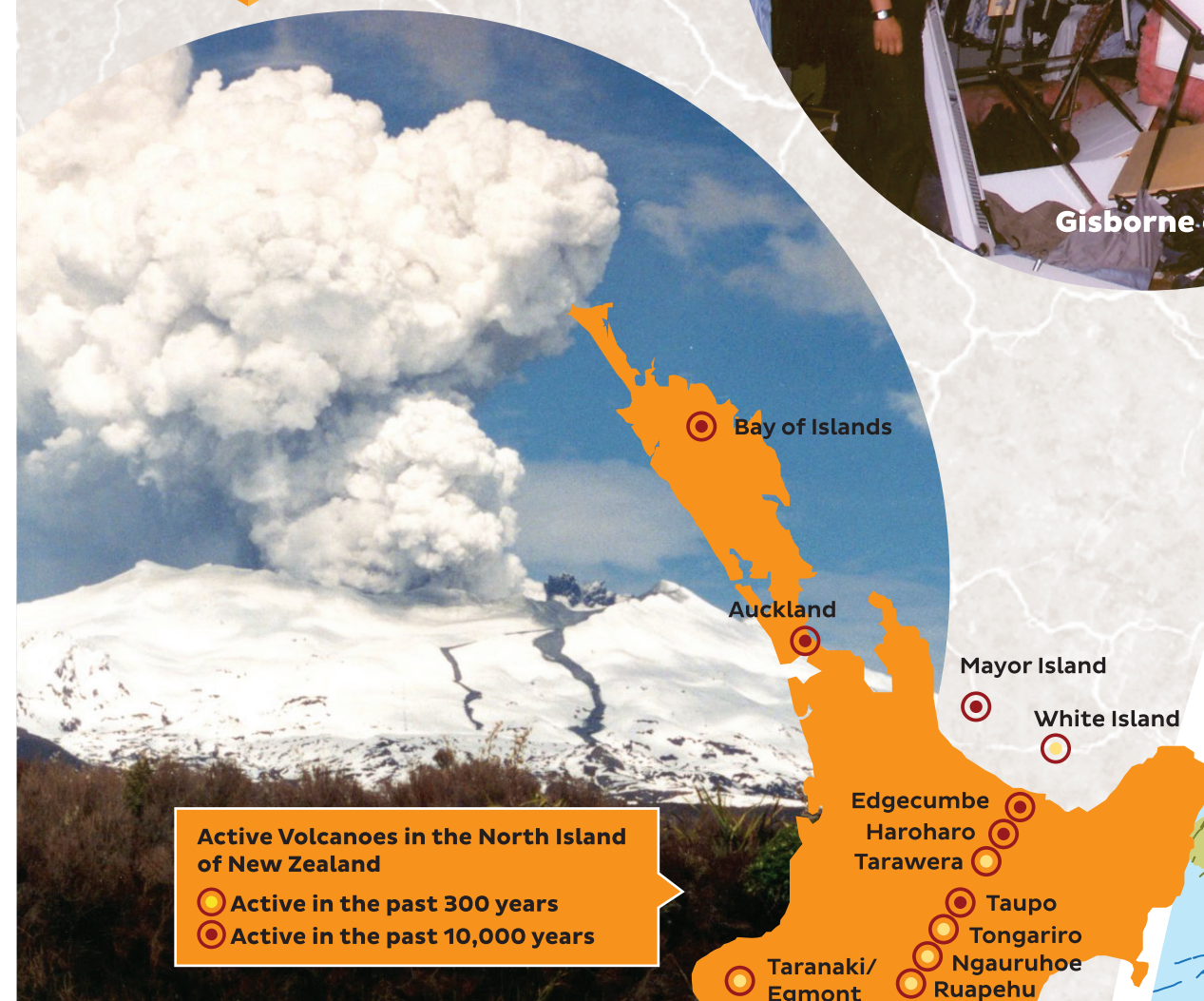
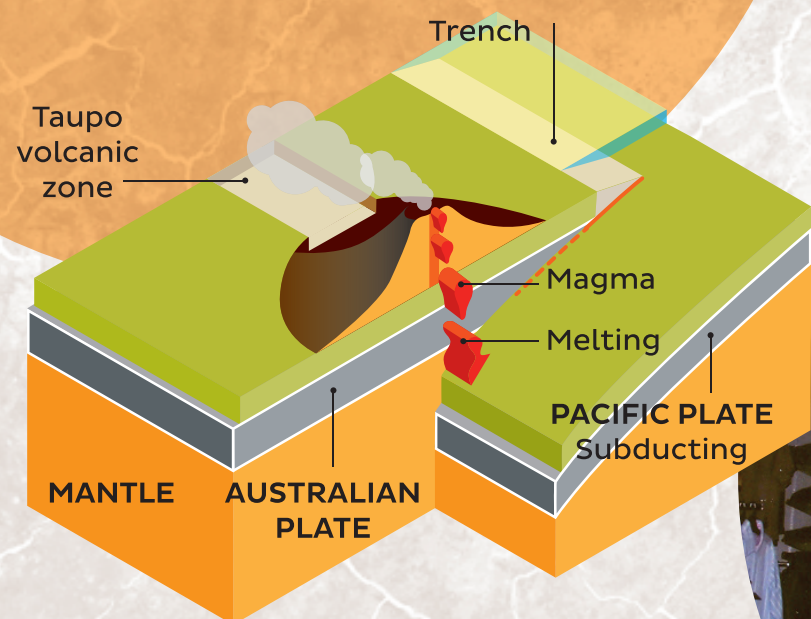


Earthquakes *Ngā rū whenua*

Hikurangi Subduction zone Āinga whakararo ā Hikurangi

The Hikurangi subduction zone lies just off the East Coast of the North Island. Here, the Pacific tectonic plate is slowly moving (or subducting) under the Australian tectonic plate. It moves at about the same speed as your fingernails grow. Scientists are trying to learn more about how the subduction zone behaves and how earthquakes, tsunami and volcanoes can affect us.

As the tectonic plates move past each other, they sometimes get stuck. Pressure builds up, until the tectonic plates finally gives way. Pressure can be released suddenly in an earthquake causing the ground to shake, or slowly over a period of days, weeks or months in a slow slip earthquake. Only scientists can tell when slow slip earthquakes occur, as we do not feel these types of earthquakes.

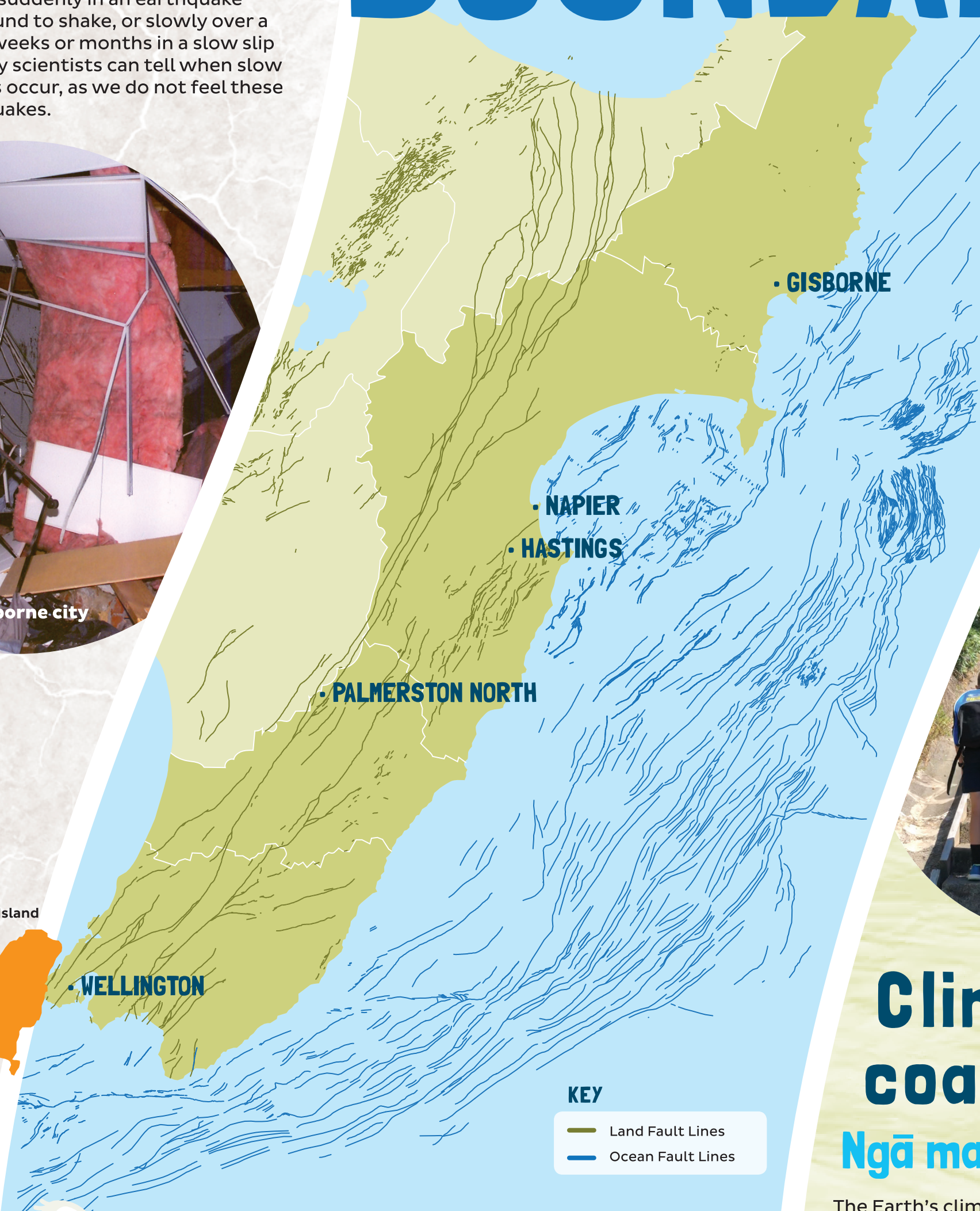


Volcanoes *Ngā maunga hū*

A volcano is a mountain from where magma, hot rocks and ash erupt through cracks or weaknesses in the Earth's crust surface. Sometimes magma will explode to the surface causing a volcanic eruption. The volcanic material produced by an eruption can be very destructive to those nearby, while ash affects those downwind.



LIFE AT THE BOUNDARY



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Tsunami can be caused by:



Earthquakes
from distant, regional and local sources.



Volcanoes
off shore and submarine



Landslides
from local land or submarine events

Tsunami

Te tai āniwhaniwha

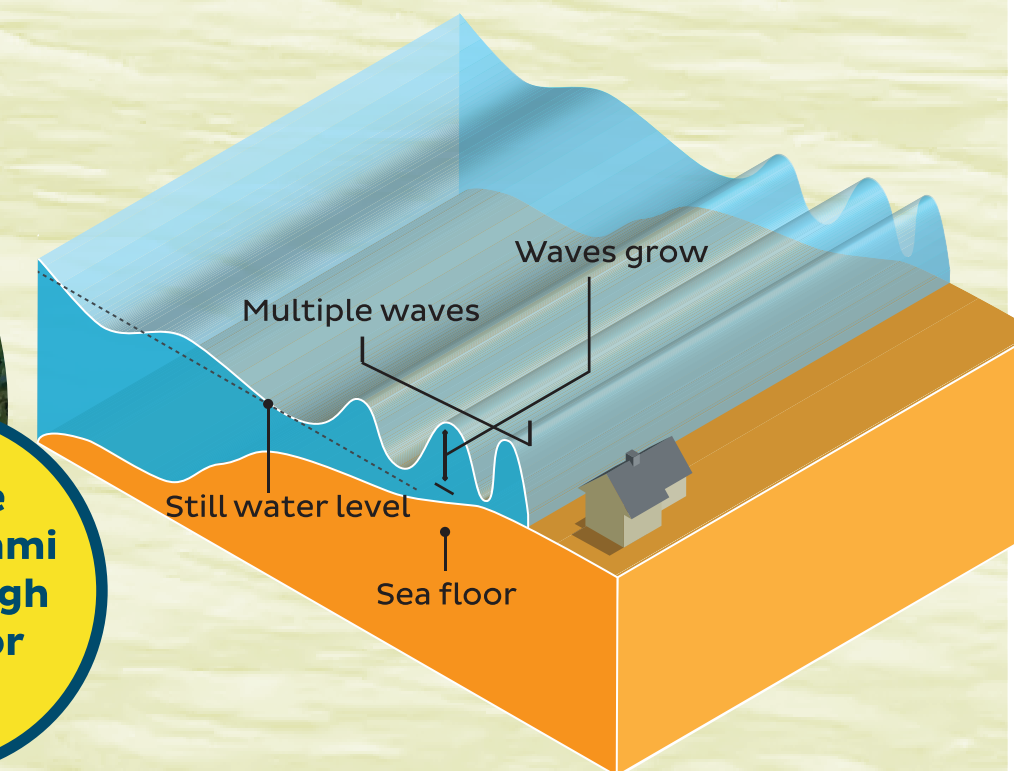
Tsunami (pronounced tsu - nam - ee) is a Japanese word meaning 'harbour wave'. It describes a series of fast travelling waves caused by large disturbances in the ocean. In the deep ocean, tsunami pass almost unnoticed, but as they reach shallower water, the waves slow and grow in height as they come ashore. Waves may travel much further inland than ordinary waves. The first wave will not necessarily be the largest and large waves may continue to arrive many hours after the arrival of the first wave.

REMEMBER

if you are near the coast and feel a **LONG** (longer than a minute) or a **STRONG** (hard to stand up) earthquake, **GET GONE** and move immediately to high ground or as far inland as you can.



Practise your tsunami hikoi to high ground or inland.



Climate changes & coastal hazards

Ngā matepā o te takutai

The Earth's climate is slowly getting warmer and in New Zealand, we have already experienced a rise in temperature of nearly 1°C since 1900. As the Earth warms up, ice caps begin to melt, and sea levels rise. As the sea heats up, water expands so, the water has more volume, and we get higher sea levels. This means waves and storm surges come higher up our coast and we lose more land from coastal erosion. Scientists predict that climate change will affect all hazards and their severity.

