



Preparing New Zealand for rising seas: **Certainty and Uncertainty**

Frequently Asked Questions

What is this report about?

The level of the sea is rising because of climate change. This report is about how the rising level of the sea will affect New Zealand. It describes the main impacts of sea level rise and examines current efforts by central and local government to prepare. The Commissioner is seeking an overhaul of the current approach and has made eight recommendations to the Government.

This report follows her 2014 report, *Changing climate and rising seas: Understanding the science*.

Why did the Commissioner decide to undertake this investigation?

As the sea rises, there will be impacts on our coastal towns and cities. Homes, businesses and infrastructure worth billions of dollars have been built on low-lying land close to the coast. Some areas will eventually become uninhabitable. New Zealand needs to take the time to prepare carefully for what lies ahead.

What are the report's main findings?

The Government must do more to help councils and communities deal with sea level rise. Sea level rise is inexorable but gradual, so there is time to develop a better approach, but we do need to start now.

What problems are caused by the rising sea level?

Coastal floods will become more frequent and extensive. Erosion of beaches and 'soft' cliffs will speed up and become more widespread. In places there will be groundwater problems.

How fast will the sea rise?

The IPCC has projected that the sea around New Zealand will rise about 30 centimetres in the next 50 years. The sea will continue to rise for centuries to come, but how rapidly it will rise is uncertain.

How rapidly it rises will vary a little round the country. The rate of rise will also be affected by long-term weather patterns.

During storms, storm surges can add several tens of centimetres to high tides.

Which parts of New Zealand will be affected?

Areas that are low-lying and close to the coast are in general most vulnerable to sea level rise. But local factors are very important. For example, open unsheltered coasts experience the full force of the sea, so are more vulnerable to flooding than enclosed bays.

Cities with large areas that are particularly low-lying include Napier, Lower Hutt, Christchurch, and Dunedin.

The report contains maps of Auckland, Wellington, Christchurch, and Dunedin showing the elevation of low-lying coastal land above the spring high tide mark. Further maps are available at www.pce.parliament.nz.

The available data shows about 9,000 New Zealand homes lying less than 50 centimetres above spring high tide levels. Accurate elevation data is not available for all towns and cities.

What needs to be done?

In the report, the Commissioner makes eight recommendations to the Government. Seven aim to improve the direction and guidance given by the Government to councils. The last recommendation is focused on the fiscal impacts of sea level rise.

How much sea level rise should councils plan for?

This will depend on the situation under consideration. For example, new suburbs and the expensive infrastructure they require are very long-term investments, and are expected to be there for the indefinite future. They should be established well above the current sea level. The subdivision of a quarter acre section in an already developed urban area is quite another matter.

How long have we got to prepare?

In general, there is some time to prepare for the future impacts of sea level rise. However, in some places and situations, action is urgent – for instance, restricting greenfield subdivisions in low-lying coastal areas and dealing with beaches where erosion is already threatening homes.

Who should be responsible for preparing for sea level rise in New Zealand?

In New Zealand, councils are responsible for planning for the impacts of sea level rise under the Resource Management Act. The Government has provided direction and guidance to councils, and most of the Commissioner's recommendations are aimed at improving this.

Do we need a National Policy Statement on sea level rise?

Preparing for sea level rise will have far-reaching and complex social and economic consequences. The Commissioner has concluded that a National Policy Statement (NPS) is needed to help us prepare for sea level rise. This could be a standalone NPS or be part of an NPS on natural hazards.

Such an NPS would need to work alongside the New Zealand Coastal Policy Statement, which has the important role of directing councils on how to sustainably manage coastal activities such as aquaculture and ports.

How has the Commissioner developed this report?

The investigation drew on scientific literature, government documents, and meetings with many people including scientific experts and affected communities. Some technical modelling and analysis was commissioned from the National Institute of Water and Atmospheric Research and Dr John Hunter at the University of Tasmania.

As with all of the Commissioner's reports, this report has undergone a rigorous peer-review process. It includes the latest projections of future sea level rise from the Intergovernmental Panel on Climate Change (IPCC). The IPCC reports cover the full range of climate change science and reflect the consensus of hundreds of experts from many different countries.

For additional frequently asked questions about the science of climate change and sea level rise, click [here](#).