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Resilience through transition: The role of insurance in climate adaptation

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Introduction

Under the proposed Climate Adaptation Framework, local authorities will be required to plan for climate adaptation in priority locations¹.

Adaptation plans will require trade-offs and challenging decisions about which risks to manage, which to reduce, and which will require retreat. Councils must balance costs and benefits, and decide how actions are funded and delivered.

In these conversations, it is not the role of insurance companies to tell communities which choices are 'best'.

But insurance plays a critical role helping households and businesses recover after disasters, supporting resilience during transition, and transferring residual risk.

While insurance pricing alone has limited ability to incentivise risk reduction, insurance accessibility and affordability can have wide economic and social impacts. It's important that local authorities consider how adaptation decisions interact with current and future insurance responses.

To make informed decisions, councils and communities should understand how insurers assess risk and how the market may respond to different adaptation pathways.

This paper explains how insurance markets work, how insurers make pricing and underwriting decisions, and how adaptation choices might affect insurance availability. It aims to support councils to make better informed decisions and identify actions that may help maintain insurance accessibility while communities transition to lower risk futures.

¹ Cabinet paper: [Establishing a National Adaptation Framework - ECO-25-MIN-0146](#)



Chapter 1

The role of insurance in resilience



Insurance plays a vital role in the local economy, providing financial protection against loss.

Every year, insurers in New Zealand return billions of dollars to the economy through the payment of claims², helping households and communities rebuild after fires, floods, storms and earthquakes. Insurance also supports the stability of New Zealand's financial system and access to mortgage lending.

The importance of reinsurance

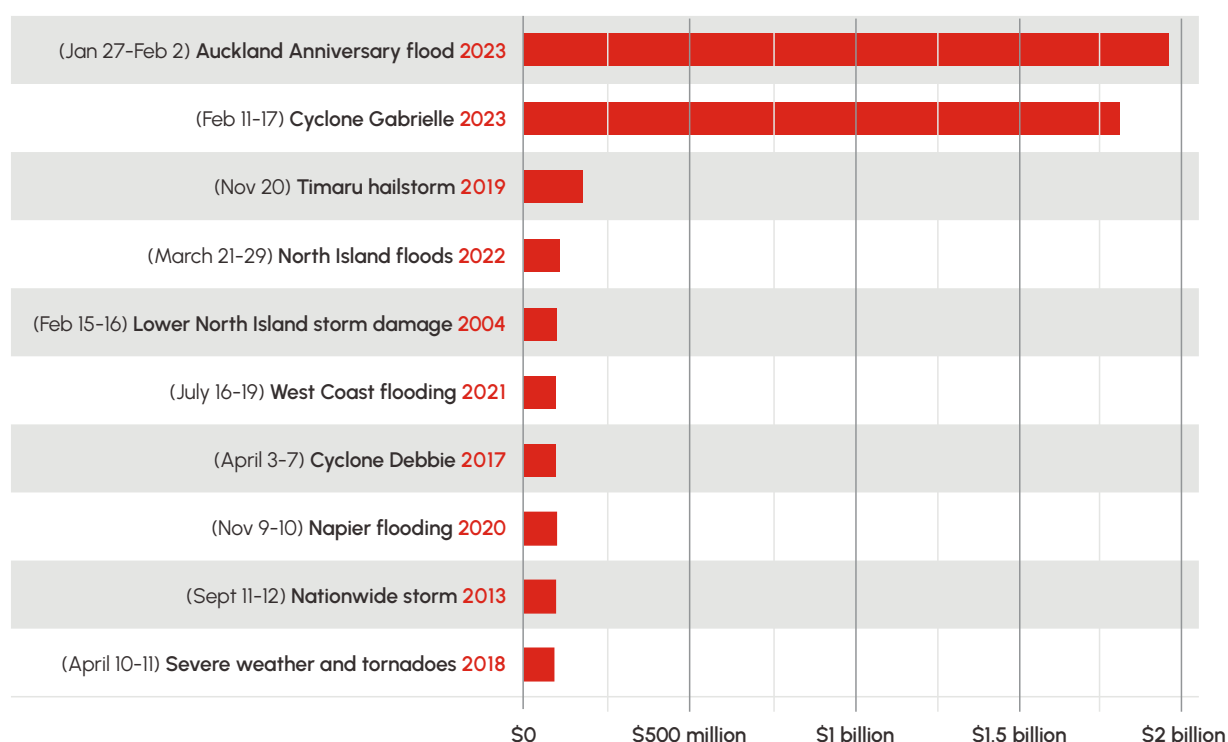
New Zealand insurers rely on global reinsurance – often described as ‘insurance for insurers’ to pay claims following large disasters.

The price and availability of this cover is determined in global markets and can change rapidly.

Reinsurers have responded to the increasing scale and frequency of climate-related losses in New Zealand. Eight of the ten most costly weather-related events in New Zealand's history, in terms of insured losses, have all occurred within the last decade, with the 2023 Auckland Anniversary floods and Cyclone Gabrielle prompting significant reassessments of national risk. Since 2018, Vero's reinsurance costs per policy have risen more than 200 per cent.

Shifts in reinsurance terms can translate quickly into changes in local insurance policies, pricing, excesses or other cover settings, sometimes within a single renewal cycle.

Cost of insurance claims for weather related natural disasters in New Zealand 2018 – 2023



² Net Claims Incurred, Market Data – ICNZ | Insurance Council of New Zealand

Financial sustainability

The insurance market continuously adjusts to new information from claims experience and natural hazard modelling. Insurers may respond by adjusting premiums, changing excesses, introducing exclusions or, in extreme situations, declining to offer cover for properties where losses are no longer considered sudden and unforeseen.

These decisions are made to keep insurance sustainable, so insurers can continue paying claims even after major disasters, and to avoid passing the cost of foreseeable or expected losses on to all customers.

Unique features of the New Zealand market

New Zealand's insurance market has several distinctive characteristics:

- The Natural Hazard Commission (NHC) provides baseline natural hazard cover for most residential properties and limited cover for land damage. The NHC contributes to high insurance uptake and supports insurance affordability in higher risk areas, through a degree of community-rated pricing.
- Policies typically provide 'all perils' cover, meaning customers are insured for physical damage unless the cause is specifically excluded. This contrasts to many other countries, which have 'named perils' policies as standard.
- Relatively mature earthquake risk modelling, which gives reinsurers confidence in New Zealand's understanding of seismic risk.
- Modelling for other hazards, such as flooding, coastal inundation or wildfire, is improving but remains less comprehensive.

Insurance fundamentals

Insurance contracts are generally designed around three core principles:

Sudden and unforeseen loss

Insurance is intended to respond to events that are unexpected, rather than losses that are highly likely or inevitable.



Physical damage

Policies typically cover accidental physical loss or damage (not deliberate damage or potential future harm).



Restoration, not betterment

Insurance aims to return customers to where they were financially before a loss occurred, rather than funding upgrades or improvements.



Chapter 2

Insurance portfolio management



Insurers manage portfolios through three interconnected functions: product management, underwriting and pricing.

Insurance portfolios

- An insurance portfolio is a group of policies within an insurance company – for example, all 'house insurance' policies could be a portfolio.
- Portfolio management oversees the overall management and sustainability of that group of policies, including financial performance, capital requirements, concentration of risk, claims, and customer outcomes.

Product management	Pricing	Underwriting
• Product management defines the scope of cover under a policy, as well as any standard benefits, exclusions, cover limits, definitions or conditions. • These decisions are formally presented in the policy wording.	• Pricing determines the premium that the customer pays for their cover. • Considered at both portfolio and individual customer levels, based on expected claims costs and strategic considerations. • Pricing can be used to help manage overall exposure and it is regularly reviewed.	• Underwriting assesses the risks of an individual customer, and their cover under the policy. • It considers whether they can be offered cover, and what terms or conditions might apply.

To support decision-making across these three areas, insurers use a range of different data sources.

 Natural hazard models (e.g. earthquake, flood, tsunami and sea surges)	 Claims data (Portfolio wide e.g. claims frequency and cost for other perils such as theft, fire)	 Underwriting questions (Claims history, building information and customer information)	 Business considerations (e.g. reinsurance impacts, overall exposure and cost to service).
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Natural hazard models



Insurers use natural hazard models to estimate the potential cost of loss for specific hazards based on expected Average Annual Loss (AAL). The outputs of natural hazard models are used alongside other information to inform pricing and underwriting thresholds.

Different insurers use different models, apply them in different ways and with varying levels of confidence, and may layer several models together.

For example, an insurer might utilise a model to rate flood risk for different properties on a scale from 1 to 100. Based on this scale, they might accept properties from 1 – 80, apply higher prices to properties rated 81 – 95 and impose exclusions or higher excesses for flood claims to properties rated 96 and higher. Another insurer might use the same model to rate properties from 1 – 30, apply risk-based pricing to properties 1 – 29, and decline those that are rated 30.

Model outputs are only one part of decision making and are interpreted in the context of broader portfolio strategy. It's also important to remember that models have variable accuracy, and for some hazards there are factors that models cannot account for.

Claims data



Claims data provides valuable historical insight that is used to set the overall premium pool and can be used to influence terms and individual pricing.

Claims data helps insurers to predict potential future losses for a range of causes including fire, theft or car accidents. It can indicate trends or concentrations of risk – for example, if homes made from particular materials, or specific customer demographic profiles, present higher risk that might need to be managed.

Underwriting information



Data and models are used to set overall portfolio, product and pricing decisions. But underwriting allows insurers to better understand and manage individual customers, particularly those that might be outside its risk appetite or that seem particularly severe.

Underwriting may involve asking more questions about the asset (such as building condition, flood history or maintenance) or the customer (such as past claims).

Using this information, insurers can make adjustments to cover or pricing which align each customer's risk exposure to the insight gathered from models and claims data, and reflect the insurer's risk appetite – for example, offering slightly higher excesses, specific conditions, or other terms.

Business considerations



Insurers must balance their exposure across regions and hazards. Concentration of risk in one area can affect capital requirements and reinsurance costs, even if individual risks appear manageable.

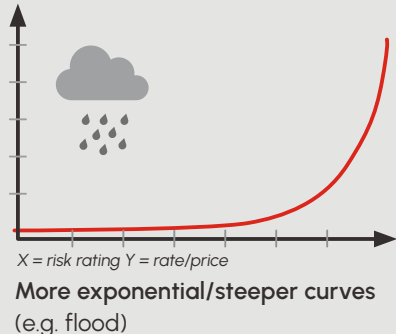
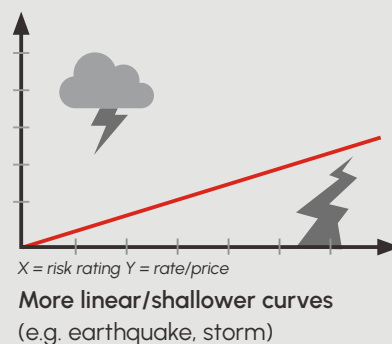
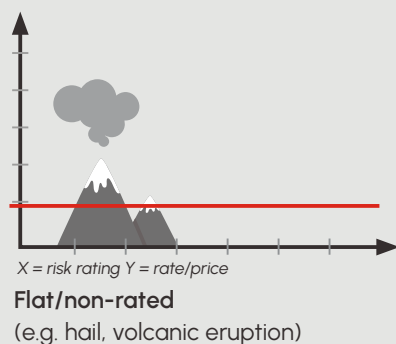
Portfolio wide decisions also seek to balance affordability and availability across customer groups, smoothing impacts where possible while maintaining financial sustainability.

Risk based pricing

Insurance pricing exists on a spectrum between flat, community-based pooling (where everyone pays the same premium rate), and technical, risk-based pricing (where the premium rate is based purely on the expected cost of the policy).

Insurers have always used risk based pricing – for example, differentiating car premiums by driver experience. But risk based pricing is not all or nothing. Different hazards within a single policy may be priced differently, and factors such as flood risk may exhibit non linear cost increases as expected loss rises.

The graphs below illustrate how risk-based pricing might be applied for different natural hazards.



Key takeaways

- 1 | Insurance pricing reflects expected loss, but is moderated by portfolio and customer considerations.
- 2 | Lived experience and claims history matter just as much as modelled risk.
- 3 | Managing concentration of risk is essential for long term sustainability.

Chapter 3

How insurance responds to adaptation futures



Risk assessments and hazard maps

As part of the climate adaptation process, many councils are developing more detailed hazard maps and risk assessments.

Residents are often concerned about the possible impact on their insurance. However, these assessments rarely introduce information that insurers do not already consider in the short term.

Insurers generally:

- Use a range of data beyond council hazard maps or risk assessments.
- Assess risk based on the expected cost of providing insurance over the next year, not long term climate scenarios.
- Focus on physical property damage rather than life safety risk.

Publishing hazard maps does not change the underlying risk faced by properties, but it can support better community decision making and, ultimately, improved resilience.

Spatial planning

One way New Zealand can become more resilient over time is by ensuring that new development or intensification do not increase the amount of property or infrastructure that is at high risk of damage from natural hazards.

Under proposed resource management reforms, all areas of New Zealand may soon be required to undertake spatial planning. This presents an opportunity to incorporate hazard mapping into land-use decision-making in a more transparent way.

Spatial plans can be a useful tool for encouraging development in lower risk areas and managing intensification in higher-risk locations. They can also be used in other ways that might improve resilience, including:

- Creating opportunities to rezone land for the most appropriate use – for example, ensuring that land that is not suitable for residential occupation can still be utilised for commercial or agricultural use.
- Enabling councils to set pre-conditions for land use in higher risk areas that will reduce the risk of physical or economic damage from natural hazards – not just risks to health and safety risk.
- Identifying where infrastructure upgrades may be needed.
- Recognising areas where intensification might worsen hazard risks for surrounding properties.



Proposed Plan Change 120 (PC120)

Proposed Plan Change 120 strengthens Auckland's approach to managing natural hazard risk by moving away from blanket intensification and towards a more risk based planning framework.

By explicitly recognising significant natural hazards and flooding as factors that can limit development and density, PC120 may help to avoid putting new development into parts of the city with high exposure to flooding, coastal erosion or other climate-related risks.

Suncorp New Zealand endorsed the strengthened natural hazard provisions under PC120. However, in its submission Suncorp noted that the risk matrix and methodology for natural hazards in PC120 aimed to manage the risk to life and safety from natural hazards – rather than avoiding potentially costly physical and economic damage.

Suncorp encouraged Auckland Council to consider how it could achieve greater alignment between its risk assessment methodology and an insurance view of risk. This could include, for example, adjustments to hazard and activity definitions and the use of consent conditions and infrastructure that would reduce the risk of physical harm to the built environment.



Adaptation investment

All adaptation investments require councils to make trade offs. Different adaptation investments will be reflected in different ways, and at different times, by the local insurance market.

Type of adaptation	
Hazard modifying Larger scale interventions which modify the likelihood or impact of an event for many properties. Often inflow/upstream infrastructure. (e.g. levees, retention basins which reduce the likelihood of flooding across a suburb or region)	Impact on hazard models Can be modelled (with lag); may be reflected by insurers in the future.
	Impact on insurance Although this type of infrastructure can be modelled, the timings of these updates can vary and may take several years. Once modelled, this infrastructure will impact insurers' risk assessments for particular hazards and may eventually lower the risk ratings of the properties that are protected by the infrastructure. This could be reflected in insurance pricing (either through price reductions or more by moderating increases), or increased insurance availability. By helping to avoid loss, hazard-modifying infrastructure has a positive influence on individual claim history.
Impact mitigating Doesn't change the likelihood of a hazard occurring at a suburb or regional scale, but can reduce the impact it has on an insured asset or the cost of repair. Often outflow/downstream infrastructure. (e.g. fire protection, drainage systems, slope stabilisation)	Impact on hazard models Not likely to be incorporated into natural hazard models currently.
	Impact on insurance This type of infrastructure or localised risk mitigation can be captured by insurers' underwriting processes, particularly if insurers are made aware of the investments or if they have local presence and the changes are communicated broadly within the community. This could have the impact of altering specific local underwriting zones that insurers might impose on areas of known risk. For example, if an insurer does not currently accept business on a particular street, or imposes higher excesses for flood on certain addresses, these terms could be altered or lifted if an insurer is aware of output side infrastructure investments which meaningfully mitigate the risk to a segment of the community or a specific insured property.
Community and property level maintenance Actions which support infrastructure operating to its designed capacity, as well as isolated risk mitigation. (e.g. clearing storm water networks, planting and lower-level nature-based adaptation, gutter clearing, anchoring loose items)	Impact on hazard models Cannot be incorporated into natural hazard models.
	Impact on insurance Maintenance of existing networks and property is a critical, and cost effective, component of natural hazard resilience. While maintenance of existing infrastructure will not be reflected in models in a way that impacts portfolio-level pricing, it may support insurance accessibility in the future, by preventing or reducing claims. Customers who have not had to make claims for natural hazard damage within longer periods are likely to be able to access cover more easily and therefore have more choice and price competition, or may avoid having conditions applied to their policies. Conversely, neglecting to maintain infrastructure could worsen insurance affordability in at-risk areas. If poor maintenance leads to regular claims in a particular area for hazards like flooding, insurers are likely to respond by applying bespoke underwriting zones in those areas and may apply terms or increase premiums in those areas.

South Dunedin

In 2025, the South Dunedin Futures programme consulted on seven potential 'futures', ranging from a status quo approach to a full retreat option.

In responding to the consultation Suncorp agreed that the status quo approach was likely to lead to worsening affordability and availability of insurance as flooding became more frequent and less unforeseen over time.

Scenarios 2 to 6 outlined options that included a mix of infrastructure upgrades, water storage solutions and managed retreat. While effective implementation of any of those scenarios would help maintain insurance availability in South Dunedin, the speed and impact of changes to the insurance market would vary based on which options were chosen.

In the near term, benefits might show through stabilisation of premiums, removal of exclusions or excesses, or greater choice of insurance for local residents rather than across-the-board premium reductions. South Dunedin Futures has created a shortlist of options for more detailed assessment and community consultation.



Key takeaways

- 1 | Publishing hazard maps can support better decision-making and long-term resilience, and it rarely changes insurers' short-term assessment of risk.
- 2 | Spatial planning can help to prevent or mitigate natural hazard risks for new development or intensification.
- 3 | New development in higher risk areas can have an adverse effect on the price and availability of insurance. It must be very carefully controlled to avoid negative impacts.
- 4 | Adaptation investments affect insurance in different ways and over different timeframes.

Chapter 4

Supporting insurance accessibility through transition



Evidence that communities understand local natural hazard risk and are managing and adapting to it will generally be viewed positively by insurers and reinsurers.

However, it is difficult to predict changes in the insurance market over the long term. This includes the impact of investments in climate adaptation, which can be influenced by disasters, claims experience and global market conditions.

Alongside long term planning, councils can support insurance accessibility through interim actions, including:

Prioritise short term impact

Risk assessment and planning processes may give councils information that can be used to prioritise or sequence work, including to:

- Target early investment to locations with the highest expected damage in severe weather events.
- Sequence lower cost, faster to deliver measures alongside longer term infrastructure.

Focus on maintenance

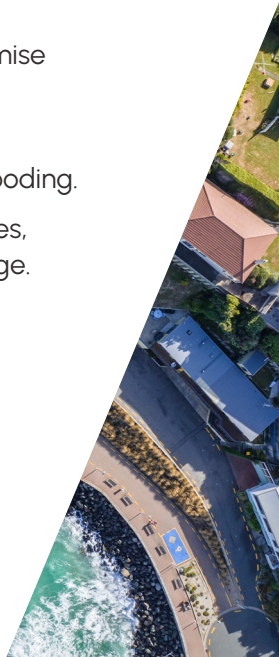
Deferred maintenance may result in blocked culverts or drains that can significantly worsen some hazards such as flooding.

Regular inspections and maintenance can materially reduce damage and claims. In particular, this could involve specific pre-event checks to clear stormwater drains or check sea walls are sound, if severe weather is expected.

Use planning work tactically

In addition to being used for investment and sequencing decisions, climate and infrastructure planning may indicate areas where Councils could implement short term interventions, such as:

- Mapping optimal locations for temporary flood protections or property-level sandbag defences, including pre-staging of sandbags or training on effective placement to minimise or prevent damage.
- Identification of sites where slightly more costly interventions such as sump pumps or upgraded drainage might be worth investment, especially in areas of frequent minor flooding.
- Identification of areas where small scale changes, such as increasing permeable surfaces, creating buffer zones and small detention ponds, or slowing runoff, could reduce damage.



Support property and community resilience behaviours

While the most effective interventions (e.g. raising houses) are costly, there are property-level options that can sometimes help to prevent or minimise natural hazard damage – for example, clearing gutters, ensuring fences or pot plants don't block drainage and securing or lifting furniture.

Other property-level actions can reduce community level risk if adopted widely – for example requiring new developments to have rainwater tanks, or to not discharge additional stormwater, are effective ways to reduce peak load and flood risk across the network.

Councils can support this through publishing and promoting information, guidance, seasonal reminders or checklist that help property owners to improve the resilience of their own homes and businesses, particularly immediately prior to expected weather events.

Early identification of retreat

Following the 2023 weather events, slow identification of category 3 properties³ sometimes meant that insurance payouts were used to rebuild or repair homes that were ultimately deemed unsafe for continued residential use. There were also many instances where uncertainty over land categorisation meant that customers felt unable to move forward with their insurance claims, which was detrimental for both their financial and their overall wellbeing.

Early identification of properties that may be retreated in future could enable the most effective use of insurance payments for all parties. Early identification of houses that might eventually be acquired or retreated would enable these decisions to be accelerated and, if insurance is in place, partially funded through insurance payouts post-event.

Key takeaways

- 1 | Evidence of risk management and adaptation will generally be viewed positively by insurers and reinsurers.
- 2 | Councils can support insurance accessibility in the short term by prioritising temporary or low-cost interventions that minimise the instance and cost of insurance claims.
- 3 | Early identification of properties that may be retreated may, if insurance is still in place, mean that insurance payouts can help to fund earlier-than-planned retreat if a property is damaged.

³ Properties classified as having intolerable risk of injury or death for residential land use, Future of Severely Affected Land; Department of Prime Minister and Cabinet Cyclone Recovery Unit

Conclusion

Insurance supports recovery, not immunity from climate-related hazards. While it cannot eliminate risk, it can help communities transition toward safer, more resilient futures when paired with good planning and targeted investment.

We strongly support climate adaptation planning and encourage realistic expectations about insurance outcomes. Continued collaboration between councils, communities and insurers – particularly around data sharing, sequencing of decisions, and clear communication – will lead to better outcomes for all parties.

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