Adapting to Coastal Hazards

Te Onepoto Taylors Mistake to Lower Ōpāwaho Heathcote River



Have your say on how we adapt

letstalk.ccc.govt.nz/taylors-to-heathcote

Christchurch City Council

Where we live is changing

Five thousand years ago, the Waimakariri River flowed across the plains into Te Waihora Lake Ellesmere, and sand dunes stretched from where the city is now, out to the sea.

Over time, people changed the landscape. Wetlands were drained, sand dunes cleared, rivers controlled, and new roads, homes, and parks were built. Much of the city as we know it today simply didn't exist 100 years ago.

Change has always been part of life in Ōtautahi Christchurch.

We need to keep adapting

Climate change is increasing the risks we face from flooding, erosion, and other natural hazards. We're likely to see these impacts more often in the future.

At the same time, our population is growing – increasing demand for homes, roads, parks, and other services. While these changes bring challenges, they also give us an opportunity to plan ahead.

The choices we make today will help shape the future of our community for generations to come. By thinking ahead, we can reduce risks, strengthen our communities, and make better decisions about where and how we invest for the future.

Your voice matters

Because these decisions affect places and people, it's important we understand what matters most to our communities. That's why we're asking for your feedback. Your ideas, priorities, and local knowledge can help shape the choices we make together.



Shape your community's future

We have some hard decisions to make about how we respond to rising seas and coastal hazards.

These decisions, and the compromises we make, will have long-lasting impacts.

We want to know what matters most to you, before we take the next step in our planning.

Have your say on how we adapt

Tell us before 31 January 2027.

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Rising seas and coastal hazards

As our climate changes, sea levels are rising and extreme weather is becoming more common. Bigger storms, heavier rain, and stronger winds increase the risk of flooding and coastal erosion – putting people, homes, infrastructure, and valued places at risk.

More extreme hazards, more often

Rising sea levels mean that larger waves and higher tides can push water further inland and up waterways. We're also expecting heavier rain in the future, and these things combined mean it will start to flood more often. In some places, rising groundwater can make it harder for surface water to drain away, and can damage things like roads, causing damage.

Erosion happens when waves and tides gradually wear away our beaches, riverbanks, and cliff areas.

Major storms also cause large amounts of erosion, and both will speed up with rising sea levels.

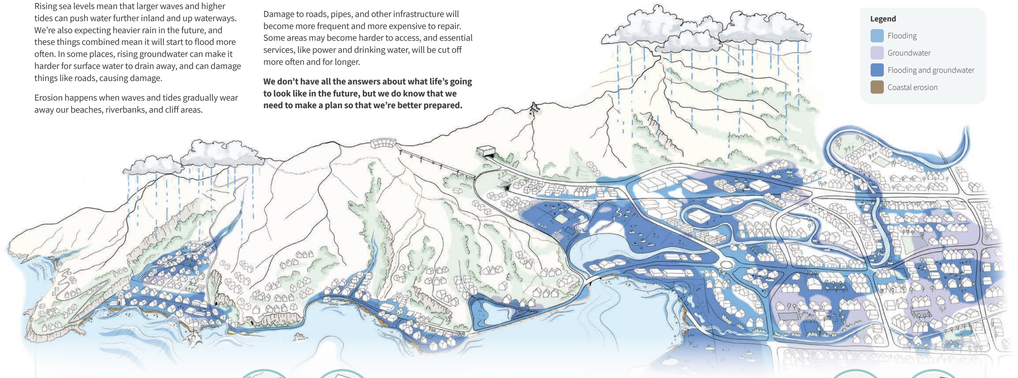
Looking ahead

Without action, low-lying areas around our coast and rivers will face increasing impacts from flooding and erosion.

Damage to roads, pipes, and other infrastructure will become more frequent and more expensive to repair. Some areas may become harder to access, and essential services, like power and drinking water, will be cut off more often and for longer.

We don't have all the answers about what life's going to look like in the future, but we do know that we need to make a plan so that we're better prepared.

This image shows the areas that will likely be affected by frequent flooding, rising groundwater, and coastal erosion over the next 100 years (with one metre of sea-level rise). These areas, and others across the district, could be affected by big storms much sooner. While we can't know the exact timing, one metre of local sea-level rise is expected to happen sometime between 2095 and 2180.



More service disruption

Flooding, rising groundwater, and coastal erosion could affect services more often.

This could mean:

- More road closures and travel delays
- More pressure on stormwater and wastewater networks
- More frequent disruptions to power, internet, and other services
- Higher maintenance and repair costs.



Other impacts

Risk of pollution: If left unprotected, contaminated sites at the coast and along river margins could be exposed by coastal erosion, polluting waterways and the sea.

Homes flooded: Without action, many homes in low-lying coastal and inland areas will experience deeper flooding, and more often. This will have an impact on people's day-to-day lives and their health and wellbeing.

Groundwater rise: Even where steps are taken to reduce risks, groundwater may be particularly difficult to manage in some areas, damaging things like roads and pipes, and affecting what plants can grow.

Parks impact: Flooding and rising groundwater will cause more problems in the future for parks and sports fields. Specifically, we can expect to see wetter, boggier ground that's more difficult to use and needs more upkeep.



We all have a part to play

Climate change affects all of us, so we all have a part to play in managing its impacts.

Same challenge, different roles

Christchurch City Council manages community assets and services, like roads, water supply, parks, and public spaces. We plan for climate risks that could affect these things and the people who rely on them. We're also responsible for sharing natural hazard information with private property owners to help them make informed decisions.

Private property owners are responsible for managing risks to their own homes, land, buildings, and income. This includes individuals, businesses, organisations, and iwi.

Working together

There are no easy answers, and the choices ahead will affect different people in different ways. But by talking openly about the challenges and opportunities, we can build a shared understanding of what matters most.

Starting to adapt

Climate change means we need to think differently about the future of our communities, including the Te Onepoto Taylors Mistake to Lower Ōpāwaho Heathcote River area. Adaptation planning helps communities, rūnanga, and the Council understand the risks and decide how best to respond over time.

By planning ahead, we can lessen the impacts on people, infrastructure, services, and the environment while protecting the things we value most.

The first step

Right now, we're at the beginning of the planning journey in this area. Over the next couple of years, there'll be more opportunities for you to learn more, have your say, and help shape a stronger future for your community and for generations to come.

The adaptation journey



Your wellbeing

Thinking about climate change and the impacts of coastal hazards can affect people in different ways and at different times. It's a difficult topic, and people's wellbeing is important.

We've put some links on our feedback webpage, to help you think about your wellbeing – visit **letstalk.ccc.govt.nz/taylors-to-heathcote**

Hard decisions ahead

There's no single solution to the challenges posed by rising seas and coastal hazards.

Different options may work in different places and over different timeframes. Some involve upgrading and building new infrastructure, or working with natural systems like sand dunes and wetlands. Others involve avoiding hazardous areas in the first place, accommodating hazards by raising floor levels, or building things that can later be moved. In some areas, communities may need to adapt to changing conditions in other ways, like travelling further for some services or being ready to stay home when roads are too flooded.

Every option has benefits and drawbacks. One may offer more protection but cost more. Another may be disruptive to communities but have significant environmental benefits. Making these decisions will require careful thought, compromise, and an understanding of what matters most to your community.

Exploring some options

The following pages show some of the ways we could respond to coastal hazards and rising sea levels in the Te Onepoto Taylors Mistake to Lower Ōpāwaho Heathcote River area, along with some advantages and disadvantages.

As you explore the options, think about:

- What you value most about the area
- How these options fit with your values
- What you'd like this area to look like in the future.

Some things to know when looking at the following pages:

- The images show a typical day around 100 years from now, with the local sea level around one metre higher than it is today. While we can't know the exact timing, one metre of local sea-level rise is expected to happen sometime between 2095 and 2180.
- Nothing has been decided yet. The options are shown to help you understand the types of things we'll consider together throughout this adaptation planning process.
- These changes to our environment, and our responses to them, won't happen all at once. We'll need to take action in some areas before others and use different options in different places.
- Not all of the possible adaptation options are shown. You can view the Catalogue of Coastal Hazard Adaptation Options at **letstalk.ccc.govt.nz/taylors-to-heathcote**
- Some options will be funded by Christchurch City Council. In some cases, the responsibility for managing the risks and costs of an action may sit with others.

Impacts on private property

Private properties are likely to face increasing risks from flooding, rising groundwater, and coastal erosion.

Property owners may need to:

- Raise buildings or make other changes
- Repair damage more often
- Adapt to changing conditions over time.

All property owners should seek the best available hazard information when making investment decisions.

Even where steps are taken to reduce risk, some risk will remain, and some hazards, like groundwater, may be particularly difficult to manage.

In some cases, private land may be needed to support works that provide wider community benefit, like building a water supply pump station, for example.



Impacts for homeowners | Groundwater rise | Land purchase

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Engineering could help us

Some of the things that make this area a great place to live may be harder to protect as sea levels rise and coastal hazards get worse.

The image below shows how engineered options could help reduce some of the risks. These might include seawalls, flood defences, pumps, and other infrastructure designed to keep water away from people, homes, and important services.

In some places, these may help for a time.

But there are limits

We can't engineer our way out of every risk. Building and maintaining defences like seawalls can be expensive. They can also affect the natural environment, and they don't cancel out all of the risk. In some places, the consequences of a defence failing may be too great.

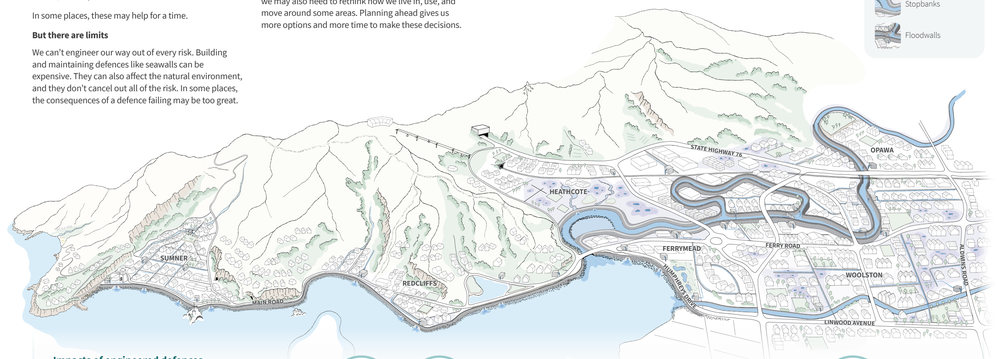
Some hazards, like groundwater, are a lot harder to manage when large areas are at risk. The purple areas below show where engineering options might be less effective at managing groundwater.

Looking to the future

Engineered solutions are likely part of the answer, but they won't be the only answer. As conditions change, we may also need to rethink how we live in, use, and move around some areas. Planning ahead gives us more options and more time to make these decisions.

Nothing has been decided yet.

These images are to help you understand the types of things we'll consider together throughout the adaptation planning process over the coming years.



Impacts of engineered defences

Structures like seawalls and stopbanks can reduce risk in some areas, but they also have impacts.

These could include:

- Blocking views
- Reducing access to beaches and riverbanks
- More erosion in some places.

Tidal barrier: There are other possible options, like a tidal barrier, that aren't shown in these images. A tidal barrier located in the estuary or within the Ōpāwaho Heathcote River could reduce inland flood risk, but would come with significant environmental risks.



Seawalls block views | Seawalls lead to erosion | Large flood defences | Tidal barrier

Other impacts

Protection of contaminated sites: Protecting contaminated sites like old landfills from erosion reduces the risk of pollution.

Groundwater rise: Even where steps are taken to reduce risks, groundwater may be particularly difficult to manage in some areas.

Parks impact: Flooding and rising groundwater will cause more problems in the future for parks and sports fields. Specifically, we can expect to see wetter, boggier ground that's more difficult to use and needs more upkeep.



Protecting contaminated land | Groundwater rise | Less-usable parks

Nature could help us too

Nature can play an important role in reducing the impacts of rising seas and coastal hazards.

Natural features, like sand dunes, wetlands, and river corridors, can help absorb floodwater, reduce erosion, and provide space for water to move safely through the landscape.

Making room

Flooding and erosion are natural processes. They only become a hazard when they put people, homes, infrastructure, or places we value at risk.

In some places, reducing risk may mean giving rivers, wetlands, and the coastline more room to move and change naturally. Over time, it could also mean moving away from the areas most exposed to hazards, when the time is right.

Creating more space for nature can help reduce future risks while improving the environment, supporting wildlife, and creating new recreational opportunities, like more beaches, reserves, or walking tracks.

Big changes need careful planning

Some nature-based options are small and relatively easy to carry out. Others may involve big changes to how we use areas over time.

Moving people and assets away from the highest-risk areas is often the most effective way to reduce risk. But these decisions can have major impacts on communities, especially if they aren't carefully planned and made together.

Just like engineering, working with nature will only be part of the answer, and may work better in some locations than others.

Have your say on how we adapt

Explore these images and options in more detail, and give feedback.

letstalk.ccc.govt.nz/taylors-to-heathcote



Living with water

In some places, we may need to make more room for water.

This could mean:

- Moving away from the areas most exposed to hazards, to reduce future impacts and costs
- Allowing rivers and the coast more space to move naturally
- Changing how some land is used, to better accommodate and manage water
- Providing opportunities for environmental restoration.



Space for waterways | Space for the coast | Green streets | Space for nature

Other impacts

Exposure of contaminated land: If left unprotected, contaminated sites at the coast and along river margins could be exposed, and pollute waterways and the sea.

Parks impact: Flooding and rising groundwater will cause more problems in the future for parks and sports fields. Specifically, we can expect to see wetter, boggier ground that's more difficult to use and needs more upkeep.



Exposure of landfills | Less-usable parks