



Natural Hazards



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What do we know?

Hawke's Bay is vulnerable to a range of natural hazards. Some are posed by tectonic and geological threats, such as earthquakes, liquefaction, landslips, and tsunamis. Other hazards are climate-induced, like droughts, storms, and flooding. And our changing climate is making some of these worse, like coastal inundation and erosion due to rising sea levels.

These otherwise natural processes can significantly disrupt our lives, our work and communities, leading to increasing occurrences of damage to infrastructure, property and even loss of life.

In New Zealand, natural hazards and risks are managed by many agencies and lots of legislation, including the Resource Management Act. More common hazard events in Hawke's Bay include drought, coastal erosion and localised storms.

The planning around resource management can play a critical role to reduce the potential adverse effects of natural hazards, such as by:

- effective planning and management of the likelihood and consequences of an event

- enabling infrastructure - stop banks or dams - to provide some protection to communities from adverse events.

According to a 'Top Ten' risk assessment by the HB Civil Defence Emergency Management (HBCDEM) Group in 2021, the top three risks in Hawke's Bay are:

1. Very large near-shore tsunami (~500 year return period or a 26% chance in the next 50 years).
2. Earthquake MMI9 (~740 year return period, approx. Magnitude 7.1)
3. Very large distant-source tsunami (~500 year return period)

The other risks include volcanic ashfall, moderate earthquakes, moderate tsunami, large floods (~100 year return period) and rural fire in extreme drought conditions.

The online Hawke's Bay Hazard Portal was built by the HBCDEM Group and councils in recent years. Users can view a range of hazard types by location, or even search by a property address.

Known issues

It is hard to find anywhere in Hawke's Bay not at risk from one type of natural hazard or another. There are many infrastructural services, businesses, homes and people living in areas at risk from one or more natural hazard.

Climate change is aggravating some of these hazards. NIWA identified likely climate change impacts for Hawke's Bay in 2020, including higher average annual temperatures, increasingly common heatwaves and reduced annual rainfall, but also more intense rainfall in storms, and sea level rise worsen coastal erosion.

Meanwhile, councils face increasing pressure to:

- build, or allow others to build, structures to reduce the effects of natural hazards, such as seawalls, stop banks, water storage and more drainage
- allow developments in locations open to one or more types of natural hazards, with or without engineered mitigation solutions in place
- disclose more information about natural hazards and risk, and sometimes be faced with potential legal challenges and liabilities as they do so.

The current HBCDEM Group's vision is simply "a resilient Hawke's Bay community." One of the Group's four goals is "local communities work together to reduce the risk of hazards."

This 'Reduction' goal is best aligned to decision-making under the RMA, particularly preparing the Regional Policy Statement, regional and district plans.



How we are doing?

Earlier resource management plans have focused on reducing the direct threat to human life from natural hazards. In 2017, the RMA was amended to include "the management of significant risk from natural hazards" for decision-makers to actively consider as a matter of national importance.

The past focus on threats to human life is no longer sufficient. Natural hazard impacts on assets, infrastructure, property, and the continuing unimpeded functioning of our communities needs clearer policy direction.

The Joint Hazard Strategy for Local Authority Land Use Planning Report (Opus, 2012) found that regional policies and plans in Hawke's Bay do not provide strong guidance on best practice or drive hazard risk avoidance, with the exception of the Regional Coastal Environment Plan in 2012.

The HBCDEM Group and councils maintain programmes of natural hazard research and investigations to inform resource management decision-making.

Besides RMA plans, there are many other projects underway to reduce natural hazard risks.

These include:

- East Coast LAB (Life at the Boundary)
- Regional Water Security
- Right Tree Right Place
- Heretaunga Flood Control scheme
- Environmental data collection and reporting
- Clifton to Tangoio Coastal Hazards Strategy 2120.

The Clifton to Tangoio Coastal Hazards Strategy is being developed to provide a long-term framework to assess coastal hazard risks and identify options for the management of these risks over the next 100 years. Several elements of that Strategy will need to be incorporated into statutory planning documents, such as:

- Long Term Plans and Annual Plans for resourcing and budgets
- regional plans and district plans as the main regulatory tools that allow, restrict or prohibit various activities to occur in risky coastal locations.

While the Coastal Hazards Strategy only deals with one small but highly populated part of the Hawke's Bay coastline, the lessons learned and approaches taken will be transferred to the remaining parts of the region.



Where to from here?

National direction

In preparing the Kotahi Plan, the Regional Council will also provide for the "management of significant risks from natural hazards".

Kotahi must give effect to all relevant national policy statements. For natural hazards, this includes the NZ Coastal Policy Statement, and the National Policy Statements for Freshwater Management, and for Urban Development; noting there is no NPS or similar that relates to natural hazard management.

Strategic goals for Hawke's Bay

Reducing risks from natural hazards is a wide-ranging goal for HBRC and the region. Many of the Regional Council's Strategic Goals have a natural hazard management thread running through them.

What needs to happen going forward?

In short, the Kotahi Plan presents an opportunity:

- to engage with the regional community about the risks ahead, how they are to be managed, to identify and agree what risks are tolerable or intolerable to communities now and in the future, to discuss what risks can be mitigated and which ones must to be avoided, and to explore how any physical works to reduce the risk of natural hazards might be funded
- to build a model that helps to make decisions about what activities are appropriate where, plus:
 - knowing the likelihood and consequences of various hazards in Hawke's Bay now and in the future and the uncertainties
 - recording activities that may be appropriate in the short-term, but not over medium and longer terms
 - naming new activities that are inappropriate in hazard-prone areas, such as critical infrastructure and community services
 - exploring other methods including regulatory tools, besides those in the RMA
- to clearly outline the roles and responsibilities under the RMA for regional councils and territorial authorities (or jointly) related to natural hazard management
- to include policy and methods for hazard types, risks and potentially locations to be avoided, being prohibited or at least highly regulated
- to identify specific activities to enable to occur if they are required for longer-term adaptation to climate change or resilience to risks from natural hazards
- to update the RCEP's coastal hazard zones and clarify existing policies and rules regarding development in those zones.