VULNERABILITY TO CLIMATE CHANGE

This factsheet explains why some groups of people will be more at risk than others to the effects of a changing climate. Data and statistics are presented to identify some of these groups.

Some groups of people will be more at risk than others to the effects of a changing climate.[1-3] Vulnerability to climate change can be related to:

- increased **exposure** to climate changes,
- **sensitivity** to its effects, or
- reduced **capacity** to adapt to climate changes.

Potentially vulnerable groups include babies and young children, the elderly, indigenous populations, and those living in poverty. Examples of how groups could be more vulnerable are:

- People on low incomes generally have fewer resources to be able to protect themselves from **exposure** to extreme weather.
- People on low incomes may be less able to **adapt** to climate changes because they have fewer resources.
- Elderly people are more **sensitive** to dehydration on very hot days.
- Indigenous populations are often more dependent on climate-sensitive primary industries (like farming and fisheries).

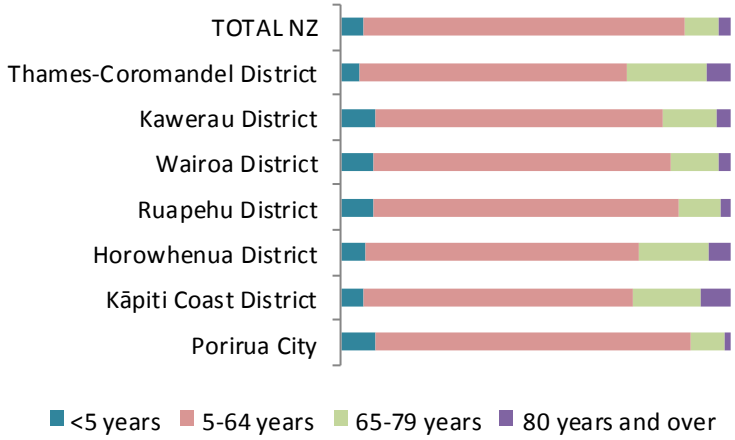
Monitoring vulnerable groups helps to plan for extra support

Identifying the location, size and type of vulnerable groups in a community helps us to plan what additional supports might be required for these groups to adapt to climate change.

For example, when a heat wave warning is distributed in parts of France, authorities will contact all elderly people living alone to ensure they are prepared. The aim is to decrease the excess illness and death in elderly people that has been seen in previous heat waves.

In the NZ context, the data on vulnerable populations could be used by local authorities to help decide how to target information on preparing for climate changes – including extreme weather events.

Figure 1
Age structure of NZ and selected regions, 2013
Source: Statistics NZ



Age

Vulnerable age groups are those under 5 years old, and those over 65 years old (particularly those over 80 years old).

Overall, New Zealand's age structure is not dominated by a large number of under 5 year olds, or over 65 year olds. However, some regions are different to the national picture (Figure 1). Thames-Coromandel, Horowhenua and Kāpiti Coast regions have the highest proportions of over 65 year olds. Kawerau, Wairoa, Ruapehu and Porirua have the highest proportions of under 5 year olds.

To demonstrate the impact of age vulnerability, an area with a large percentage of elderly or young people may need more supports in place to cope with unexpected weather events. They might need transport to collect essential supplies before a severe storm. These supports would normally be provided by the working age proportion of the population. An area with a large elderly or infant population would also be more susceptible to 'heat stress', or extreme cold.

VULNERABILITY TO CLIMATE CHANGE continued

Māori

Māori are likely to be more vulnerable to a changing climate due to increased exposure to environmental risks (e.g. more Māori live in the north and east of NZ where hot days are projected to increase[4]) and increased sensitivity to its effects (e.g. the Māori economy is heavily reliant on climate-sensitive primary industries[5]).

However, these causes of vulnerability need to be balanced against factors that will increase adaptive capacity– like whānau support.

Census data show the following areas have a high proportion of the population that identifies as Māori: Northland (Far North, Whāngarei and Kaipara Districts), the Bay of Plenty/East Coast (Whakatane, Kawerau, Ōpōtiki, Gisborne and Wairoa Districts), Ruapehu District, and the Chatham Islands (Figure 2).

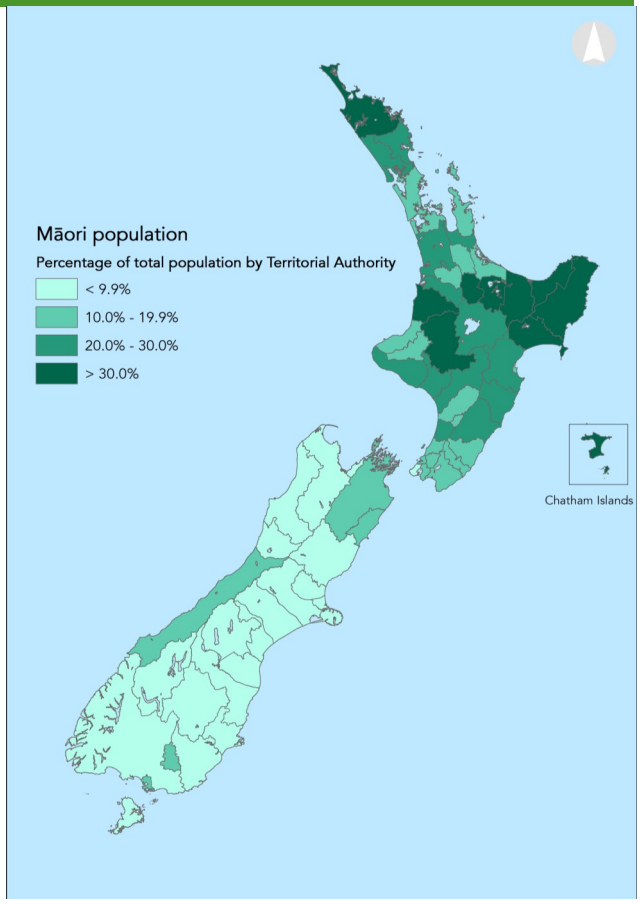


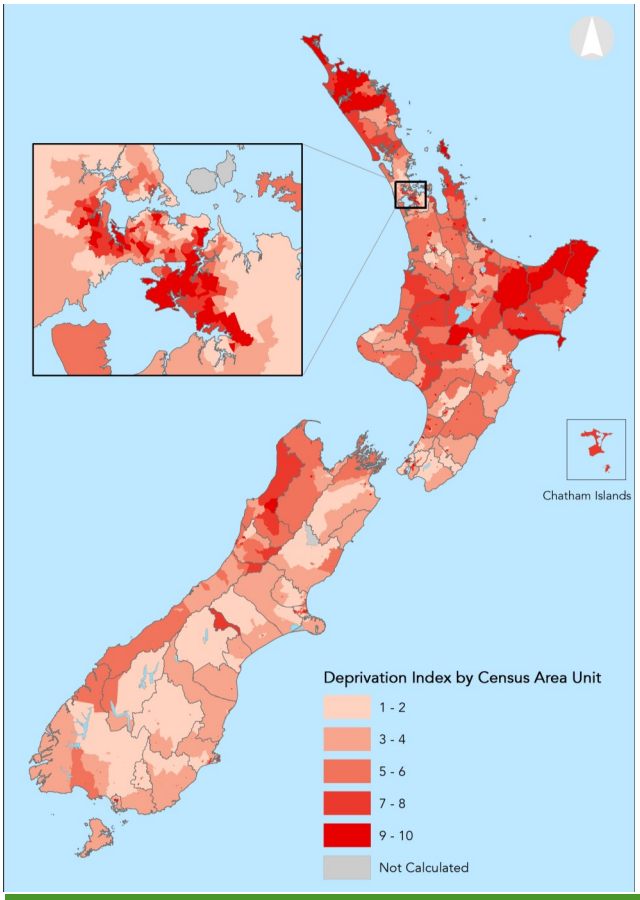
Figure 2
Māori population percentages, by Territorial Authority
Source: Statistics NZ Census 2013

Socioeconomic deprivation

People who live in poverty are more susceptible to environmental risks. In relation to a changing climate, for example, it can be harder to stay cool on a very hot day- if you don't have money for transport, it can be hard to get to a swimming pool or beach. Similarly, if you don't have money for a contents insurance policy, a big storm could cause damage that you are unable to repair.

In NZ, socioeconomic deprivation is measured at an area level by the NZDep score. Decile 1 is the least deprived 10% of areas, and Decile 10 is the most deprived 10% of areas. Regions with high levels of deprivation include Northland, parts of Auckland, parts of the Bay of Plenty, and the East Cape (Figure 3).

Figure 3
NZDep2013 Index of socioeconomic deprivation (NZDep2013 decile 1= least deprived)
Source: Statistics NZ and Otago University



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