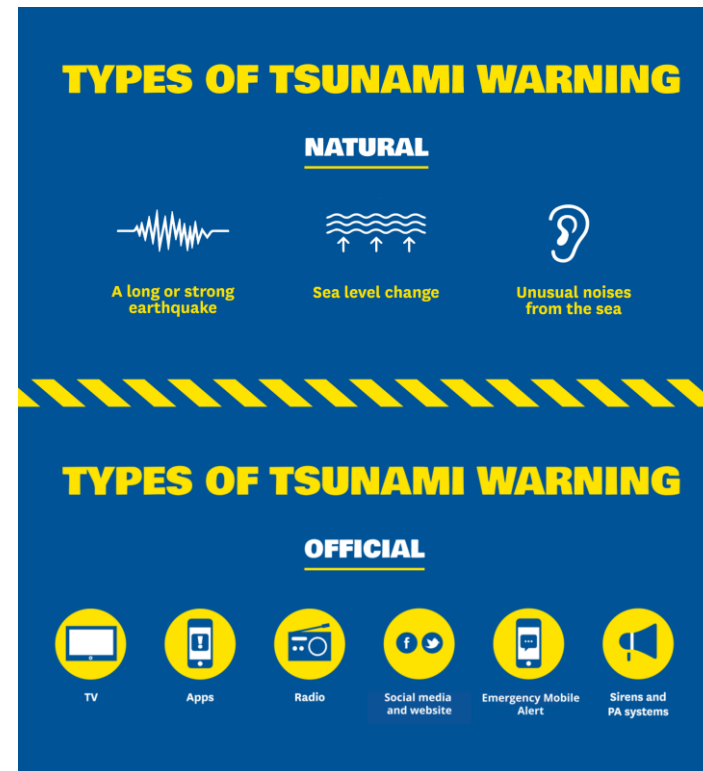


Figure 1. Types of tsunami warning (NEMA, 2022)

Study Area

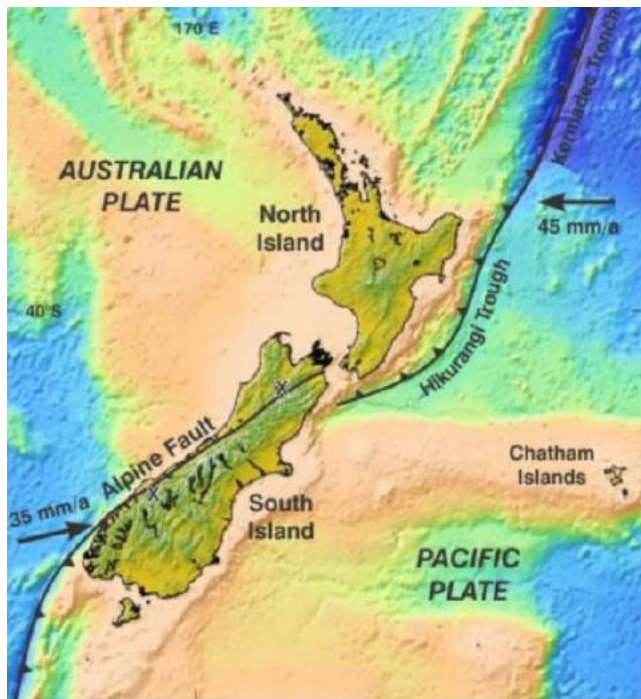


Figure 2. Regional tectonics of New Zealand (Nathan, 2011)

- New Zealand is vulnerable to locally, regionally, and distally generated tsunamis
- Waves can arrive within minutes to over 12 hours
- Can issue official warnings for distal events but rely on natural warning signs for local events

Social Research Methods

- 106 documents and archives collected

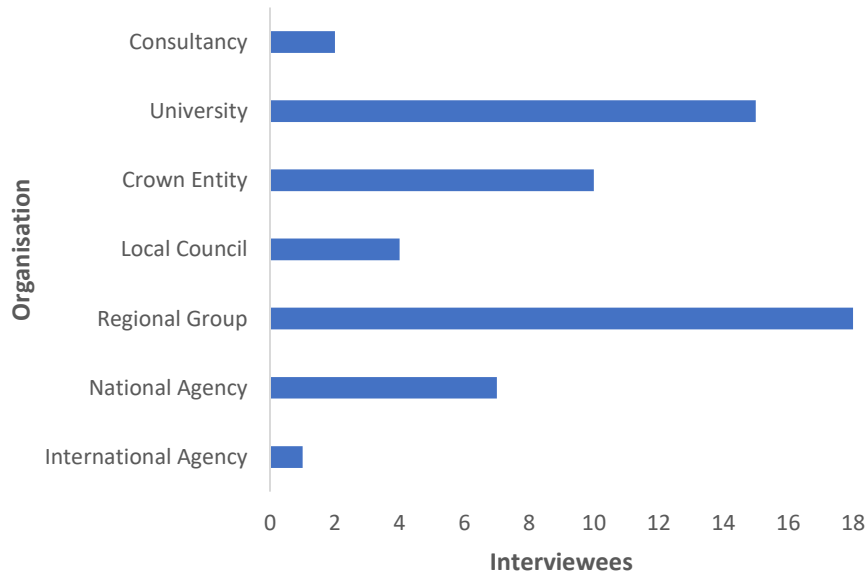


Figure 3. Organisation of interviewees

- 57 semi-structured interviews carried out

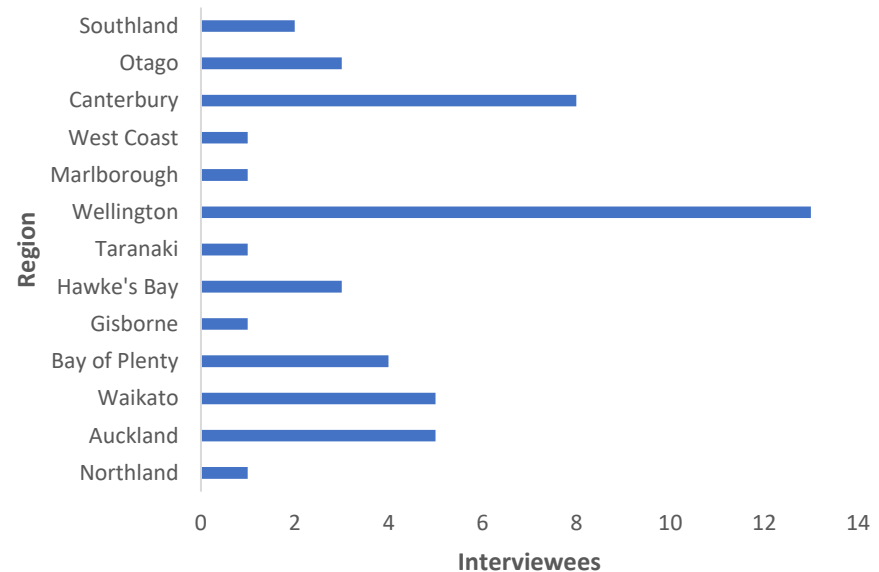


Figure 4. Location of New Zealand interviewees

Technologies for Communicating Official Tsunami Warnings

- Sirens
- Emergency Mobile Alerts (EMAs)
- Television
- Radio
- Mobile phone apps
- Websites
- Social media
- Multi-channel approaches



Figure 5. Tsunami sirens in Christchurch (Christchurch City Council, 2021)



Figure 6. EMA nationwide test (Taranaki CDEM Group, 2021)

Issues with Reliance on Technological Tsunami Warnings



Figure 7. ‘Long or Strong, Get Gone’ campaign (Get Ready, 2021)

- Not suitable for remote and isolated areas where non-technological methods are used
- Tsunami early warning methods should be decided on at the local level
- ‘Long or Strong, Get Gone’ public education campaign for self-evacuation
- Reliance on technological warnings may negatively impact self-evacuations

Summary

- Underlying issues include the reliance on technologically communicated official warnings instead of observing and responding to natural warning signs for local tsunami events
- Addressing these issues would help to develop tsunami resilience in New Zealand

References

Christchurch City Council (2021) *Tsunami Warning System May Be Extended*. Available at: <https://newsline.ccc.govt.nz/news/story/tsunami-warning-system-may-be-extended> (Accessed: 6 September 2021).

Get Ready (2021) *Emergency: Tsunami*. Available at: <https://getready.govt.nz/emergency/tsunami/> (Accessed: 31 August 2021).

Nathan, S. (2011) 'Harold Wellman and the Alpine Fault of New Zealand', *Episodes*, 34(1), pp. 51–56. doi: 10.18814/epiiugs/2011/v34i1/008.

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Taranaki CDEM Group (2021) *Emergency Mobile Alerts*. Available at: <https://cdemtaranaki.govt.nz/stay-updated/emergency-updates/emergency-mobile-alerts/> (Accessed: 6 September 2021).



Thank you for listening.

Any questions?

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