



# The long shadow of Cyclone Gabrielle: Brief review at 12 months

7 February 2024

Nick Wilson, Adele Broadbent, John Kerr

# Summary

A year ago Cyclone Gabrielle struck Aotearoa New Zealand and it became the most costly weather-related disaster in the country's history. Here we briefly consider its persisting long shadow in terms of: (i) ongoing disruption to lives and stress from housing damage; (ii) ongoing disruption to lives from infrastructure damage; and (iii) persisting economic damage (farmland and tourism sites). There is a need for much more central and local government investment in resilient infrastructure and to support managed retreat of those living in housing that is particularly vulnerable to flooding, slips and sea level rise.

---

## Introduction

It is a year since Cyclone Gabrielle's catastrophic deluge caused a trail of destruction to homes, infrastructure, and businesses across northern and eastern regions of the North Island. The cyclone killed 11 people,<sup>1</sup> [displaced more than 10,500](#), and caused a range of acute and long-term health effects. The estimated cost was up to \$14.5 billion – and there were multiple other harms (see Infographic<sup>2</sup> in the [Appendix](#)). All up, Cyclone Gabrielle is likely to have been the most costly weather-related disaster to have struck Aotearoa New Zealand (NZ), and as we detailed in a “downward counterfactual” analysis, it could have been much worse.<sup>3</sup>

## The long shadow - the persisting impacts from Cyclone Gabrielle

**Ongoing disruption to lives and stress from housing damage:** As of 11 January 2024, MBIE data provided to us shows 469 houses nationwide have been “red stickered” due to the extreme weather, indicating they are uninhabitable. Another 2412 houses have been “yellow stickered”, meaning that they are also effectively unusable and typically require repairs (for additional details see the [Appendix](#)). The process of buyouts has begun, but in Hawke's Bay it took 10 months for the first of these to occur with valuations still pending in December 2023.<sup>4</sup>

This disruption and lack of closure for many people is likely to be having ongoing mental health impacts. A survey of Napier residents conducted in May and June of 2023 found that “two thirds (66%) of respondents reported negative effects of the cyclone and its aftermath on their mental wellbeing.”<sup>5</sup> “The key issues associated with mental wellbeing were anxiety (31%), feelings of worry and fear, followed by stress (24%), and feeling depressed, low, or down (16%).” As a result, an “overall mental wellbeing distress index” had increased significantly (reaching 12.1, up from 10.5 in 2022). Various other reports suggest persisting mental health impacts as a result of effects on employment<sup>6</sup> and for those still at risk of flooding having “anxiety every time there was a storm warning.”<sup>7</sup> These types of impacts have similarities to the long-term social impacts described for another major flood in NZ (Manawatu 2004),<sup>8</sup> and long-term health effects after earthquakes impacting Christchurch.<sup>9</sup>

**Ongoing disruption to lives from infrastructure damage:** While much roading has been repaired, there are still likely to be disruptions during 2024. For example in Hawke's Bay: “Roads and bridges were slowly being pieced back together, with construction on two major bridge rebuilds at Puketapu and Matapiro due to begin this year.”<sup>10</sup> Some infrastructure might never be repaired given statements from the Prime Minister eg, the

railway line between Napier and Wairoa.<sup>11</sup>

**Persisting economic damage (farmland and tourism sites):** The delays to traffic from ongoing roading repairs (detailed above), will have adverse economic impacts, but there will also be economic loss from the farmland that has not been repaired after Cyclone Gabrielle. For example, “about 650 hectares of land in Hastings and Wairoa was still swamped in silt and debris, and councils asked Prime Minister Christopher Luxon for another \$60 million to finish the job when he visited in December.”<sup>10</sup> Some anticipate that, for their land, it will be a “three-to-four year recovery”.<sup>12</sup>

Sites that are important to tourism also remain damaged. At the start of this summer, the Department of Conservation reported that “about 100 tourist sites are still closed due to damage caused by Cyclone Gabrielle”.<sup>13</sup> In Auckland some reserves and tracks are still closed – out of the more than 300 instances of damage to parks, reserves and walkways across the Auckland region from both Cyclone Hale and Cyclone Gabrielle.<sup>14</sup>

## **Chronic infrastructure deficits**

The damage wrought by Gabrielle revealed the country’s **lack of resilient infrastructure**, including to health-critical water supply and sewage disposal systems.<sup>15</sup> Even post-cyclone repairs have lacked resiliency eg, repaired roading breaking up<sup>16</sup> and a temporary \$200,000 causeway getting washed away after only 25 days.<sup>17</sup>

While it is encouraging that the new government has announced a \$1.2 billion Regional Infrastructure Fund, this is only a tiny step toward addressing the country’s massive infrastructure deficit of around \$210 billion estimated by Treasury.<sup>18</sup> Other signs of NZ’s chronic infrastructure deficit include the dismal state of the Cook Strait ferries<sup>19</sup> and the extraordinarily high leakage rates of some water supply systems (eg, Wellington at 40-50%<sup>20</sup>).

## **What the government needs to do**

There needs to be a comprehensive government-funded review of Cyclone Gabrielle's impacts and responses and to collate the findings of all the local level inquiries (eg, those into the emergency management responses, at least one of which is still pending<sup>21</sup>). A national level inquiry should probably be routine for all very costly disasters (eg, those costing over \$10 billion), and Cyclone Gabrielle exceeds this threshold. More generally central and local government needs to do far more to increase the resiliency of infrastructure. Similarly for supporting managed retreat<sup>22</sup> of those living in housing that is particularly vulnerable to flooding, slips and sea level rise.

## What's new in this Briefing

- It is now 12 months since Cyclone Gabrielle struck Aotearoa NZ and became the most costly weather-related disaster in the country's history.
- We briefly consider the persisting long shadow of impacts from Cyclone Gabrielle in terms of: (i) ongoing disruption to lives and stress from housing damage (eg, 469 "red stickered" and 2412 "yellowed stickered" houses); (ii) ongoing disruption to lives from infrastructure damage (eg, roading and bridges); and (iii) persisting economic damage (farmland and tourism sites).

## Implications for public policy and practice

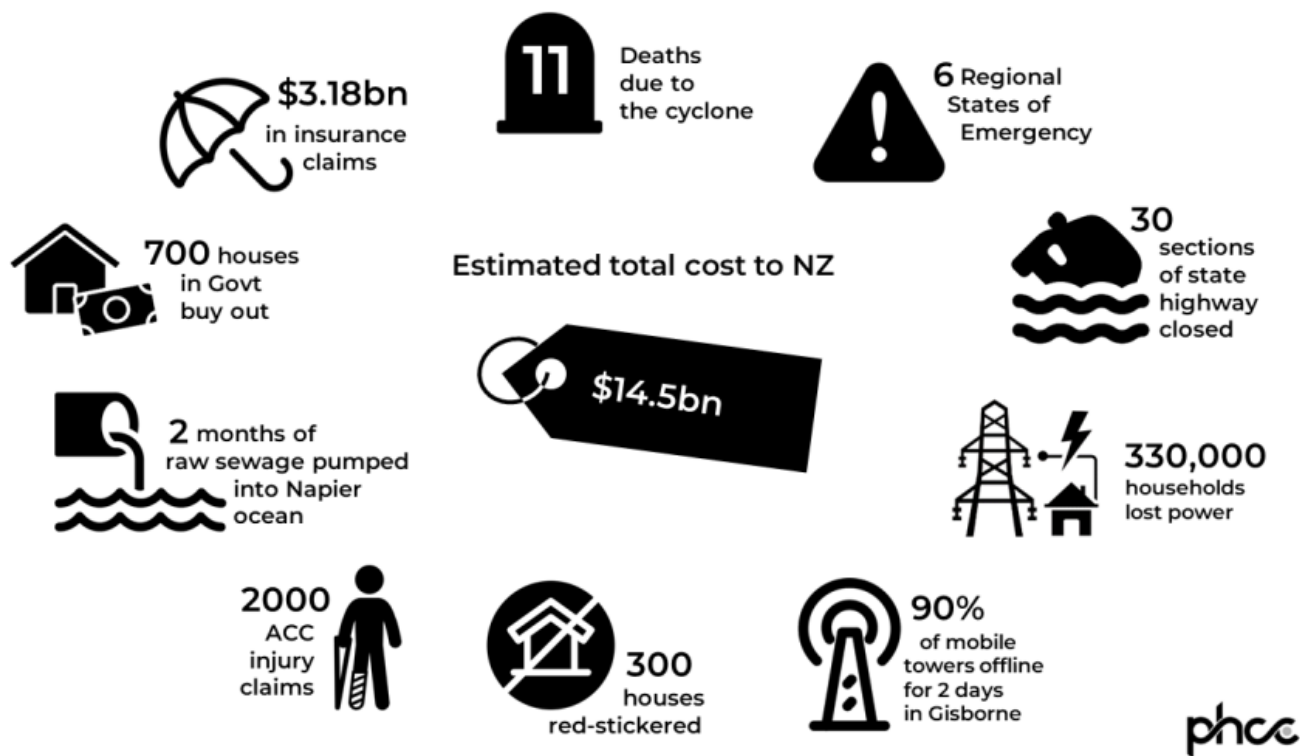
- We re-iterate the need for such a major disaster to have a national level of inquiry or review funded by the government.
- There is a need for much greater central and local government investment in resilient infrastructure - especially in the context of climate change.
- Central and local government needs to support managed retreat of those living in housing that is particularly vulnerable to flooding, slips and sea level rise.

### Authors details

[Professor Nick Wilson](#), [Adele Broadbent](#) & [Dr John Kerr](#). All authors are based at the Public Health Communication Centre and Department of Public Health, University of Otago, Wellington.

### Appendix

At the six month mark following Cyclone Gabrielle, we did a [Briefing](#) looking at the numbers and these were some of the figures we uncovered:<sup>2</sup>



**Table A1:** Data on housing damage classifications following cyclone impacts in 2023 (kindly supplied by MBIE for 11 January 2024)

Region/District	Red placarded*	Yellow placarded*	White placarded*	Total
<b>Northland</b>				
Whangarei District	5	16		<b>21</b>
Kaipara District	8	8		<b>16</b>
<b>Auckland</b>				
Auckland Region**	264	1075		<b>1339</b>
<b>Waikato</b>				
Hauraki District		2		<b>2</b>
Thames-Coromandel District	17	19		<b>36</b>
Waikato District	7	13	18	<b>38</b>
<b>Tairāwhiti Gisborne</b>				
Gisborne District	46	211	137	<b>394</b>
<b>Hawke's Bay</b>				
Central Hawke's Bay District		58		<b>58</b>
Hastings District	90	643	191	<b>924</b>
Napier City	4	128		<b>132</b>

Wairoa District	1	72	92	<b>165</b>
<b>Wellington</b>				
Masterton District		5	3	<b>8</b>
<b>South Island</b>				
Nelson City	10	65		<b>75</b>
Buller District	17	97		<b>114</b>
<b>Total</b>	<b>469</b>	<b>2412</b>	<b>441</b>	<b>3322</b>

## Notes

\* For definitions see:

<https://www.building.govt.nz/managing-buildings/managing-buildings-in-an-emergency/rapid-building-assessment-placarding-system/>

\*\* Includes damage to Auckland from Cyclone Hale in late January 2023, as well as from Cyclone Gabrielle.

## References

1. Kerr J, Thomson G, Wilson N. Cyclone Gabrielle joins list of Aotearoa NZ's 'sudden mass fatality events'. Public Health Expert Briefing (28 March). [https://ourarchive.otago.ac.nz/bitstream/handle/10523/15138/Cyclone%20Gabrielle%20joins%20list%20of%20Aotearoa%20NZ%E2%80%99s%20%E2%80%98sudden%20mass%20fatality%20events%E2%80%99%20\\_%20PHCC.pdf?sequence=1](https://ourarchive.otago.ac.nz/bitstream/handle/10523/15138/Cyclone%20Gabrielle%20joins%20list%20of%20Aotearoa%20NZ%E2%80%99s%20%E2%80%98sudden%20mass%20fatality%20events%E2%80%99%20_%20PHCC.pdf?sequence=1). 2023
2. Wilson N, Broadbent A, Kerr J. Cyclone Gabrielle by the numbers – A review at six months. Public Health Expert Briefing 2023;(14 August). <https://www.phcc.org.nz/briefing/cyclone-gabrielle-numbers-review-six-months>.
3. Wilson N, Payne B, Kerr J, et al. Embracing downward counterfactual analysis to navigate future cyclones. Public Health Expert Briefing 2023;(7 June). <https://www.phcc.org.nz/briefing/embracing-downward-counterfactual-analysis-navigate-future-cyclones>.
4. Radio NZ. Cyclone Gabrielle: First two homeowners accept buyout offers. Radio NZ 2023;(19 December). <https://www.rnz.co.nz/news/national/505114/cyclone-gabrielle-first-two-homeowners-accept-buyout-offers>.
5. SIL Research/Napier City Council. Napier City Council 2023 Post-Cyclone Community Wellbeing Survey | SIL Research. 2023;(July). <https://www.napier.govt.nz/assets/Uploads/2023-FINAL-NCC-Post-Cyclone-Community-Wellbeing-Survey-report.pdf>.
6. Hyde S. Cyclone Gabrielle's Long Tail: Mental Distress. Bay Buzz 2023;(10 November). <https://baybuzz.co.nz/cyclone-gabrielles-long-tail-mental-distress/>.
7. Ellingham J. Wairoa waiting for recovery help 10 months after Cyclone Gabrielle. Hawkes Bay Today (from Radio NZ). 2023;(28 December). <https://www.nzherald.co.nz/hawkes-bay-today/news/treated-like-the-poor-cousin-waiting-10-months-after-cyclone-gabrielle/HGYJZ6D4H5FN3LYT2BLFHS3HIA/>.

8. Smith W, Davies-Colley C, Mackay A, et al. Social impact of the 2004 Manawatu floods and the 'hollowing out' of rural New Zealand. *Disasters* 2011;35(3):540-53.
9. Teng AM, Blakely T, Ivory V, et al. Living in areas with different levels of earthquake damage and association with risk of cardiovascular disease: a cohort-linkage study. *The Lancet Planetary Health* 2017;1(6):e242-e53.
10. Radio NZ. Weddings, warm weather and water parks: Tourists return to Hawke's Bay in droves. Radio NZ 2024;(15 January).  
<https://www.rnz.co.nz/news/national/506740/weddings-warm-weather-and-water-park-s-tourists-return-to-hawke-s-bay-in-droves>.
11. Pocock J. Christopher Luxon puts brakes on Napier-Wairoa rail during Hawke's Bay visit. NZ Herald 2023;(8 December).  
<https://www.nzherald.co.nz/hawkes-bay-today/news/christopher-luxon-puts-brakes-on-napier-wairoa-rail-during-hawkes-bay-visit/2FDU7SG7H5C5VOI7SZC4I5OCJ4/>.
12. Ellingham J. East Coast and Tairāwhiti farmers still struggling 10 months after Cyclone Gabrielle. Radio NZ 2023;(21 December).  
<https://www.rnz.co.nz/news/country/505316/east-coast-and-tairawhiti-farmers-still-struggling-10-months-after-cyclone-gabrielle>.
13. Radio NZ. One hundred tourist sites closed this summer due to Cyclone Gabrielle damage. Radio NZ 2023;(16 December).  
<https://www.rnz.co.nz/news/national/504897/one-hundred-tourist-sites-closed-this-summer-due-to-cyclone-gabrielle-damage>.
14. Xia L. Almost a year since floods, Auckland parks and reserves still waiting for fixes. Radio NZ 2024;(4 January).  
<https://www.rnz.co.nz/news/national/505998/almost-a-year-since-floods-auckland-parks-and-reserves-still-waiting-for-fixes>.
15. Wilson N, Chambers T, Prickett M, et al. Water infrastructure failures from Cyclone Gabrielle show low resilience to climate change. Public Health Expert Briefing 2023;(25 May).  
<https://www.phcc.org.nz/briefing/water-infrastructure-failures-cyclone-gabrielle-show-low-resilience-climate-change>.
16. Radio NZ. Cyclone-damaged roads and highways breaking up just weeks after being repaired. Radio NZ 2023;(20 December).  
<https://www.rnz.co.nz/news/national/505191/cyclone-damaged-roads-and-highways-breaking-up-just-weeks-after-being-repaired>.
17. Wong J. \$200,000 temporary Gisborne causeway washed away, 25 days after it opens. Stuff 2023;(14 June).  
<https://www.stuff.co.nz/national/132295336/200000-temporary-gisborne-causeway-washed-away-25-days-after-it-opens>.
18. Coughlan T. Treasury warns New Zealand has massive infrastructure gap, expected to get bigger in future. NZ Herald 2022;(22 March).  
<https://www.nzherald.co.nz/nz/politics/treasury-warns-new-zealand-has-massive-infrastructure-gap-expected-to-get-bigger-in-future/HWYI2OPRMP4V4LDCQEXPZ7Y2AQ/>.
19. Radio NZ. Timeline: The troubled Cook Strait ferries. Radio NZ 2023;(13 November).  
<https://www.rnz.co.nz/news/national/502312/timeline-the-troubled-cook-strait-ferries>
20. Molyneux V. Multi-billion-dollar bill to fix Wellington's ageing water network. NZ Herald 2023;(6 November).  
<https://www.nzherald.co.nz/nz/multi-billion-dollar-bill-to-fix-wellingtons-ageing-water-network/NDXVQNFDBNFGPKDIE2ZI6FJHYY/>
21. Radio NZ. Cyclone Gabrielle: Probe of Civil Defence reaction attracts 1000 responses so far. Radio NZ 2024;(8 January).  
<https://www.rnz.co.nz/news/national/506262/cyclone-gabrielle-probe-of-civil-defence-r>

[eaction-attracts-1000-responses-so-far](#).

22. Boston J. Funding Managed Retreat: Designing a Public Compensation Scheme for Private Property Losses: Policy Issues and Options (Report Prepared for the Environmental Defence Society). February 2023.

<https://eds.org.nz/wp-content/uploads/2022/11/Jonathan-Boston-Funding-Managed-Retreat-Final.pdf>.



Public Health Expert Briefing (ISSN 2816-1203)

---

**Source URL:**

<https://www.phcc.org.nz/briefing/long-shadow-cyclone-gabrielle-brief-review-12-months>