



How will we cope with the next big one?

# Building Resilient Communities for Disaster Preparedness and Recovery

Rachel Thornton, Stefan Weir, Julia Blyth



**National Emergency  
Management Agency**  
Te Rākau Whakamarumarū



# Overview

- NZ's emergency management arrangements
- What are things that are worrying us?
- What can we do about these things?
- How do we connect?

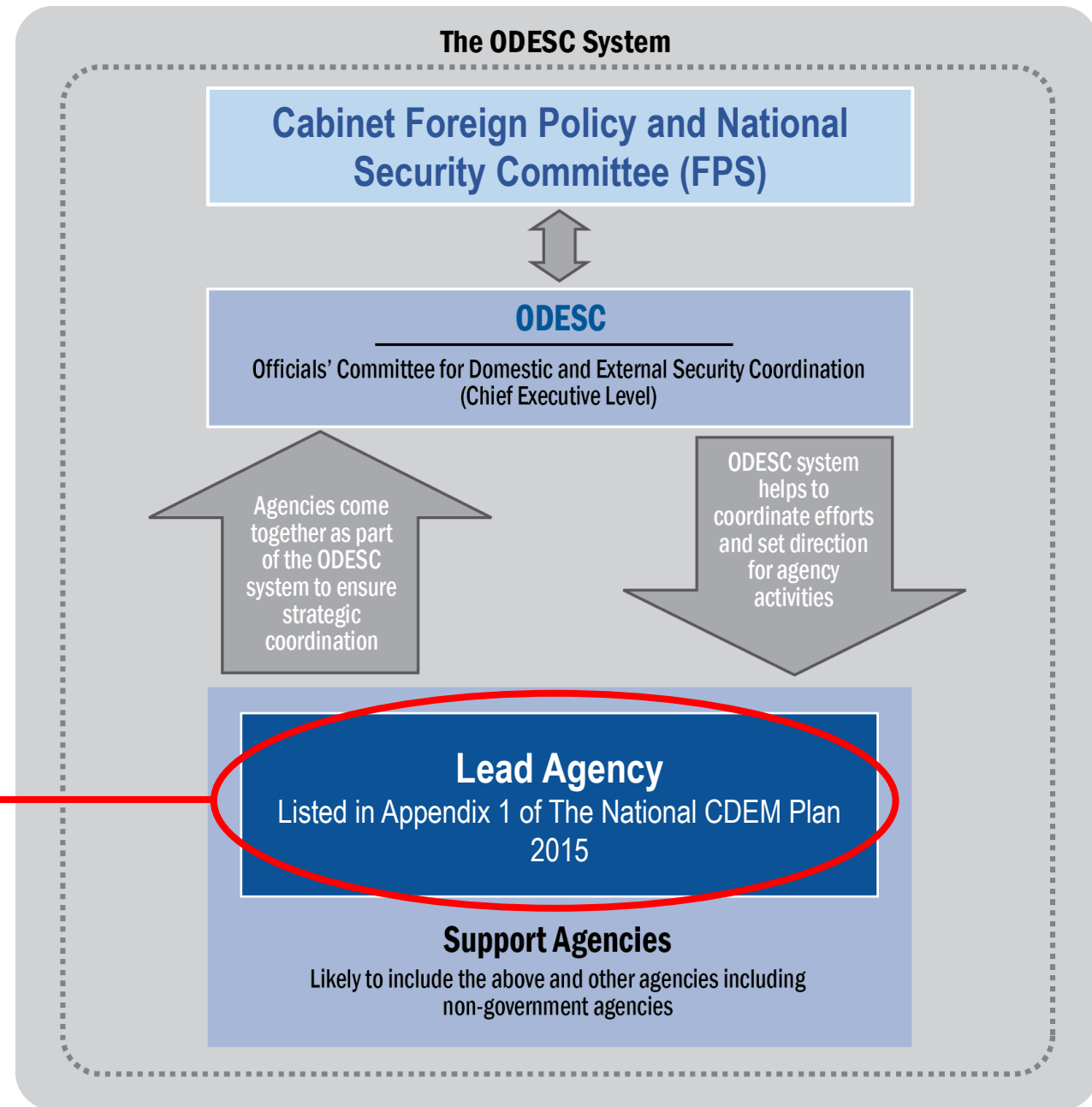


# National Level:

## Government Crisis Management Arrangements

### Lead Agencies (e.g.)

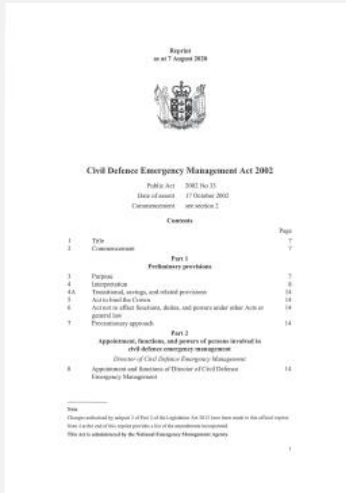
Meteorological hazards	<i>NEMA</i>
Geological hazards	<i>NEMA</i>
Terrorism	<i>Police</i>
Biosecurity	<i>Ministry for Primary Industries</i>
Infectious disease	<i>Ministry of Health</i>
Urban fire	<i>Fire &amp; Emergency NZ</i>
Marine oil spill	<i>Maritime NZ</i>





# The Regulatory Framework

## CDEM Act 2002



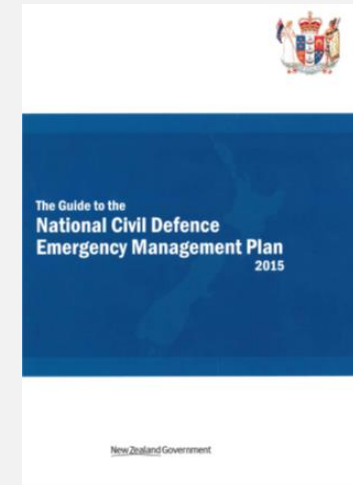
Rules, Structure

## National Disaster Resilience Strategy (NDRS)



Long-term Goals

## National CDEM Plan Order 2015 and accompanying Guide



Arrangements, Roles, & Responsibilities



# National Emergency Management Agency (NEMA)

- Established on 1 December 2019
- An autonomous departmental agency, hosted by the Department of the Prime Minister and Cabinet (DPMC)
- NEMA Chief Executive is responsible to the Minister for Emergency Management and Recovery
- **Operational lead** on natural hazards and infrastructure failures
- **Steward** and **assurer** responsibilities across all hazards and risks



Hon Mark Mitchell  
Minister for Emergency Management  
and Recovery



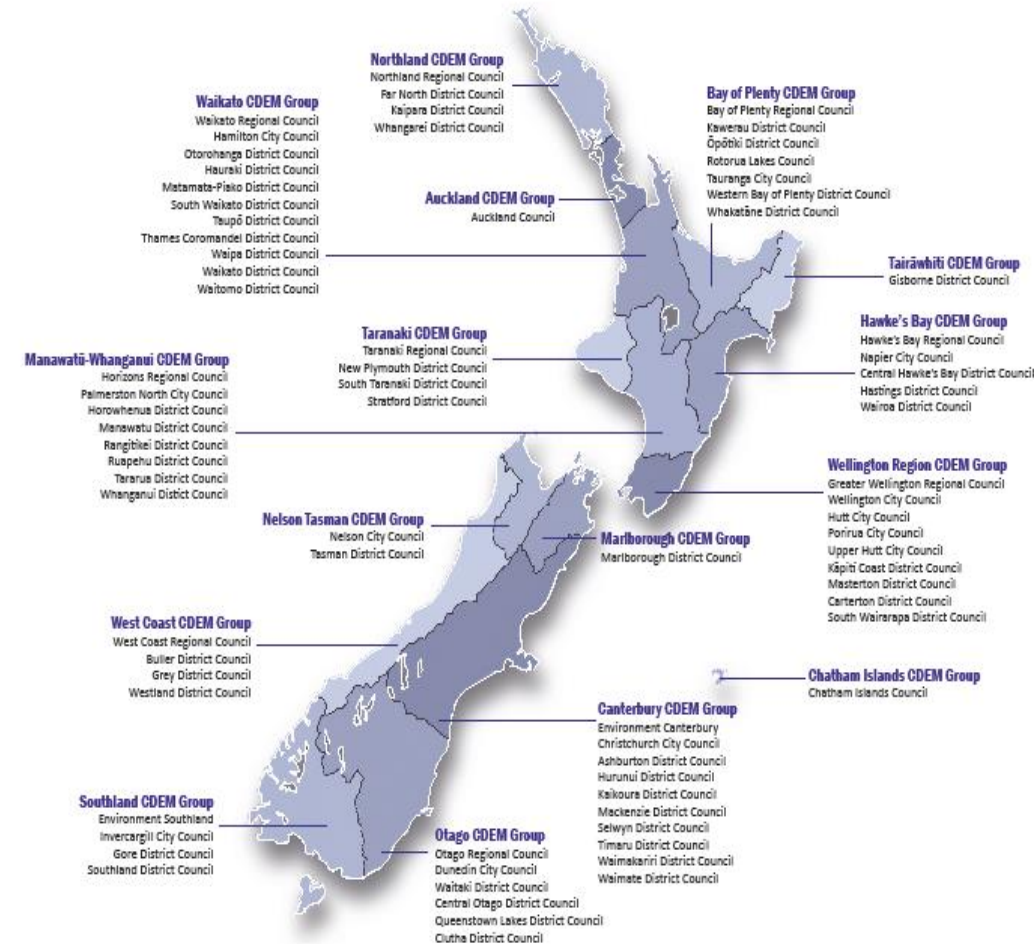
**National Emergency  
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Te Rākau Whakamarumarū



# Regional Level

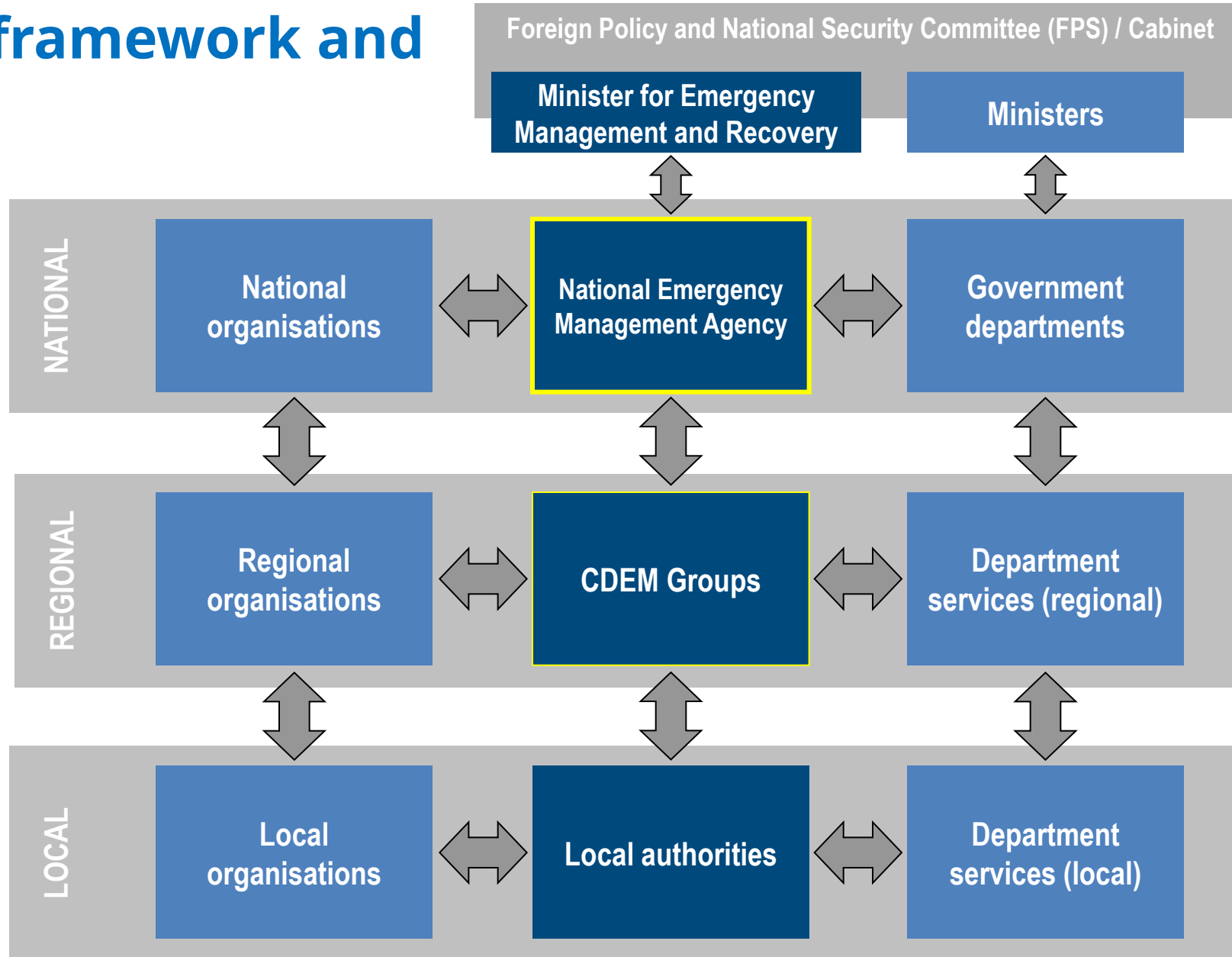
## 16 Civil Defence Emergency Management (CDEM) Groups

- Identify, assess, and manage hazards and risks within the Group area
- Undertake any actions to reduce hazards and risks in the Group area
- Provide timely warning of hazards through public information management
- Develop, maintain, and review its capability for reduction, readiness, response and recovery
- Appoint, develop and maintain key operational positions.



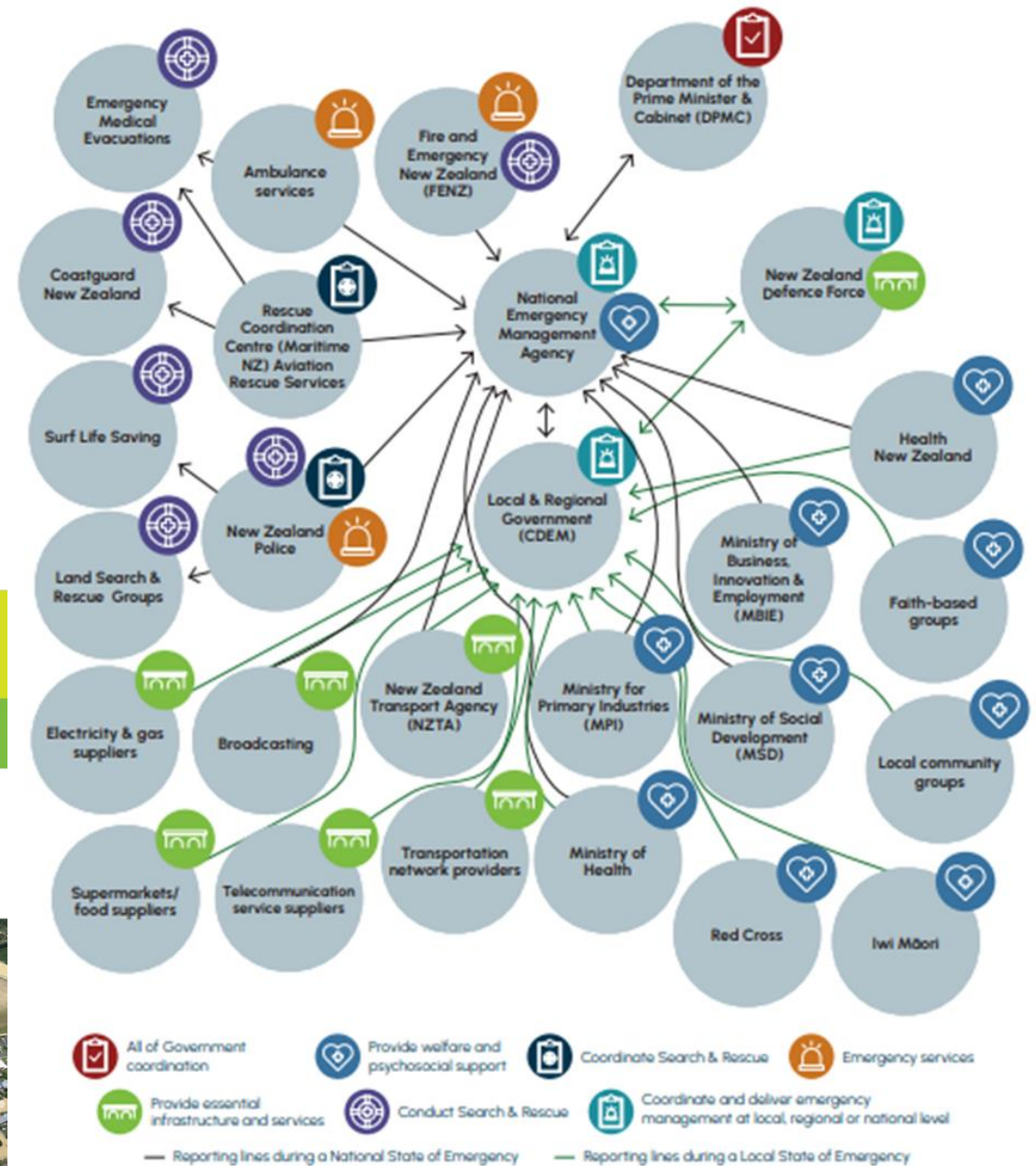
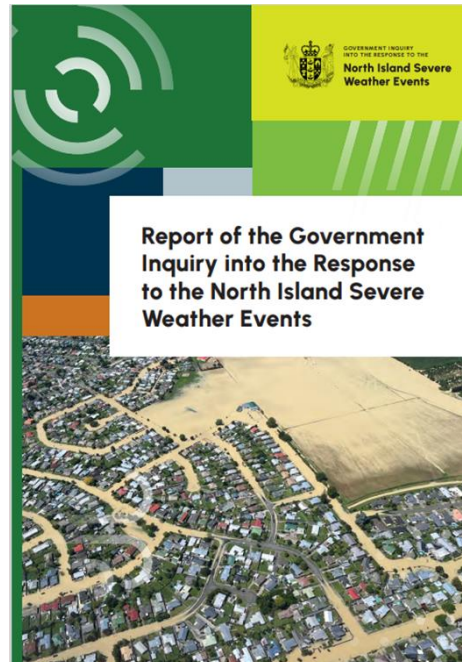


# The wider framework and inter-links



**New Zealand's Emergency Management approach is a distributed network made up of a wide range of autonomous players**

# Complex relationships of key organisations with emergency management responsibilities during response phases





# Example of some key partners



# The community



Emergency  
Management  
Canterbury



Organisations  
and Businesses  
that offer help



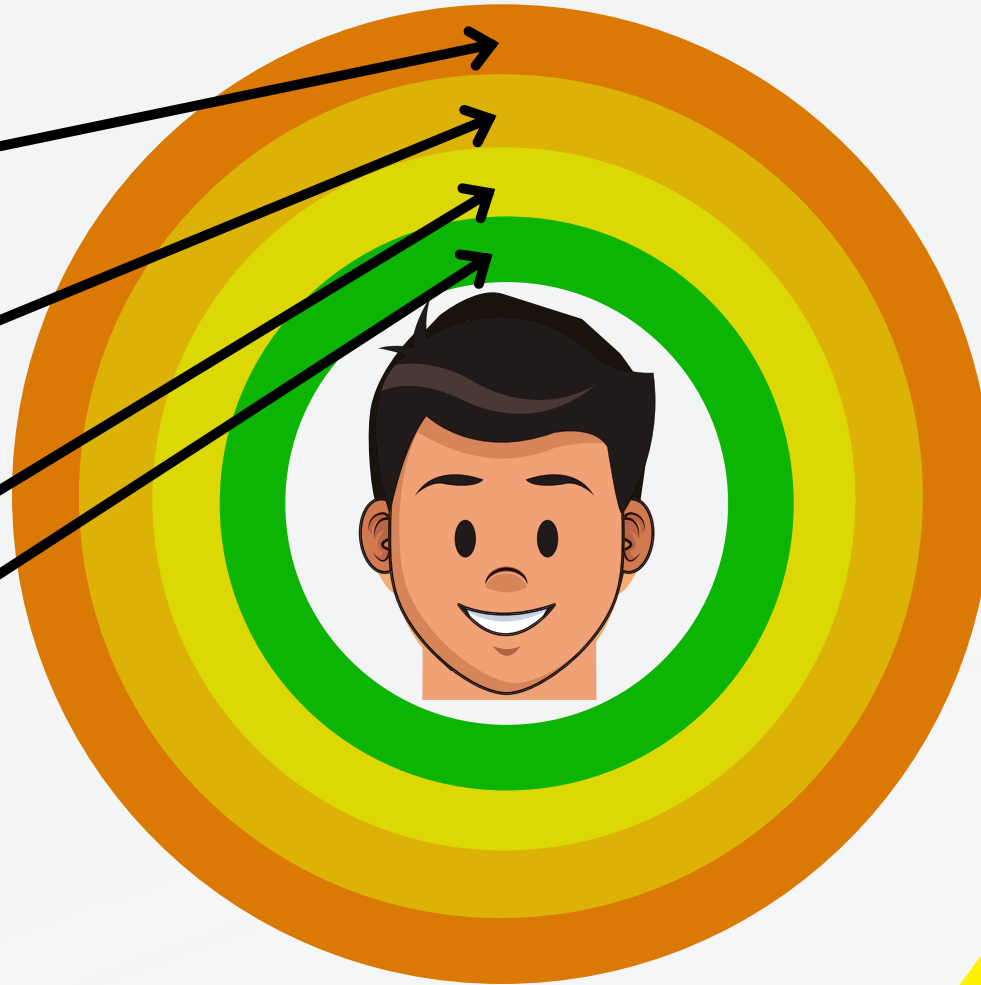
Familiar  
Organisations  
and Businesses



Friends Family  
and Neighbors



Home





## Quiz

**1. What are some hazards we should prepare for?**



## 2. What is the chance Taranaki Mounga erupts in the next 50 years?

- A) it won't – it is extinct
- B) 1% chance in next 50 years
- C) 23% chance in next 50 years
- D) 50% chance in next 50 years
- E) 75% chance in next 50 years



### **3. What is the chance that Taupo erupts in the next 100 years?**

- A) it won't – it is dormant
- B) 1% chance in next 100 years
- C) 13% chance in next 100 years
- D) 25% chance in next 100 years
- E) 50% chance in next 100 years



## 4. What was NZ's largest recorded earthquake?

- a) 1848 Marlborough earthquake
- b) 1855 Wairarapa earthquake
- c) 1888 North Canterbury earthquake
- d) 1929 Arthurs Pass and Murchison earthquake
- e) 1931 Hawkes Bay earthquake



## 5. What was the world's largest recorded earthquake?

- A) 1952 Kamchatka, Russia
- B) 1960 Valdivia, Chile
- C) 1964 Alaska, USA
- D) 2004 Sumatra, Indonesia
- E) 2011 Tohoku, Japan



**6. What are four actions you could take to prepare for an emergency?**





## 7. What should you do if you experience an earthquake?

- A) Protect yourself in the nearest doorway
- B) Get out of the building as quickly as possible
- C) Drop, cover and hold
- D) Take shelter under a desk/table



## **8. What should you do if you are near the coast and experience an earthquake that lasts longer than a minute or is strong enough to make it difficult to stand?**

- A) move inland, get to higher ground, evacuate
- B) wait for an official warning as that will tell you what to do
- C) Invite the neighbours over for a BBQ
- D) turn on the radio



## 9. What is the chance of a M8 Alpine Fault earthquake in the next 50 years?

- A) 1% chance in next 50 years
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## **10. What is the chance of a M9.1 Hikurangi Subduction earthquake and tsunami in the next 50 years?**

- A) 1% chance in next 50 years
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# Answers



**1. What are some hazards we should prepare for?**



# 1. What are some hazards we should prepare for?

*Examples include:*

Earthquake

Floods

Severe weather

Tsunami

Volcanic activity

Wildfire

Communicable disease

Space weather

Coastal Hazards (erosion, storm inundation)

Drought

New Zealand's Nationally Significant Risks  
Department of the Prime Minister and Cabinet (DPMC)



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M8.2, 9 deaths, shaking lasted about a minute



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M9.5, up to 6000 died, 2 million left homeless



**6. What are four actions you could take to prepare for an emergency?**





## 6. What are four actions you could take to prepare for an emergency?

1. Have emergency supplies, e.g., spare food, toilet paper, torch, spare batteries etc
2. Household makes plan for what to do in a disaster
3. Have a grab bag with emergency items
4. Have water stored – 3 lt per person per day

Annual survey 75% have taken one action, 13% have taken all actions



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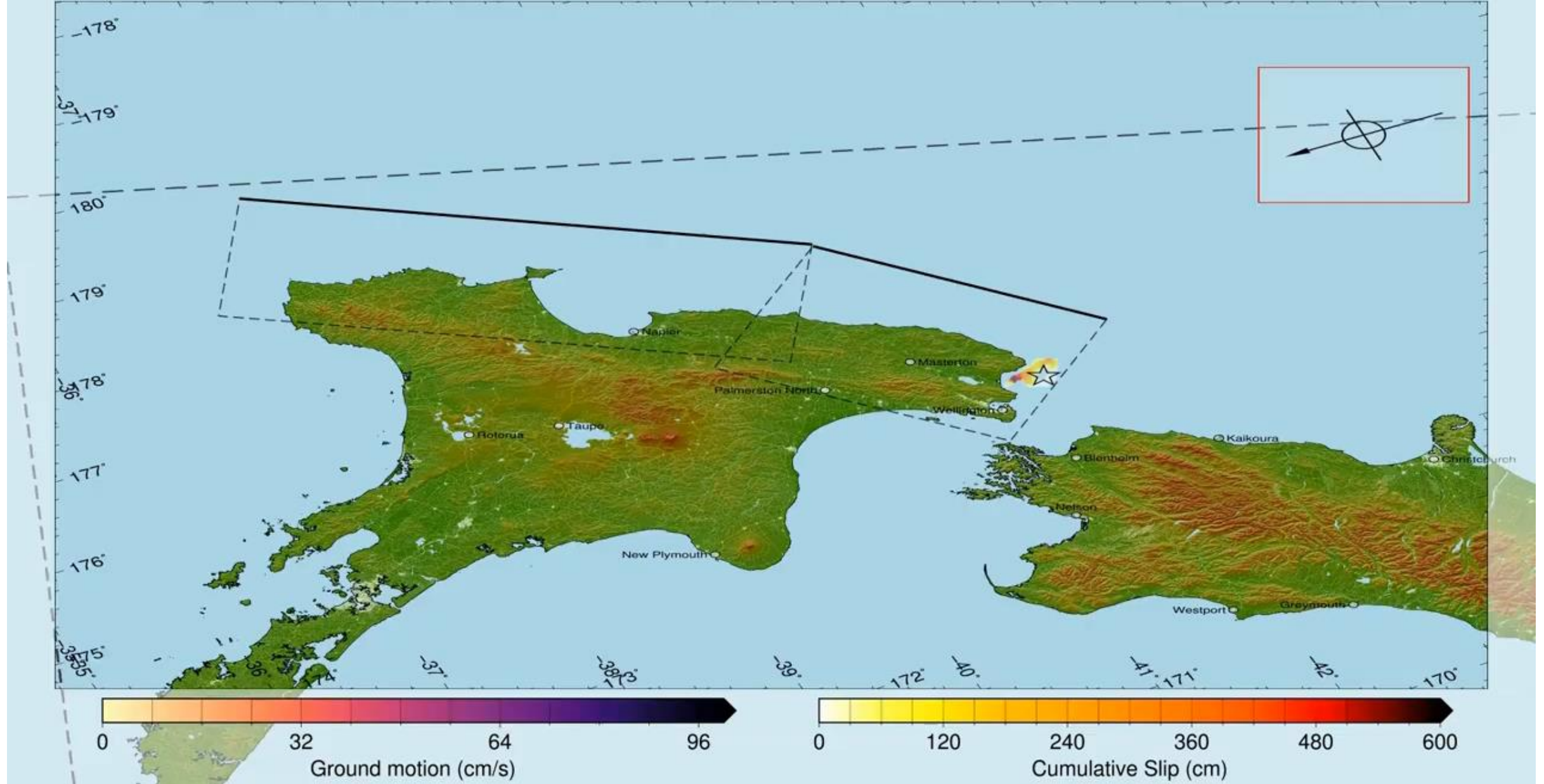
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**Credit:** Brendon Bradley, University of Canterbury



**QuakeCoRE**  
 NZ Centre for Earthquake Resilience  
 Te Hiranga Rū

# 2011 Mw9.0 Tohoku Earthquake and Tsunami, Japan



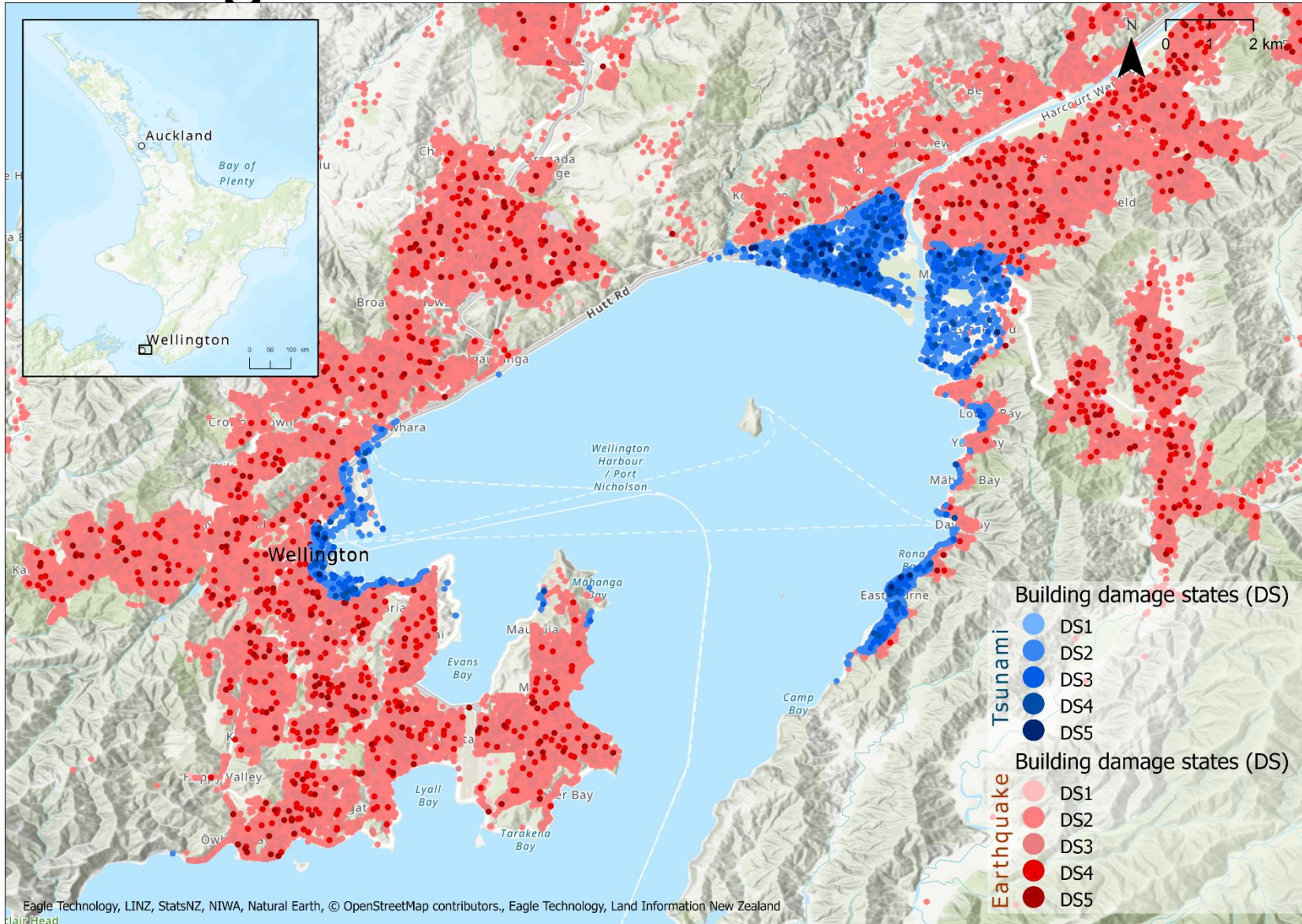
# **Tsunami wave model Hikurangi Mw9.1 scenario**

Credit: Bill Fry, GNS

# CATPLAN-22: Building damage Wellington



Scale: Regional (Wellington)  
Time: Immediate (post-tsunami)

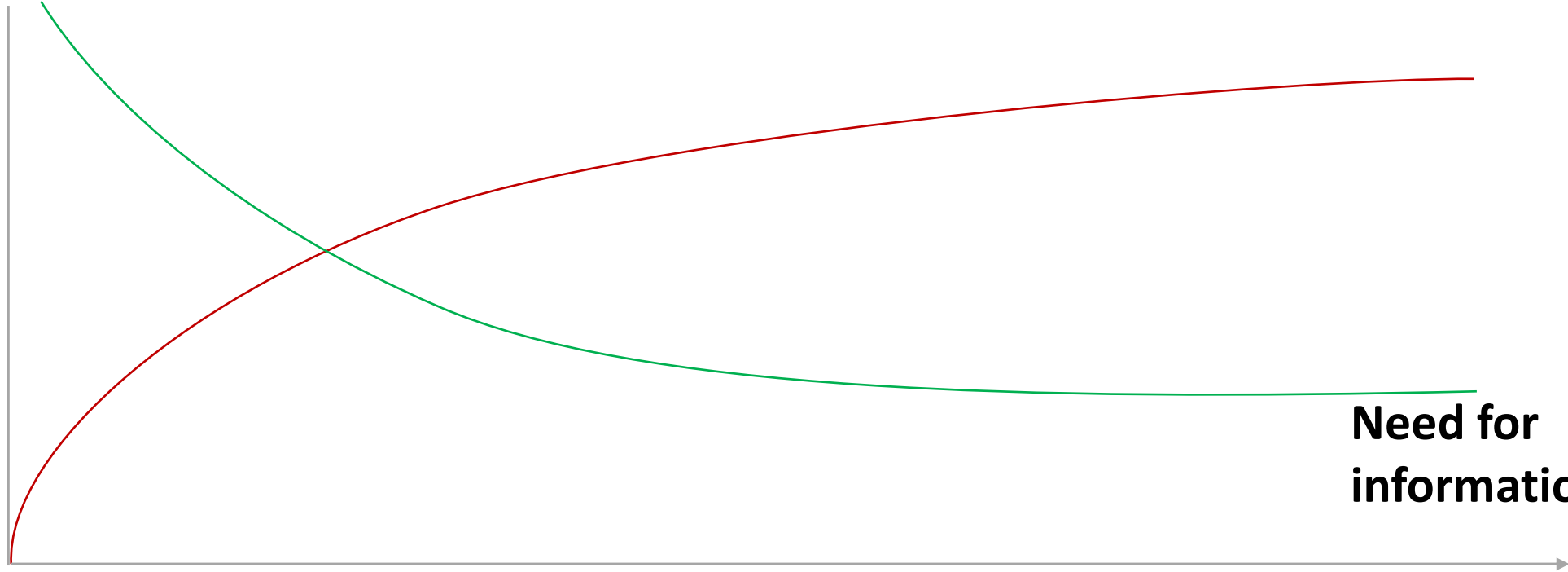


Tsunami	Ground shaking	
<b>DS1</b> 1,214	<b>DS1</b> 26,100	<b>Light:</b> non-structural damage, or minor non-structural damage
<b>DS2</b> 8,085	<b>DS2</b> 185,625	<b>Moderate:</b> Repairable structural damage
<b>DS3</b> 445	<b>DS3</b> 8,226	<b>Severe – Irreparable</b> structural damage
<b>DS4</b> 95	<b>DS4</b> 1,712	<b>Partial Collapse:</b> Structural integrity fails
<b>DS5</b> 35	<b>DS5</b> 612	<b>Collapse:</b> Structural integrity fails





**Situational awareness/science certainty**



**Need for information**

Time





**The emergency management system will be overwhelmed...**

**What can we do to prepare ourselves, our family, our organisation and the people we support?**





**Emergencies can happen anytime, anywhere.  
You can take steps to be prepared.**

**<https://getready.govt.nz/>**



# The community



Emergency  
Management  
Canterbury



Organisations  
and Businesses  
that offer help



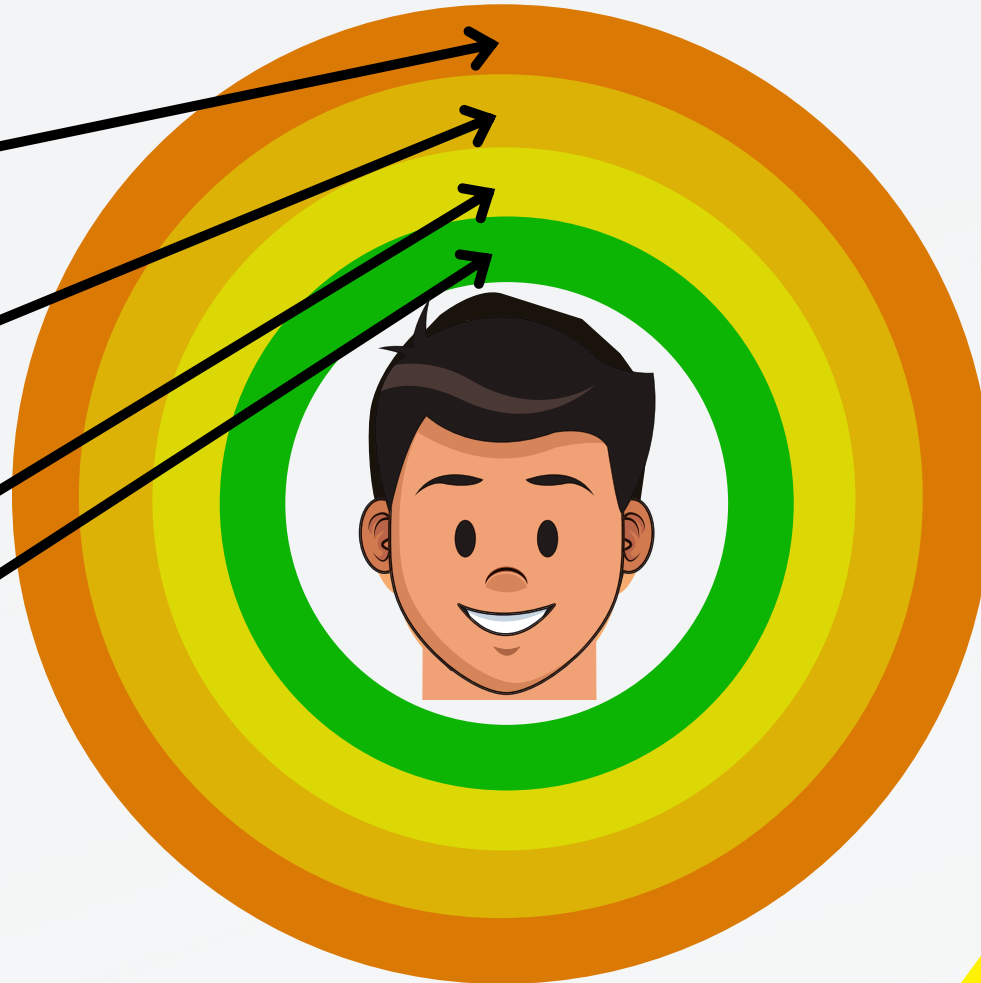
Familiar  
Organisations  
and Businesses



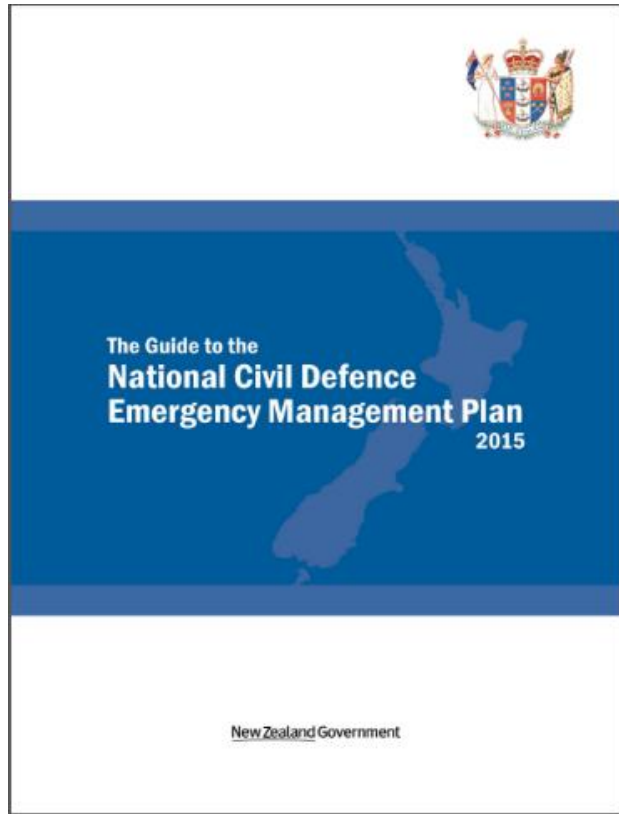
Friends Family  
and Neighbors



Home



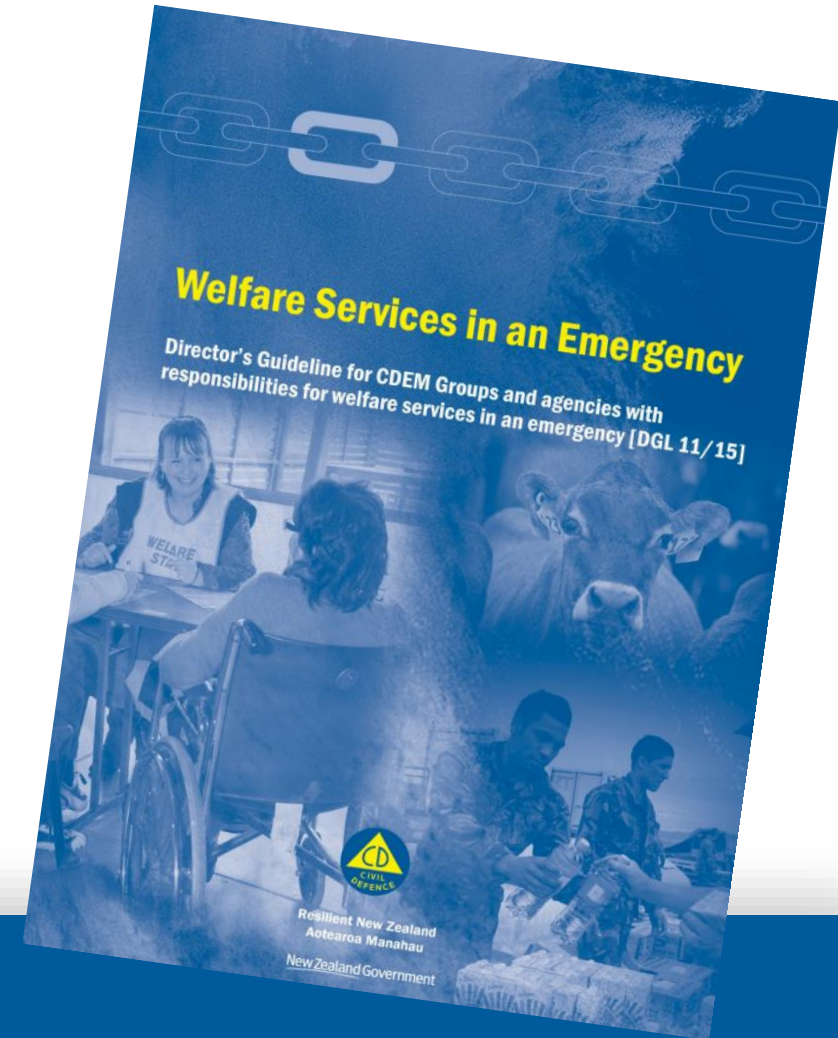
# Welfare Arrangements in the National CDEM Plan Order and Guide



Section 14 outlines roles and responsibilities

Outlines the coordination mechanisms, that support welfare services.

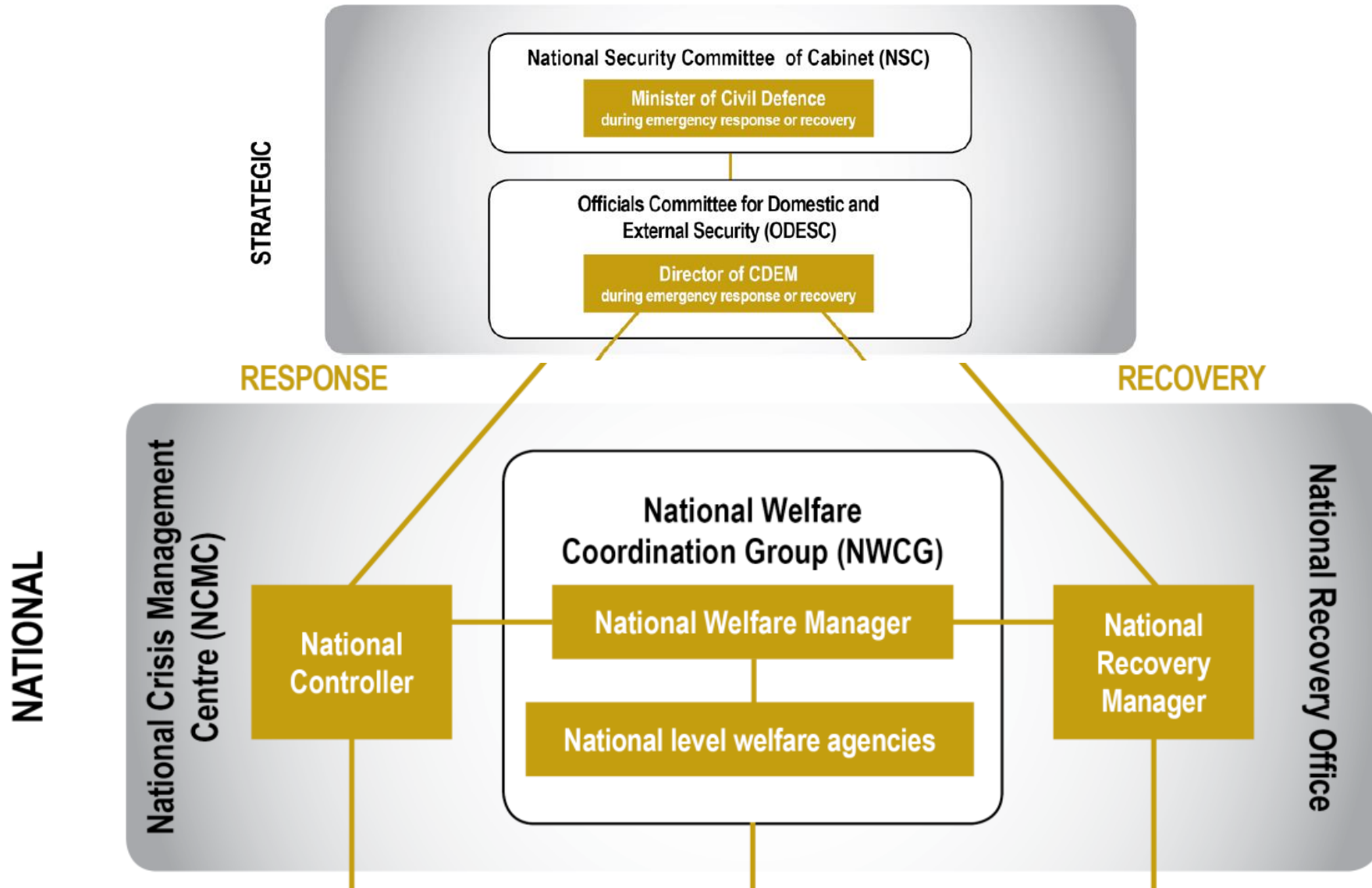
The arrangements are strengthened and refined in readiness, response and recovery.



National Emergency Management Agency  
Te Rākau Whakamarumarū



- **Care & protection services for children and young people (Oranga Tamariki):** coordinate and deliver statutory care and protection to children/young people who have been identified as unaccompanied.
- **Psychosocial Support (Ministry of Health):** ease the physical, psychological and social difficulties for individuals, whānau and communities after an emergency
- **Inquiry (NZ Police):** identify people who have been affected by an emergency and assisting family, whānau and significant others to make contact.
- **Financial Assistance (Ministry of Social Development):** provision of information about and access to the range of financial assistance available to those impacted by an emergency.
- **Animal Welfare (Ministry for Primary Industries):** provide for the needs of animals when their owners are unable to do so themselves.



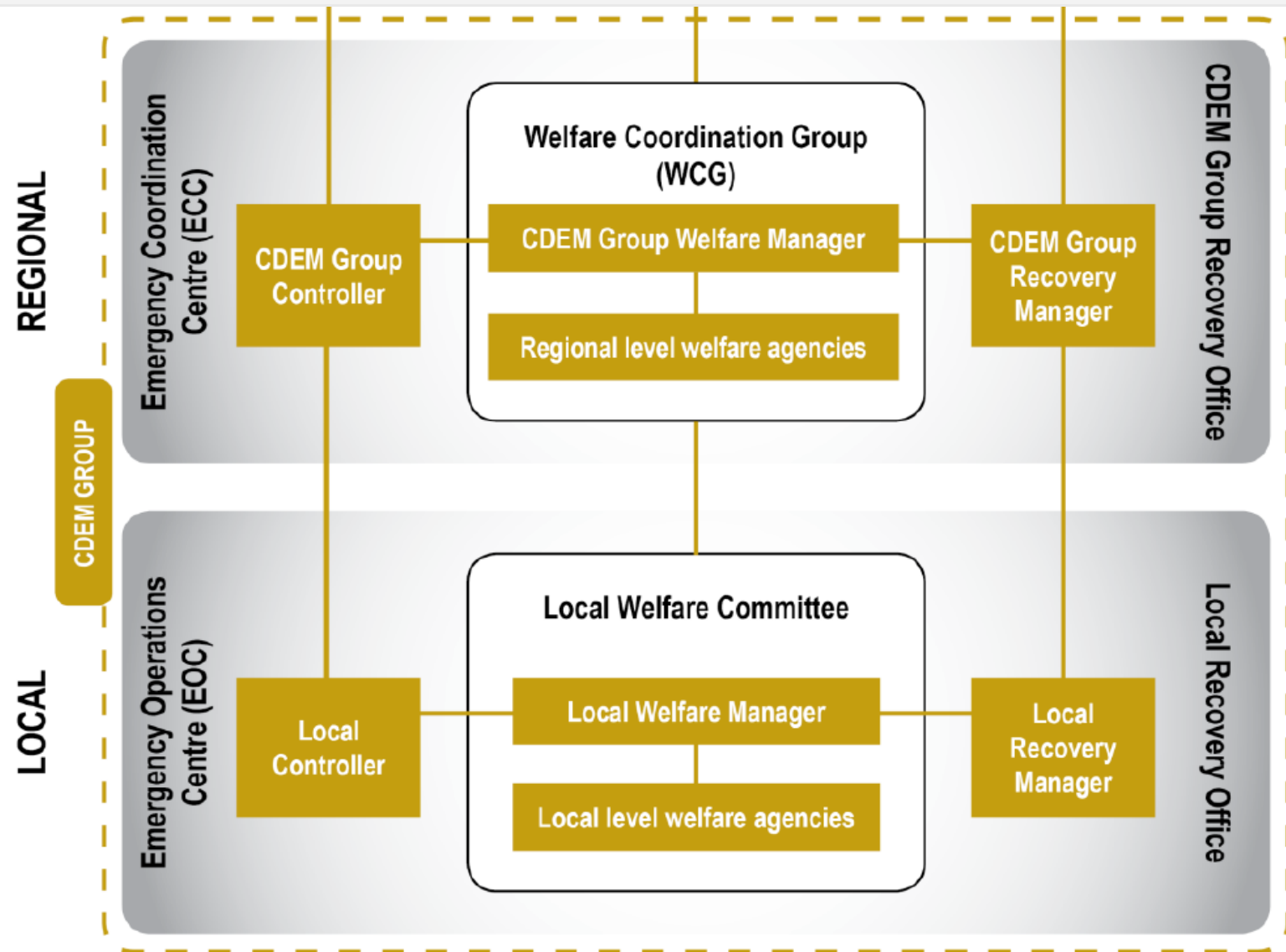
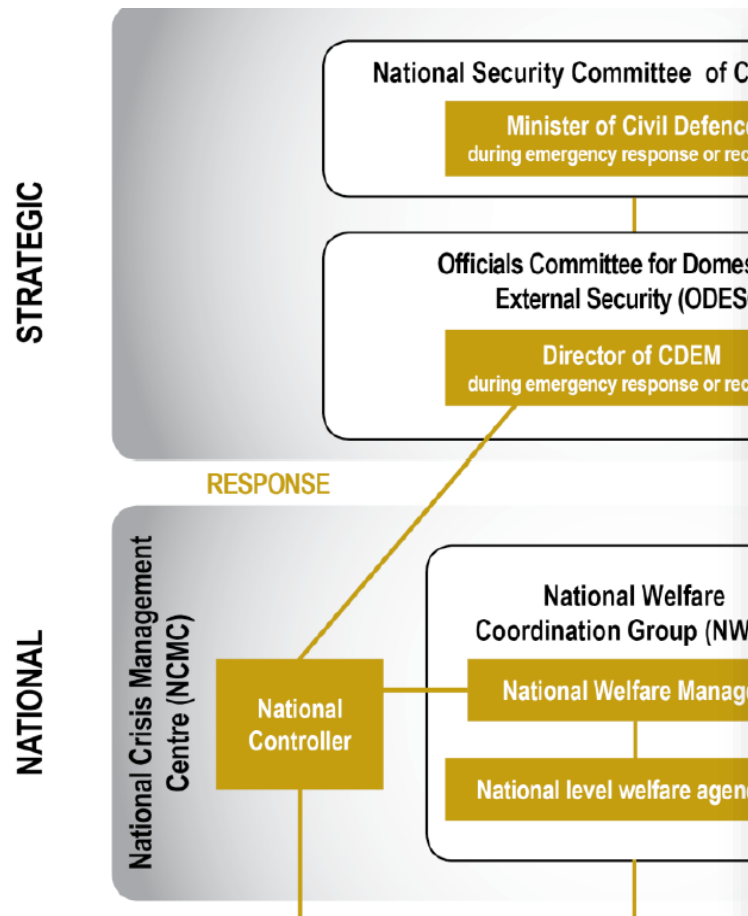


Figure 14.1: The welfare framework for emergencies where CDEM is the lead agency.



# National Welfare Coordination Group (NWCG)

## Responsible Agencies



Ministry for Primary Industries  
Manatū Ahu Matua



MINISTRY OF SOCIAL DEVELOPMENT  
TE MANATŪ WHAKAHIATO ORA



MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT  
HĪKINA WHAKATUTUKI



## Support Agencies



NEW ZEALAND RED CROSS  
RIPEKA WHERO AOTEAROA



Te Puni Kōkiri  
MINISTRY OF MĀORI DEVELOPMENT

...and many many more!



National Emergency Management Agency  
Te Rākau Whakamarumarū

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MINISTRY OF SOCIAL  
DEVELOPMENT  
TE MANATŪ WHAKAHIATO ORA



MINISTRY OF BUSINESS,  
INNOVATION & EMPLOYMENT  
HĪKINA WHAKATUTUKI

## Support Agencies



NEW ZEALAND  
RED CROSS  
RIPEKA WHERO AOTEAROA



FEDERATED  
FARMERS  
OF NEW ZEALAND



Te Puni Kōkiri  
MINISTRY OF MĀORI DEVELOPMENT

...and many  
many more!



National Emergency  
Management Agency  
Te Rākau Whakamarumarū







Questions?