

Beating the retreat: recreation and climate change

Loss, squeeze, impact, inundation, damage, change – the impact of climate change is confronting. What does this mean for our communities and their recreation?

Climate change and coastal Aotearoa

Coastal Aotearoa is and will be [affected by climate change](#):

- Rising groundwater levels
- Increasing frequency of [coastal flooding](#) and permanent inundation
- Salinisation (salt-intrusion to fresh groundwater)
- Loss of productive farmlands
- Coastal squeeze – the loss of intertidal habitat “squeezed” between rising seas and inland barriers
- Loss of ecologically unique and culturally significant wetland ecosystems.

And, Māori own about 25% of all East Coast and Bay of Islands coastal land, with large areas being in [Taitokerau, Waikato, Waiariki and Aotea](#). Coastal-dwelling Māori will bear the brunt of this on their dwellings, farmland, coastal food sources (kai moana) and loss of taonga species. The impact will be significant on their health (physical and spiritual), economic status and wellbeing.

Historically, many hapū were forced out of traditional lands to occupy sub-optimal areas, such as river or coastal floodplains. This means flooding, coastal erosion, storm surges and regular tidal inundation are more likely to affect Māori communities.

(Northland Regional Council)



Impact on participation

We can't predict people's reactions to major changes to their living, working, learning and leisure, however some impacts of climate change are already evident – on the weather, the environment and our spaces and places. For more information, click [here](#).

- *Provision* will change due to climate warming, and the impact of hot, windy and wet weather, and changing physical landscapes.
- *Regularity and reliability* will be more challenged, (for example) [in sports](#), if playing fields and venues are not available, flooded or unusable. People want certainty and regular participation.
- *Demand* will [change](#), and it's likely that there will be an increased demand for all-weather and/or indoor facilities that mitigate the impact of extreme weather.
- *Access* will continue to be challenging with increased barriers creating [disparities of access](#) to recreation opportunities - unless mitigating action is taken.
- *Land by water*: [Esplanade reserves](#), beaches and rivers will become more vulnerable and less able to sustain recreational use.

What might work?

Responding to climate change requires short, medium and long term approaches. Some are potential solutions, others provide options or enable work-arounds.

International greenhouse gas emission targets [2030 Target \(2021-2030\)](#) are a 50% reduction of net emissions below our gross 2005 level by 2030.

Government targets (under the [Climate Change Response Act](#)) are Net zero emissions of all GHG other than biogenic methane by 2050

Case Study 1: Coastal management in Tasman

“This is an unstoppable force - there are limits to what is in the toolbox” Richard Hollier, Reserves and Facilities Manager, TDC

The challenges of managing the impact of climate change are no more evident than in the Tasman district, with its long coastline including the Golden Bay area – coastline with high recreational value, niche ecosystems, recreational reserves and people’s homes.

As the sea encroaches, some coastline may only become accessible at low tide and there is threat to habitat – [dune-nesting birds](#) are particularly impacted. Some will adapt and find new places – but some won’t.

Coast Care is a community-based project supported by the Council. Avoiding rock walls, both costly and intrusive, sand “push ups” restore dunes, and are then planted with native coastal dune species to form a natural barrier against storms and super high tides.

Read more about TDC plans for managing [coastal land](#), [assessing risks](#) and [supporting communities](#) with the impacts of climate change.

Case Study 2: Are the kina still fat when the Pohutukawa bloom?

For generations, Ngāti Whakahemo have used the whakataukī of the flowering Pohutukawa as a tohu to tell us when the kina are ripe and ready to harvest at Motunau (Plate Island) and on its surrounding reefs.

Changes in the water temperature have altered this synergy - and the flowering time can no longer be relied on as an indicator. A Māori-led research project is examining how climate change will alter traditional tohu or even create new tohu.

This practical, hands-on [project](#), focuses on marae-based learning combined with free dive training, technology, and tohu+climate change monitoring. There is a focus on intergenerational passing on of knowledge. It is led by Te Rūnanga o Ngāti Whakahemo, supported by the Pukehina Marae Committee and Māori scientists from MUSA Environmental, Waikato University and Plant and Food Research.



Figure 1 Taiohi surveying kina. Photo by Joe Burke accessed from [here](#)

Principles in action

Principle	Action
Te Tiriti approach	Māori designed solutions and research or bi-cultural approach
Rethinking recreation	Generate new activities , new versions of activities and provision that reflect the challenges of the changing environment Develop flexible approaches to activity provision, including indoor options, all-weather surfaces
Collective, cooperative and resilient communities	Work with communities to educate and develop shared projects Promote local opportunities Offer a distributed model of delivery across a network of facilities, and promote shared transport and equipment
Planning	Plan and develop places and spaces that are easily available to all – either by walking or public transport Develop facilities that are climate resilient. Creating natural barriers that enhance environments
Education and awareness	Involve community to raise awareness and educate about the impacts of climate change
Leverage recreation as a positive tool	Use recreation as one way of building resilience Offer opportunities to reduce the psychological and spiritual impact of change and loss on people

Further reading

Click to review Insights reports focused on [Sustainability](#), [Retrofitting](#), [Facility Design](#).