

Climate change in NZ North Island to impact forestry productivity

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Droughts, fires, floods, farmers facing more pests and diseases, livestock stressed by heatwaves and a tide which keeps creeping up against the coast. This is how experts anticipate climate change will look in Tairāwhiti and Hawke's Bay in New Zealand over the next 80 years. Source: Radio New Zealand

A new report by the National Institute for Water and Atmospheric Research (Niwa) explores possible impacts of climate change for the two east coast regions, outlining the future with a scenario of continuing high emissions, and alternatively what it could look like if the world took effective action to reduce greenhouse gas emissions.

Tairāwhiti and Hawke's Bay are likely to see more "extreme hot days", less frost days and a shift to more extreme rainfall events.

With some of the most erodible soils in New Zealand, rainfall events were likely to cause more slips and erosion, as well as floods and damage to infrastructure in Tairāwhiti.

Gisborne District Council principal scientist Dr Murry Cave said climate change would be one of the biggest issues the region had to consider over the next century.

"It has the potential to significantly affect land use, water availability for horticulture and productivity of forestry, and change the dynamics of climate-based natural hazards the region will experience in the future," he said.

Tairāwhiti had already experienced significant social and environmental impacts from the forestry harvest in severe storms, and risks from those events could increase in the future, he said.

The report, commissioned by Gisborne District Council, Hawke's Bay Regional Council and Envirolink, said sea level rise in both regions was trending at about 4mm per year, just below the national average.

Mr Cave said a key issue would be the rise in coastal erosion and inundation, and its impact on residential properties and recreational activities.

There were also infrastructure threats like coastal erosion affecting road links between Gisborne city and towns further north, he said.

Niwa climate atmosphere and hazards manager Petra Pearce said they were expecting about a metre of sea level rise by 2100, which would have “considerable impacts” for people living on the coast, as well as infrastructure, the primary sector and native habitats.

Ms Pearce said Tairāwhiti and Hawke’s Bay were likely to experience some of the largest reductions in rainfall across the country throughout this century.

Annual rainfall was expected to decrease by up to 5% by 2040, while more dramatic decreases of 10% to 15% were expected by 2090, depending on greenhouse gas concentrations.

Ms Pearce said this would have implications for both regions, which were already dry and had experienced droughts regularly.

“We can expect those types of events and those dry conditions are going to become more common and more severe into the future,” she said.

This would impact on the agriculture and horticulture industries, river flows and water availability for drinking water supply, stock water and aquifer capacity. There was time to make plans to ensure water supply didn’t become a “major problem” but it was something that Tairāwhiti and Hawke’s Bay councils, decision-makers and residents needed to consider more than other parts of the country, Ms Pearce said.

Temperatures were projected to increase by 0.5 to 1 degree over the next 20 years, and by up to 3 degrees by 2090 under a high greenhouse gas concentration pathway.

This was likely to impact the primary sector through more pests and diseases and would affect the rate of plant growth.

Increased concentrations of carbon dioxide would increase forest, pasture, crop and horticulture growth however, it might also be limited by the availability of water.

Frosts were expected to decrease, and heatwaves were expected to increase, with the majority of both regions projected to receive 20 to 60 additional heatwave days a year by 2090 under the high greenhouse gas model.

To date, the council had relied on national projections for changes in temperature, rainfall and drought conditions, and had been reliant on outdated sea-level-rise projections.

The council’s objective in commissioning this report was to ensure it had the best possible information at a more detailed regional level to plan for how to respond and adapt to climate change. The report would be presented to a full council meeting for consideration and work was under way to assess how the report would be integrated into the review of the Tairāwhiti Regional Management Plan and within council asset management plans.

Information would also be used to assess long-term water supply issues for drinking water and agricultural and horticultural use.

Source: <https://www.timberbiz.com.au/climate-change-in-nz-north-island-to-impact-forestry-productivity/>