

Proactive Release

The following document has been proactively released by the Department of the Prime Minister and Cabinet (DPMC), and National Emergency Management Agency (NEMA), on behalf of Hon Mark Mitchell, Minister for Emergency Management and Recovery:

Briefing to the Incoming Minister for Emergency Management and Recovery (NEMA)

The following document has been included in this release:

***Title of paper:** Briefing to the Incoming Minister for Emergency Management and Recovery*

Some parts of this information release would not be appropriate to release and, if requested, would be withheld under the Official Information Act 1982 (the Act). Where this is the case, the relevant section of the Act that would apply has been identified. Where information has been withheld, no public interest has been identified that would outweigh the reasons for withholding it.

Key to redaction code:

- *section 9(2)(f)(iv), to maintain the confidentiality of advice tendered by or to Ministers and officials*

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**National Emergency
Management Agency**
Te Rākau Whakamarumarū

Briefing to the Incoming Minister for Emergency Management and Recovery

Date 27/11/2023

Priority: Routine

Security classification: ~~In Confidence~~

Proactively Released

Welcome

Congratulations on your appointment and welcome to your role as Minister for Emergency Management and Recovery. The National Emergency Management Agency (NEMA) is committed to working with you to deliver on the Government's priorities for emergency management.

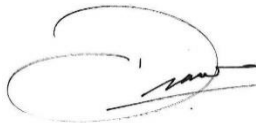
The emergency management portfolio touches all parts of society, including individuals, community groups, iwi Māori, business, and local government.

New Zealand faces a range of hazard risks. Many of the risks we face now, and in the future, can be readily identified. Severe weather events, exacerbated by climate change, are the new normal. Our latest science tells us a catastrophic event such as an Alpine Fault earthquake or Hikurangi subduction zone earthquake and tsunami will very likely happen - if not in our lifetimes, then in those of our children. It could happen tomorrow.

There is growing pressure and demand on the emergency management system's ability to respond to, and recover from, emergencies, especially as the scale and frequency of emergency events increases.

Only a shared approach between central and local government, the wider public, and support from our international partners will help us deal with these events - a collective approach to a collective problem.

We are here to support you to deliver your priorities for the emergency management and recovery portfolio and the emergency management system.



Dave Gawn
Chief Executive, National Emergency Management Agency

Your role during emergencies

As the Minister for Emergency Management and Recovery, you will often be the Government's spokesperson in emergencies, especially those requiring government assistance or involvement in the response or recovery. This will mean working closely with mayors and regional council chairs.

For more significant emergencies you can declare a state of national emergency. This may be needed when the resources required to manage a response are beyond what can be provided by Civil Defence Emergency Management (CDEM) Groups¹ and local authorities, or otherwise require a significant and coordinated response. You also have the ability to give notice of a transition period, which gives certain powers to assist Recovery Managers leading the recovery from an emergency.

During our first meeting with you we would like to run through what you may expect if you need to declare a state of national emergency.

During and following an emergency you are likely to lead engagement with Cabinet on how the Government can best respond to requests to assist the response to, and recovery from, an emergency. This may include recommending specific financial assistance or additional support from a range of Ministerial portfolios.

As the Minister for Emergency Management and Recovery you have the primary responsibility for leading the government response to, and recovery from, meteorological and geological related emergencies. These can include floods, tornados, severe winds, snowstorms, earthquakes, volcanic eruptions and landslides. You are also the lead Minister for infrastructure failure related emergencies for example a transmission grid failure leading to a significant power outage.

Other Ministers lead emergency responses related to other hazards (for example, rural droughts, wildfires, terrorism, cyber security). For these events you will have a role in supporting other lead Ministers in the response to and recovery from an emergency event.

Emergencies requiring an all-of-government response

The Chief Executive of the Department of the Prime Minister and Cabinet may activate the ODESC (Officials' Committee for Domestic and External Security Coordination) system for nationally significant issues requiring an all-of-government response.

ODESC is a meeting of relevant chief executives. This provides a coordinated government response to the emerging risk or crisis, and provides advice, through the ODESC Chair, to the Prime Minister who is the lead decision maker in the ODESC system. NEMA will continue to keep you, as Minister for Emergency Management and Recovery, updated.

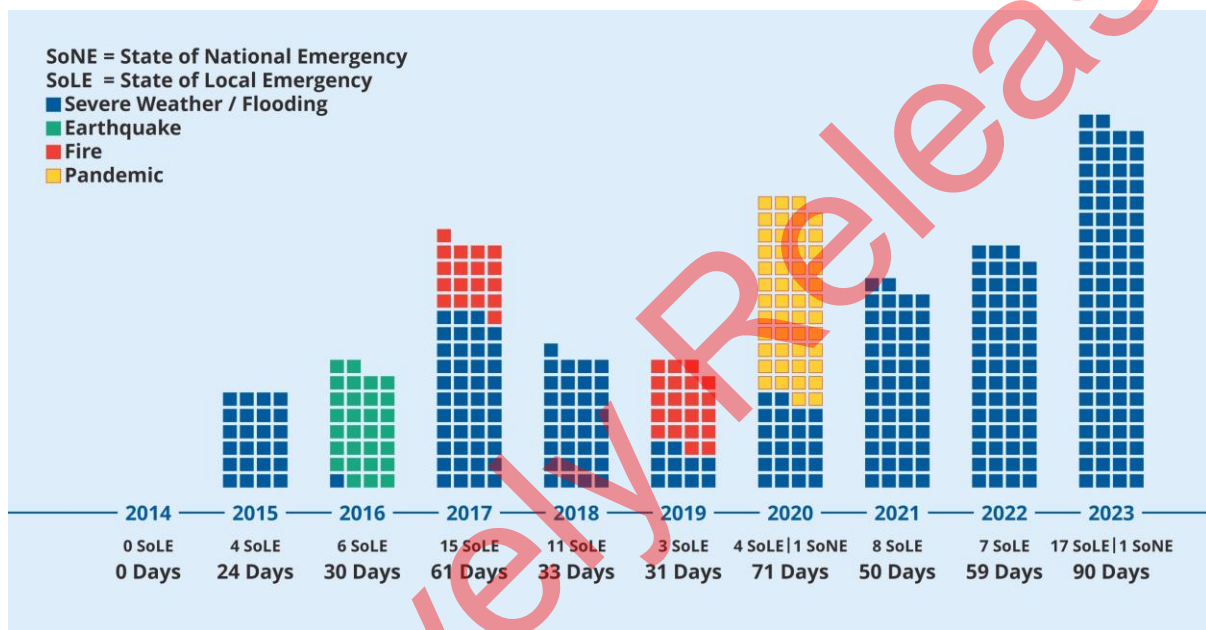
¹ Under the Civil Defence Emergency Management Act 2002 every regional council and every territory authority must be a member of a CDEM Group.

Risks from natural hazards trends

New Zealand is one of the most exposed countries to natural hazard risk and this exposure is increasing. A 2018 Lloyds' analysis ranked New Zealand second highest in the world for financial exposure to natural hazards².

There is growing pressure on the emergency management system's ability to prepare for, respond and recover from emergencies, especially as the scale and frequency of emergency weather events increases (see Figure 1 for number of states of emergency declared over the past ten years).

Figure 1: Declared states of emergency and days declared



Factors leading to the increase of occurrence and consequences of emergencies include:

- The gradual increase in population and economic activity over time means there are now more people (up from 4.027 million in June 2003 to 5.223 million in June 2023) and assets at risk from hazards, especially natural hazards. This would be the case even if there was no increase in the frequency of risk.
- Climate change is increasing the frequency and severity of weather-related emergencies, such as floods, landslips, droughts, heatwaves, and wildfires.

While there is growing attention being paid to climate change related risks, it is important to note New Zealand also faces considerable risk from geological related emergencies such as earthquakes, tsunamis, and volcanoes. For example, significant earthquakes may be less common but have caused billions of dollars of damage in recent decades. The Treasury estimated the capital costs of the 2011 Canterbury earthquake sequence to be over \$40

² Expected losses from disasters. [pdf-lloyds-underinsurance-report-final.pdf](https://www.lloyds.com/underinsurance-report-final.pdf)

billion, the equivalent of 20% of gross domestic product. There were flow-on effects including to business and employment, dislocation of communities, and exacerbation of social issues.

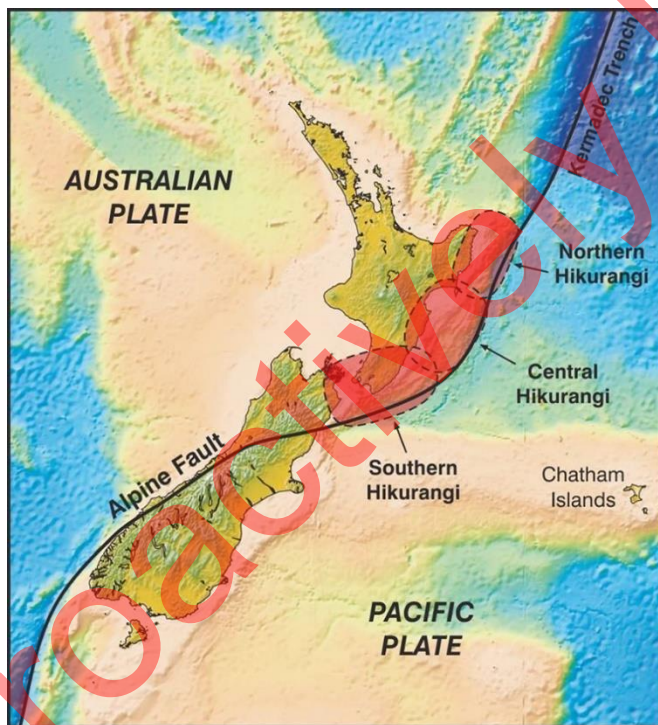
Recent scientific research shows there is a strong likelihood a large earthquake and associated tsunami on a catastrophic scale (such as an Alpine Fault earthquake or Hikurangi subduction zone earthquake and tsunami) will happen – if not in our lifetime, then in that of the next generation. Crucially, it could happen tomorrow. These events are discussed further in the case studies below.

Case Study: Hikurangi subduction zone earthquake and tsunami

Recent research indicates there is a 25% probability of a major Hikurangi Subduction Zone (refer Figure 2) earthquake event occurring in the next 50 years. Subduction Zones are known for producing the largest earthquakes on earth, such as the 2011 Tohoku (Japan) earthquake which also created a large and devastating tsunami.

Indicative national impacts of a major Hikurangi earthquake and tsunami include tens of thousands of people dead, injured or displaced from their homes, and significant damage to the built environment (in excess of \$144 billion).

Figure 2: Hikurangi subduction zone and Alpine Fault



Case Study: Alpine Fault earthquake

Recent research indicates there is a 75% probability of an Alpine Fault earthquake occurring in the next 50 years, and a 4 out of 5 chance it will be a magnitude 8+ event. Such an event will cause widespread damage, disruption, and devastation

across the South Island. It will trigger a range of cascading hazards persisting for decades, with short, medium and long-term consequences for the entire country.

A large Alpine Fault earthquake would cause widespread and significant damage to buildings and infrastructure throughout the South Island. Electricity supply to the North Island may also be affected. Tens of thousands of visitors and residents are likely to be isolated in Queenstown Lakes, parts of Central Otago, the West Coast and Fiordland. Associated hazards are likely to include landslides, landslide created tsunami, landslide dams and exacerbated river flooding.

In addition to the increasing severity and frequency of events responded to by NEMA and CDEM Groups (at the regional level) in the past 10 years, New Zealand has also experienced several other nationally significant emergencies led by other lead agencies and portfolios.

The Minister for Emergency Management and Recovery, NEMA and the emergency management system play a critical role in supporting these emergencies. Previous examples include the Campylobacter outbreak in Havelock North led by the Ministry of Health (2016), Wiri pipeline outage led by the Ministry of Business, Innovation and Employment (2017), Mycoplasma bovis outbreak led by the Ministry for Primary Industries (2018), Pigeon Valley wildfire led by Fire and Emergency New Zealand (2019), 15 March terrorist attack led by the NZ Police (2019), and the COVID-19 pandemic led by the Ministry of Health (2020).

Overview of the emergency management system

The Minister for Emergency Management and Recovery and NEMA steward and assure the overarching emergency management system.

The Civil Defence Emergency Management Act 2002 lays down the foundations of the emergency management system. Among other things the Act provides:

- that you ensure there is a current National CDEM Strategy
- for you to review the National CDEM Plan
- for you to comment on proposed CDEM Group plans
- you the ability to declare a state of national emergency or give notice of a national transition period (and to declare a state of local emergency or give notice of a local transition period in certain situations).

The Act also:

- sets the functions and powers of the Director of CDEM (a statutory position currently held by NEMA's Deputy Chief Executive, Emergency Management)
- sets the functions and powers of CDEM Groups (joint committees comprising the mayors and chairs of all local authorities in a region).

The Act places various emergency management and business continuity obligations on:

- government departments
- local authorities
- emergency services
- lifeline utilities (certain entities within the energy, water services, telecommunications, broadcasting, and transport sectors).

The Act requires two national-level planning documents be prepared:

- A National CDEM Strategy, which sets the Crown's goals and objectives in relation to emergency management in New Zealand over the next 10 years. The current strategy was released in 2019 and is titled the National Disaster Resilience Strategy.
- A National CDEM Plan which sets out the operational arrangements for emergency management at the national level. This includes identification of New Zealand's nationally significant hazards and risks, and the roles and responsibilities of lead agencies (responsible for managing particular hazards) and support agencies (responsible for managing specific consequences of an emergency).

A wide range of legislation in other portfolios is relevant to emergency management. For example, the Fire and Emergency New Zealand Act 2017 sets out the role, powers and functions of Fire and Emergency New Zealand, the Biosecurity Act 1993 provides specific powers to manage biosecurity emergencies, and the Epidemic Preparedness Act 2006 and Health Act 1956 provide specific powers in relation to infectious diseases.

Key participants in the emergency management system

Emergency management is delivered collaboratively depending on the nature of the emergency. In general, emergency management is locally led by local authorities, regionally co-ordinated by CDEM Groups, and nationally supported by NEMA and other government agencies.

The following summarises the roles of key participants in the emergency management system.

- **The National Emergency Management Agency (NEMA)** is the Government lead for emergency management. NEMA acts as steward, operator and assurer of the emergency management system. As steward, we provide leadership for risk reduction, readiness, response and recovery activities, and build emergency management capability and capacity. As operator, we lead or support the response to and recovery from emergencies while also supporting the operation of the emergency management system. As assurer (a new function) we will provide assurance the emergency management system is fit for purpose.

NEMA works with central and local government, emergency services, lifeline utilities, non-government and research and science organisations, communities, iwi and

business to make sure responses to, and recoveries from, emergencies are effective and integrated.

Depending on the emergency, NEMA leads or supports the response and recovery. NEMA works with other government agencies to reduce risk including the Department for Internal Affairs, and Ministry for Business, Innovation and Employment.

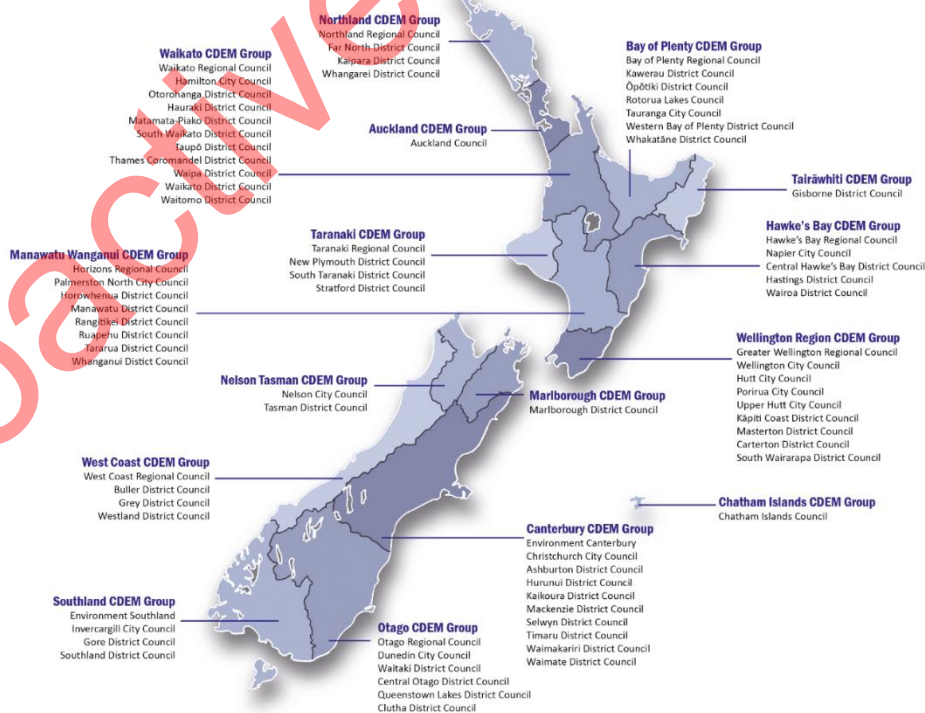
NEMA also provides emergency management support to a range of Pacific countries. This can include support to build local capability as well as on-the-ground assistance during emergencies. This is in close partnership with the Ministry of Foreign Affairs and Trade.

A description of funding and reporting within the Emergency Management and Recovery portfolio is set out in Annex One. A set of A3s describing New Zealand's riskscape, recent activity and further information about NEMA are set out in Annexes Two-Four.

- **Civil Defence Emergency Management Groups (CDEM Groups)** are required to co-ordinate planning and activity across the “4Rs” of risk reduction, readiness, response and recovery, preparing communities for emergencies.

The CDEM Groups lead the response and recovery to local emergencies, whether a state of local emergency is declared or not. They work with each other, emergency services, government agencies, lifeline utilities, iwi, and other agencies to deliver regional and local emergency management. Figure 3 below shows the participating local authority members of the 16 CDEM Groups.

Figure 3: Participating members of the 16 CDEM Groups



- **Central government agencies**, including those designated as lead agencies for specific hazards,³ have risk reduction, readiness, response and recovery roles during and after emergencies. Other agencies, while not having a lead role, provide specialist services such as MetService, NIWA and GNS Science. All departments have a responsibility to maintain service delivery during and after an emergency.
- **Lifeline utilities** (increasingly referred to as Critical Infrastructure), for example the energy, water services, telecommunications, broadcasting, and transport sectors. Specific entities and types of entities are listed as a schedule to the CDEM Act 2002.
- **Research and science organisations, non-government organisations, the private sector, marae, iwi, community organisations, volunteers, and the local community.** Many are identified in the National CDEM Plan and play a role in emergencies, particularly in getting ready for, responding to and recovering from emergencies. Their capacity to participate depends on their resources, capability, and commitment.

Key challenges in the emergency management system

With weather events exacerbated by climate change, and the increasing evidence about the likelihood and impact of a catastrophic event, we need to improve parts of our emergency management system.

The recent North Island severe weather events stretched the emergency management system. While devastating to the communities involved, Cyclone Gabrielle can be considered as a moderate scale event when compared to what New Zealand could experience.

The Government Inquiry into the response to the North Island severe weather events is expected to make recommendations on how the emergency management system can be improved.

The following provides a summary of areas which need improvement to ensure the emergency management system meets the future demands to reduce risks, prepare for, respond to and recover from emergency events.

Growing, upskilling and professionalising the emergency management workforce

Past reviews have identified the need to grow and sustain a response and recovery workforce capability across New Zealand. As seen with recent severe weather events, the emergency management system can be easily overwhelmed with a moderate scale event,

³ NEMA is the lead agency for geological hazards such as earthquakes, meteorological hazards such as storms, and infrastructure failure. Other agencies lead hazards where they have legislative mandates or expertise (e.g. the Ministry for Primary Industries leads for droughts affecting the rural sector, Fire and Emergency NZ leads for wildfires, and the New Zealand Police is lead agency for terrorism hazards).

let alone a large-scale emergency event (such as a Hikurangi subduction zone earthquake and tsunami).

Emergency management capability and leadership depth varies greatly across regions. Central government agencies and CDEM Groups will not have sufficient staff available to operate a response to a catastrophic event. In some cases, there may not be the capacity to fully respond to and recover from a moderate or even small-scale event.

While progress is being made we need to continue to grow and professionalise the emergency management workforce. We also need to ensure those for whom emergency management is not their primary role have proper training including participating in exercises.

Greater public understanding of natural hazard risks and their role in an emergency

Education is critical to ensuring the public is prepared for the impacts of an emergency and they know what to do to stay safe and support themselves following an event. This can help reduce the impacts on individuals and communities, reduce the burden on response agencies, and keep casualties and economic impact to a minimum.

Improving our ability to see the big picture during emergencies

The emergency management system's ability to access and use information is a critical component of decision-making. While there are pockets of good information and intelligence practice in the emergency management system this is not wide-spread or consistent. A related issue is ensuring interconnectivity and common operating systems, so the emergency management system has shared tactical and strategic awareness.

Being able to assure the system is working

One of NEMA's roles is to provide assurance about the performance of the emergency management system. NEMA is at an early stage of developing a capability to systematically assess how the emergency management system is performing. We are developing a cost-effective approach to assurance balancing future and current resources.

Upcoming priorities and decisions

Budget 2024

Funding for emergency management sits within Vote Prime Minister and Cabinet. This means the Prime Minister is responsible for any emergency management initiatives you may wish to pursue for Budget 2024.

Once the Government has issued its guidance on Budget 2024, we would like to engage with you on your approach to Budget 2024.

Response to the Inquiry into the North Island Severe Weather Events

On 7 July 2023, the then Minister for Emergency Management established a Government Inquiry into the response to the 2023 North Island severe weather events. The purpose of the Inquiry is to ensure the design of the emergency management system is appropriate to support readiness for, and responses to, future emergency events.

The Inquiry will provide interim recommendations to you by 7 December 2023 with a final report no later than 26 March 2024. As lead Minister of the Inquiry, you will lead any Government response to the Inquiry's recommendations.

Emergency Management Bill

The Emergency Management Bill was introduced in June 2023 to replace the Civil Defence Emergency Management Act 2002 and, in part, to implement a number of the Government's decisions on the 2017 Ministerial Review Better Responses to Natural Disasters and Other Emergencies (often referred to as the Technical Advisory Group report or TAG report).

All parliamentary business lapsed following the dissolution of the last Parliament. We expect Ministers will soon be asked for their preference on whether lapsed Bills in their portfolio should be reinstated.

We will shortly provide a briefing that provides an overview of the Emergency Management Bill and would like to meet you to discuss your priorities for legislative reform.

National Crisis Management Centre facilities

The 2017 TAG report recommended a new National Emergency Management Facility to replace that located in the basement of the Beehive – often called 'The Bunker'. The TAG report considered the Bunker outmoded and fell behind best practice.

s9(2)(f)(iv)

s9(2)(f)(iv)

The TAG review also recommended a second emergency management facility be created for resilience. At present, we are able to use rooms at the Ellerslie racecourse. This facility is purely a stop-gap measure with limited capability.

s9(2)(f)(iv)

s9(2)(f)(iv)

Services for Geohazards Management

You are responsible for interim funding to ensure ongoing delivery of GNS Science's National Seismic Hazard Model and GeoNet research programmes. This science infrastructure provides the basis for determining building standards for earthquake resilience and the network of monitoring systems spread out across New Zealand to detect and monitor earthquakes, tsunamis, volcanic eruptions, and landslides.

The Minister for Emergency Management and Recovery is responsible for this interim appropriation, which is a temporary solution, pending the identification of a sustainable funding model. As administrators of the appropriation, the Ministry of Business, Innovation and Employment (MBIE) will brief you on this, including upcoming decisions required for cost pressure funding.

Increasing delegation to reimburse local authorities for emergency related costs

We will provide you a briefing recommending you seek Cabinet's agreement to increase a delegation you have to pay certain emergency related costs to local authorities. These costs typically relate to emergency welfare support, such as food and emergency accommodation and for part-reimbursing costs to repair council owned infrastructure such as water, stormwater and wastewater and river management assets (stopbanks).

Currently, you hold a delegation of \$12 million per financial year (this delegation is subdelegated to the Deputy Chief Executive, Emergency Management, NEMA) to pay these costs.

The drawdown to date is approximately \$11 million, with further claims expected, mainly due to costs associated with the 2023 North Island Severe Weather Event. Without an increase in delegation, Cabinet approval will be required for every reimbursement above \$12 million. Seeking an increase in delegation is proposed as frequently seeking Cabinet approval for reimbursement, sometimes for relatively small amounts, is not a good use of Cabinet's time.

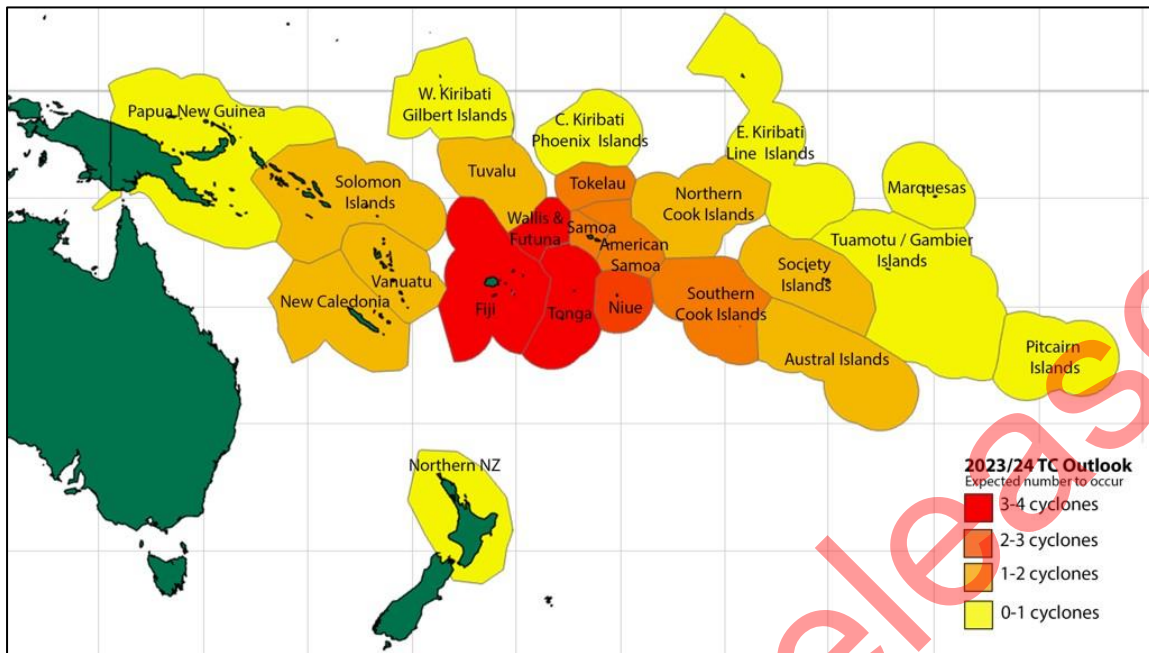
Feedback on the Bay of Plenty CDEM Group Plan

The Bay of Plenty CDEM Group will seek your comments on its new CDEM Plan as it is required to do under the CDEM Act 2002. We will brief you on this separately.

Possible cyclones this season

NIWA has prepared the map below (Figure 4) summarising the expected number of cyclones between November 2023 and April 2024 in the South West Pacific. Depending on the scale or the damage caused NEMA may be asked to provide on the ground assistance to Pacific partners.

Figure 4: Predicated number of cyclones November-April in the South West Pacific



Related issues in other portfolios

The nature of the emergency management system means you will be engaging with other Ministerial portfolios on matters affecting emergency management. Key portfolios include:

- **Cyclone Recovery.** The Cyclone Recovery Portfolio and the Chief Executive, Cyclone Recovery (hosted by DPMC) are responsible for leading the co-ordination of recovery activity across areas affected by the North Island weather events on behalf of the Crown. This includes working with regions to develop priority recovery plans.

As part of the recovery work cost-sharing options have been developed on the future of severely affected locations. The leads for this work are the Cyclone Recovery Unit, the Treasury and the Ministry for the Environment.

- **Local Government.** This portfolio is responsible for supporting the local government system, and the central and local government relationship, both of which are crucial parts of the emergency management system.

Local government leads risk reduction, readiness, response and recovery at a local level. Any policy considerations regarding local government funding and structures may have implications on existing emergency management funding and delivery.

- **Environment and Climate Change portfolios.** Risk reduction is an important part of the emergency management system and levers for risk reduction sit in a range of agencies. Work on resource management reforms (to enable effective land-use planning) and climate adaptation (including long-term policies for climate change adaptation and managed retreat) are central to risk reduction.

- **National Security and Intelligence.** The Department of the Prime Minister and Cabinet is leading work to improve the resilience of New Zealand's critical infrastructure system. This is to help ensure critical infrastructure is better prepared to withstand, and recover from, disruptions caused by adverse events, such as earthquakes, extreme weather events, and cyber-attacks.
- **Internal Affairs.** This portfolio administers statutory inquiries such as the Government Inquiry into the response to the North Island severe weather events and the Royal Commission of Inquiry into lessons learned from New Zealand's response to COVID-19.

Proactively Released

Annex One: Funding and reporting

Funding for emergency management sits within the Emergency Management Leadership and Support Multi-Category Appropriation, within Vote Prime Minister and Cabinet. The Department of the Prime Minister and Cabinet administers all appropriations within Vote Prime Minister and Cabinet.

You are appropriation Minister for the Emergency Management Leadership and Support Multi-Category Appropriation. NEMA, in conjunction with the Vote Administrator, will engage with you on budget preparation and setting our strategic direction, as well as in meeting other Public Finance Act 1989 reporting and accountability requirements.

As part of the Estimates of the Appropriations passed by Parliament, performance measures are attached to funding within your portfolio. This includes an annual Ministerial satisfaction survey which you will be required to complete, although NEMA appreciates feedback at any time.

The Emergency Management Leadership and Support Multi-Category Appropriation

The Emergency Management Leadership and Support Multi-Category Appropriation supports leadership of the all-hazards, all-risk emergency management system.

The appropriation supports the annual operating costs for NEMA and funding for other non-departmental expenditure to support emergency events and emergency preparedness; the latter of which are managed by NEMA but are not part of its operating budget.

The figures below relate to funding provided in the Estimates of the Appropriations 2023/24. Further funding decisions by Cabinet, to be included in the Supplementary Estimates 2023/24, will be confirmed in the October Baseline Update on which you will be briefed as appropriation Minister.

The Emergency Management Leadership and Support Multi-Category Appropriation comprises:

	2022/23	2023/24
	Per 2022/23 Supplementary Estimates \$ million	Per 2023/24 Estimates \$ million
Departmental Output Expenses <i>Advice and Support for Emergency Risk Reduction, Readiness, Response and Recovery</i> <ul style="list-style-type: none">- advice to Ministers and the emergency management sector on the design, operation, and performance of the emergency management system.- building the capability and capacity of the emergency management sector (including communities) to plan for, respond to and recover from emergencies; and leading and supporting response to and recovery from emergencies. <i>Notes:</i> <ul style="list-style-type: none">- 2022/23 includes \$20 million for extraordinary costs relating to the response to the 2023 North Island extreme weather events.- NEMA's 2023/24 operating budget of \$39 million comes from this amount.	72.6	42.6
Non-Departmental Other Expenses (administered by NEMA) <i>Emergency Risk Reduction, Readiness, Response and Recovery</i> <ul style="list-style-type: none">- grants, contributions, and other payments to support communities and the emergency management sector in New Zealand and Pacific Realm countries on matters relating to emergency risk reduction, readiness, response and recovery.	61.2	3.7
Emergency Management Leadership and Support MCA	133.8	46.3

The Non-Departmental Other Expenses Emergency Risk Reduction, Readiness, Response and Recovery category above supports expenditure for:

	2022/23	2023/24
	\$ million	\$ million
- Contributions to Local Authorities following an emergency event for non-reimbursement related financial support (i.e. to disaster relief funds and 'special policy' funding as prescribed in the current Guide to the National Civil Defence Emergency Management Plan).	6.2	0.6
- 2022/23 includes contributions to disaster relief funds established to support communities impacted by the 2023 North Island extreme weather events.		
- Emergency Management Preparedness Grants supporting emergency preparedness and improved community resilience through funding projects endorsed by CDEM Groups and managed or supported by NEMA.	1.7	0.9
- Depreciation of the Tsunami Monitoring and Detection Network	2.2	2.2
- Maintaining Water Supply in Periods of Drought	6.1	-
- Civil Defence Emergency Management Training	1.9	-
- Buller District Council Financial Assistance	12.6	-
- Chatham Island Drought Support	0.5	-
- 2023 North Island Severe Weather Event – Support for Iwi, Rural and Pasifika Group welfare response	15.0	-
- 2023 North Island Severe Weather Event – Contributions to local authorities' costs of solid waste removal	15.0	-
TOTAL	61.2	3.7

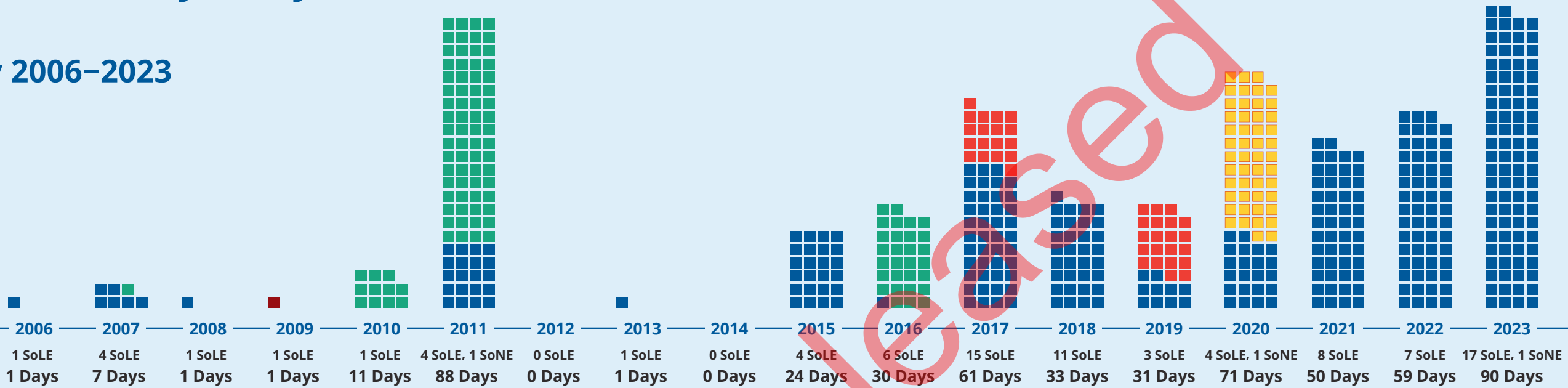
NEMA also manages expenditure within the following non-departmental other expenses appropriation:

	2022/23	2023/24
	Per 2022/23 Supplementary Estimates \$ million	Per 2023/24 Estimates \$ million
- Local Authority Emergency Expenses PLA 2022/23 included an initial estimate of reimbursing local authorities for eligible costs associated with the 2023 North Island extreme weather events.	402.0	5.0

Annex 2: We've had a busy few years

States of Emergency 2006–2023

SoNE = State of National Emergency
 SoLE = State of Local Emergency
 ■ Severe Weather/Flooding
 ■ Earthquake
 ■ Landslide
 ■ Fire
 ■ Pandemic



Extreme weather events (floods, droughts, storms, etc) will be:

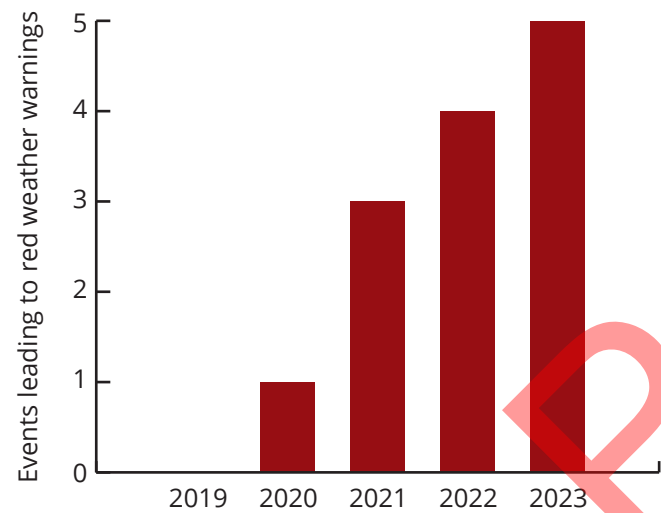
- more frequent
- more intense
- in locations not previously considered at risk.

Evidence suggests the projections appear to be (uncomfortably) accurate

- 2022 weather-related insurance costs were at an unprecedented \$335m
- breaking the previous record of \$305m in 2021
- which broke the previous record of \$274m in 2020
- 2023 will be >\$3.5bn.

(Insurance Council of NZ)

Red weather events annually since 2019

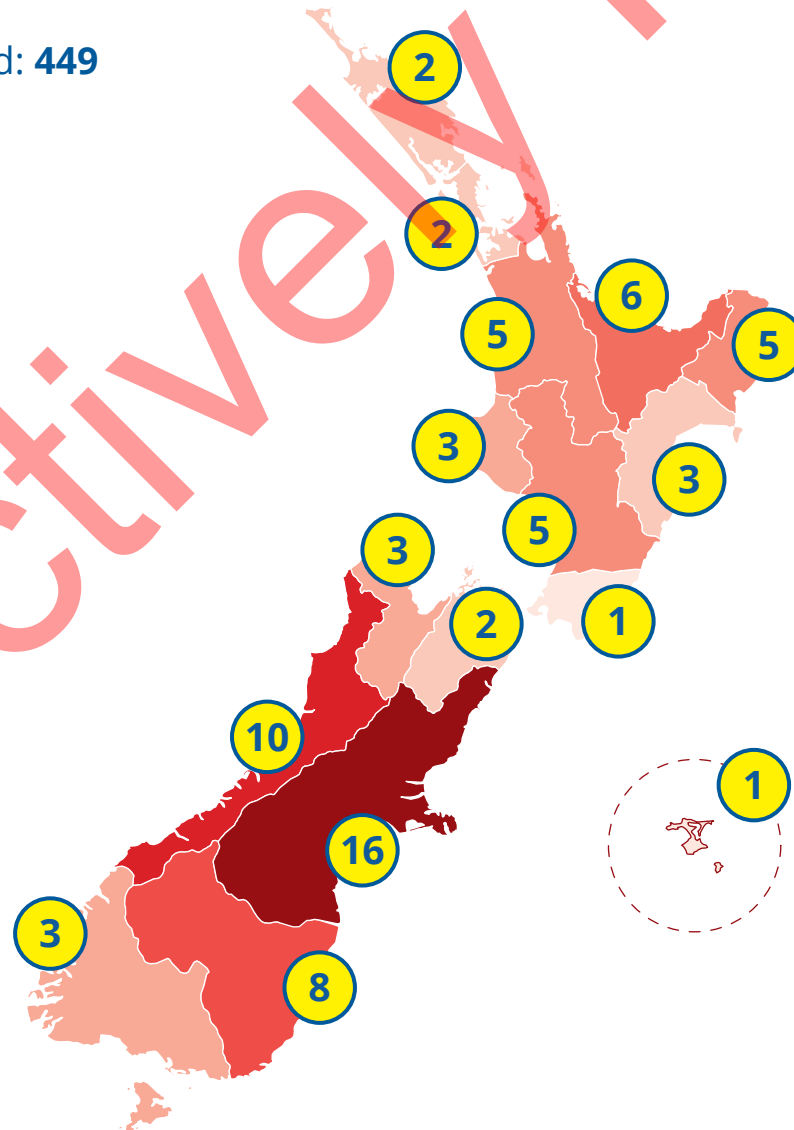


Multiple warnings for a single event (e.g. Cyclone Gabrielle) counted as one 'event'.

Spread of declared emergencies across New Zealand from 2014–2023

States of Emergency: **75 Local, 2 National**

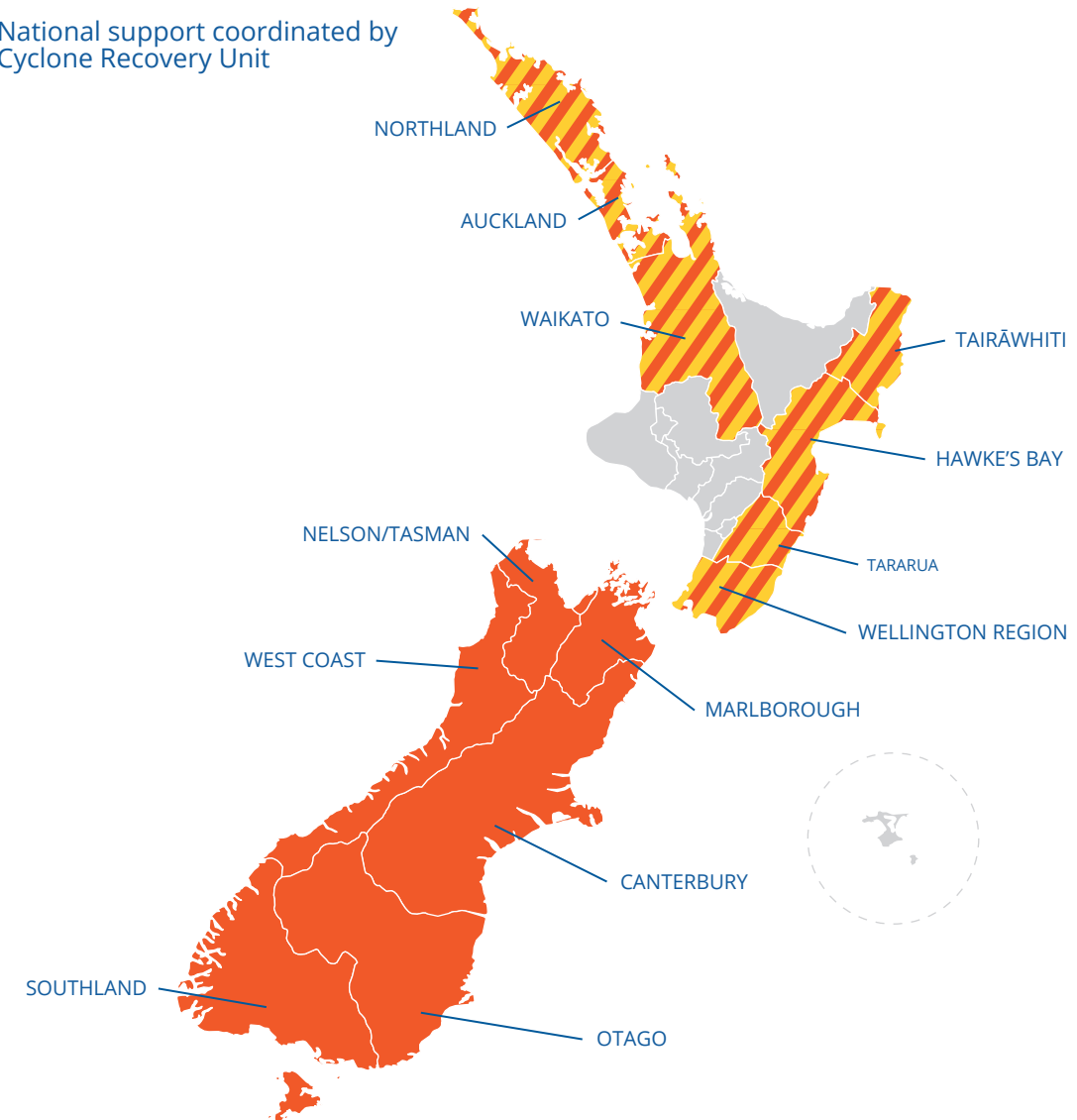
Total days declared: **449**



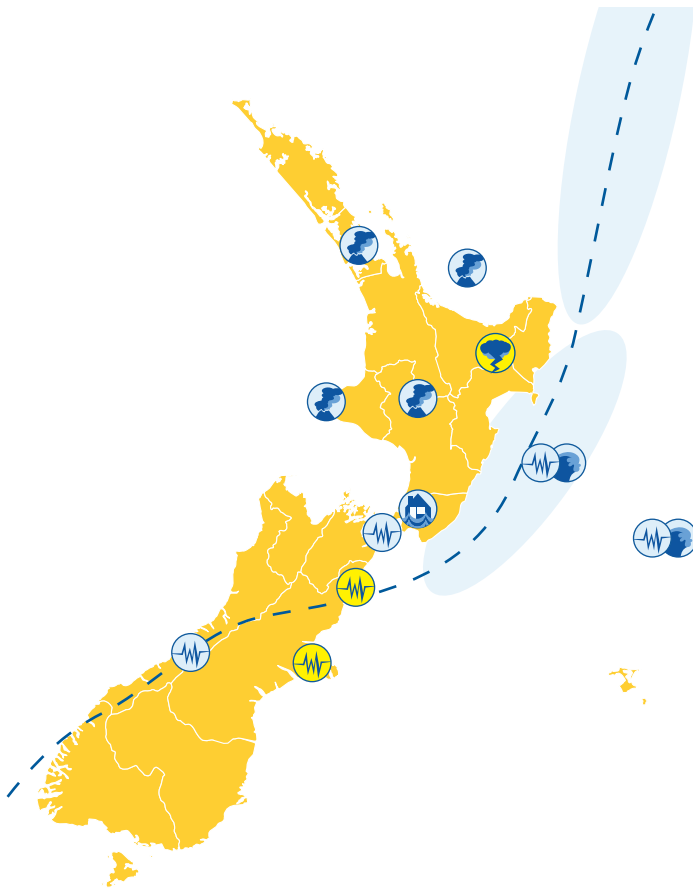
Areas of New Zealand currently in recovery

■ National support coordinated by NEMA

▨ National support coordinated by Cyclone Recovery Unit



Annex 3: New Zealand's riskscape



Modelled scenarios	Likelihood in next 50 years	Modelled building/ infrastructure losses	Likely consequences	
Auckland volcanic eruption	10%	\$5bn-\$65bn (buildings only)	Potential full evacuation of Auckland City, with only days to week's warning.	
Taranaki eruption	Small eruption	~\$1bn	Similar size to 1995-96 Ruapehu eruptions. Impacts dominated by ashfall and lahars; evacuations likely.	
	Large eruption	1%	\$10bn-\$15bn	Similar size to 1886 Tarawera eruption. Likely severe impacts to oil/gas production and farming sector; mass evacuation probable.
Hikurangi subduction zone earthquake and tsunami	M8+	25%	~\$10bn-\$20bn	Strong and long ground shaking for east coast of North Island, and large tsunami produced.
	M9.1	1%	\$144bn (buildings only)	Catastrophic scenario. Est. potential fatalities >20,000 (tsunami).
Ruapehu / Tongariro / Ngauruhoe / Whakaari ash producing eruption	Almost certain	~\$1bn	Disruption mostly from ashfall to aviation, electricity transmission, and tourism and primary industry sectors.	
Hutt River flood (over stopbank design event)	5%	\$5bn-\$10bn	Hutt city – greatest exposure for any flood plain in New Zealand.	
Wellington Fault M7.5 earthquak	5%	~\$16bn (buildings only)	Likely serious and prolonged damage and disruption to Wellington, including government.	
South American M9+ earthquake & NZ tsunami	25%	~\$5bn (buildings only)	Large exposure for eastern coast of New Zealand, especially Christchurch City/Canterbury	
Alpine fault – M8 earthquake	75%	~\$10bn	High-probability event, extensive co-seismic landslides will compound impacts.	
Actual events				
Cyclone Gabrielle equivalent event	80%	\$9bn-\$14bn (est. actual)	Moderate-sized event, causing severe multi-hazard impacts across multiple regions.	
Kaikōura earthquake (2016)	1.7%	\$2bn-\$3bn (actual)	Moderate impacts to Wellington despite distance, severe critical infrastructure impacts.	
Canterbury Earthquake Sequence (2010-11)	<1%	\$40bn (actual)	Largest disaster in a generation. Major and long-lasting impacts to Christchurch city, complex recovery.	

Challenges

It is very likely we will experience two or more concurrent major events. This will lead to long and overlapping recoveries.

The relative vulnerability of people, property and infrastructure is growing. Climate change may also lead to a greater frequency of events in short succession and compounding socio-economic pressures.

It's critical we have a deep understanding of our risks in all their complexity.

Understanding how to reduce our risks is essential. We need to engage with and influence the right people and organisations. Communication and education with communities is at the heart of this.

We need to understand and work within the complexities of communities. We need to understand how they change over time and with different experiences and how this might impact their awareness of hazard risks.

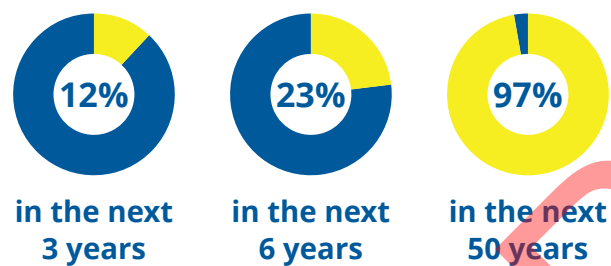
The human cost of emergencies

In addition to economic costs, large scale emergency events have significant wider impacts on people, such as death, injury, psychosocial and other social impacts. For example, a Hikurangi M9.1 event would potentially result in tens of thousands of fatalities, injuries, and massive displacement of communities.

What might the next 50 years look like for the emergency management system?

This page shows a summary of well-understood natural hazard risk scenarios, which helps to give some sense what we face as a nation. While this is not in any way an exhaustive list and is subject to many uncertainties, it provides some insights as to the relative likelihoods and consequences.

When we consider all of the modelled scenarios with >\$10bn expected damage costs, the estimated probability of any one of these events occurring is:



Note – this is not an exhaustive list of possible scenarios. Modified from LGNZ 2014; updated and new data from GNS Science, NIWA, EQC, and Massey and Canterbury Universities

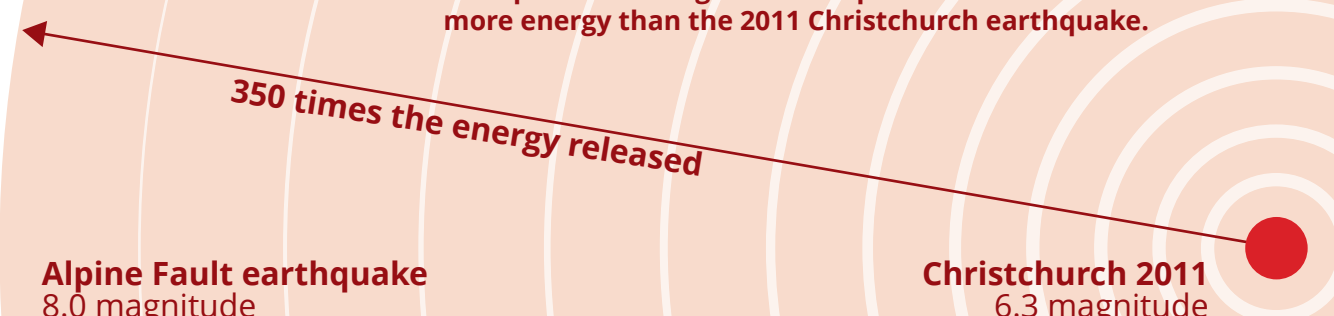
The shaking in Christchurch on 22 February 2011 lasted for around 10 seconds. An Alpine Fault earthquake could cause shaking for two to four minutes, and a Hikurangi subduction zone earthquake could cause shaking for four to eight minutes.



Alpine Fault

New Zealand remains exposed to costly earthquake events: **researchers estimate a 75% probability of an Alpine Fault earthquake in the next 50 years**, with a 4 out of 5 chance that it will be a magnitude 8+ event with potential to cause significant damage.

An Alpine Fault magnitude 8 rupture will release 350 times more energy than the 2011 Christchurch earthquake.



Alpine Fault earthquake 8.0 magnitude

Christchurch 2011 6.3 magnitude

Annex 4: NEMA at a glance

Warning Systems

144 National Warnings and Advisories

issued through the National Warning System since 30 June 2017.

165 uses of the Emergency Mobile Alert system since its launch in 2017

This includes messages, updates and stoppages issued by NEMA, New Zealand Police, Fire and Emergency New Zealand, and the Civil Defence Emergency Management (CDEM) Groups.

72 seconds

is the average time it took to issue public 'Earthquake Being Assessed' messages in 2022/23.

(Down from the 6.5 minutes it took before our 24/7 Monitoring, Alerting and Reporting Centre was established)

Tsunami monitoring



NEMA contributes funding to the Deep Ocean Assessment and Reporting of Tsunami (DART) network, which plays a crucial role in improving the accuracy of tsunami forecasts in New Zealand and the wider Pacific (including the dependent territory of Tokelau and the associated states of the Cook Islands and Niue).

On 5 March 2021, the DART network's detailed data were instrumental in enabling quicker safety confirmations, reducing the economic and social impacts of extended evacuations.

Science advisory panels

NEMA convenes advisory panels consisting of leading national scientists to provide independent expert advice on earthquake and volcano risk.

Enabling surge support to the regions

NEMA provides national accreditation for 16 New Zealand Response Teams (NZRT)

NZRTs total approximately **400 trained volunteers**.

NZRTs deployed to **8 regions** and volunteered **1290 days** of unpaid work between 27 January–11 March 2023 during the Auckland floods and Cyclone Gabrielle.

105 New Zealand Emergency Management Assistance Team personnel deployed since 2019

NEMA manages the New Zealand Emergency Management Assistance Team, a 'fly-in' team of specialist emergency managers.

Catastrophic Planning

NEMA is leading work to improve national readiness for catastrophic events, such as a M9.1 Hikurangi subduction zone earthquake.

Agencies have identified **160 critical functions** that need to continue following a catastrophic emergency.

In 2024, we will work with more than **50 agencies** to deliver an **all-of-government handbook** to enable an effective operational response.

International engagement

8 International Rapid Response Team deployments since 2022

Response deployments: Australia, Kiribati, Autonomous region of Bougainville, and Vanuatu.

International exercises: Tonga, Samoa, Niue, Vanuatu.

3 Signed memorandums of cooperation

with the USA, Australia, and Fiji.

5 Countries supported

through the Pacific disaster risk management programme (Samoa, Niue, Cook Islands, Tonga, and Tokelau).

National Crisis Management Centre

The NCMC has been activated for 69 days over the past 12 months

The National Crisis Management Centre (NCMC) is New Zealand's strategic response coordination facility. NEMA maintains and manages the NCMC on behalf of the Government, and also uses the facility as its National Coordination Centre.

Building a national workforce

NEMA has trained 329 staff

from 36 national agencies in the Coordinated Incident Management System (CIMS) since February 2023.

Supported 281 people

to achieve unit standards in specific response functions.

Partnering across the system

Coordinating lifeline utilities

During emergencies, NEMA activates formal coordination arrangements with 6 critical infrastructure sectors (Electricity, Gas, Fuel, Telecommunications, Transport, Cash).

We are in the process of establishing arrangements with two other sectors (Water, and Fast Moving Consumer Goods).

National Welfare Coordination Group

NEMA chairs a group of more than 30 government, non-government, and private sector organisations to coordinate welfare planning before and after emergencies. During an emergency event, the group is activated to triage and problem-solve welfare service delivery issues.

NEMA is supporting Māori participation in the emergency management system

including the establishment of a Māori liaison function in CIMS. The purpose of the function is to support and provide advice to the Controller and other CIMS functions, as well as providing a central contact for iwi and Māori during an emergency.

Māori communities and marae play a vital role opening their doors and providing support to anyone impacted by an emergency. At a local level the function will also enable a closer connection between iwi/marae and the local emergency management teams running an emergency response.

Supporting local planning

NEMA provides advice and support to CDEM Group planning. We also advise the Minister during the statutory review of Group Plans.

Influencing work in other portfolios

NEMA works with other agencies on climate adaptation and other risk reduction policy issues. For example, in 2022 we worked with the Ministry of Culture and Heritage to prevent the decommissioning of three AM radio masts in Northland – this meant that Far North residents still had access to safety information during Cyclone Gabrielle.

Improving public readiness

256,000+

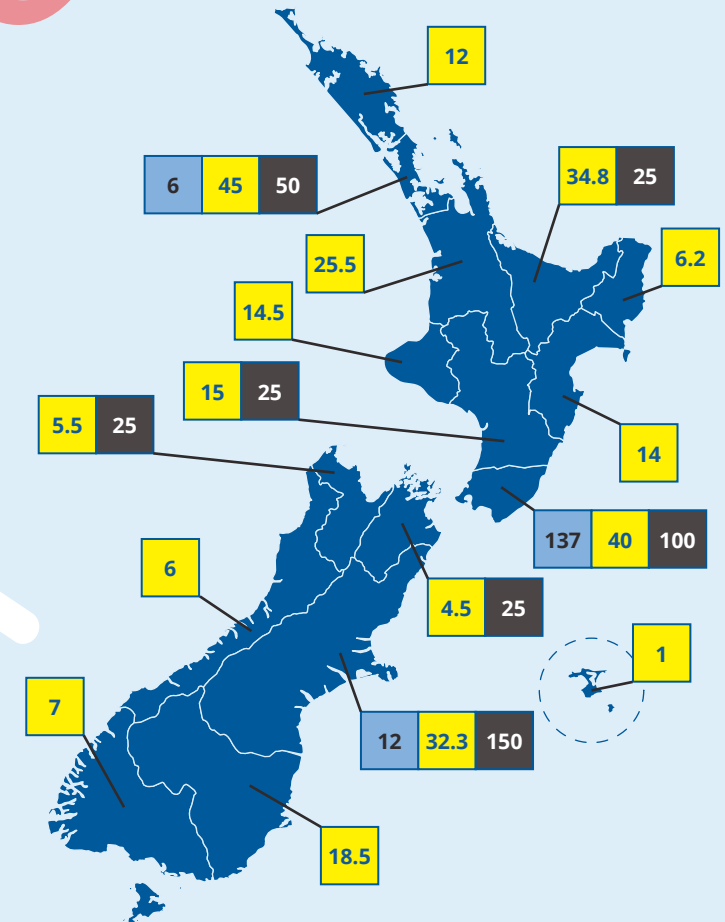
followers on NEMA's social media (Facebook, X (formerly Twitter), Instagram).

640,000+

people were registered for the 2023 ShakeOut earthquake drill.

Emergency management workforce

■ NEMA Staff by FTE
■ CDEM Staff by FTE
■ NZRT volunteers approx.



Financial support to local authorities

\$2.3 million

to reimburse local authorities for welfare costs incurred during Cyclone Gabrielle.

\$5.085 million

in Government contributions to local authorities' relief funds in 2023.

\$9.71 million

to support local authorities' waste management costs following Cyclone Gabrielle.

\$7.41 million

to enable Buller District Council to meet its immediate operating shortfalls and undertake an infrastructure recovery programme following July 2021 and February 2022 flooding events.