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Perpetuating Disasters

breaking New Zealand's cycle of inertia following natural hazards

Abstract

New Zealand is stuck in a loop. The country has accumulated findings from decades of post-event inquiries into storms, floods, landslides and earthquakes. Yet it continues to default to short-term fixes despite continual recommendations for system-level reform. Institutional amnesia and an unwillingness to tackle ingrained systemic issues fuels political short-termism, permissive land-use settings, and entrenched path dependency on hard engineering responses such as stopbanks and sea walls, which alone are insufficient to reduce the risks, and raise residual risk. The result is the perpetual inertia of a reactive response system. This inhibits any transformation towards a more resilience-centric model in the face of increasingly frequent, intense, progressive and ongoing climate changes.

Keywords climate adaptation, natural hazards, resilience, disasters, emergency governance, short-termism

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Introduction: from 'creating' to perpetuating flood disasters

New Zealand is stuck in a loop. A geophysical or weather-related natural hazard event causes mayhem and generates public and media attention. After recovery, requisite government-sponsored inquiries diagnose familiar systemic failings and urge pre-emptive long-term reform (New Zealand Government, 2024). Political attention then ebbs, and institutional priorities shift. Those identified systemic impediments remain unremedied until the next event, and the cycle repeats.

This cycle of short-termism is sustained by institutional amnesia. There is also a perception that it is too complex and costly to make systemic changes, which is exacerbated by the tyranny of the urgent. Councils and government agencies are overwhelmed by immediate operational pressures of infrastructure, housing supply, and the statutory limits on their land use functions. Meanwhile, elected leaders face incentives to prefer visible near-term 'fixes' over longer-term adaptation measures. Added to this are a reluctance to alter protections on existing use and, for some, scepticism about the validity or urgency of managing climate-related risk.

This is not a new story. Forty years ago, Neil Ericksen's *Creating Flood Disasters* (1986) documented how policy in Aotearoa

tended to protect existing and ongoing intensified land uses with structural works like levees and sea walls, despite their protection limits and their tendency to induce further exposure (the so-called 'levee effect') (Ericksen, 1986). Ericksen argued that if we cannot eliminate the risk of flooding, we must constrain the land uses. He located this power squarely in the remit of local and central government under the Town and Country Planning Act 1977. Those prescient arguments were empirically grounded, but since then have been largely forgotten or ignored in policy and practice (Ericksen, 2024). We have continued to build flood protections while allowing development to intensify, despite exposing

assesses the social and fiscal consequences of remaining reactive in a changing and intensifying climate. We unpack how New Zealand has responded to successive findings from decades of post-event inquiries into storms, floods, landslides and earthquakes. Part two identifies recurrent issues across post-disaster reviews over the last decade. We distil six recurring themes: failure to learn; unclear responsibilities; hard-infrastructure path dependency; legislative gaps and misalignments; uncoordinated governance; and fragmented expertise and under-resourced local authorities. We then canvas law and policy reforms that could align disaster risk reduction and climate adaptation into one

for some populations even as it reduces it for others, although this will change over time as climate change intensifies and residual risk increases rather than vanishes. This is an important caution for 'protect' or 'accommodate' strategies in exposed locations (e.g., stopbanks or raising floor levels).

Compound and cascading hazards

Hazards interact. Earthquakes destabilise slopes and prime them for rain-induced slips. Sea level rise backs up stormwater and elevates groundwater, raising liquefaction potential in coastal lowlands. Treating hazards in silos underestimates systemic risk and misdirects policy.

Adaptation, disaster risk reduction and resilience

Adaptation is anticipatory and long-term. Disaster risk reduction focuses on readiness, response and recovery, often on shorter cycles, such as the five-year cycle provided by the Civil Defence Emergency Management Act 2002 (s46). Resilience must move beyond 'bounce back' towards maintaining adaptive capacity and learning, but in practice is still too often framed as post-event recovery and staying in place. The imperative is to integrate disaster risk reduction and climate-change adaptation, aligning both short and long planning horizons and matching different hazard dynamics with appropriate adaptations.

Identifying the problem

Characterising a 'reactive' response style

History shows that New Zealand moves on quickly after extreme hazard events, even though communities and individuals experience effects over the longer term (de Guttery and Ratter, 2022). Lessons learned are not being applied. The problem is a complicated attention deficit issue that couples political default to short-termism with an apparent belief that development of sound integrative policy is in the 'too hard basket'. Inertia is further enabled by willing institutional amnesia and the (erroneous) belief that the event will not happen again for a long time, or that climate change is not a significant exacerbator of climate damage.

As a result, attention generated by extreme events fails to spur long-term

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that development to increasing residual risk (Fu et al., 2023). Four decades on, amnesia and a reluctance to tackle risk reduction and climate-change adaptation is deepening.

This article summarises some key findings of a larger research project (Tombs, Lawrence, Bell 2026) that analysed post-disaster reports over the last decade, a period which has seen an observable increase in such reports. Our objective was to understand why law and policy recommendations are not sufficiently spurring systemic change. The main finding was unsettling. We know the systemic shortfalls; we identify them after each event. We just do not action the identified long-term systemic fixes. Worse, many post-disaster inquiries and reviews no longer just reiterate recurring issues but explicitly call out the repeated failure to implement the lessons from previous reviews. Ironically, these are also largely ignored.

This article is in two parts. Part one characterises New Zealand's reactive response style and the evidence for it, and

coherent system. We argue that as climate hazards accelerate, compound and cascade, the associated risks magnify the costs of our default to reactivity.

Key concepts

Risk

In climate contexts, 'risk' arises from dynamic adverse interactions between hazards, exposure and vulnerability. Each element can change over time due to socio-economic processes and decision making, while also being subject to uncertainty. Effective adaptation therefore relies on pre-emptive adaptive planning, embracing future uncertainty by considering a range of plausible futures and stress-testing the flexibility and viability of risk-reduction options or planning actions (e.g., for sea level rise, rising groundwater, flooding and rain-induced landslides).

Residual risk

Not all risk can be mitigated. Adaptation redistributes risk, sometimes increasing it

change. Rather, it focuses on short-term fixes, even when external shocks like natural hazards focus national attention on a particular vulnerability. Coordinated communication of an issue's urgency is no guarantee of it making it onto the political agenda. In a context of climate change, there is also a risk of 'over-catastrophising' when discussing the scale of climate adaptation required and paralysing political will by its seeming complexity for longer-term planning and action (Intergovernmental Panel on Climate Change, 2022, Chapter 17).

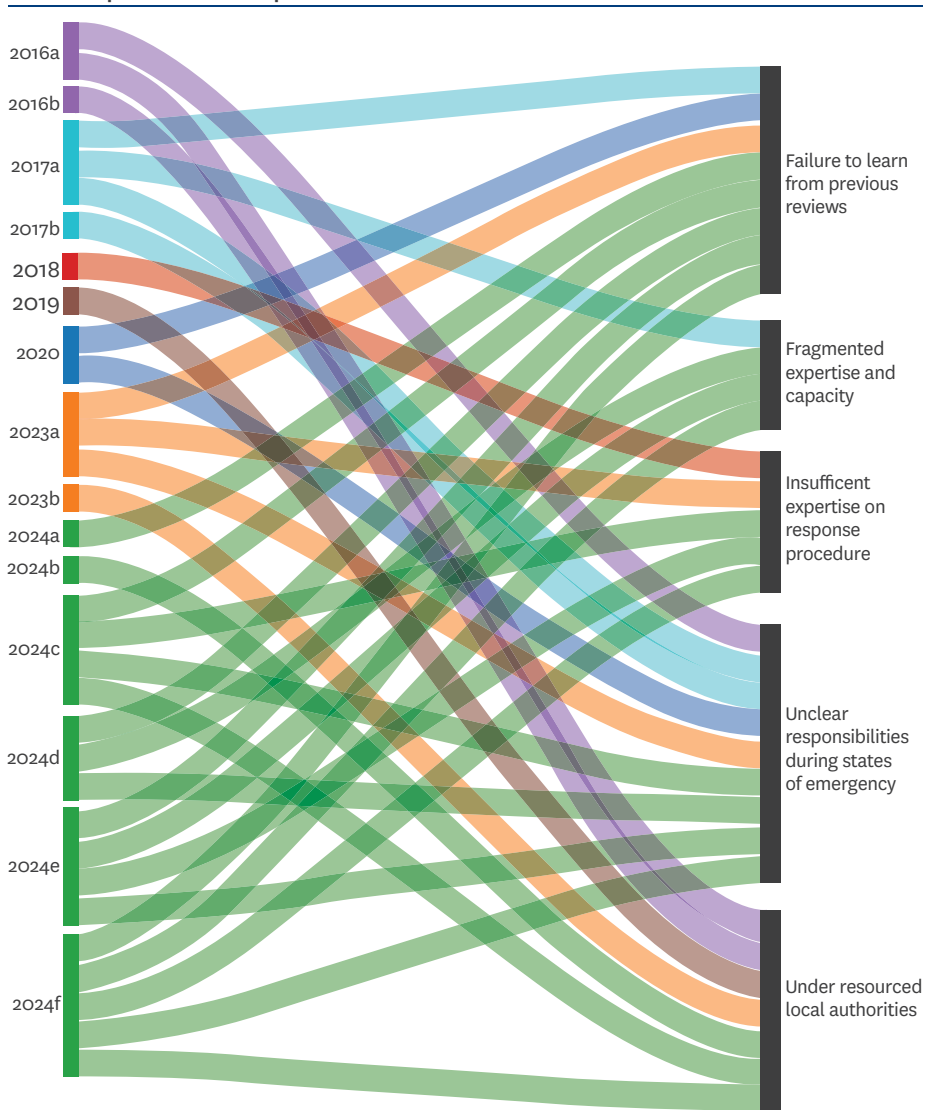
The issue is becoming increasingly salient with the emergence of compound hazards and cascading climate risks. As disaster response and climate adaptation discourses are increasingly blurred or they are dealt with separately, cogent efforts to design integrated pre-emptive policy responses must compete with more noise.

Evidence of New Zealand's reactive response

A review of post-event inquiries since 2016 spans earthquakes (East Cape, Kaikōura), fires (Port Hills, Tasman), storms (Auckland, 2018 and 2023) and Cyclone Gabrielle (2023). These inquiries and reports identify many of the same issues: fragmented expertise and capacity; unclear responsibilities during emergencies; outdated legislative frameworks; permissive regulatory instruments; and outdated or mis-targeted infrastructure. A visual mapping of report years to recurrent issues (Figure 1) illustrates that the same failures are identified, year on year, across different hazards and regions.

Multiple recent reports state, explicitly, that they are repeating earlier recommendations. The 2017 report of the Better Responses review acknowledged that many of its recommendations were not new and that progress had been 'patchy or slow' (New Zealand Government, 2018). The Government Inquiry into the Response to the North Island Severe Weather Events (2024) made the same point. Likewise, a Department of the Prime Minister and Cabinet review following the extreme weather events in January–February 2023 noted that 'the issues raised are not new' (Department of the Prime Minister and Cabinet, 2024). These meta-observations

Figure 1 Recurrence of identified systemic issues in New Zealand post-disaster reports



Notes: Left labels identify year of report. Flow path colour denotes year of report. Right labels show the identified recurring issues. The same issues are identified in 2024 as previous years. Details of the reports are provided in the Appendix.

are crucial: they demonstrate self-awareness of institutional amnesia.

Recurring themes

The surveyed reports point to six recurring themes:

- institutional amnesia – an inability to learn from previous reviews;
- unclear responsibilities during emergencies – persistently ambiguous 'who does what, when?';
- hard-infrastructure path dependency – over-reliance on protections that lock in exposure;
- legislative gaps and misalignments – laws that are outdated, permissive or unintegrated;
- uncoordinated governance – opaque policy hierarchies, incoherent instruments; and

- fragmented expertise and under-resourced local authorities – over-reliance on consultants, underfunding and inadequate training.

These are not isolated issues; they reinforce one another. Ambiguous responsibilities reduce accountability for implementing lessons; permissive consenting regimes create pressure to protect rather than to avoid or retreat; engineering path dependency then consumes fiscal and political bandwidth that could otherwise support anticipatory measures.

Costs and consequences of staying reactive

The social and fiscal costs are already significant. Since 2010, total estimated disaster costs have been roughly \$64 billion,

about half borne by private insurers. The largest weather events of 2023 (Cyclone Gabrielle and the Auckland Anniversary weekend floods) alone incurred a \$9–14.5 billion loss to the national economy, besides nearly \$4 billion in insured losses (Insurance Council of New Zealand, 2025). Yet central and local government spending remains overwhelmingly skewed towards response and recovery rather than pre-emptive risk reduction and resilience (97% to 3% respectively) (Johnston, 2026; White et al., 2025).

Despite the clear fiscal liabilities attached to unaddressed climate impact, government resource allocation has been myopic, unambitious and fiscally unsustainable. The Climate Change Commission reported in 2024 that the first National Adaptation Plan (2022) does not

risk (Ericksen, 1986). The consequence is that although protections may be cost-effective in the short term, future transformative options like planned relocation are perceived as politically and financially more difficult. Councils are constrained by budgets, threats of rates caps and little durable funding specifically for adaptation. They may feel pressure to delay hard choices if they anticipate central government bailouts after the next event. However, the opportunity exists to plan for eventual relocation in parallel with protections, thus signalling the temporary nature of the protections in such highly exposed sites. Westport District Council has purchased alternative housing land for that purpose (Heyler Donaldson, 2025).

Distributional impacts matter. Lower-income households are less able to

of disasters means they are often fresh in mind and experienced by many. Boston (2019) writes about how these moments should pose small windows of political opportunity. Relatedly, Kingdon discusses the dynamic of 'isolated flukes', repeated crises and collective urgency. Kingdon's point is that repeated crises should cumulatively build attention to systemic factors and appetite for change (Kingdon, 1984, pp. 99–100).

New Zealand's record is well beyond the point of 'isolated flukes'. However, no clear and comprehensive strategy for the inevitable and more frequent disasters ahead has emerged. Clearly, resilience and disaster readiness are two facets of a larger approach. A strong pre-emptive resilience rationale must underpin decision making by creating a predictable system that eases the shocks caused by 'unprecedented' events. This was noted in terms of the 'ineffective prioritisation of some critical infrastructure restoration activities, and gaps in communication throughout the system' in the 2024 report on 2023's severe weather events (New Zealand Government, 2024, p. 92).

Coherent climate adaptation policy would dovetail neatly with a clear sense of disaster preparedness. Failing to act on post-disaster report recommendations in a coordinated and systemic way has led to duplication and fragmentation of responses and a focus on recovery, predominantly in situ. The current system is at capacity coping with New Zealand's hazards as they arise, and this misdirected capacity ultimately detracts from the system's ability to implement cohesive long-term thinking. This 'fixing the plane while flying it' incurs a future burden of potential maladaptation and associated transition costs as climate-driven hazards increase.

Responsibility distribution – and the limits of 'individual agency'

The Independent Reference Group on Climate Adaptation emphasised household responsibility and floated cut-off dates for recovery assistance and buy-outs (Independent Reference Group on Climate Adaptation, 2025). Yet the analysed reports, and the report of the Expert Working Group on Managed Retreat (2023), point more directly to systemic barriers in local government, including unclear mandates,

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present a clear and coherent plan at the required 'scale and pace' (Climate Change Commission, 2024a, p. 5). Moreover, the 'natural hazard resilience fund' was dismantled by the National–New Zealand First–ACT coalition government (Cooke, 2026). There is clearly a reluctance to recognise the urgency of this issue, aggravated by a short-term mindset that leads to more unpredictable and reactive Crown expenditure in future.

The 2021 Westport floods illustrate perverse incentives (Buller District Council, 2026). Government support favoured near-term flood defences over comprehensive adaptation (including managed retreat). This discounts future residual risk and perpetuates path dependency. Protections induce more development behind them, misleading people that they are 'safe' and increasing the value of property and infrastructure at

respond to price signals of (for example) insurance premiums, insurance excess rises and targeted rates. As a result, they may be more likely to remain in risky locations. The longer we stay reactive, the more we entrench this inequity. Those with the least resources bear disproportionate hazard exposure and disruption to lives and livelihoods. Meanwhile, insurers adjust their appetites and pricing as they increasingly withdraw coverage from New Zealand's high-risk locations, influenced partly by a changing landscape of risk at the global level (Newton, 2026). As a result, communities risk the 'property purgatory' of stranded assets, negative liquidity and eroding insurability (Tombs et al., 2021).

Enablers of poor decision making

Institutional amnesia

New Zealand quickly forgets disaster review findings, even though the frequency

cross-departmental coordination issues, planning cycles, legal liability concerns, political appetite, capacity and cost constraints (see also Lawrence et al., 2013). These are all structural and legislative gaps that need filling if households are to be left on their own. The Climate Change Commission has likewise noted ‘the lack of a clear and coherent national framework’ in clarifying roles and responsibilities as a high priority area for progressing New Zealand’s climate adaptation (Climate Change Commission, 2024a, p. 14).

Overly focusing on ‘individual agency’ for resilience overlooks statutory responsibilities and tools held by central and local government (most notably in land-use control) and the risks of shifting costs onto those least able to bear them. Improved risk information, such as a nationwide flood-risk map, is useful, but without enabling legislation, funding and clear policy direction, information alone rarely shifts outcomes, and will be contested by property owners.

Hard-defence path dependency and the PARA trap

For decades, New Zealand has prioritised engineering responses to make ‘water adapt to humans’ over spatial planning tools that would avoid or retreat from flood risks (Ericksen, 1986). The popular PARA adaptation schema (protect–accommodate–retreat–avoid) is too often interpreted as a sequence that puts ‘protect’ first and ‘avoid’ last. This normalises delay via preventative measures, while increasing residual risk.

These strategies are attractive. They deliver visible ‘certainty’ and a narrative of control that is deeply embedded as the obvious choice to guard communities and infrastructure. However, forthcoming climate adaptation thresholds and escalating life-cycle costs present physical and economic limits. Once installed, protections can become political and physical barriers to longer-term land use-based transformation. This is classic maladaptation. Today’s ‘solution’ becomes tomorrow’s constraint.

Legislative gaps and misalignments

The Civil Defence Emergency Management Act 2002 is two decades old and increasingly misaligned with today’s risk

landscape and technology. Introduced in late 2025, the current Emergency Management Bill (No 2) does present opportunity for systemic reform. However, early indicators are not promising. The word ‘climate’ does not appear in the bill. Terms like ‘adaptation’ and ‘relocation’ are also absent. There is no clear linkage to the Climate Change Response Act’s adaptation provisions or to the Climate Change Commission’s monitoring of adaptation progress and effectiveness. Nor is there a mandate to integrate recovery planning with long-term adaptation plans. These omissions occur despite the government’s stated intention to make such linkages in an adaptation framework, which is yet to be developed (Ministry for the Environment, 2025b). Without formally making these connections in

supporting modelling tools, are essential now to start reducing the misalignment between council intention and action. Continued reliance on the ad hoc is limited in scope and equity and economic viability.

Uncoordinated governance and conflicted hierarchies

The National Adaptation Plan and the National Disaster Resilience Strategy could provide guidance as high-level policy instruments, but they are poorly connected to councils’ business-as-usual workstreams. They fail to articulate priorities when objectives compete. This is crucial for decisions on whether to protect or avoid, where development or housing strategy may clash with hazard avoidance (Ministry for the Environment, 2025a, 2023). In the absence of a clear hierarchy of objectives – anchored in

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statute, we risk inadvertently codifying the reactive bias and worsening the default recovery-centric model.

At a local scale, councils lack fit-for-purpose legislative measures to implement anticipatory adaptation. Dynamic adaptive pathways planning (DAPP) is widely recommended for dealing with changing risk and deep uncertainty (Lawrence et al., 2025). But implementation of DAPP requires legal mechanisms to embed triggers and enable switching pathways through plan changes. Those mechanisms are currently absent, weak or ambiguous. Furthermore, without well-considered statutory scaffolding for pre-event acquisition, relocation at scale, and reconciling existing use protections with risk reduction, adaptation will continue to rely on ad hoc acquisitions by agreement. Adaptation plans mandated in statute, utilising DAPP and other

statute and operationalised through national planning standards – local practice defaults to permissive consenting with case-by-case ‘mitigation’, even where mitigation is ill-suited to long-lived, progressively changing risk profiles. The 2024 severe weather inquiry noted that central government’s approach to infrastructure lacks coherence and that unsuitable or missing processes are common across reviews – symptoms of fragmented governance (New Zealand Government, 2024).

Long-term spatial planning is misaligned with hazard and climate risk. A vivid symbol of planning incoherence, some Civil Defence Emergency Management operational centres were themselves flooded during the 2023 events. More broadly, overly permissive consenting regimes for forestry intensification and coastal and floodplain subdivision have failed to prevent predictable off-site harms, such as from redistributed forestry ‘woody

debris' (slash) (New Zealand Government, 2023). Another effect is the mixed message sent to constituents. Credible climate change risk messaging is impossible if plan rules continue to enable intensification in harm's way.

For this reason, it is unsurprising that local authorities' property buyouts to effect localised managed retreat have been a patchwork of ad hoc acquisitions by agreement (Hanna et al., 2020). That said, the lack of any legislative provision for this course of action has meant that there is no rubric for implementing relocation at any scale. Some ambitious projects have forged on regardless. The Hutt River City Centre Upgrade Project, giving room for the river, has so far succeeded, relying on acquisition by agreement and the Public Works Act 1981 (Greater Wellington Regional Council, 2015,

The DAPP approach is promising, but just as there are implementation questions at a statutory level, so too there are gaps at the granular planning level. DAPP is being used by local authorities widely to navigate adaptation planning and communicate it to the community in an intuitive way using thresholds and 'trigger points' (Lawrence et al., 2020; Lawrence et al., 2025). The agility to monitor and pivot when a predetermined condition is triggered is the appeal. DAPP can address issues inherently uncertain such as climate change effects on natural hazards, or progressive permanent impacts from sea level rise. However, the monitoring, triggering and path implementation cannot self-deploy. These processes must be embedded into existing local authority functions and local government procedure for land use governance.

workforces being provided with access to shared systems, the next large-scale response will face similar challenges, to be identified by more inquiries.

Green shoots – and gaps

Some agencies are pushing towards pre-emptive, integrated adaptation thinking. The Department of the Prime Minister and Cabinet has proposed 'decision trees' to guide recovery decisions across social, economic and leadership dimensions. Optimistically interpreted, such tools could become bridges between recovery and adaptation – if linked to statutory mandates, funding, and interlocking responsibilities. Other initiatives underway and set out in a recent Waitangi Tribunal evidence brief (Waitangi Tribunal, 2026) show ad hoc progress, largely focused on disaster recovery rather than integration of adaptation actions.

Furthermore, several constraints are highlighted in the evidence brief that are similar to those identified in this study: limited funding, lack of regulatory levers, unclear roles and responsibilities, liability risks for adaptation decisions, and limited capability and capacity across local government to manage natural hazard risks and the effects of climate change. For example, despite a reform of the emergency management system, the Emergency Management Bill (No 2) still lacks explicit integration with climate adaptation. Whether forthcoming instruments – e.g., national policy direction and standards under the Planning Bill, signalled adaptation planning framework mandates in an amended Climate Change Response Act, and the recently enacted changes to LIM reports – will supply the missing hierarchy and coordination across legislation and agencies remains uncertain.

Law reform opportunities

We identify the following areas for law and policy reform.

- Emergency Management Bill: integrate climate adaptation explicitly into recovery planning, link to Climate Change Response Act adaptation functions, and require alignment with national adaptation progress monitoring (Climate Change Commission (2024)). This would ensure that event recovery neither

There is a move from early species-focused protection towards a recognition of ecosystem diversity, ecological processes, critical ecosystem services and integrity.

2016; Lawrence et al., 2019). This programme and one at Amberley in Canterbury employed the DAPP framework effectively to identify triggers for successive actions. Amberley has also developed creative uses of existing land use tools for acquisition to effect a staged relocation of residents to another site (Allen, 2025). There is an opportunity with the second National Adaptation Plan to develop a bespoke toolbox and guidance for such initiatives.

A positive legislative development in 2025 was reform of the Local Government Official Information and Meetings Act 1987, enabling local authorities to place climate change risk information on land information memoranda (LIMs). Under section 44D of the Act, authorities are shielded from liability where the information is provided in good faith. This has potential to move the needle if local councils maximise this tool for longer-term spatial planning and adaptation signalling.

Fragmented expertise and under-resourced local authorities

Reviews of Cyclone Gabrielle and the Auckland floods found fragmented coordination and expertise and capacity gaps. Many councils rely on external consultants on a project-by-project basis, which hampers development of in-house capability and the ability to take a systemic approach. At leadership levels, inconsistent training and part-time roles can leave gaps in command, communication and interoperability during events. The 2018 Better Responses report recommended a 'common operating system' to better coordinate actors involved in response, recovery and prevention (New Zealand Government, 2018). By 2024, inquiries were still calling for this, while noting that a 2019 business case to establish one had not progressed (Department of the Prime Minister and Cabinet, 2024). Without professionalised emergency management

contradicts nor crowds out any long-run dynamic adaptive pathways plan.

- Planning Bill and national direction: provide clear national policy direction and standards that: articulate a hierarchy prioritising risk avoidance where feasible; operationalise DAPP triggers and plan-switch mechanisms; and reconcile existing use protections with risk reduction, including in subdivision decisions. Without this architecture, councils will remain trapped in permissive, case-by-case mitigation.
- Acquisition and relocation frameworks: clarify pre- and post-event acquisition powers, including valuation principles beyond 'willing seller/willing buyer' when market value is eroded by increasing risk. Provide pathways for land swaps and the use of Crown land. Ensure consistency with Treaty settlement obligations, including rights of first refusal, to enable managed relocation at scale and with equity.
- Sectoral alignment: tighten currently permissive regimes that enable trans-boundary damages such as slash debris flows; require infrastructure consenting to assess long-term maladaptation

risks; mandate DAPP integration of monitoring and actionable triggers in adaptation plans and provide funding mechanisms to kick start avoidance of further climate risk.

- The proposed legislation merging the Ministry for the Environment, the Department of Internal Affairs' local government functions, and transport and housing policy potentially provides an opportunity for greater coordination on adaptation policy that is focused on risk reduction, and greater pre-emptive policy mandates than in the legislation they individually administer.

Coming full circle

Insurers have begun reassessing cover: AA Insurance (a joint venture with Suncorp New Zealand) has paused new home policies in high-risk areas such as Blenheim, Westport and parts of Canterbury. In public discourse, the proposed remedy is often more defences, rather than changes to land use or planning to retreat. As one industry expert put it: 'If you build defences, people build new houses. We shouldn't be building any new houses in Westport, full-stop' (Newton, 2026). This

encapsulates the trap Ericksen warned of 40 years ago: protection encourages intensification of exposure, which demands more protection. This further entrenches exposure and perpetuates a spiral of maladaptation. That spiral tightens as climate change accelerates.

The deeper point reaches beyond reaction time or response resourcing. Our institutions remain misaligned with the pace, frequency, intensity and complexity of emerging hazards in a changing climate. Staying reactive increases costs, worsens inequity and diminishes capacity for transformation. Aotearoa has no shortage of diagnoses. The task is to move from knowing to doing and link recovery to adaptation plans in law. Practically, this means giving councils the tools, mandates and funding to act ahead of impact, to professionalise and connect response capabilities, and to re-weight priorities so that avoiding risk where feasible is the default, not the exception. The window for pre-emptive action is narrowing. We should stop wasting money and time perpetuating the disasters we created and have repeatedly identified how to avoid.

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Appendix: Figure 1 post-disaster review reports

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