

# Case study

## Ā Kawatiri urutau i ngā āhuarangi

## Responding to a changing climate in Westport



**Ā Kawatiri urutau i ngā āhuarangi: Responding to a changing climate in Westport – a case study from He Pou a Rangi Climate Change Commission.**

The views and opinions expressed in this case study are those of the people we talked to during and after a visit to the Buller District in September 2025. This compilation of insights from that kōrero was created by the Commission, with the input of the people we talked to.

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**Disclosure statement:** As anticipated by the appointment criteria, the Climate Change Commissioners come from varying fields such as adaptation, agriculture, economics, te ao Māori and the Māori-Crown relationship. While a number of board members continue to hold roles within these fields, our advice is independent and evidence-based. The Commission operates under its Interests Policy, which is derived from the Crown Entities Act 2004. You can read more about our board members on the Climate Change Commission website. The Commission regularly updates and publishes on its website a register of relevant board interests.

**Cover image:** Getting together to get on with it – the Buller farming community works closely to find ways through changing conditions. Taane Johnsen, Stu Bland, Debbie Bland, Lyn Carmichael on the Blands' dairy farm in Reefton.  
Photo / AG Images

The tohu (signature pattern) used in this publication is part of the visual identity of He Pou a Rangi Climate Change Commission. It was devised by Dan Brown (Ngāti Ranginui) and inspired by a pātiki tukutuku panel which symbolises a future that is able to provide for everyone. In the same way making tukutuku is a technically precise methodical process, the mahi the Commission does requires a precise approach of measuring, reviewing and recording.

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# From our Chief Executive

**Tihei mauri ora!**

**Me wehi ki te Kaihanga**

**Ki a rātou kua tahuri atu, haere, haere, haere atu rā**

**Ka mihia a Ngāti Waewae, koutou ko te hapori, ko ngā kaupakihi o Kawatiri**

**Nō mātou te maringanui kia kite ā-kanohi, ā, kia wānanga tātou mō ngā huringa āhuarangi me ā koutou nā urutaunga, auaha hoki.**

**He maha kē ngā taumata ka pikihia e koutou, ngā waipuke nanakia mai, tētahi hapori tūhāhā mai, rīanga kore mai.**

**Ahakoā tērā, he mārohirohi koutou, ka kimihia te pae tawhiti kia mau, kia ū, me tō koutou nei tōmina, ka tautokohia tēnā e ngā kaupapahere ā-motu.**

**Ko koutou tērā me te whakaaro, me mate ururoa, kua ko te mate wheke.**

**Ka manakohia mai, kua pupuritia tika ā koutou nā kōrero kei roto i te tuhinga nei hei taonga mā koutou, mā te motu hoki.**

**E kore e ārikarika te mihi, tēnā koutou, tēnā koutou, tēnā koutou katoa.**

Adapting to climate change in Aotearoa New Zealand will look different from region to region.

While our role is to take a national view, hearing directly from people on the ground remains one of the most powerful ways for us to gather evidence and understand impacts.

Our visit to Westport in September 2025 gave us the chance to see first hand how a changing climate is shaping life on the West Coast.

The community's resilience is unmistakable.

As a small and geographically isolated town, Westport is used to tackling challenges head-on. That determination has only strengthened in the wake of the devastating floods of July 2021 and February 2022.

Since then, the town has been actively exploring options for a more resilient future, while making good progress with flood protection measures. But the challenges don't stop with the immediate aftermath of major events.

More recent headlines have highlighted growing concerns around property insurability, adding another layer of complexity for the community. The town is dependent on road and rail networks for import and export – with about 90% of food imported from other parts of the country, and farmers relying on roads for feed, fertiliser and milk collection tankers. In situations where roads are cut off, the township is isolated, as airlines that kept the airport open as a lifeline connection have pulled out in recent years.

Through our conversations, people told us they want to see national policy direction that looks further ahead – clear, consistent guidance that supports long-term planning and helps drive adaptation action.

They're looking for clarity, and a consistent mandate to help drive action forward.

In the meantime, the community continues to band together and support one another. Their willingness to share their experiences and insights has shaped this case study, allowing us to reflect their voices back to others working on adaptation mahi across the motu. Their contributions have also informed our 2026 national climate change risk assessment and the next progress assessment of the national adaptation plan.

By releasing these insights as an independent case study, we hope they will be accessible and useful to everyone involved in building climate resilience in communities throughout Aotearoa New Zealand.



A handwritten signature in black ink that reads "Jo Hendy".

**Jo Hendy**  
Chief Executive

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# Introduction

## This case study is based on kōrero with people in Westport and its surrounding areas in late 2025.

When our small group from He Pou a Rangi Climate Change Commission visited Westport in the Buller District in September 2025, it was to try and better understand how climate change affects people, businesses and communities currently, how they're responding today, and how they're preparing for an uncertain future.

Mana whenua, Ngāti Waewae, welcomed us to the area on a drizzly West Coast morning. As we gathered at Arahura Marae after driving up the rugged coastal road, we had a firsthand view of the dramatic landscape that has brought settlers and visitors to the

area for centuries. The West Coast is a natural environment of immense value: this narrow strip between the Southern Alps and the Tasman Sea features rainforests, glaciers, rivers and gorges, as well as geological features such as the Pancake Rocks and blowholes at Punakaiki. The region also has ancient native trees, unique wildlife and high biodiversity.

Over the following days we would meet with a dozen groups from across Westport and its surrounding areas: farmers, businesses, local residents, regional and district councils, community organisations and conservation staff.



Aerial view of the Buller Bridge crossing the Buller River. Photo / AG Images

The people we met spoke frankly and passionately about their lives in Westport: how the wild weather is a way of life that they are used to contending with, but an increasingly disruptive one. How they love their town and the community, but that some are starting to consider what life in a new location could look like. How the industries that are the bedrock of the town – mining, agriculture and tourism – are frequently affected by climate change, but also support the community through climate-related disruptions. How the town’s geographic isolation, which means it is frequently cut off during severe weather, has also fostered the self-sufficiency and community spirit that was so immediately noticeable to our group when we began our conversations.

This case study sets out what we saw and heard on our trip: the challenges, the responses, and what would most help as the town moves into the future.

## The importance of being on the ground

Case studies are a valuable part of the Commission’s mahi, including our adaptation work. The insights that communities give us into how climate change affects them and how they are responding are a critical part of our research.

These insights inform our statutory reports and advice, and are valuable to others working in adaptation – particularly local and central government, but also businesses and community groups.

Hearing directly from people on the ground is particularly important for adaptation, which is local by its very nature. The ways that climate change affects people and communities vary widely from region to region, just as regions vary in their capacity to respond.



Commission staff review Master Planning material at the EPIC Kawatiri Westport co-working space. Photo / He Pou a Rangi Climate Change Commission

The kōrero we heard in Westport form our fourth adaptation case study. In 2024 our case studies of Wairoa and South Dunedin formed part of our first assessment of progress made on the Government’s national adaptation plan.<sup>1</sup> In late 2025, we published a more in-depth case study on Te Taitokerau/ Northland region.<sup>2</sup>

Together, these four case study locations provide a diverse view of climate-related risks encountered in Aotearoa New Zealand, as well as different examples of community, and different stages of adaptation response. There are many common themes in the information people provided, and some important differences. These give us a picture of the complex ways that climate change affects the nation. The spread of perspectives also reveals what sometimes restricts responses, and helps identify what would support communities and businesses to adapt.

The effects of climate change and our efforts to adapt to it (as well as to reduce planet-warming emissions) intersect with a range of other environmental efforts, including those related to freshwater, land use and biodiversity. These are all operating to various degrees in Westport, though this case study is focused solely on climate adaptation.

This case study report does not compare what people told us with the adaptation action that Government is taking (including under the National Adaptation Framework released in October 2025<sup>3</sup>), or the developing understanding of the climate risks the country faces. That is the focus of our two key adaptation reports in 2026, where local information from case studies is combined with our analysis of data and research, and insights from central and local government, business and community organisations, researchers and subject specialists. Those reports are:

- The second national climate change risk assessment, published in May 2026. This assessed a wide range of risks to the country from climate change, and identified the most significant climate risks for the Government to respond to in the next six years.<sup>4,5</sup>

- Our second monitoring report on progress made under the Government's first national adaptation plan, which is due to the Minister of Climate Change by August 2026. This will review Government action to date, including that set out in the National Adaptation Framework<sup>3</sup> and recommend what will be needed in the next national adaptation plan.

Thank you to the dozens of people in Westport who welcomed us into your homes and businesses and shared your stories with us.

The stories we heard in Westport reflect locals' recent experience of changes in their climate, and their understanding of risks in the near future. It is a closer view, in time as well as place, than the national reports these case studies contribute to. Our two adaptation reports due in 2026 – the second national climate change risk assessment, and our second assessment of progress under the Government's national adaptation plan – provide a more comprehensive national picture based on a wide range of evidence, including long-term climate projections.



The Buller River breakwater wall at Kawatiri Beach, where the river meets the Tasman Sea. Photo / AG Images

# Overview and background

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# Snapshots of the local economy and future innovation

## Agriculture

The combined agriculture, forestry and fishing sector is the largest and fastest-growing industry in the Buller District. The farmers we spoke to shared their passion for their land and their livestock, as well as stories of the devastating effects that severe weather events had on their farms. They were unequivocal that the biggest challenge for them is not the flooding itself, but the days and weeks following an event. This is when farmers must continue to run their farm while also undertaking major clean-up and repairs – often without their full staff.



We heard time and again how critical road connections are for farmers. They said that clearing blocked roads and repairing damage to infrastructure was essential in order to minimise disruption to business.

Some of the farmers we spoke to also noted a growing number of warm days. We heard that some farmers are increasingly considering how to help stock cope with heat, and what future irrigation solutions to manage dry periods might look like.

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## Mining



The town of Westport was founded during the gold rush of the 1860s, and mining continues to have a strong presence in the community. We heard how the industry is a bedrock of the local economy, employing hundreds of fulltime staff and being a major contributor to the region's GDP. We also heard how the sector is not immune to the effects of climate change: heavy rainfall can disrupt mine operations, and surface flooding and landslides cause road and rail line closures that disrupt the export of coal.

Residents told us how the sector supports the community with time, money and expertise: many mining staff have advanced first-aid and civil defence training, which is valuable during severe weather events. Established mining companies in the region have made financial contributions that support resilience, such as purchasing communications infrastructure to assist communities when they are cut off.

Many people also spoke frankly to us about coal mining being a sunset industry,<sup>i</sup> while being optimistic about how new forays into mining heavy mineral sands could continue to support the community.

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<sup>i</sup> In some of our other work about how Aotearoa New Zealand can meet its emissions reduction targets, the Commission has advised a rapid phase-out of using coal for electricity generation and industrial process heat. Coal produced at the Stockton Mine is all shipped offshore.

## Conservation and tourism



The West Coast landscape – rugged, lush and untouched, with high biodiversity and unique native fauna – has long been a drawcard for visitors to the region. The untouched nature is not just a feeling: 87% of the Buller District is conservation land, under Department of Conservation (DOC) jurisdiction. As well as protecting the land, DOC has a mandate to host visitors to the region, including at the popular Paparoa and Heaphy Great Walks. DOC staff told us they have observed an increase in booking cancellations because of weather events in recent years.

DOC staff said they are challenged doubly by severe weather – infrastructure damage increases their workload, while the weather itself reduces the time available to do the repairs. As well as responding to damage caused by climate events, the trend towards warmer weather – especially the milder winters – is impacting biodiversity on DOC land: mice populations are increasing, and weeds are spreading faster.

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## Westport is often cut off in severe weather



The West Coast has limited connections to the rest of the South Island, and the linear transport networks (road and rail) between them are regularly affected by flooding and severe weather – most often from landslides or fallen trees.

These routes are critical for connecting people to essential services and surrounding communities, and also for export and import. We heard that around 90% of the region's food comes from outside the West Coast, and that the mining and agriculture industries require road or rail access (or both) to transport their products.

People said roading access is critical for providing timely assistance after a severe weather event – for repairs to houses and larger infrastructure such as power lines and stormwater drains.

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## A range of flood resilience measures are underway



Since the devastating floods of 2021/22, there have been a number of investments in improving the town's resilience and creating a vision for its future. In June 2023 the Government committed \$22.9 million to the Resilient Westport package to support initiatives to improve flood resilience. The projects in the package include amending the building code for floor levels, building a network of flood walls and stopbanks along the coast, and improving stormwater infrastructure.

One high-profile part of the package is the Master Planning process. This was an iterative, design-based planning process that looked at short-, medium- and long-term options for Westport residents. This process ultimately ended with a vision of Westport residents moving to an area of land currently owned by Landcorp (operating as Pāmu Farms) at Cape Foulwind, southwest of the current township. The goal is for a long-term, multi-generational phased move from the current location, rather than a single relocation.

The Master Planning project is now in its third and final stage, looking at spatial planning, land access and financial implications, including negotiating with central government, banks and insurers.

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## What people need to support adaptation



Throughout our visit, people described how proud they were of their response to climate hazards, particularly given the town's small population, isolation, and – in the case of the district council – low rating base. They were also not shy about telling us what they need more of to continue to adapt.

Staff at regional and district councils told us that national policy direction needs to be driven by longer-term thinking and planning. We heard a strong view that adaptation work should be locally led, but with a clear and consistent mandate from central government to help drive action forward. Above all, we consistently heard calls for increased funding to allow councils to implement work, after the research and planning phases are complete.

Some farmers in Westport told us that what they considered 'chopping and changing' of regulations makes it hard for them to get things done, including preparing for and responding to extreme events. They told us that clear guidelines around what they can do for themselves before and immediately following an event would enable them to get their land and business up and running again as efficiently as possible.

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## Explaining the terms: climate hazards and climate risks

For many people, thinking about the impact of climate change understandably prompts questions like: 'Will my home flood?' or 'Will the next big windstorm close the road?'

You might think of these as questions about risks or hazards, and many people use those interchangeably – but when we write about climate adaptation, they have specific meanings.

### Climate hazards

Climate hazards are the physical elements of climate change, such as heavy rainfall which causes surface flooding. These can be progressive and ongoing, like sea-level rise and changing weather patterns, or rapid onset, like extreme weather events and associated floods and landslides. They are one factor in a climate risk.

### Climate risks

Climate risks are the consequences we experience as a *result* of a hazard. They're made up of three factors: the **climate hazard** itself; **exposure** (who or what might be affected); and **vulnerability** (how someone or something might be affected and their ability to respond).

For example, when surface flooding overloads stormwater and sewage systems, the community's drinking water could be contaminated. Looking at this as a **climate risk** would take into account how *exposed*

the water infrastructure is (for example, if it is in a low-lying area), and how *vulnerable* it is to that hazard (for example, if it is older and therefore more likely to fail in a flood).

### Compounding hazards and cascading risks

As we heard during our time in Westport, the effects of extreme rainfall and other climate hazards are many and varied, and they frequently converge and interact with each other.

- Sometimes multiple hazards can occur at once or in quick succession, creating '**compounding hazards**'. This is where the effects of multiple hazards make things worse than any one thing on its own. Think of a storm with strong winds that knock down trees, followed by extreme rain. The flooding that occurs will be worse if there are trees blocking rivers than it would be if the rain fell in isolation.
- Sometimes, risks run in '**cascading**' chains of cause and effect, for example when a flood washes out powerlines, leaving people without the electricity they need to keep food safe or to keep wastewater systems running, and in turn increasing risks to human health.



The Buller Bridge on the Buller River as it heads past Westport to the Tasman Sea. Photo / AG Images

## What we mean by adapting to climate change

When we talk about *adapting* to the effects of climate change, the focus is on avoiding or reducing the harm or damage from climate hazards.

It's important to note that adapting to climate change doesn't mean reducing the hazard itself – adaptation can't slow sea-level rise or prevent extreme weather events. What it can do is reduce exposure and vulnerability.

For example, in Westport, efforts are being made to reduce (but not entirely remove) *exposure* by building stopbanks to protect the town from river flooding, or moving homes or infrastructure to higher ground. *Vulnerability* to flooding can be reduced by amending the building code to raise floor levels so that homes are not damaged by floodwaters.

For all its importance, there are limits to adaptation: it is likely that some residual risk will always remain. For example, stopbanks can protect a town from many events, but if they are eventually breached, they will in fact create greater exposure.

At the same time, as we consider how to adapt to the effects of climate change that are already locked in, it's critical to continue to reduce emissions to limit further warming of the planet. Continued action towards the global effort to limit further warming is necessary to reduce the scale and intensity of climate change impacts, and to ensure that communities in the future continue to have adaptation choices to make.

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# Westport, its geography and its climate

## The town at the mouth of the Buller River

The Buller River flows from Lake Rotoiti in Tasman District down through the Buller Gorge and into the Tasman Sea. Its Māori name is Kawatiri, which means *deep and swift*. This name is fitting; at 177 km long, the Buller is not the largest in the country, but when in flood, it has the highest recorded flows of any river in Aotearoa New Zealand. On a regular day, the Buller's mean flow is 454 cubic metres per second, but during floods in July 2021, Earth Sciences New Zealand (ESNZ, formerly NIWA) measurements recorded a flow of 7,640 cubic metres per second<sup>6</sup> – that's roughly the volume of water from three Olympic swimming pools every second.

ESNZ scientists took those measurements right at the mouth of the Buller River, in the town of Westport, home to around 4,600 residents.<sup>7</sup>

The Buller isn't the only river in Westport; snaking around the town, near the road north to Granity and Karamea, lies the smaller Orowaiti River, just 15 km long. To the northwest of the town sits the Tasman Sea, meaning Westport is effectively surrounded by bodies of water on all sides. Despite the inherent risks, building on a floodplain would have made sense to settlers when the town was founded in 1861, during the height of the West Coast gold rush. Proximity to the rivers and sea for transport was essential for export before viable inland transport routes were established.



The Buller River as it passes through Buller Gorge. Photo / AG Images

**“It’s not the largest river in New Zealand but it does experience the biggest flood flows. The flood levels through the Buller Gorge are incredible.”**

**Richard Measures, Earth Sciences  
New Zealand hydrodynamics scientist<sup>6</sup>**

## The notoriously wet West Coast

As well as water on three sides, Westport often receives it from above: the West Coast has by far the highest annual rainfall of any region in the country.<sup>8</sup> While the greatest rainfall is directly on the Southern Alps, the region’s populated areas such as Westport also receive plenty. Whereas most populated areas of Aotearoa New Zealand see between 600 and 1,600 mm of rain each year,<sup>9</sup> Westport gets more than 2,000 mm. This is mostly due to what’s called the orographic effect: warm, moist air from the west rising over the Southern Alps, cooling, and being released as rain on the West Coast.<sup>8</sup>

The distinct West Coast climate, combined with the town’s proximity to multiple bodies of water, leaves it prone to coastal, river and surface flooding. Significant floods have occurred throughout the town’s history, and in 1873 the town undertook a phased ‘dismantling and retreat’ process, moving slightly inland from its original location right on the seafront after experiencing coastal erosion, high seas and several severe floods in 1872.<sup>10,11</sup>

## Māori in Te Tai Poutini/ the West Coast

When Māori arrived in Aotearoa New Zealand in the late 13<sup>th</sup> century, they soon reached Te Tai Poutini, the West Coast. Here they discovered pounamu, which by the late 1300s was being transported and traded throughout the motu.<sup>16</sup>

Those early settlers are thought to have been Waitaha people, the first settlers of Te Wai Pounamu, the South Island. It’s likely that their early settlements were around the Māwheranui (Grey) and Hokitika rivers – key areas for pounamu-gathering.<sup>16</sup>

By the 16<sup>th</sup> or 17<sup>th</sup> centuries Ngāti Wairangi occupied Te Tai Poutini, and this continued until Ngāi Tahu people from Waitaha/Canterbury arrived in the 18<sup>th</sup> century.

Today, the hapū who hold mana whenua in Te Tai Poutini are Ngāti Waewae and Ngāti Mahaki, collectively known as Poutini Ngāi Tahu.

Ngāti Waewae, mana whenua of the Buller region, possess rich whakapapa (genealogical) connections to the earlier inhabitants, specifically Waitaha, Ngāti Māmoe and Ngāti Wairangi. The Buller region provided vital resources that sustained the hapū for generations. Kawatiri (Buller) River was historically used for transport and as a rich source of food with many mahinga kai (food gathering) sites across the region. The area remains a spiritual and practical focal point for the hapū.

Later, in 1926, records and photographs show a flood on the Buller River that likely surpassed even the record-breaking flood flow recorded by ESNZ (formerly NIWA) in 2021. According to ESNZ hydrodynamics scientist Richard Measures: “The recent flood flows in the Buller River are the highest of any river in New Zealand since 1926, when historic records and photographs of flooding show an even bigger flood on the Buller.”<sup>6</sup>

Since 1926, records show major floods in 1958 and again in 1970,<sup>12</sup> when the ESNZ monitoring station on the Buller River at Te Kuha, 10 km upstream from Westport at the bottom of the Buller Gorge, reached a record-breaking (at the time) 11.9 m.<sup>6,13</sup> There was a relatively quiet period until 2012,<sup>14</sup> when the level at Te Kuha reached 11.6 m. This was followed by more flooding in 2015<sup>15</sup> and ex-cyclones Fehi and Gita in 2018.

However, even for a town characterised by intermittent instances of extreme rainfall and flooding, the emerging pattern is undoubtedly one of heavier rainfall, more frequently, and climate projections show this is only set to continue.<sup>ii</sup>

## A duo of devastating floods

In July 2021, Westport and its surrounding areas experienced heavy rainfall that led to flooding across much of the town. The floods caused serious disruption to the town’s residents: more than 2,000 people were evacuated from their homes – almost half of the town’s 4,600 residents<sup>7</sup> – and insured losses were valued at more than \$87.9 million.<sup>17</sup> More than 500 homes were red- or yellow-stickered after the floods, and a year later, only around 100 had been repaired.<sup>iii,18</sup>

The July 2021 event was caused by 690 mm of rainfall over three days in parts of the West Coast.<sup>19</sup> For context, Christchurch city receives about that much rain across an entire year.<sup>19</sup> The town of Westport itself saw 150 mm of rain in that same time period,<sup>20,21</sup> not an insignificant amount, but much less than was recorded inland. Westport local Kelly Langford explained to us how locals know that the rainfall in Westport township doesn’t always dictate the extent of the flooding that occurs. Because of the power of the Buller River, intense rainfall around the Buller Gorge will lead to a surge downstream into the township. This can cause the river to breach its banks even if the weather in the town itself is not particularly inclement – which is what happened in July 2021. On 17 July, the ESNZ monitoring station at Te Kuha set a new record when it recorded the Buller River water level at 12.8 m.<sup>6</sup>

The rainfall that caused the floods was brought by an ‘atmospheric river’ that funnelled moisture all the way from the eastern Indian Ocean, past northern Australia, “before being dumped into the Tasman Sea, and then right into the west of the South Island”, according to ESNZ meteorologist Ben Noll.<sup>19,22</sup>

ii See: ‘What climate projections look like for Westport’ on page 22.

iii Red and yellow stickers are applied to buildings to identify immediate safety risks to a property and/or inform members of the public whether a property is safe to be in, not to indicate the level of damage that has occurred.



The eastern end of Westport during the July 2021 flood. Photo / New Zealand Defence Force

The power of water when it floods a town is not to be underestimated - just half a metre of water can pick up and carry a large vehicle,<sup>23</sup> and many residents reported water even deeper, up to waist-high, during the July 2021 floods.<sup>19,20</sup>

Seven months later, in February 2022, when many houses in Westport were still awaiting repairs from damage caused by the 2021 flood, a second serious rain event occurred in the Buller District. This time the flooding was more widely spread, affecting many rural communities. This meant fewer evacuations and red- or yellow-stickered residential properties in the township, but greater damage to infrastructure than the July 2021 floods.<sup>19,24</sup> A Cabinet paper from two months after the flood, in April 2022, sought emergency funding to support the area, and noted significant damage to the Westport water supply, other three waters infrastructure, and waste-removal infrastructure.<sup>25</sup>

The close succession exacerbated the effects of the floods: the same Cabinet paper refers to the compounding effect of the 2022 flood on a council with unresolved insurance claims and unrepaired damage from the previous year.<sup>25</sup>



Kelly Langford and her daughter Eleanor Langford, outside their Westport home. Eleanor is pointing towards where the floodwaters got to during the July 2021 floods (at its peak, the water reached the mail slot). Photo / AG Images

## A tight-knit and self-sufficient community

Part of Westport's appeal – to locals and visitors alike – is its isolation from the rest of the South Island, and indeed the country. There are a limited number of routes into the Buller District, and almost everyone we spoke to said how accustomed they are to fending for themselves, and that supporting each other during hard times is implicitly understood.

While the lingering distress of the recent floods was palpable as people told us about their experiences, we also heard much fondness for their community. People recalled hands-on support they had witnessed when homes and businesses were flooded – including neighbours helping to evacuate residents, turning off their evacuated neighbours' power so it wouldn't surge when it came back on, and pitching in with clean-up efforts.

Residents spoke frankly about 'getting on with it' and doing things themselves rather than waiting for help, which may be slow to arrive, if it ever comes. Westport local Kelly Langford told us about local rugby teams moving through neighbourhoods, helping people pull up wet carpet from their flooded homes before the stench of damp wool could set in. Another resident, Micky Ryan, ordinarily uses his Unimog all-terrain vehicle to run mining tours, but instead used it to rescue elderly people from their homes when there was no other way to safely reach them in waist-high water. Several residents expressed to us how grateful they were that staff from Pāmu Farms (the brand name of the government-owned Landcorp) came and helped remove the dead cattle that had washed up on the beach near the town.



Steph Newbury, Senior engagement advisor for the Resilient Westport programme at Buller District Council. Photo / AG Images

Many people we met – whether in formal meetings or around the town – spoke proudly of 'being a Coaster', and of the profound sense of responsibility to take care of their community that comes with that identity. Steph Newbury, Senior engagement advisor for the Resilient Westport programme at Buller District Council told us: "Something unique to Westport is that many of us don't move away. When you are here, you feel like you belong, and you have a sense of responsibility."

## By the numbers: the July 2021 flood

**2,000** residents evacuated.

**\$73.1 million**

in insurance claims in Westport spanning house, contents, and motor vehicle policies.

**\$24.1 million**

in insurance claims in areas outside of Westport.

**\$17.08 million**

for a temporary accommodation village for flood-impacted Westport residents.

Approximately **\$2 million** spent by KiwiRail on rail line asset repairs in the Buller area.

**1,400** lost cattle, many of which would have been pregnant dairy cows (valued at the time at \$1,800 per in-calf cow).

**\$200,000**

released for flood-affected farmers across the West Coast and Marlborough regions to be used for wellbeing support, specialist technical advice and other flood assistance.<sup>24</sup>

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# Westport's future climate

## Increasingly frequent and severe weather events

While heavy rainfall that causes flooding is not new to Westport, climate change is increasing the severity and the frequency of such events, and these increases are intensifying and will continue to do so. Some Westport residents are noticing this already, telling us that the total annual rainfall doesn't seem to have changed, rather that now sometimes "it all comes at once".

This is borne out by modelling: the Extreme Weather Event Risk Attribution Machine project funded by the Ministry of Business, Innovation and Employment estimated that the July 2021 Westport event was made 10% worse by climate change.<sup>20</sup>

In Aotearoa New Zealand, climate change intensifies heavy rainfall in two main ways.

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### Warmer air

Increased greenhouse gas emissions mean global surface temperatures have warmed on average by about 1.4°C since the late 19<sup>th</sup> century.<sup>26</sup> A warmer atmosphere holds more water – about 7% more for every degree of warming.<sup>27,28</sup> When this water is released, the precipitation that results can be 10% to 20% heavier than it would otherwise be.<sup>29</sup> ESNZ has used data from the Intergovernmental Panel on Climate Change (IPCC) to estimate that in Aotearoa New Zealand, one degree of warming translates to 14% more rainfall per hour in a one-in-50-year event.<sup>30</sup>

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## More frequent and intense storms and atmospheric rivers

Recent New Zealand research demonstrates that a warmer atmosphere will lead to more frequent and severe atmospheric rivers – the channels that move moisture in the air from the tropics towards Aotearoa New Zealand and that were behind the July 2021 rainfall in Westport.<sup>31</sup>

The combination of warmer ocean temperatures and more moisture in the air can increase the severity of tropical cyclones, while the area in which cyclones develop has been widening (and, in the southern hemisphere, moving closer to Aotearoa New Zealand) as ocean and air temperatures rise.<sup>5</sup>

While the warming planet is contributing to changing weather patterns, residents said land-use changes were also having impacts. For example, a continuing practice of building houses in known flood-prone areas made them exposed to heavy rainfall, as did increases in the amount of farmland surrounding the town.

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## More hot days and drought

At the same time as the region considers how to respond to increasingly intense rainfall, hot days and droughts are also becoming more common, and climate change projections show this will also continue.<sup>iv</sup> Many farmers told us that they're considering how to protect their stock from heat, and how to ensure they have enough water during dry periods.

We encountered this twin risk of flooding and drought in Te Taitokerau/Northland as well. Farmers and other primary producers in that region are already contending with both these climate risks in quick succession, and the trend is expected to continue.

## Rising sea levels

Sea levels around Aotearoa New Zealand are projected to rise by about 0.2 m by 2050 and up to 0.6 m by 2090, with higher rises possible under higher warming scenarios.<sup>4</sup> Higher seas can lead to increased erosion and coastal flooding, and can cause saltwater to intrude into coastal aquifers and groundwater.<sup>4,32</sup>

Buller District is highly exposed to coastal flooding. Around 14% of homes and 13% of the population of Buller District would be exposed to coastal flooding under 0.2 m relative sea-level rise (in a 1% AEP event<sup>v</sup>). Under the same scenario, a quarter of the population (25%) would be at risk of becoming isolated as a result of coastal flooding.<sup>33</sup>

iv See: 'What climate projections look like for Westport' on page 22.

v AEP, or 'annual exceedance probability', refers to the probability of a certain size event occurring within a single year. A 1% AEP event has a 1% chance of occurring in any one year based on the current climate; this is often referred to as a 1-in-100-year event. A 1% AEP event is commonly used in flood exposure assessments to provide an extreme scenario. It is important to recognise that today's 1% AEP flood (or 1-in-100-year event) will occur more frequently in the future.

## About climate projections

Aotearoa New Zealand is already experiencing the impacts of climate change and, as a result of past greenhouse gas emissions, these impacts will only intensify in the future.

To prepare for what these impacts might look like in the future, scientists use climate change projections, which show possible scenarios over the coming decades. Projections are not predictions, but they can show us how different future climates might unfold, which can help inform decision-making around adapting to climate change.

The IPCC assesses projections developed by leading scientists around the world to explore a range of futures.<sup>27</sup> ESNZ has refined the projections (using a process called 'downscaling') to produce information that can inform localised risk assessments for Aotearoa New Zealand.<sup>34</sup>

The projections shown in this report are based on an average of six different climate models<sup>vi</sup> (known as a multi-model mean) and the results of the individual models.

Averaging across models gives a central picture that can highlight overall directions and patterns of change. However, it can also mask the wider range of outcomes shown by individual models. Effective adaptation requires ensuring that systems are robust across a range of plausible future conditions, including the more extreme scenarios. The key takeaway is that a multi-model mean should not be the *sole* basis for adaptation planning.

The numbers in the table show the multi-model mean, as well as the lowest and highest figures from the six models.

The projections assess possible scenarios at two points: around 2050 and around 2090.

- A low climate impact scenario that broadly aligns with global warming of nearly 2.0°C above pre-industrial levels for both 2050 and 2090.<sup>vii</sup>
- A high climate impact scenario that broadly aligns with global warming of 2.0°C above pre-industrial levels by 2050, and 3.5°C by 2090.

## What climate projections look like for Westport

Using 2005 as a base year, projections show the Buller District could see the following changes in climate throughout the rest of the century.

- Annual rainfall overall is projected to change. Average rainfall increases in a low climate impact scenario over the 2005 baseline by 2090. In a high climate impact scenario, the models give varying results for changes in annual and seasonal rainfall by 2050 and 2090. (See table on page 23 for the range of projected changes.)

vi For more information, see the *Full assessment: 2026 National Climate Change Risk Assessment for Aotearoa New Zealand* on our [website](#).

vii Under the low climate impact scenario it is assumed the world takes sufficient action to reduce emissions. Even at two degrees of warming, there will be significant impacts of climate change on people, communities, businesses and the environment. For more information, see the *Full assessment: 2026 National Climate Change Risk Assessment for Aotearoa New Zealand* on our [website](#).

- The intensity of rainfall is projected to increase.  
Extreme rainfall events refer to how much rainfall there is on the wettest 1% of days in a year (roughly the three wettest days in each calendar year). In short: the wettest days of the year will likely be even wetter.
- Mean temperature changes are projected to increase in line with the rest of the country.
- Hot days are projected to increase.  
Hot days refer to days where the temperature is above 25°C. In the base period (1995–2014), there were on average 4 hot days per year.

See box on page 22 for information on projections shown in this table.

Climate variable		Low climate impact scenario		High climate impact scenario	
		2050	2090	2050	2090
Average rainfall (% change)	Average	+0.8	+3.9	+0.8	+0.2
	Lowest figure	-2.7	+1.8	-9.2	-5.7
	Highest figure	+6.8	+7.8	+4.8	+7.4
Extreme rainfall (% change)	Average	+4.2	+4.1	+4.2	+8.4
	Lowest figure	+1.5	-2.2	-1.6	+1.0
	Highest figure	+10.5	+9.6	+8.6	+17.4
Daily mean temperature increase	Average	+0.8°C	+0.8°C	+1.3°C	+3.0°C
	Lowest figure	+0.4°C	+0.6°C	+0.9°C	+2.0°C
	Highest figure	+1.3°C	+1.4°C	+2.0°C	+3.9°C
Additional number of hot days	Average	+3	+3	+8	+26
	Lowest figure	+1	+2	+2	+11
	Highest figure	+7	+7	+14	+45

Source: Commission analysis using data from the Ministry for the Environment.



# **What we heard on the ground**

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# The local economy

Agriculture, mining and tourism are some of the biggest contributors to the local economy, and all three are inextricably linked to the West Coast's natural environment.<sup>35</sup>

While the entire economy ultimately relies on the natural environment, these three sectors are all based on the direct use of natural resources to produce products and services. Their intrinsic links to the environment mean that such sectors are highly exposed to both

extreme weather events and ongoing and progressive effects of climate change.<sup>4</sup> The agriculture and mining industries can also have significant impacts on the climate and environment, although those impacts are not the primary focus of this case study.



Farmland next to the Buller River as it heads towards Westport. Photo / AG Images

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# Agriculture

Some parts of the West Coast landscape and climate are good for agriculture: the heavy rainfall allows for pasture to grow rapidly, and the mild summers ensure comfortable temperatures for stock. Others, like what's known as the 'pākihi' land, which is characterised by acidic and poorly draining soil, have required decades of land modification techniques. These have included humping and hollowing,<sup>36</sup> and more recently 'flipping', which describes digging the soil down to 2-3 m and mixing and inverting it to break up the iron pan that prevents easy drainage. Despite those challenges, today the agriculture industry (combined with forestry and fishing in sector statistics) is both the largest and fastest-growing industry in the Buller District.<sup>37</sup> The biggest contributor to the sector is dairy farming, with some beef and sheep and small-scale horticulture present.<sup>38</sup>

We met more than a dozen farmers from the surrounding Westport area on our trip, and they spoke passionately to us about their close connections with their land and livestock – many have been farming the land for generations. They also spoke frankly about the devastating and ongoing effects that severe weather events can have on their farms and the wider sector. We heard, for example, about milk that had to be dumped because of road closures, about costly damage to pasture and farming infrastructure, and about loss of stock lives following flooding. Several told us that the effects are often felt well into the next season.



Pāmu farmland at Cape Foulwind. Photo / AG Images

Matt O'Regan is a West Coast dairy farmer who shared with us his generations of local experience: he was born on the farm he now runs, and his grandparents lived on the farm next door. Matt recounted how, when his grandparents took their original farm on, a condition of the lease was to fell a further third of a hectare of land each year. Over time, the area of farmed land across the district dramatically increased, and farmers saw much greater run-off after storms, without the protection that the trees and bush offered. Matt explained how this expansion has continued throughout the twentieth and twenty-first centuries, and that the number of dairy cows in the West Coast doubled from around 80,000 in 1999 to a peak of 158,000 in 2016.<sup>viii,39</sup>

viii Stock numbers have since declined from that peak, due to multiple drivers.



Carol Keoghan (left) and Rebecca Walker, on Rebecca's farm on the outskirts of Westport. Carol and Rebecca are both members of the Rural Support Trust. Photo / AG Images

## A challenging recovery

Almost everyone had vivid memories of damage caused to their farms from weather events, even years later. Rebecca Walker, whose farm is on the outskirts of Westport, recalled the damage to her farm from a severe windstorm: "We had many hours of sustained gale-force winds. There was no power for five days so we had to do all our milking with a generator, our sheds were damaged, and our pasture was bruised and took ages to grow back". Farmer Carolina Burgos told us that she had just finished repairing the fencing on her farm after the July 2021 floods, when the February 2022 floods hit: "three days later, it was all gone".

Both the July 2021 and February 2022 floods hit farms hard. News reports after the July 2021 flood reported considerable damage to pastures, baleage and crop fodder and losses of hundreds of cattle.<sup>24</sup>

**"It's not so much the flood itself; that comes and goes. It's the 10 or 20 days after when you have to carry on running your farm while making repairs. It's really about how you cope in the aftermath, and the support you have."**

**Carolina Burgos, farmer**

Many farmers said the biggest challenge is often not the flooding event itself, but the days and weeks following. During this period, they must continue to run their farm while also undertaking clean-up and repairs as quickly as possible – often without their full staff. Repairing damaged fences without delay is critical for managing stock, including keeping them safely away from roads and waterways. We heard about the psychological

toll this pressure can take on farmers and their families, and how critical the support of the community is.

As Carolina said: “It’s not so much the flood itself; that comes and goes. It’s the 10 or 20 days after when you have to carry on running your farm while making repairs. It’s really about how you cope in the aftermath, and the support you have.” This sentiment was echoed by several others, who paid tribute to their neighbours, their local Rural Support group (including Rebecca Walker and Carol Keoghan, pictured previous page), and their wider networks for supporting them after the floods.

The Rural Support model supports people with direct assistance, such as coordinating mental health support, connecting farmers with services, responding to local emergencies, and arranging social functions between farmers. We heard that the personal connections created through the trust could be a lifeline for isolated communities.

## Critical connections

A consistent theme in our conversations with farmers was the importance of road connectivity between farms and processors. Taane Johnsen, Business Development Manager at Westland Milk Products was clear: “You can’t do *anything* on a farm without roads – all our fuel, [supplementary] feed and fertiliser travels on the roading network, as well as the tankers that collect our milk.” Lyn Carmichael, Project Manager of the West Coast Farm Plan Project, explained that most farms have a diesel supply tank on farm and keep sufficient diesel on hand to run their generators for several days. This allows them to keep milking and effluent systems working during power outages, but after a limited number of days, fuel deliveries are required. Slips and fallen trees frequently close the roads that link the West Coast, especially in key routes for the agriculture sector, like the Karamea Bluff Road.<sup>40,41</sup>

Johnny Exton, who has been farming in Buller for 20 years, agreed: “Roading is a



Taane Johnsen of Westland Milk Products.  
Photo / AG Images

huge issue for getting milk out and diesel for generators in.” He told us that the road to Karamea is particularly susceptible, with milk tankers often driving on a single lane due to closures.

Increasingly accurate weather forecasts and civil defence alerts are helping manage these issues, at least during the time of an event. For example, we heard that, when bad weather is forecast, Westland Milk will now come and collect milk from farms early to minimise wastage. The vulnerability of the local roads is well understood, disruptions are unavoidable, and residents plan around it.

For farmers focused on getting their businesses back up and running as quickly as possible, it can be frustrating to see delays take place for external reasons. For example, one recalled that after a particular weather event, contractors got a road cleared quickly; however, it was another few days before engineers were available to complete the necessary checks and approve it to re-open. This meant that large amounts of spoilt milk had to be dumped because tankers couldn’t reach the farms.



Dairy farmer Stu Bland on the Blands' farm near Reefton, West Coast. Photo / AG Images

## Heavy rain, but also a lack of it

While heavy rainfall was the most frequently mentioned climate hazard, some farmers also observed a growing number of warm days and an increasingly prevalent issue of low water supply in the summer months. Pāmu Farms, which manages more than 13,000 hectares of land on the West Coast, has recently undertaken climate risk assessments which found that drought ranked alongside heavy rain and flood in terms of risk level to local farms.<sup>ix</sup>

As farmer Stu Bland said, "it's unusual for the West Coast, but we do have to think about a lack of water in the future, think about our future irrigation, and being as efficient as possible with the water we do have."

We heard that, as hot days are predicted to increase,<sup>x</sup> farmers are increasingly considering how to help stock cope with heat. Matt told us about a compost barn he has installed to help his stock cope with increasingly hot summer days. "In the summer heat the cows will run to the barn. Cows like temperatures about 10 degrees colder than us; once it's over 15 degrees they get heat stress."

## Adaptation is underway

In many of our conversations with farmers we heard how they were adapting to climate change in countless ways – both small and large. As Lyn noted, this is partly because banks and insurance companies increasingly require it: "They want to see it in your farm plans, what are you doing currently around adapting, how are you building it into your planning."

ix Not available publicly, but summarised on page 9 of Pāmu's 2023 climate risk disclosure, available at <https://www.pamunewzealand.com/pamunewzealand-prod/corporate/images/Pamu-CRD-290923.pdf>

x See: 'What climate projections look like for Westport' on page 22.

Sometimes this work simply requires a broadening of perspective. Jack Raharuhi, Business Manager of Pāmu Farms' West Coast operations, pointed out that many measures kill two birds with one stone: "If you're improving your laneways to prevent lameness in your stock, you're also making them more resilient to heavy rainfall."

Several farmers said changes in technology are helping them manage their farm in bad weather. Improved cellphone coverage, and in some cases satellite internet, have been transformational for farmers, allowing them to access weather updates, communicate with staff, neighbours and suppliers, and continue to access online tools that support efficient farming practices and emergency preparedness.

When we met with the team at Pāmu Farms, they showed us Halter, the virtual fencing technology they have recently rolled out on their farms that allows farmers to continue to safely manage their herds in poor weather, protecting both farmers and stock.

However, Johnny noted that the list of potential farm improvements is endless, but time and money are not: "We have to see everything through a lens of 'will it make me money, save me money, or make my life easier?'"



Lyn Carmichael, Project Manager of the West Coast Farm Plan Project. Photo / AG Images

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### By the numbers: Westport's agriculture sector

**17.9%** agriculture, forestry and fishing's share of total industry in the Buller District.<sup>35</sup>

**5.2%** agriculture, forestry and fishing industry's growth between 2024 and 2025 (valued at \$7.2 million)<sup>37</sup>

**8.9%** growth of dairy herd area between 2024 and 2025.<sup>42</sup>

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# Mining



Former mining infrastructure on the Denniston Plateau near Westport. Photo / AG Images

Westport was founded during the peak of the West Coast gold rush, with the earliest gold seekers settling in 1861, close to gold deposits in Charleston and Addisons Flat. The gold-mining boom was largely over by the end of the 19<sup>th</sup> century, but coal-mining enterprises were already well underway, after significant quantities of bituminous coal were discovered in the Denniston Plateau.<sup>43</sup> Coal mining continues today at the opencast Stockton Mine, about 34 km north of Westport, and there has been substantial recent investment in extracting high-value heavy mineral sands.

Personal connections to the mining industry were a through-line of our conversations in

Westport: almost everyone we spoke to had a link of some sort. We often encountered people who had many generations of their family all working at Stockton, or heard of people who began work in the mines as teenagers, some of whom continued there through to their retirement.

We heard that extractive industries support the community in multiple ways: by employing hundreds of fulltime staff and being a significant contributor to the region's GDP, and in disaster response, with time, money and civil defence expertise. We also heard how the sector is feeling the effects of climate change.<sup>xi</sup>

xi While coal mining has had, and continues to have, a major influence on the West Coast economy, the Commission's advice is for a rapid phase-out of coal in electricity generation and industrial process heat to meet New Zealand's 2050 net zero target and to contribute to the global goal of limiting warming to 1.5°C. Coal is used both globally and in New Zealand for uses outside of energy generation, for example in the production of steel and methanol; the coal produced at the Stockton Mine is all shipped offshore for this purpose. The emissions from these processes are harder to address, but there are new opportunities emerging to substitute coal as global companies look to reduce their emissions.

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## Where managing water is a full-time job

Ian Harvey is General Manager Export Operations at Bathurst Resources, which is the primary owner of the Stockton Mine (the remaining 35% is owned by Talleys Energy). Today the mine produces exclusively coking coal which is exported for steelmaking. Its existing resource consent will be exhausted by 2028, but it is currently seeking extensions via the Fast-Track Approvals Act 2024 process that would see it access resources on around 800 hectares on the Denniston Plateau and south of Stockton for around another 20 years.

The mine's location high on an escarpment means it sees even greater rainfall than in Westport, and it has comprehensive rainfall records going back to 1945, which reflects the significance of rain to the mine's operations. Ian told us that at Stockton, water management drives the entire mine management process. During the heavy rainfall that caused the February 2022 floods, Stockton recorded 1,600 mm of water across the month, and 750 mm in just 48 hours.

There are several reasons for closely tracking rain levels at Stockton. One relates to internal mine logistics: slips caused by heavy rainfall can disrupt the 2.3 km-long aerial ropeway system that the company uses to move coal from 320 m above sea level to Ngākawau on the coast. The system transports 320 kg of coal per hour, up to 18 hours a day during the week. After the February 2022 floods, the ropeway was out of action for two weeks, resulting in a full 50,000 tonne shipment being lost from the company's sales plan for the year.

**“Water management drives the entire mine management process.”**

**Ian Harvey, General Manager Export Operations, Bathurst Resources Ltd**

Beyond the mine itself, the rail route that is used to export coal is exposed to land slips caused by heavy rain. While the most direct export route to Australia would be straight from the West Coast, it's not feasible to ship straight from the town's port, as the vessels it can service are too small (with a capacity of around 7-8,000 tonnes) to efficiently transport Bathurst's coal. Instead, the coal travels approximately 400 km by rail to Lyttelton Port in Christchurch, which can accommodate vessels that take around 60,000 tonnes of cargo. In Ian's words: “The logistics pathway is long.”

Ian told us about significant disruptions to the export pathway when rain caused an outage on the Midland rail line that lasted for two weeks in 2024. He said that Stockton's previous owner, the government-owned Solid Energy, had considered building a jetty at the port in the 1990s, but, at that point, rail transport was more cost-efficient.

Ian sees that this may change, and that having the ability to barge coal to Lyttelton for its subsequent export would be of value. He noted that Buller District Council, Ministry of Business, Innovation and Employment's Kānoa - Regional Economic Development and Investment Unit and Development West Coast had committed \$4.87 million<sup>44</sup> to upgrade port infrastructure, and saw this as a positive step towards increased resiliency.

As occurred many times during our Westport conversations, Ian noted the dual benefit of investing in infrastructure. Not only would it keep things moving during weather-related interruptions, it would also support resilience when the Alpine Fault that runs almost the entire length of the South Island has a major earthquake: a threat that looms large for most West Coast residents.

While the Alpine Fault is not a climate hazard, it's certainly behind much of Westport's strong focus on emergency preparedness. Scientists predict there is a 75% probability of an earthquake occurring on the Alpine Fault in the next 50 years, and a 20% chance that, when it does, it will be a magnitude 8+ event.<sup>45</sup> Several Westport residents said the town could be cut off from the rest of the country for weeks or months after a major earthquake, and this sombre knowledge has driven a lot of their preparation measures.

## Supporting community resilience

Several Westport residents told us about various ways the Bathurst-owned Stockton mine supports the community when climate events hit – with time, money and expertise. We also heard that the specialist training that is required of mining staff to safely do their jobs is also valuable to the community at large. Because of the inherent danger of the work and, given an ambulance could be more than an hour away if an incident was to occur, mine management must take emergency preparation incredibly seriously. All staff undertake advanced first aid training, with many specifically trained in rope work and confined spaces. As well, the site has medical facilities and does frequent drills: as Ian grimly told us: "We have to be ready to evacuate 200 people in a hurry if we need to."

Ian estimated that around 40% of the Stockton workforce already take these skills into the community, volunteering at Civil Defence, the volunteer fire brigade, and Hato Hone St John.

As well as first-aid training, around 40 of Bathurst's 400 fulltime staff are trained in the coordinated incident management system (CIMS), New Zealand's system for responding to incidents that involve multiple responding agencies – as climate-related hazards very often are. After the 2021 flood, the mine was closed for a week and employees who



Left to right: Stockton Mine employees Bernie Wesselingh, Tom Lucas and Charles Bruning, in the Buller Civil Defence Emergency Operations Centre in Westport. Bernie told us that "volunteering during the flooding highlighted the important of teamwork during severe weather events." Photo / AG Images

were't directly affected by the flooding continued to be paid for volunteering during their usual working hours. Stockton staff volunteers worked at the 24-hour emergency operations centre and evacuation centres, and worked with local agencies such as LandSAR, Red Cross and the National Emergency Management Agency, contributing more than 16,000 lost-time-injury free hours of workforce time – see picture above.

## Buller Resilience Trust

As well as providing on-the-ground support during weather events, the mining industry contributes to longer-term resilience projects in the community via the Buller Resilience Trust. Bathurst is the sole funder of the Trust, providing around \$200,000 each year towards things like upgrading community halls with Starlink and satellite phones to maintain connectivity, or purchasing a generator for the Kawatiri Medical Centre in Westport to ensure it can offer services when the power is down.<sup>46</sup>

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## A sunset industry: the transition from coal to minerals

Many in Westport acknowledged the reality of coal as a finite resource: even if Bathurst Resources' application for consent extension is approved, this is still likely to provide no more than another 25 years of continued extraction on the West Coast.

Development West Coast chief executive Heath Milne told us that the region's long-term plan is to transition away from traditional extraction opportunities towards other natural resources.

However, nothing is guaranteed: in March 2026, Westland Mineral Sands, which had raised \$70 million in the previous three years, including from Development West Coast, announced a temporary operational pause, including disestablishing 40 jobs. The pause was due to sustained pricing weakness in global markets, as well as ongoing volatility in shipping and energy costs.<sup>47</sup>

Heath remained positive about the potential for heavy mineral sand extraction, including for technologies central to a low-carbon transition, such as wind turbines, electric vehicle batteries and solar panels. "While the market is currently subdued due to geopolitical issues, generally demand is through the roof for ilmenite, which goes into titanium, you use garnet for high-precision cutting, and monazite and zircon in other technologies," Heath told us.

He told us that the region's economy could benefit not just by ensuring access to the minerals themselves, but by accessing more stages of the value chain. Currently heavy mineral sands are separated in China, but there is a consented proposal to build a separation plant on the West Coast, which would mean that not just mining staff but also highly skilled laboratory technicians would be employed in the region.

As well, a new gold mine is now operational at Snowy River, south of Reefton. Heath reported that a gold refinery is recently operational, and a gold processing plant is now in development. Milne says: "That adds two steps to the value chain for us."

Heath and Ian both told us that different types of mining require similar skillsets, meaning that many of the existing coal miners would be able to transition into a new era of extraction on the West Coast.

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### By the numbers: Westport's mining sector

**16.6%** mining's share of total industry in the Buller District.<sup>35</sup>

**400** fulltime employees at the Stockton Mine in 2025.<sup>xii</sup>

**\$36 million** in wages paid by Bathurst Resources in 2026.<sup>xiii</sup>

**\$752,000** contributed to projects by Buller Resilience Trust.<sup>46</sup>

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xii Figure provided by Bathurst Resources Ltd.

xiii Figure provided by Bathurst Resources Ltd.

# Conservation and tourism

The natural environment of the West Coast has deep intrinsic value: for a relatively small area of land it boasts a remarkable range of features: rainforests, glaciers, rivers and gorges, unique wildlife and high biodiversity. This dramatic and diverse landscape has long made it a drawcard for tourists. As well as the rugged coastline and lush rainforests, part of the appeal is how largely uninhabited it is: 87% of Buller District is conservation land, including the Kahurangi and Paparoa National Parks and other protected areas. There is also a large amount of 'stewardship land', which is not formally classified but is managed by DOC.<sup>xiv,25</sup> With only around 10,000 people living in the remaining 13% of land area, the district has a population density of just 1.3 people per km<sup>2</sup>, one of the lowest in the country (Aotearoa New Zealand as a whole has a density of around 19–20 people per km<sup>2</sup>).<sup>48</sup>

As well as protecting land and biodiversity, DOC supports recreation and tourism opportunities on the conservation estate. In Buller District, this includes the popular Paparoa and Heaphy Tracks – two of the country's 11 Great Walks.<sup>xv</sup> DOC staff said that, despite continued high demand for the

tracks, there has been a noticeable increase in booking cancellations because of weather events in recent years.

Senior DOC ranger Brian Thomas has lived in Westport all his life and has observed shifting seasons and more intense weather events in recent years. Echoing many other people we spoke to, he said: "Westport always gets its two metres of rainfall a year, but what I'm seeing in the last five or six years is long dry spells followed by a deluge – it's much more concentrated."

As well as booking cancellations, Great Walks and other tracks often suffer damage to infrastructure such as bridges and fencing that forces parts of the track to close for repairs. DOC staff spoke frankly about the pressure they feel to maintain the visitor destinations so that people can enjoy them safely. Brian told us that rangers are doubly challenged by severe weather – infrastructure damage increases their workload, while the bad weather reduces the time available to do the repairs.

xiv In December 2025 Conservation Minister Tama Potaka announced reclassification decisions for stewardship land on the West Coast of the South Island. At the time of writing the Department of Conservation (DOC) advised that the volume of public conservation land has not changed as result of these decisions. Within the Buller local authority district, the Minister has directed DOC to consider 30 stewardship areas for disposal, covering up to 218 ha of stewardship land. This is out of a total of 111,777 ha of stewardship land in the Buller District.

xv Self-guided multi-day hikes with hut accommodation that often sell out as soon as bookings are made available each year. Read more at <https://www.doc.govt.nz/parks-and-recreation/things-to-do/walking-and-tramping/great-walks/>

**“Just getting the work done is difficult. We need to get it all done in the fine periods.”**

**Brian Thomas, Department of Conservation senior ranger**

## Challenges to biodiversity

Periodic severe weather events are not the only way climate change is affecting the natural environment. Jane Williams, Programme Lead (Bathurst Project) at DOC, told us how warmer weather and seasonal shifts are impacting species and biodiversity on DOC land. “With the warmer and wetter weather we are seeing increased weed distribution and growth rates.” She explained that the warmer weather changes the growth areas dramatically; weeds are now found at much higher altitudes, which makes them much trickier, logistically, to manage: “We try not to use helicopters, but we have to for some of the remote areas.”

The warmer winters in particular mean mice numbers no longer see a seasonal drop, which had previously prevented the population from getting out of control.

And while pests such as mice and predators such as feral cats are thriving, many rare and treasured native species are finding the changes in weather patterns increasingly challenging. The West Coast is home to many species and subspecies of *Powelliphanta* snails – one of Aotearoa New Zealand’s most distinctive, and threatened, invertebrates.<sup>xvi</sup> “Our [native] snails are having a hard time,” Jane told us. “They can be desiccated after even a short dry event if there is no cover around, like on Denniston [Plateau].”

xvi DOC writes about *Powelliphanta* snails: “*Powelliphanta* are giants of the snail world. They are also beautiful. Their oversize shells come in an array of colours and patterns, ranging from hues of red and brown to yellow and black. They are as representative of New Zealand’s unique evolutionary history as the kākāpō, moa or kiwi.” Read more at <https://www.doc.govt.nz/nature/native-animals/invertebrates/powelliphanta-snails/>



Jane Williams, Programme Lead (Bathurst Project) at the Department of Conservation, in native bush near Westport. Photo / AG Images

“Floods also have a huge impact; snails can recover if they’re drenched for a short period of time, but not if for longer.”

## Planning for the future

As well as managing the land and its flora and fauna in the immediate aftermath of weather events, DOC is planning for how to adapt in the future. At a national level, this looks like determining the exposure to climate hazards that their various sites have, assessing climate change risks for various infrastructure, species and ecosystems, and then planning and carrying out work to reduce those risks. At a local level, Brian said this means investing more time and money to plan how the department builds tracks and positions culverts to ensure long-term resilience. “It’s more expensive, but we need to be resilient. We’re putting effort in upfront with the design and construction and it pays off.”



Punangairi Visitor Experience Centre at Punakaiki. Photo / Department of Conservation

All the DOC staff we spoke to in Westport said they felt increasing pressure to do more as kaitiaki of the land. They talked about opportunities to partner more with councils, local iwi Ngāti Waewae, community groups and businesses to be able to achieve their restoration and biodiversity projects. Brian put it bluntly: “We just don’t have the resource to work with those partners as much as we’d like – we are focused on maintaining what we’re doing now, and work levels have increased, especially with the climate change impacts we are facing. Our biggest risk to infrastructure is coming from the back country alps and high country water catchments, these are high impact concentrated storm events that happen quickly and they’re having massive impact when they occur. We now design our infrastructure to take this into account; recent work done on the Heaphy Track, moving and redesigning bridges to better sustain extreme weather events is as an example and so far it’s paying off.”

In 2024, DOC partnered with Te Rūnanga o Ngāti Waewae to open Punangairi Visitor Experience Centre, a purpose-built centre, as part of the Dolomite Point Redevelopment Project at Punakaiki. The project was jointly funded by DOC and the Government’s Provincial Growth Fund initiative to strengthen the West Coast tourism industry, while supporting and upskilling the local workforce during construction.<sup>44</sup>

Steph Newburry, Senior Engagement Advisor of the Resilient Westport Programme at Buller District Council, urged us to remember that regions like the West Coast are the beautiful, untouched areas that New Zealanders love to visit and want to see cared for and maintained. It’s only reasonable, she reckons, that the coast and similar regions sometimes need help to survive: “It’s not viable to expect these places to survive as beautiful holiday destinations without some support in the harder times.”

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### By the numbers: Westport’s tourism sector

**\$94.3 million**

total tourism spend in Buller District in 2025.<sup>50</sup>

**3.6%**

increase in tourism spending in Buller District between 2024 and 2025. Spending across New Zealand was consistent with the year before.<sup>50</sup>

**500,000**

visitors each year to Dolomite Point at Punakaiki (before the impact of COVID-19).<sup>49</sup>

**2**

of the Department of Conservation’s 11 Great Walks are in Buller District.<sup>51</sup>

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# Westport is isolated, and frequently becomes cut off in severe weather



The West Coast has limited transport connections, both up and down the coast itself and to the rest of the South Island. Road and rail routes are regularly affected by flooding and other severe weather events – most often from landslides or fallen trees.<sup>40,41</sup>

These routes are critical for connecting people to essential services and surrounding communities, and also for export and import.

The majority of the region's food comes from outside the West Coast, and the mining and agriculture industries require road or rail access (or both) to transport their products. Coal and minerals must be shipped 400 km to Lyttelton Port in Christchurch before they can be exported, and milk and other agricultural products need to be regularly collected and transported for processing.



Bernie Wesselingh (left) and Tom Lucas, volunteers at the Buller Civil Defence Emergency Operations Centre in Westport. Photo / AG Images

We heard that roading access is critical for recovery after a severe weather event – for emergency management access, and for repairs to houses and larger infrastructure like power lines and stormwater drains. Westport resident Kelly Langford was working at Buller District Council in the building consent department at the time of the February 2022 floods. She gave us many examples of friends and neighbours waiting for contractors and supplies to come from out of the region to assist with repairs. She also described frustrating delays caused by the need for engineers to travel from Christchurch to check that storm drains were clear, or the influx of out-of-town electricians that was needed to check each power point in a house before a red or yellow sticker could be removed.

Janis Lennon from Buller Civil Defence explained how isolated parts of the district could be in an emergency and how staying connected is vital. “In Buller we have 19 communities that we know of that will be completely isolated, each ranging from 10 to 1,500 people. Across the whole of the West Coast there are 60 communities. As a community group we are trying to make communities as self-sufficient as possible so that when they are isolated, they have a way of communicating.” Janis said that to strengthen connectedness, Buller Civil Defence recently received \$250,000 in funding via the Government’s Better Off Fund, which supports community wellbeing initiatives. This enabled the 19 most-isolated communities to all receive VHF radios and satellite internet units with Ecoflow batteries that are run by solar panels. This, along with other equipment, and further training, will support the most isolated communities in Buller to stay connected to critical updates during weather events.

**“We are all food insecure in an emergency.”**

**Rosie McGrath, Health NZ**

Rosie McGrath, who works in the National Public Health Service for Health New Zealand | Te Whatu Ora, told us that around 99% of food on the coast is imported from other parts of the country.<sup>xvii</sup> She explained how most milk that is produced on the West Coast travels to Christchurch for processing before it comes back to the region, so if the road routes are closed, even local products can be unavailable to the community. Part of Rosie’s role is educating the community that, while some Westport residents face food insecurity as a daily reality, this will be everyone’s situation if road and rail routes are down after a natural hazard: “We are all food insecure in an emergency”.<sup>xviii</sup>

She told us about community groups that are tackling food redistribution and establishing community pātaka, which she acknowledged were equally a cause for celebration and also a band-aid, rather than a true solution to the structural inequity behind the issue. As she said: “In an emergency you might realistically need food for three months. But to say that to some people here is an absurd proposition. Even if you could give them the food, they would just eat it immediately because *today* is in an emergency for them.”

xvii Based on research conducted by KNECT – Kawatiri Nature Environment and Communities Trust.

xviii While official figures on food insecurity in Westport are not available, Health NZ told us they were aware of increased food insecurity as the cost of living has risen since COVID-19.

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# Who gets hit hardest by climate change?

A complex web of factors affect how hard certain people and communities are hit by the effects of climate change, and how equipped they are to respond to those effects.

Many residents of the Buller District live in rural areas,<sup>52</sup> and many are employed in climate-sensitive industries like farming.<sup>53</sup> These are two factors that amplify the region's exposure to the effects of a changing climate overall – if a large percentage of people are affected by flooding and coastal erosion hazards, or by threats to their infrastructure and livelihoods, that intensifies the pressure felt across the region.

Buller District also has more adults aged 65 and over than the national average (26% of the population compared with 17% across the country), and 19% of Buller households have an older person living alone (compared to a national average of 11%). Environmental Health Intelligence New Zealand explains that because older adults often have higher rates of pre-existing health conditions, hearing/vision loss and mobility issues, they are more sensitive to the impacts of climate-related hazards.<sup>54</sup>

## How different populations are affected

Some of the factors that determine how vulnerable a community is in a climate change context are socio-economic, cultural, and historical. These kinds of factors can have big – if sometimes invisible – influences on how climate change is experienced by different groups and communities. They also have a major influence on how well people can adapt.

For example, as extreme weather events increase in frequency and intensity, people with more financial resources may move out of harm's way, while others remain in a hazard zone and are hit by repeated events.

Around 41% of the Westport population lives in areas of 'high socio-economic deprivation' – more than double the national average.<sup>55</sup> Indicators such as this help us understand whether people are likely to have enough money to cope with crises and losses caused by climate hazards, and whether they are in a position to consider pre-emptive action, like moving house.

This was borne out by then-Mayor of Buller Jamie Cleine, who, when talking about the Master Planning process, told us: "People are bogged down in the day-to-day here; they can't comprehend restarting somewhere else. We can see people don't have options here – they are living very basically, they have no money to think about a new place to live."



Palmerston Street, Westport, at dawn. Photo / AG Images

**“You cannot talk about a just transition when people don’t even have a just existence.”**

**Rosie McGrath, Health NZ**

Issues of inequity came up in all our conversations with district and regional councils and community groups. Rosie McGrath was frank about the laundry list of issues affecting the Westport population: “We have major health issues in our region; high levels of homelessness, anxiety, suicide, food insecurity, cancer, [poor] air quality. The inequity here is huge – you cannot talk about a just transition when people don’t even have a just existence.”

### **The psychological toll of climate events**

Several people in Westport told us that climate hazards had long-lasting psychological effects.<sup>xix</sup> Janis Lennon from Westport Civil Defence went as far as to say that “when people have been displaced, once, twice, sometimes even three times, the psychological impacts on the community are greater than the physical impacts.” Rosie McGrath from Health NZ acknowledged that these ongoing effects mean officials have to balance the need to give advance warning of severe weather with the understanding that the warnings themselves can be problematic: “When there’s a heavy rain warning, people’s anxiety levels go up, everyone knows it.”

xix The 2026 national climate change risk assessment identifies risks to social and community wellbeing (including mental health) as a significant risk. The assessment notes that climate hazards will increasingly cause displacement and restrict access to land, homes, cultural assets and heritage sites. As a result, communities may experience diminished physical and mental health, loss of belonging and identity, and adverse economic conditions. It is likely that these impacts will exacerbate existing inequities, which in turn will have implications for social cohesion and community wellbeing. For more information, see *Priorities for action: 2026 National Climate Change Risk Assessment for Aotearoa New Zealand* on our [website](#).

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# Flood resilience measures since the 2021 and 2022 floods

Despite the ongoing effects of the 2021 and 2022 floods, many Westport residents told us they are optimistic about the town's future. There have been a number of recent investments in improving the town's resilience and creating a long-term vision for its future.

## Resilient Westport

In June 2023 the Government committed \$22.9 million to the Resilient Westport Steering Group (made up of West Coast Regional Council [WCRC], Buller District Council [BDC], and Te Rūnanga o Ngāti Waewae) to fund a package of initiatives to improve the town's flood resilience.<sup>56</sup>

The package comprises a range of actions, including amending the building code for floor levels, emergency management planning and implementation, and improving the town's stormwater infrastructure. The largest piece of work is a 16 km-long network of permanent stopbanks and floodwalls, and portable barriers to defend the town from the Buller and Orowaiti rivers. Most of the structures will be around 2 m high, with some up to 3.6 m.<sup>56</sup>

While many of the people we spoke to were positive about the effect that the floodwalls and stopbanks would have, we also heard that there are areas of the town that would be outside of the protected area. When we spoke with Buller District Council, staff were

quick to acknowledge this. Jamie Cleine, then-Mayor of Buller District said regretfully: "We know of properties outside the wall protection area who will be worse off, but there's no buyout option, we're forbidden from using government money for buying [homeowners] out."

Others were concerned that the flood protection measures are designed for a 1-in-100-year flooding event, which is expected to occur more frequently than every 100 years with climate change. They expressed concern that if a more severe flood occurred, the town could suffer from a 'swimming-pool effect' - where the water ultimately fills the township and then has no way of draining.<sup>57</sup> Mayor Cleine acknowledged this risk too: "Residual risk is a thing people don't always get. We design sea walls for a certain level of event, but they won't protect against a [Cyclone] Gabrielle-scale event. Walls are a valid de-risking mitigation, but they're not everything."

**"Walls are a valid de-risking mitigation, but they're not everything."**

**Jamie Cleine, former Buller Mayor**



Stopbanks under construction on the Buller River as it flows past Westport to meet the Tasman Sea. Photo / AG Images

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## Master planning for the future

Around \$1 million of the total Resilient Westport funding was earmarked for looking further into the future and identifying and planning for new growth areas for the Westport community that are less prone to climate hazards. This package of work was known as the Master Planning process: an iterative, design-based planning process that looked at short-, medium- and long-term housing options for Westport residents.<sup>56</sup>

In late 2023, design firm Isthmus joined the project, and along with BDC ran a series of five community engagement workshops (called 'design weeks') over an eight-month period focused on big ideas for the town's future. These workshops produced a plan to gradually develop a new future home for Westport residents. While responding to climate-related hazards was the primary motivation for the planning process, the group also had goals of identifying new economic growth opportunities and ultimately providing a long-term strategic growth plan for the town.

Paul Zaanen, Growth and Development Manager at the council, told us that this was helpful for talking to people with varying levels of understanding of climate risks. "We would go to engagement meetings and say 'yes, we're here to talk about natural hazards, but what else are we discussing?'" Or as then-Mayor Cleine put it: "What if adaptation isn't about running away, but about a growth opportunity? An opportunity for towns to reinvent themselves? This is a much more positive way to frame it - and harder to argue with, because who *doesn't* want growth?"

The Master Planning group's intent with the design workshops was to build a base of community champions, and there is no denying that virtually all those who took part are enthusiastic about the process. As Janis Lennon, Emergency Management Officer at Westport Civil Defence said: "The people who haven't been to any meetings don't understand it - they think they're going to pick up Westport and move it. But the people who understand it, are on board with it."



Helen Kerr and David Irwin of Isthmus explain the Master Planning design workshops to a Commission visitor. Photo / He Pou a Rangi Climate Change Commission

**“What if adaptation isn’t about running away, but about a growth opportunity?”**

**Jamie Cleine, former Buller Mayor**

Janis herself admits to being dubious about the design weeks at first, but said that changed when she heard a workshop participant say ‘maybe we could have an eco village’ and witnessed how the conversation expanded from there. “That’s the thinking that could really make a difference. Let’s not just transplant what we’ve got now. Let’s look from a long-term perspective, make a pilot scheme: let’s build 20 houses up here, make them eco-friendly, self-sustaining and easy to live in. Let’s do it differently,” Janis said.

The brainstorm-style design weeks ultimately ended with a vision to support Westport residents to move to an area of land currently owned by Landcorp (operating as Pāmu Farms) at Cape Foulwind, southwest of the current township. The proposal suggests a long-term, multi-generational phased move from the current location, rather than a single relocation.<sup>58</sup>

### **The final hurdle**

After wider public consultation, BDC officially endorsed the Master Plan in March 2025 and the project moved into the third and final stage, looking at spatial planning, land access and financial implications, including starting negotiations with central government, banks and insurers. Simon Bastion, General Manager Regulatory at BDC told us that he hopes that the government-funded Master Planning work could be used as a template for how other parts of the country approach adaptation. Mayor Cleine agreed, referring to a study commissioned by the Department of Internal Affairs that identified more than 40 settlements across Aotearoa New Zealand



Pāmu land at Cape Foulwind, the proposed site for a new Westport township. Photo / AG Images

similarly exposed to the effects of climate change.<sup>xx</sup> “Westport was the worst, but there are lots of communities in a very similar situation.”

And while this is theoretically the final stage of the process, in some ways it’s the most complex, as this is when aspirational images of a thriving and self-sustainable community become reality. The roughly 300 ha of Cape Foulwind land that was identified as a viable location for the new township is currently farmed by Pāmu Farms. They told us they support the proposal in principle, but also have to consider their own commercial imperatives, as well as their legal obligations to offer the land to Ngāi Tahu as local iwi if they were to ever divest from it.

The Master Planning process in Westport has been lauded for its groundbreaking approach to town planning, including winning the SuperIdea – Tū Auaha Award at the 2025 Local Government New Zealand conference in June 2025,<sup>59</sup> and presenting at the Adaptation Futures conference in October that year.

However, all parties are quick to admit that the process simply would not have been possible without the central government funding. Paul said to us: “There are other areas in New Zealand with just as many risks [as Westport]. Master Planning would not have happened without funding from central government – it was a \$1m work programme; that’s just not affordable for small, isolated communities.”

Shortly after we visited Westport in September 2025, local body elections took place, which saw Chris Russell elected as Buller District Mayor. Mayor Russell told us that he and the incoming councillors have been well briefed on the Resilient Westport programme of works. “Each of these projects will have significant impact by themselves, but together, they will help transform Westport into a resilient and thriving area. The work programme goes beyond the needs of our present community, and thinks about the impacts for future generations.”

xx The report Mayor Cleine refers to is *Vulnerable Communities Exposed to Flood Hazard* [https://www.dia.govt.nz/diawebsite.nsf/Files/Proactive-releases/\\$file/Vulnerable-Communities-Exposed-to-Flood-Hazard-August-2022.pdf](https://www.dia.govt.nz/diawebsite.nsf/Files/Proactive-releases/$file/Vulnerable-Communities-Exposed-to-Flood-Hazard-August-2022.pdf)

## The insurance issue

It was rare to have a conversation about housing in Westport that did not inevitably lead to the question of insurance. The issue is two-fold: whether homeowners can afford to adequately insure their properties, and if (or rather, when) insurance companies will cease to offer insurance policies on flood-prone properties at all.<sup>xxi</sup> As then-Mayor Jamie Cleine said to us: “Some [home] insurance is now up to \$5,000 a year; one recent quote I heard of was for \$9,000. So the question is – insurance is still available, but to whom?” The research supports this: since 2000, the price of house insurance in Aotearoa New Zealand has increased by over 900% in nominal terms.<sup>60</sup>

Heath Milne, CEO of Development West Coast, the region’s economic development agency, told us that the Insurance Council of New Zealand had recently visited the region, engaging with district and regional

councils to understand how risks are being assessed. While Heath told us the meetings were positive, he also noted that “the big takeaway is ultimately some areas will be uninsurable.”

In December 2025, two months after our visit, AA Insurance advised the Buller District Council that it would temporarily stop offering new home, business and landlord insurance policies in the 7825 postcode, which covers Westport, Carters Beach and Cape Foulwind, because of flood risk.<sup>61</sup>

West Coast Regional Council and Buller District Council have issued statements reassuring home and landowners that conversations with insurers will continue as the structural flood protection projects under Resilient Westport are advanced.<sup>xxii,62</sup>

xxi The 2026 national climate change risk assessment confirms that the affordability and accessibility of insurance in Aotearoa New Zealand is an increasing concern for many asset owners. While Aotearoa New Zealand currently has high uptake of residential insurance, research suggests there may be a significant amount of underinsurance, and of people increasing their excess to help reduce their premiums. This could exacerbate existing inequities if households are priced out of buying insurance and are impacted by extreme weather events. For more information, see the *Full assessment: 2026 National Climate Change Risk Assessment for Aotearoa New Zealand* on our [website](#).

xxii The 2026 national climate change risk assessment notes that the price and accessibility of insurance can have significant flow-on effects. These include loss of peace of mind, the breakdown or displacement of communities, changes in business investment and household spending behaviours, increases in debt and bankruptcy, fiscal risks to the Government, financial system instability and risks of exacerbating or creating new inequities. It notes the most effective way to ensure ongoing access to insurance is through effective action that reduces the risk to the assets themselves, thereby reducing the risk to their insurability. For more information, see the *Full assessment: 2026 National Climate Change Risk Assessment for Aotearoa New Zealand* on our [website](#).

# What people said they need to succeed

## Over our visit, many people we spoke to were proud of how they were responding to climate hazards, and equally forthcoming with what they need more of.

For councils, there was a call for long-term national direction and increased funding from central government. For farmers, clear information and certainty about what they can do to respond to events and how to best prepare ahead of time were important.

### Planning: “75% of plans just sit on the bookshelf”

While staff at Buller District Council (BDC) and West Coast Regional Council (WCRC) were optimistic about the progress currently being made in climate adaptation, they were also very clear about what they need to help them succeed.

Staff at both councils told us that long-term national policy direction, ready access to information and expertise, and a strong mandate from central government would allow them to get to work.

BDC told us that national policy direction for adaptation work needs to be driven by longer-term thinking and planning to avoid political cycles washing away years of progress – at the local or central government level.

We heard a strong view that adaptation work should be locally led, but with a clear mandate from central government to do the work, within specific timeframes. As then-Mayor Jamie Cleine said, this would free the local council from having to repeatedly make a case to their constituents for doing the work.

In our conversation with West Coast Regional Council staff we heard that accessing the information and expertise they need to support effective adaptation can be challenging. Shanti Morgan, Group Manager Environmental at WCRC said, “Down here you are the everything person. I used to work in Auckland and I could just call an expert to advise me. It’s not the same here.”

West Coast Regional Council chief executive Darryl Lew in particular lamented the inefficiencies with individual councils commissioning their own coastal risk maps. “It makes no sense for 50 councils to do that themselves; we’re just not built for that. We need more of that being procured and driven nationally.”



Left to right: Paul Zaanen, Simon Bastion and Steph Newburry, of Buller District Council, on the banks of the Buller River in Westport. Photo / AG Images

It's worth noting that after we spoke to people in Westport, in December 2025 the Government introduced a National Policy Statement for Natural Hazards 2025. The policy statement requires local authorities to assess and manage natural hazard risks in a consistent way, with a focus on avoiding very high risk, and on using the best available information. It sets a national baseline but allows for more conservative local provisions. The policy statement is a transitional measure while the new resource management system is being developed and implemented.<sup>63</sup>

Above all, we heard calls for increased funding. Simon Bastion, General Manager Regulatory at BDC, told us how stages 1 and 2 of the Master Planning process were funded under the Resilient Westport package, allowing the initial research, engagement and planning phases to take place. "But there's no follow on – after that you're on your own." Paul Zaanen, Growth and Development Manager at BDC, noted that this occurred after the Canterbury Earthquakes too: "There is lots of funding to do a plan, but nothing left to execute with. That's why 75% of plans just sit on the bookshelf."

Then-Mayor Jamie Cleine echoed these sentiments: "Councils like us are limited in resource, we simply can't spend \$1 million on spatial planning."

The council's lack of resource to fund adaptation work is due to its small rating base: 87% of Buller District is Department of Conservation land that is not rateable. A Cabinet paper produced in 2021 seeking emergency funding to support the area after the floods outlined the district's financial position: "Having a small rating base and relatively high deprivation index, the Council cannot easily absorb the costs of the floods which has interrupted its BAU [business as usual] activities. The Council has insufficient strength in its balance sheet, nor other adequate funding streams, to meet the associated costs of response and recovery while continuing to deliver its BAU activities... The Council is small, servicing 10,000 people over 8,574 km<sup>2</sup>, of which 87 per cent is Department of Conservation land and not rateable."<sup>25</sup>



Lyn Carmichael (right), Project Manager for the West Coast Farm Plan Project, pictured with (from left) Taane Johnsen, Stu Bland and Debbie Bland, on the Blands' dairy farm, Reefton. Photo / AG Images

## Action: “Just let us get on with it”

Alongside the pressure of running a farm while also undertaking major repairs, nearly every farmer we spoke said they also spent time and energy navigating rules around what they were allowed to do themselves and what work required consent first, what insurance would cover, and where there might be financial contributions from central government. Because each weather event affects their farm slightly differently, they would find themselves needing to navigate new details each time.

We heard that it's often unclear to farmers what action they can take on their own land to clear rivers and repair laneways, or whether they can plug a generator into a cellphone tower to keep it working. Some mentioned

frustrations at seeing trees or debris in rivers that they worried would make flooding worse in the next heavy rain, but which they were not allowed to remove themselves.<sup>xxiii</sup> Farmer Nathan Keoghan said of navigating the regulations: “We need clear rules about what is and what isn't emergency management, and the ability to do something *before* the worst starts happening.”

In some cases, this is happening. Lyn Carmichael is a former Rural Communities and Farming Support Senior Regional Advisor for the Ministry for Primary Industries, and currently the Project Manager for the West Coast Farm Plan Project. We heard that Lyn has produced a simple one-page document that gives farmers clear, actionable advice on what they can safely and legally restore after an event, and where to go for further advice.

xxiii Dredging of riverbeds has been undertaken in the past to increase the capacity of rivers and prevent high volumes of rainfall from flooding the surrounding land. However, an increased understanding of how regular dredging negatively affects the ecology of waterways has dramatically restricted the practice. As well as having unintended negative environmental consequences, dredging will be increasingly ineffectual. As the climate warms, the volume of water reaching some rivers during extreme rainfall events will become so great that increasing capacity through riverbed dredging will be insufficient to prevent floodwaters overtopping riverbanks.

## Read more on adaptation in Aotearoa New Zealand: our 2026 reports

The stories we heard in Westport provided insights for our work on the second national climate change risk assessment, and in our monitoring of progress under the Government's national adaptation plan. Those reports combine these local insights with a wide variety of other evidence to provide findings and recommendations for the Government.

There are important distinctions between case studies based on people's lived experience, and the assessment of long-term climate risks and central government action (including the National Adaptation Framework) that form the basis of those reports. Case studies provide a close view: what is happening in one area, at this time. The longer view - that the country can use to assess what action is needed now to prepare for the future - is the focus of our statutory 2026 reports.

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