

Legal Preparedness



Legal preparedness requires States to consider and address their legal frameworks as part of disaster preparedness. The International Federation of Red Cross and Red Crescent Societies (IFRC) defines legal preparedness as:¹

... the state of being legally prepared, meaning having in place well-designed, well-understood and well-implemented laws, regulations, procedures and plans relating to disasters and emergencies.

This includes ensuring that the legal framework including:

- **legislation;**
- **policies;**
- **plans;** and
- **other (quasi)legal instruments**

have addressed the necessary aspects of **disaster risk management** to prepare for, respond to and recover from a disaster.

This encompasses having **powers** available to **implement** the plans, including providing for the **necessary resources** and allocating **key roles and responsibilities**. The legal framework will need to introduce a **legal requirement** to have these **plans** and **policies**, address **who** will carry them out, and ensure that they are suitably equipped. Although plans may be drafted and put in place, **if** the legal framework **does not provide** the **power to implement** these **plans**, then **problems** will arise.

Taking a legal preparedness approach is particularly important for **Aotearoa New Zealand**, as we are a **disaster-prone nation** which faces tsunamis, earthquakes and volcanic eruptions, in addition to extreme weather events, see Figure 2, below.

The Auckland Volcanic Field

Aotearoa New Zealand is home to a number of volcanoes encompassing **volcanic fields**, **cone volcanoes** and **calderas**.² These include the Auckland Volcanic Field, Mt Taranaki, Ruapehu, Ngāauruhoe and Whakaari/White Island.³

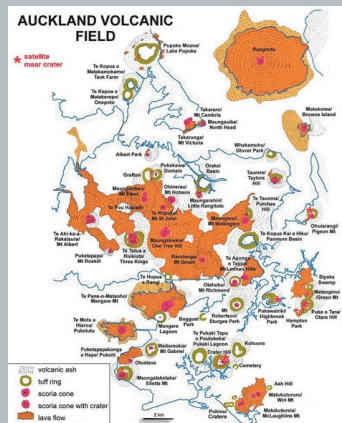


Figure 1 Volcanoes of South Auckland: A Field Guide⁴

The Auckland Volcanic Field is a collection of **53 individual volcanic centres spread across Auckland**.⁵ This field is described as **monogenetic**, which means that each volcanic centre erupts only once. Consequently, it is **unknown** where the next Auckland Volcanic Field eruption will occur, however, as the field is still active it is a question of when not if.

This means that there are a number of **uncertainties** around a future eruption including: where it will happen, when it will occur, the size of the eruption, and the number of people impacted (both through the initial evacuation and from long-term impacts). It is also relatively unusual to have a **major city** built upon an active volcanic field, and the large population **exposed to this hazard** creates an extra layer of **complexity**.



Photo credit: <https://businessviewoceania.com/new-zealand-tourism-and-hospitality/>

Are We Ready for Volcano Day?

When looking to **future large-scale disasters** that Aotearoa New Zealand needs to prepare for, an eruption of the Auckland Volcanic Field provides an illustrative example.

The **impact** of an **eruption** in the Auckland Volcanic Field is likely to be **significant** due to the importance of Auckland as a city. Auckland is a city of over **1.6 million people**, located in the North Island of Aotearoa New Zealand.⁶ This represents around **one third of the total population** of Aotearoa New Zealand.⁷ Furthermore, Auckland is a **critical hub for business, infrastructure and transport**. For example, **Auckland International Airport** is the largest international airport in New Zealand and manages 75 per cent of international passenger arrival. Additionally, **billions of dollars'** worth of imports and exports pass through **Waitematā Harbour**.⁸

The likelihood of an Auckland Volcanic Field eruption in the next **50 years** has been identified as **5 per cent**, and the **potential economic cost** of this event has been estimated at over **NZD 10 billion**.⁹ Therefore, a future Auckland eruption has been identified as a **low likelihood, high impact event**, with the impacts being identified as **major-to-catastrophic**.¹⁰

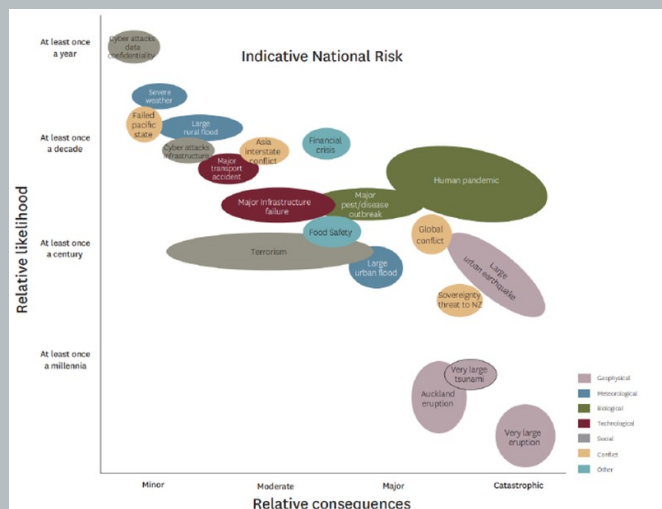


Figure 2 Indicative National Risk for Aotearoa New Zealand¹⁰

Ready or Not? Legal Preparedness for an Auckland Volcanic Field Eruption

Dr Holly Faulkner

Fail to Prepare, Prepare to Fail

The impacts of an Auckland Volcanic Field eruption are likely to be significant and may include:¹¹



Under New Zealand's decentralised disaster risk management system, the responsibility for planning for, responding to and recovering from disasters falls to regional government. For the Auckland Volcanic Field, this responsibility falls to Auckland Council (Te Kaunihera o Tāmaki Makaurau) and their Emergency Management team.¹² National-level government will step in once the event is deemed to be beyond the capacity of regional government. This was seen previously in relation to the Canterbury earthquake sequence 2010–2011 and Cyclone Gabrielle 2023, where a National State of Emergency was declared.

There are a range of different issues that can arise before, during and after a volcanic eruption. These issues include (but are not confined to):

- Evacuation
- Emergency shelter/housing
 - Relocation
- Long-term resettlement
 - Restoration/rebuild
- Complex land management issues, including:
 - o How to assess damaged properties
 - o Who pays for the damage to be fixed/buy-out offers if the property is unsafe for occupancy?
 - Disaster waste; and
 - Cordons.

This non-exhaustive list shows that there are a range of complex issues that will arise when managing a volcanic eruption. In Auckland, this situation will be more complex due to its large population and complex geographical location.

References

- ¹ International Federation of Red Cross and Red Crescent Societies Disaster Law Guidance on Law and Public Health Emergency Preparedness and Response (2022) 6.
- ² GNS Science Te Pū Ao 'Volcano Types' <<https://www.gns.cri.nz/our-science/natural-hazards-and-risks/volcanoes/volcano-types/>>.
- ³ Bruce W Hayward Volcanoes of Auckland: A Field Guide (Auckland University Press, 2019).
- ⁴ Hayward, above n 3.
- ⁵ Hayward, Auckland Council, 'Te Taupori o Tāmaki Makaurau: Auckland's Population' Auckland Plan 2050 (2023) <<https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/auckland-plan/about-the-auckland-plan/Pages/aucklands-population.aspx>>
- ⁶ Auckland Council, above n 5.
- ⁷ Hayward, above n 3.
- ⁸ The body of water upon which Auckland sits; see Jeff Wallenfelt, 'Waitematā Harbour', Britannica (Web page) <<https://www.britannica.com/place/Waitemata-Harbour>>; and Hayes and others 'Developing a Suite of Multi-Hazard Volcanic Eruption Scenarios Using an Interdisciplinary Approach' (2020) 392 Journal of Volcanology and Geothermal Research 106763.
- ⁹ Gerard Willis Managing Natural Hazard Risk in New Zealand – towards More Resilient Communities (Local Government New Zealand and Regional Councils, October 2014).
- ¹⁰ Willis, above n 9.
- ¹¹ NI Deligne and others 'Economics of Resilient Infrastructure Auckland Volcanic Field Scenario' (2015) 03 ERI Research Report; Daniel M Blake and others 'Investigating the Consequences of Urban Volcanism Using a Scenario Approach II: Insights into Transportation Network Damage and Functionality' (2017) 340 Journal of Volcanology and Geothermal Research 92; and Natalia I Deligne and others 'Investigating the Consequences of Urban Volcanism Using a Scenario Approach I: Development and Application of a Hypothetical Eruption in the Auckland Volcanic Field, New Zealand' (2017) 336 Journal of Volcanology and Geothermal Research 192.
- ¹² Te Kaunihera o Tāmaki Makaurau | Auckland Council <<https://new.aucklandcouncil.govt.nz/en.html>>; and Auckland Emergency Management <<https://www.aucklandemergencymanagement.govt.nz>>.

Acknowledgments

Dr Faulkner Publications:

- Holly Alexandra Faulkner "Ready or not? Legal preparedness for an Auckland Volcanic Field eruption" (PhD thesis, University of Canterbury, 2024) .
- Holly Faulkner "From Black Swans to Legal Black Elephants: Analysis of Aotearoa New Zealand's Disaster Preparedness Frameworks" (2026) Yearbook of International Law 246.

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RESILIENCE
TO NATURE'S
CHALLENGES

Kia manawaroa
– Ngā Ākina o
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