



Ministry for Primary Industries

Manatū Ahu Matua

New Zealand earthquake and cyclone hazards

Gina Kemp – Ministry for Primary Industries

Theme: Not if, but when: preparing for your next animal emergency incident

Mihimihi/ introduction

E ngā mana, e ngā reo, e ngā karanga maha o te wā.

Tihei mauri ora!

I whānau mai ahau ki York, ki Ingarangi

I taku pākeke tekau ma tahi, i hūnuku mātou ko tōku whānau ki Aotearoa

Ko Remutaka ngā pae maunga

Ko Waingawa te awa

Ko Pakeha te iwi

Nō reira, ko Ingarangi, ko Tāmaki makaurau, ko Te Whanganui-ā-Tara ōku kāinga

Kei Manatū Ahu Matua au e mahi ana

Ko Gina tōku ingoa

tēnā koutou, tēnā koutou, tēnā koutou katoa

To all authorities, all voices, to the many chiefs gathered here.

Behold the breath of life!

I was born in York, England

When I was 11, my family and I shifted to NZ.

My mountain is Remutaka

My river is Wangiawa

My tribe is Pakeha

I am from England, Auckland, Wellington is where I call home

I work at the Ministry for Primary Industries

My name is Gina

Greetings, greetings, greetings to you all

A man wearing glasses and a green jacket is sitting on a grey mat inside a wire kennel. He is holding a brown and black speckled dog. The kennel contains a blue plastic tub, a green mat, and a patterned blanket. In the background, there is a desk with a chair and a potted plant.

MPI's role in emergencies

Animal Welfare Sub-function

MPI is responsible for

- Co-ordinating the provision of the animal welfare services sub-function
- Incl. animal rescue, animal shelter, food, water, husbandry, veterinary care & other essentials
- **All animals** incl. companion, production, research/testing/teaching, zoos, circuses, & wildlife
- Co-ordinating the planning for animal welfare in emergencies
- Maintaining the Government's reporting & advisory capability.



ANIMAL EVAC.NZ
KARAREHE WHAKAWATEA
Evacuate | Shelter | Reunite



**Companion
Animals NZ**

MANUKURA
Iwi/Māori



**VET EMERGENCY
RESPONSE TEAM**
**MASSEY
UNIVERSITY**



NZVA
New Zealand Veterinary Association



nziam 
NZ Institute of Animal Management

An aerial photograph showing a village with several buildings that appear to be in various states of destruction or significant damage. Debris is scattered around the structures, and the overall scene suggests the aftermath of a natural disaster. The image is overlaid with a semi-transparent green filter.

Cyclone Gabrielle

Event and actions summary

- Cyclone Gabrielle caused widespread impacts across the upper and eastern North Island
- It caused substantial damage to roading, utilities, infrastructure, animal feed, horticulture and agriculture.
- It also resulted in the loss of life for both people and animals.
- The MPI AWEM team began their response to Cyclone Gabrielle several days prior
- The team has provided 24/7 support since, responding to 1000's of animal welfare calls in conjunction with CDEM and support agencies
- Actions included:
 - Operation Reach
 - Operation Muster
 - Distribution of donated food
 - Technical animal rescue
 - Veterinary advice
 - Animal welfare support at community hubs
 - Establishing Temporary emergency animal shelters

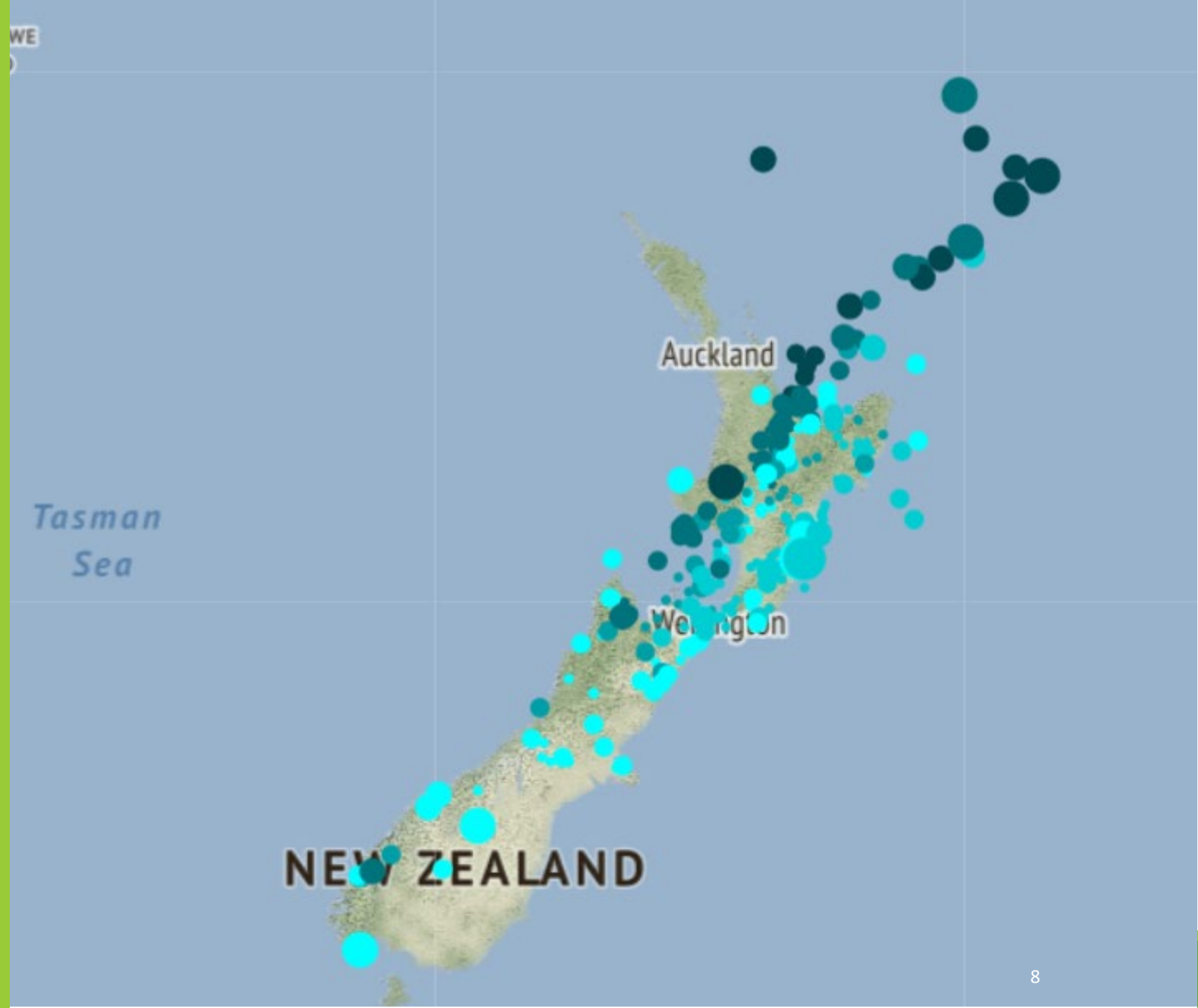


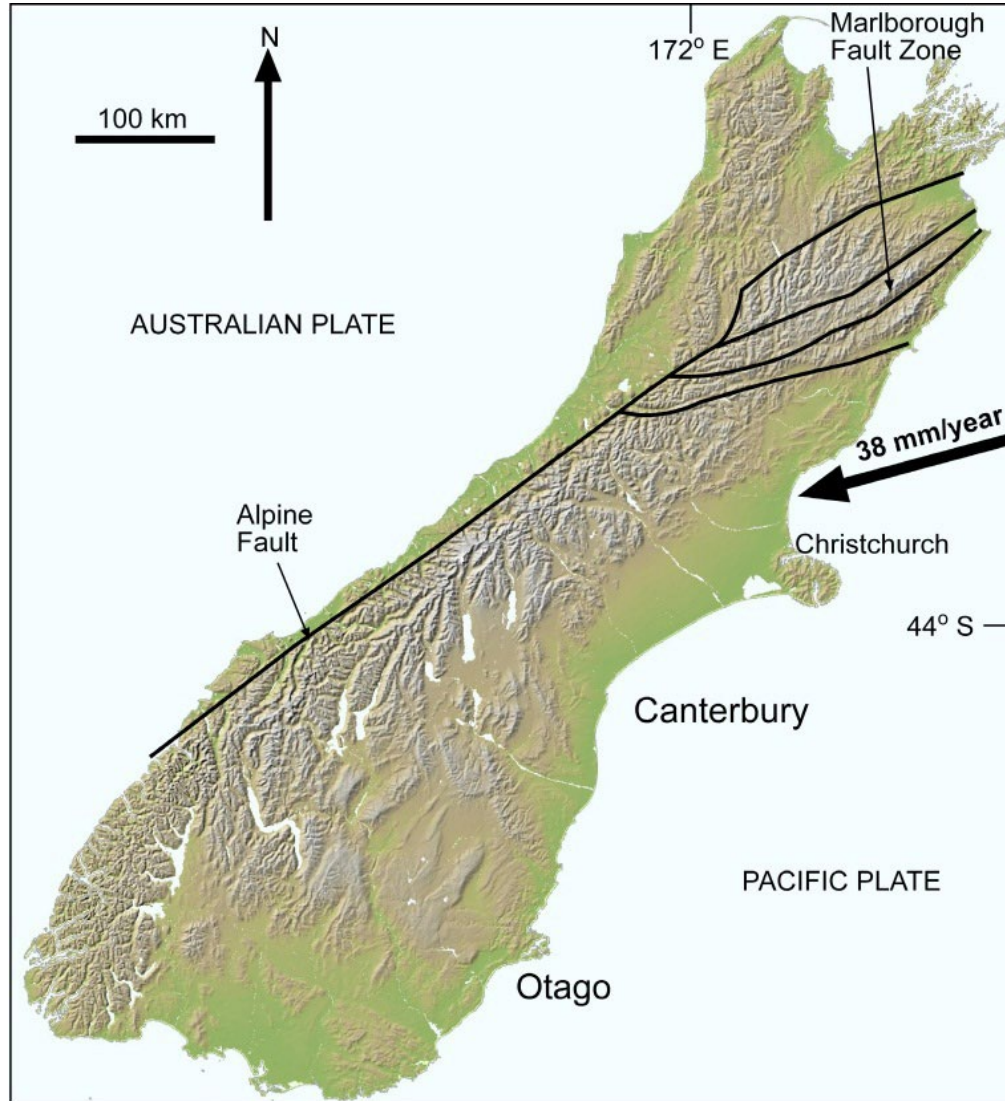
NZ Earthquake hazards

How common are Earthquakes?

This map shows 719 earthquakes
across NZ.

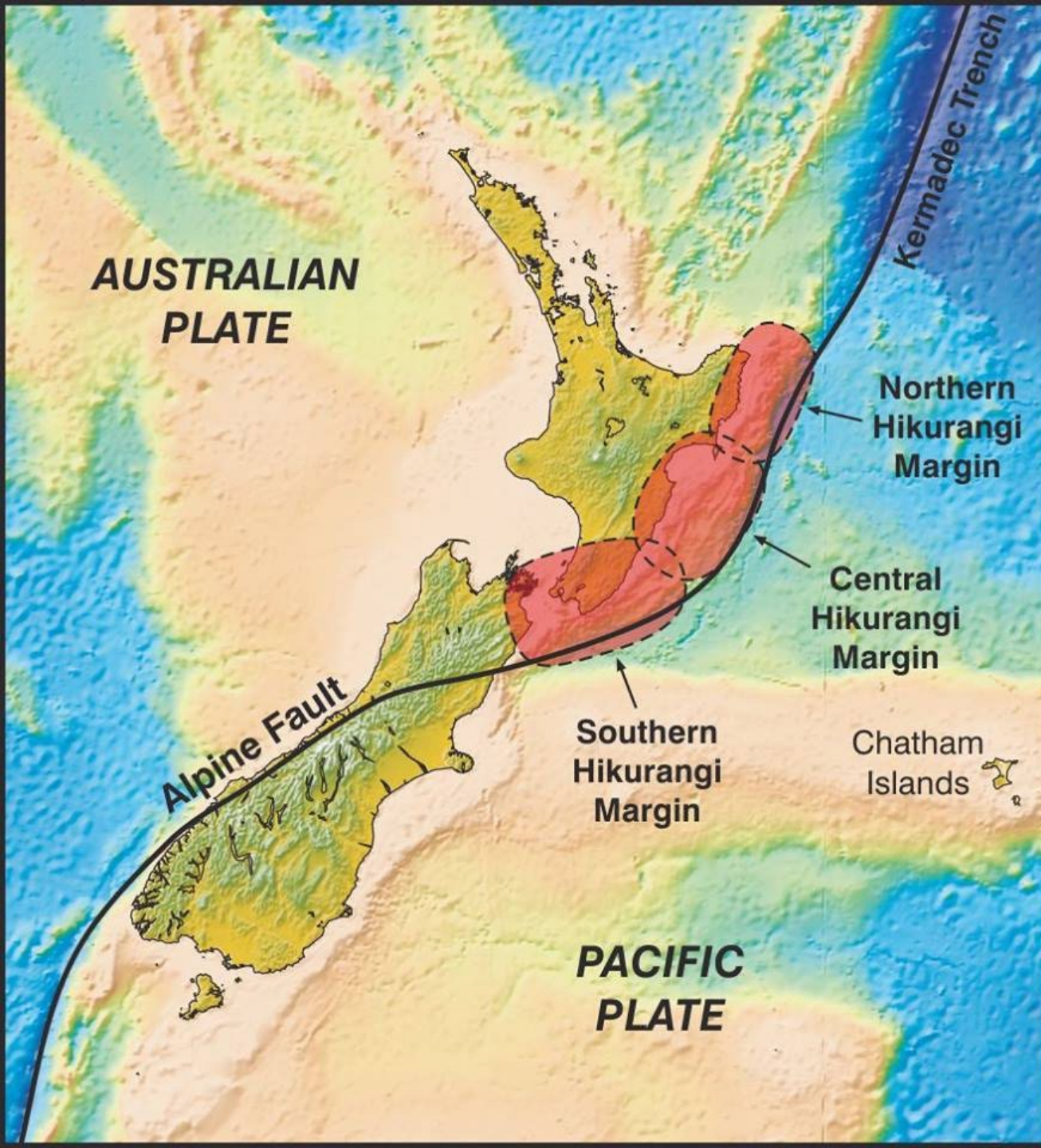
Over what time period do you
think this was?





The Alpine fault – What is it?

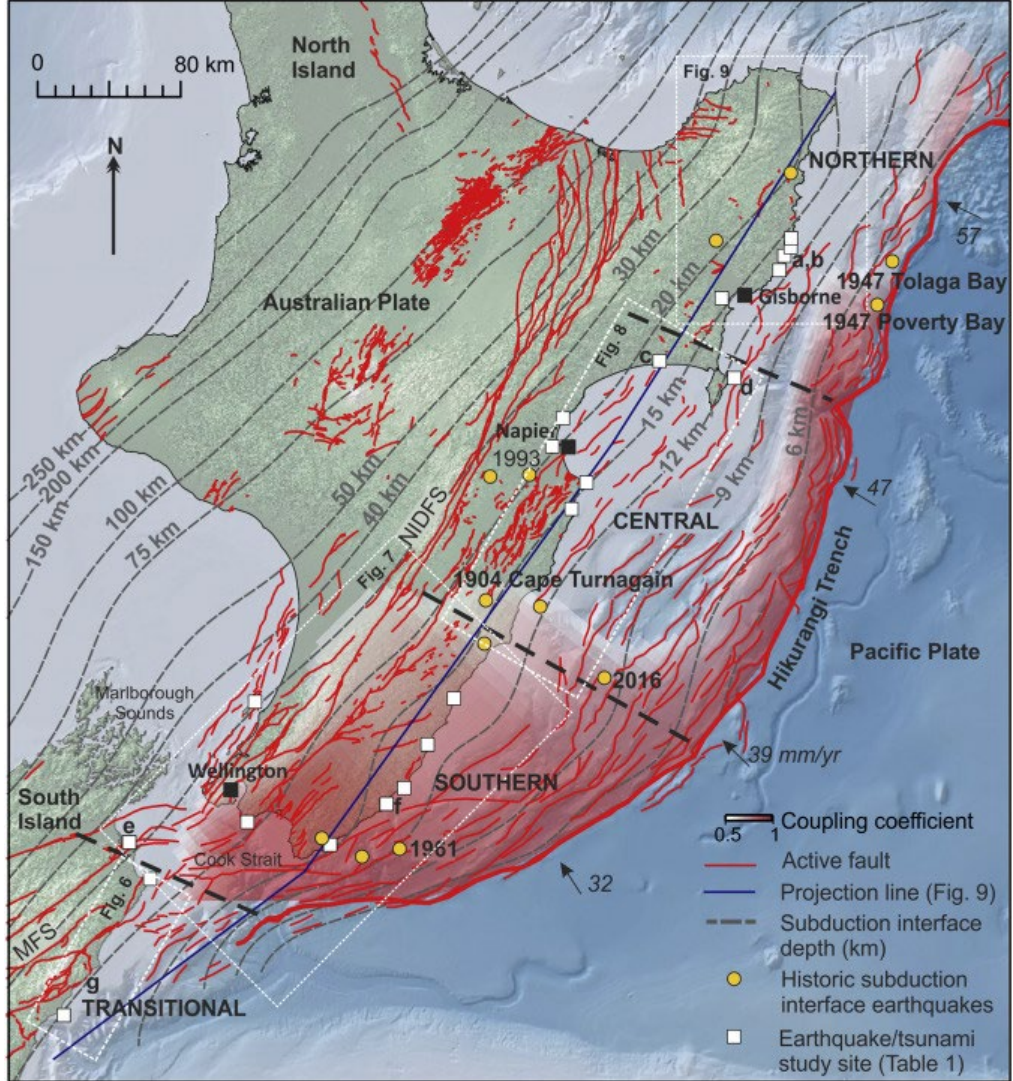
- An 800km fault line running through the South Island where the Australian plate and Pacific plates meet
- This fault has ruptured four times in the past 900 years with each earthquake reaching magnitude 8 or above
- The fault ruptures with unusual regularity, around every 250 – 300 years
- The last major quake was in 1717
- The energy released would be 700 times that of the 2011 Christchurch earthquake
- **There is a 75% probability of a major rupture along the central section in the next 50 years**



Hikurangi Subduction Zone

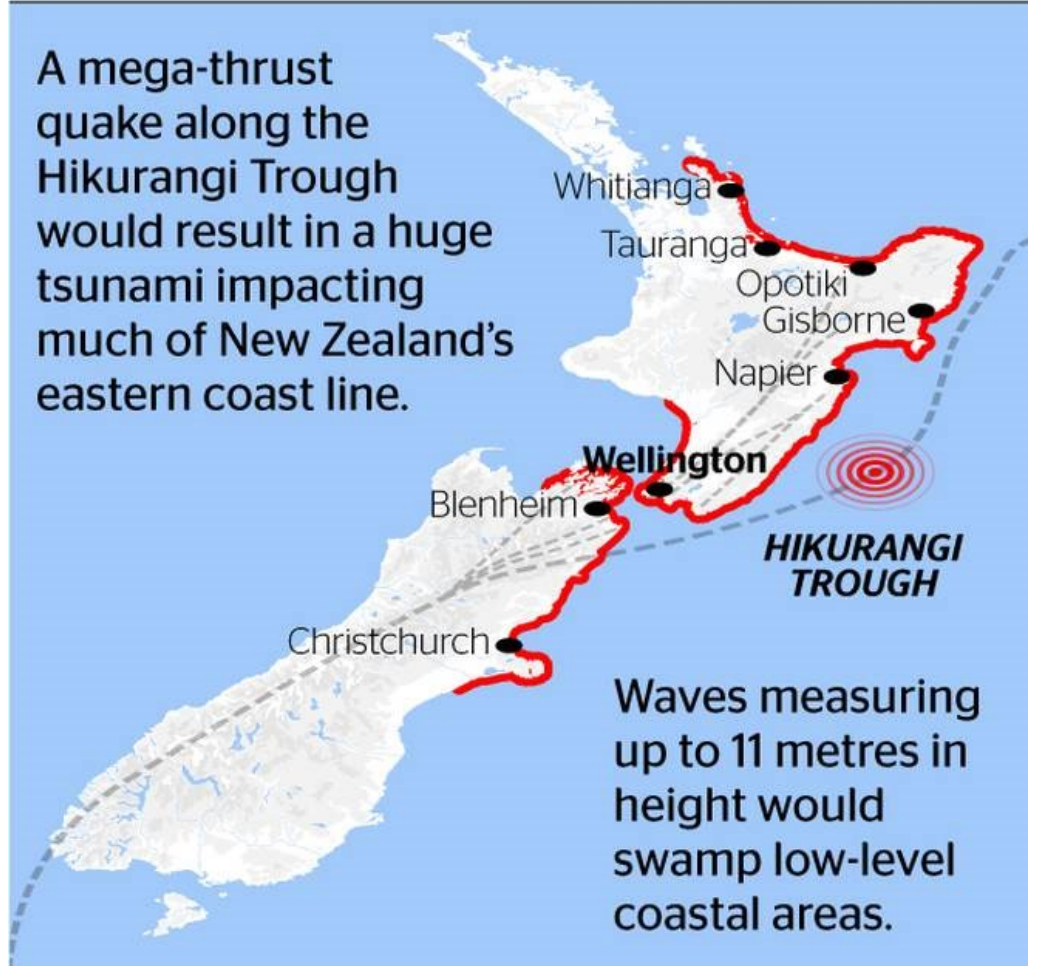
The HSZ sits on the same plate boundary, off the east coast of the North Island

- Subduction zones are a type of fault and are responsible for the largest and most powerful earthquakes and tsunamis in the world, such as Japan 2011.
- The Hikurangi subduction zone is potentially the largest source of earthquake and tsunami hazard in New Zealand
- We are still learning when this might happen, but current estimates are around 26% probability in the next 50 years.
- An event here will likely cause even greater destruction than the alpine fault



Tsunami threat

A mega-thrust quake along the Hikurangi Trough would result in a huge tsunami impacting much of New Zealand's eastern coast line.

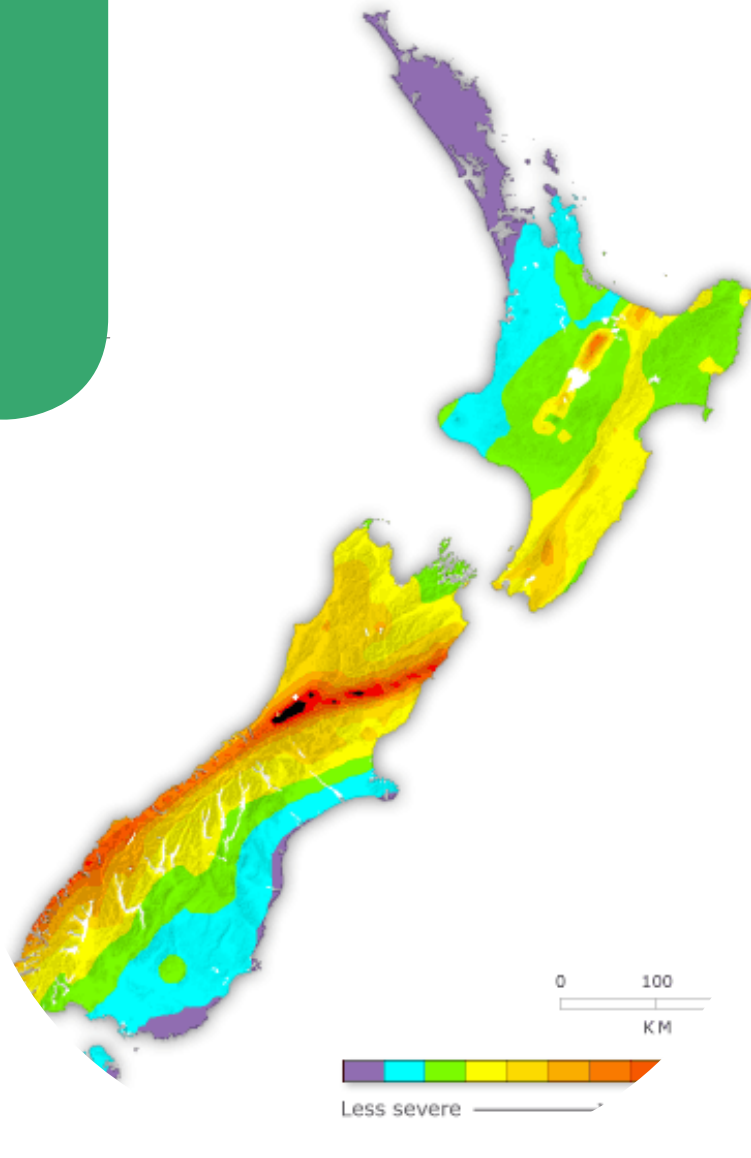


Waves measuring up to 11 metres in height would swamp low-level coastal areas.

An aerial photograph of a residential neighborhood, showing a grid of streets and numerous houses. The image is overlaid with a semi-transparent dark green filter. The text 'Likely impacts' is centered in the lower half of the image, underlined.

Likely impacts

Catastrophic earthquake impacts



- Some communities will remain isolated and without communications, power, water or sewerage for weeks or months
- Buildings will be damaged and collapse
- Damage to hydroelectric plants may cause electricity shortages across the country
- Changes to rivers and increased sediment will result in flooding
- Severe aftershocks up to magnitude 7 will continue for months if not years
- Liquefaction will render areas unusable and 'red zoned'
- Roothing, particularly those that cross the fault line may never be re-established



Animals

- Loss of farming infrastructure and machinery
- Inability for animal owners to shift stock, access veterinary care and supplies
- Increased risk of disease and injury
- Severe disruption to the supply chain and movement of stock across NZ
- Significant loss of animal life
- Loss of wild animal habitats and food sources
- Inability to perform time conscious husbandry procedures
- **These were seen in Cyclone Gabrielle**



An aerial photograph of a city, showing a grid of streets and buildings, with a semi-transparent green overlay. The text is centered in white. A solid green horizontal bar is at the bottom of the image.

Not if, but when – how
can we prepare?

Resilience - The ability to anticipate and resist the effects of a disruptive event, minimise adverse impacts, respond effectively post-event, maintain or recover functionality, and adapt in a way that allows for learning and thriving.

- We know people and their animals may be isolated for weeks or even months.
- Resilience needs to be supported at a personal and community level





Ways to improve resilience across animal owners and communities

- Plan, plan, plan! Household, business and community plans so everyone knows what to do when an emergency happens
 - Where can you evacuate your animals to?
 - How will you evacuate your animals or shelter them in place?
 - Who will look after them if you are away when it happens?
 - Who can perform euthanasia?
 - Who and where can assist with time conscious husbandry (shearing, drenching, milking, drying off, lambing and calving)
 - What's the plan for unowned animals?
 - Who needs extra support? Who HAS extra support?
- Informing communities of the hazards, and the risk they will have to self sustain for some time – no white knight on a helicopter.
- Emergency supplies – Animal feed, water, medicines, ability to transport
 - Water becomes an almost immediate problem.
- **Resilience needs to be supported at a personal and community level – we are stronger together**

National Animal Welfare Emergency Management Strategic Plan

Working together to protect animals in emergencies



Our Vision

New Zealand is a resilient nation that protects animals in emergencies

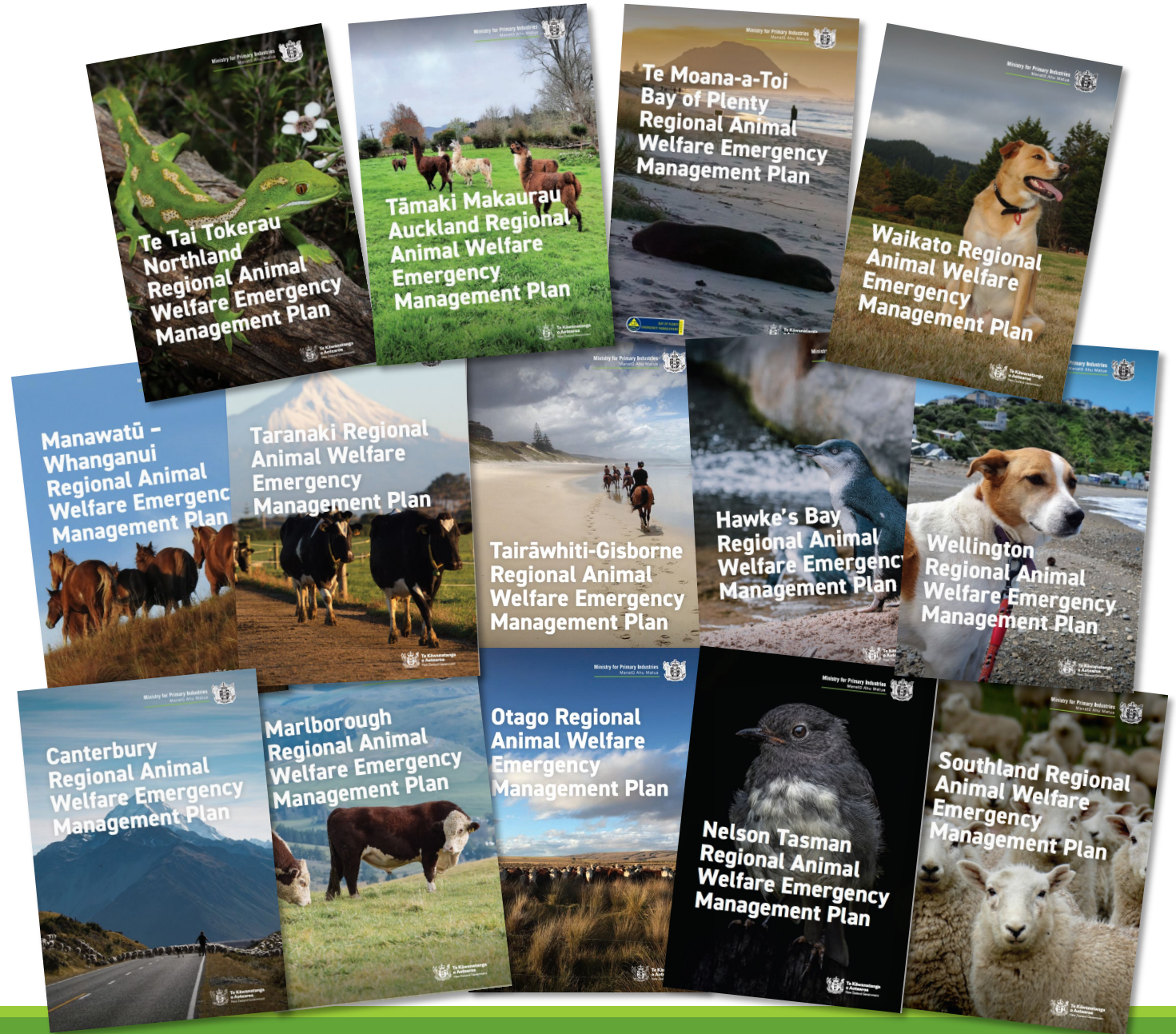
Our Mission

To preserve and protect animals in emergencies, by enabling, empowering, and supporting individuals, organisations, and communities





Hawke's Bay Regional Animal Welfare Emergency Management Plan



“Sometimes it does us a power of good to remind ourselves that we live ... where two tectonic plates meet, in a somewhat lonely stretch of windswept ocean just above the roaring forties. If you want drama – you’ve come to the right place.”

- Sir Geoffrey Palmer



ADD A FOOTER



Thank you
