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IN THE WAITANGI TRIBUNAL	**WAI 3325**
CONCERNING	the Treaty of Waitangi Act 1975
AND **IN THE MATTER OF**	The Climate Change Priority Inquiry

GENERIC CLOSING SUBMISSIONS ON CLIMATE IMPACTS ON MĀORI

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INTRODUCTION

1. These generic closing submissions are filed on behalf of the claimant community generally and address the issue of what are the physical, spiritual, cultural, social, health, and economic impacts of climate change on Māori? This includes present impacts and likely impacts in the future, particularly:[1]

    a) What are the physical impacts of climate change, including severe storms, floods, sea level rise, drought, and other severe weather events, on Māori?

    b) What impacts is climate change having on the natural ecosystems and indigenous biodiversity of Aotearoa which Māori are kaitiaki for?

    c) What are the spiritual and cultural impacts of climate change on Māori?

    d) What are the social and health impacts of climate change on Māori?

    e) What are the economic impacts of climate change on Māori?

    f) What are the specific impacts of climate change on the Māori economy and Māori businesses, including but not limited to agricultural, forestry, horticultural, and fisheries industries?

    g) How have Māori forestry owners been impacted, including but not limited to those Māori who own small landholdings?

    h) What are the impacts of climate change on Māori in light of Treaty settlement arrangements, including but not limited to settlement arrangements concerning forestry and kaitiaki provisions?

    i) Have Māori been disproportionately impacted by climate change, and if so in what ways?

2. In addressing this issue, we are reminded that the present inquiry is a priority one with a targeted scope on: [2]

[1] Wai 3325, #1.4.3
[2] Ibid.

a) the physical, spiritual and socioeconomic impacts of climate change on Māori and the Crown's response;

b) the relevant Tiriti/Treaty principles to be considered in climate change policy; and

c) recommendations for how the Crown should meaningfully engage and consult with Māori.

3. Crown Counsel acknowledge that, "What is required is that the Crown informs itself of Māori interests and perspectives and ensures that it properly weighs those interests in developing Crown policy."[3]

4. Crown counsel note further that, "The principle of partnership also requires the Crown to take reasonable steps to be informed of Māori interests, in order to act reasonably and in good faith, and to be sufficiently informed when making decisions that impact Māori interests. As with all Treaty duties, how the Crown fulfils the duty to make informed decisions is context specific."[4]

5. We would go further and distinguish Māori interest from impacts and rephrase the basic Tiriti assessment as whether the Crown has taken reasonable steps to adequately informed itself of the nature and extent of *the impacts of climate change on Māori* in order to act reasonably and in good faith to be sufficiently informed and properly weigh those impacts in developing Crown policy.

6. In line with this, section 3A (ae) of the Climate Change Response Act 2002 requires that, the Minister for Climate Change must, in preparing the national adaptation plan, take into account the economic, social, health, environmental, ecological, and cultural effects of climate change on iwi and Māori.

7. Furthermore, under s5ZP of the Climate Change Response Act 2002 the Climate Change Commissioner must prepare and present to the Minister a National Climate Change Risk Assessment (NCCRA) which assesses

[3] Wai 3325, #3.3.31 at [15].
[4] Ibid at [24].

the risks to New Zealand's economy, society, environment, and ecology from the current and future effects of climate change.[5]

8. The NCCRA is a primary source of Crown understandings of climate specific impacts on Aotearoa. The most recent NCCRA was published by the Climate Change Commission in 2026 and was filed on the record of inquiry at the request from the Waitangi Tribunal.[6]

9. The 2026 NCCRA comprises a companion report which expressly considers the impacts and risks of climate change on Māori - *Ngā mea hirahira o te ao Māori: Climate change risks to the Māori domain, National Climate Change Risk Assessment*.[7]

10. These submissions do not purport to summarise claimant specific evidence on climate impacts on their communities which will be left for claimant specific closings.

11. Rather the submissions summarise the NCCRA report, *Ngā mea hirahira o te ao Māori* and Crown evidence to set out for the Tribunal what the Crown knows about the impacts of climate change on Māori. [8]

12. In respect of the development of climate policy Crown counsel submit that, "The broader context inherent in responding to climate change – the need to deliver effective climate policies that accord with New Zealand's commitments while maintaining distributional equity and economic growth – is critical in any assessment of Treaty consistency. Climate policy is important politically, and relevant to the lives of all New Zealanders. It is critical that the framework in place has broad societal support which requires compromise from many parties."[9]

13. In our submission, the test for Tiriti consistency is not whether the Crown has distributed the benefits and burdens of climate change equitably, fairly and justly amongst all New Zealanders.

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[5] Climate Change Response Act 2002 s 5ZP(1)(a).
[6] Wai 3325, #A165.
[7] Sean Awatere et al *Ngā mea hirahira o te ao Māori: Climate change risks to the Māori domain National Climate Change Risk Assessment* Manaaki Whenua 2026 available: https://www.climatecommission.govt.nz/assets/Uploads/NCCRA/finals/2026-NCCRA-Climate-change-risks-to-Maori.pdf.
[8] Wai 3325, #3.3.31 at [15].
[9] Ibid at [17].

14. Rather the correct Tiriti test is whether the Crown has taken adequate and appropriate steps to actively protect Māori from suffering inequitable, unfair and unjust levels of climate harm.

15. The Crown's knowledge of climate impacts on Māori is the critical starting point and forms the baseline upon which Crown acts and omissions in respect of climate responsiveness toward Māori can be judged.

Interwoven, disproportionate impacts on Māori

All-encompassing impacts on Māori

16. Anne Haira and Gina Rangi of the Ministry for the Environment (MfE) acknowledge that climate change, and New Zealand's response to it, has the potential to affect all aspects of Māori life.[10]

Unique impacts on Māori

17. Despite the all-encompassing nature of climate impacts on Māori, Robyn Collins and Sam Keenan of the Ministry for Primary Industries depose that, although all New Zealanders are impacted by climate change, some impacts of climate policy and climate change are unique to Māori and iwi and need to be carefully managed and considered, including effects on Māori-owned land, obligations under te Tiriti/Treaty and settlement agreements, and cultural impacts.[11]

18. Deputy Director-General of Health for the Public Health Agency of the Ministry of Health, Dr Andrew Old recognises that Māori experience culturally specific impacts because Māori have an intrinsic connection to whenua (land) and the associated mauri (life force) of other beings, the impacts of climate change on te taiao (the environment) affect their social cohesion and identity.[12]

[10] Brief of Evidence of Anne Haira and Gina Rangi, Wai 3325, #A118 at [12]-[13].
[11] Brief of Evidence of Robyn Julie Collins and Samuel Ross Keenan, Wai 3325, #A120 at [252]–[254].
[12] Brief of Evidence of Dr Andrew Old, Wai 3325, #A134 at [29].

19. Multiple Crown witnesses further acknowledge that Māori are especially vulnerable to the effects of climate change due to several factors, including geographical location[13], the industries they work in[14] and socio-economic vulnerabilities which can impact their ability to prepare for, respond to, and recover from extreme weather events.[15]

Disproportionate impacts on Māori

20. Former New Zealand Climate Change Ambassador employed by the Ministry of Foreign Affairs and Trade (MFAT), Kay Margaret Harrison specifically notes that the disproportionate impact on Māori of climate change was likely to be exacerbated if the Paris Agreement did not enter into force or was not globally effective.[16]

21. Mses Haira and Rangi cite the 2020 NCCRA noting that it identified 43 priority risks or impacts across five 'value domains' (natural environment, human, economy, built environment and governance) and set out those that are identified as having a disproportionate impact on Māori:[17]

    35.1 Risks to social cohesion and community wellbeing from displacement of individuals, families, and communities due to climate change impacts.

    35.2 Risks of exacerbating inequities and creating new and additional inequities due to differential distribution of climate change impacts.

    35.3 Risks of conflict, disruption, and loss of trust in government from changing patterns in the value of assets and competition for access to scarce resources primarily due to extreme weather events and ongoing sea-level rise.

[13] Wai 3325, #A118 at [12]-[13]; Brief of Evidence of Samuel Martin Dean, Wai 3325, #A132 at [51].
[14] Brief of evidence of Paula Huia Rawiri, Wai 3325, #A149 at [81.6].
[15] Wai 3325, #A118 at [13.7]; Wai 3325, #A134 at [47] and [26].
[16] Brief of Evidence of Kay Margaret Harrison, Wai 3325, #A133, at [45].
[17] Wai 3325, #A118 at [34] – [35.9].

35.4 Risks to mental health, identity, autonomy and sense of belonging and wellbeing from trauma due to ongoing sea-level rise, extreme weather events and drought.

35.5 Risk to potable water supplies (availability and quality) due to changes in rainfall, temperature, drought, extreme weather events and ongoing sea-level rise.

35.6 Risks to buildings due to extreme weather events, drought, increased fire weather and ongoing sea-level rise.

35.7 Risks to wastewater and stormwater systems (and levels of service) due to extreme weather events and ongoing sea-level rise.

35.8 Risks to the ability of the emergency management system to respond to an increasing frequency and scale of compounding and cascading climate change impacts in New Zealand and the Pacific region.

35.9 Risk to the ability of democratic institutions to follow due democratic decision-making processes under pressure from an increasing frequency and scale of compounding and cascading climate change impacts.

22. Mses Haira and Rangi go on to note that Māori interests, values, practices and wellbeing may also be disproportionately affected by climate change.[18]

Disproportionate impacts of the ETS on Māori

23. Of additional significant concern is that the Crown's primary policy tool to counter carbon emissions – the Emissions Trading Scheme (ETS) also leaves Māori inequitably exposed.[19]

[18] Wai 3325, #A118 at [12]-[13].
[19] Brief of Evidence of Bryan Smith and Simon Mandal-Johnson, Wai 3325, #A140 at [134].

Households

24. Bryan Smith and Simon Mandal – Johnson depose that Māori households are much more vulnerable to downstream costs created by any ETS. They are less likely to be able to absorb these costs and are unable to easily invest in alternatives to reduce their own costs to offset the ETS. Māori see the cost of energy increase as the transport and energy sectors will need to adjust their pricing models to pass on costs.[20]

Agriculture and forestry sectors

25. Robyn Collins for the Ministry for Primary Industries also acknowledges that the Māori agriculture sector may be disproportionately affected by ETS and climate pressures due to existing barriers.[21] For example, difficulties accessing financial support can hinder the ability of Māori landowners to implement mitigation and adaptation measures, and higher land-use capability classes generally have fewer production options than better quality land.[22]

26. Ms Collins goes on to state that the unique characteristics of Māori owned land means policy needs to allow iwi/Māori owned farm enterprises to equitably engage and take up opportunities. Some Māori landowners have been unable to develop their land and are also unlikely to sell it.[23]

27. Ms Collins notes the desire of Māori for changes to the pricing system to address historical disadvantages and manage disproportionate impacts on Māori and Māori communities, with specific areas of concern including around recognition of sequestration, need for transitional assistance, governance and revenue recycling settings, point of obligation settings, and how collectives would be treated.[24]

[20] Wai 3325, #A140 at [233.9].
[21] Brief of Evidence of Robyn Julie Collins, Wai 3325, #A121 at [48].
[22] Ibid.
[23] Ibid at [63.2].
[24] Ibid at [85].

28. Ms Collins gives the following detail around arriers that can limit Māori primary sector economic development options and increase their exposure to the impacts of climate change and climate policy:[25]

a) Higher proportion of ownership of land of a lower-quality land use capability (LUC) - around 80% of Māori freehold land is considered ‘under-utilised’, or ‘under-productive’. There are approximately 1,400,000 hectares of whenua Māori in Aotearoa where 7% (115,000 ha) is classified as highly productive, 63% (875,000 ha) can be used for pastoral or forestry activities, and 11% (157,000 ha) is unsuitable for cropping, pasture or forestry. The remaining 8% (106,000) is formed by estuaries, icefields, lakes, quarries, rivers and towns.

b) Higher land use classes are subject to moderate to severe land use constraints through physical limitations, such as erosion, climate (drought, excessive rain etc), soil and wetness, which influences the production suitability of the land.16 Up to 30% of land is thought to be landlocked (i.e. identified as a piece of land where there is no reasonable access).

c) Barriers in obtaining capital - legislation such as Te Ture Whenua Māori Act 1993 protects the retention of whenua in Māori ownership, resulting in difficulty using whenua Māori as a loan security to access capital to fully realise the potential of the land. This may include capital to support productivity improvements, land use change or building resilience.

d) Multiple ownership structures – overall an average Māori land block has a size of 53.06ha and 114 owners and the total number of allocated ownership records recorded in all Māori land blocks is 3,287,810.19 This can make it difficult to get agreement on decisions about land use change and development, for example, decisions that would reduce emissions or make the enterprise more resilient to climate impacts.

[25] Ibid at [34]–[34.4].

29. Rebecca Prebble of the MfE acknowledged that Māori-held assets in the agriculture and forestry sectors could mean they were disproportionately impacted by changes to emissions targets[26]

30. Ms Prebble goes on to note that, the concentration of collectively held Māori assets in the agriculture and forestry sectors means climate change policies are likely to disproportionately impact Māori. This is due to the higher asset exposure to forestry, higher proportion of ownership of lower-quality land, barriers in obtaining capital due to the inability to use land as collateral, variations in ownership structures, and greater representation in lower-income groups making it harder to absorb rising costs.[27]

31. In terms of Crown Forest Licence Lands, Collins and Keenan deposed that, officials noted that the introduction of deforestation liabilities was likely to lead to lower land valuations per hectare, for CFL lands. [28]

32. This meant that future claimants would generally receive more CFL land for a given settlement quantum and more accumulated rentals as a result.[29]

33. Moreover, as future claimants will be aware of the effect of deforestation liabilities, they can take these factors into account in their decision-making.

34. In consideration of this, officials advised Ministers that future iwi owners of CFL land should not receive a free allocation of NZUs as they would not suffer a loss of value.[30]

35. Smith and Mandal – Johnson summarise the potential Tiriti impacts of the ETS on Māori landowners as:[31]

    a) Whether an ETS could constrain the use of Māori land and thus have the potential to devalue assets gained through Treaty settlements;

[26] Brief of Evidence of Rebecca Jane Prebble on the 2025/2026 Climate Change Response Act 2002 Amendments, Wai 3325, #A150 at [23].
[27] Ibid at [28].
[28] Wai 3325, #A120 at [118] – [119].
[29] Ibid.
[30] Ibid at [118] – [119].
[31] Wai 3325, #A140 at [48.7] – [48.8].

b) Whether it is possible that particular iwi may argue that their existing settlements should be increased in order to maintain relativities;

c) Whether an ETS could create entitlements that could be associated with natural resources under Article 2 of the Treaty; and

d) Whether Māori therefore have claim to a share of the development rights; and that without such entitlements Māori are disadvantaged.

Impacts on taonga species, mahinga kai and food sovereignty

36. The evidence of Department of Conservation (DOC) witnesses Kirstie Knowles, and Catherine Wilson is that climate change is impacting and will continue to impact all of DOC's work.[32]

37. Direct effects include damage to infrastructure or habitat caused by changing conditions.[33] Indirect effects involve the shifting of habitats and species distributions, including the movement of potentially invasive species into new areas as a result of changing temperature and precipitation patterns.[34]

Terrestrial ecosystems and taonga species

38. Climate change directly and indirectly impacts biodiversity, including species and ecosystems which DOC is responsible for.[35]

39. There are emerging climate-related threats to taonga species (species of flora and fauna that are significant to the culture or identity of tangata whenua) with taonga species' exposure to climate change varying nationally and each species likely to respond to climate change differently depending on where they are located and their characteristics.[36]

[32] Joint Brief of Evidence of Kirstie Knowles and Catherine Wilson (Wai 3325, #A124) at [23].
[33] Ibid.
[34] Ibid.
[35]Ibid.
[36] Wai 3325, #A149 at [18.5].

40. Factors include sea level rise, changes in ocean and freshwater temperatures, changes in rainfall patterns and increased extreme weather and fire events. For example, the recent fires at Awarua, Kaimaumau and Whangamarino peatlands had devastating effects. Based on climate projections, we expect to see the risk of fires like this increase.[37]

41. DOC expects the likelihood, frequency, scale or mass mortality events, and number of affected species and life stages will increase. This may be through a range of mechanisms including an increase in temperatures and temperature range, environmental instability (for instance longer droughts, higher frequency of floods) and multifactorial stress on organisms allowing for higher incidence of diseases.[38]

42. In January 2025 DOC released a report on Aotearoa New Zealand's first large-scale climate change vulnerability assessments. [39]

43. 29 CCVAs were undertaken for 1,145 terrestrial taxa of bats, birds, herpetofauna, vascular plants and invertebrates to identify which taxa are potentially the most vulnerable to climate change impacts. [40]

44. The report found 65% of these were identified as highly vulnerable to climate change by 2090.[41]

45. Large numbers of highly vulnerable species reflect the already small populations, limited distributions, and low reproductive capacities of Aotearoa New Zealand's native plants and animals.[42]

46. A decline has been noticeable at the small northern colonies of tītī and in recent years mutton bird harvests have become more variable with some very poor seasons. It is likely changing ocean currents and frequent marine heatwave events caused by global climate change is impacting on natural prey availability. This in turn affects bird survival and breeding success.[43]

[37] Wai 3325, #A124 at [24].
[38] Ibid at [46].
[39] Ibid at [43]–[44].
[40] Ibid.
[41] Ibid.
[42] Ibid.
[43] Ibid at [115].

47. Both the frequency and intensity of droughts are projected to increase.

48. Predicted drought increases will also affect eastern brown kiwi, kiwi pukupuku and roroa.[44]

49. Increasing air temperatures are also likely to skew tuatara sex ratios. As an example, under extreme regional climate change, 100% of tuatara clutches are predicted to hatch males on one Marlborough Sounds island population, by the mid-2080s.[45] Since 2010, the species has once again begun to decline substantially. [46]

50. Similarly, kuaka which are a taonga to Kāi Tahu and the wider community, but they are Nationally Critical and number only 200 adults, all of which are restricted to a single dune system on Whenua Hou. [47]

51. The current sole breeding site on a sand dune system is being eroded out by increased storm frequency events, hence the need to have a new colony established.[48]

Plant ecophysiology, whenua and soil interactions

52. Ongoing sea level rise is going to have an impact on previously stable terrestrial ecosystems resulting in increased erosion.[49]

53. Climate change and plant ecophysiology interact closely to influence changes in terrestrial ecosystems.[50]

54. Climate change can result in changes in ecosystem function, including climate change-driven changes in species composition, decomposition rates, nutrient cycling, and carbon storage impact ecosystem function.[51]

55. Shifts in species composition can result from changes in temperature, precipitation, disturbance regimes, and CO2 levels can alter species

[44] Ibid at [63].
[45] Ibid at [103].
[46] Ibid at [115].
[47] Ibid at [105] – [108].
[48] Ibid at [22.6].
[49] Ibid at [81].
[50] Ibid at [105] – [108].
[51] Ibid.

composition, favouring certain plant species over others (and weeds over natives), potentially leading to shifts in ecosystem structure.[52]

56. Climate change can affect plant-soil interactions, including changes in microbial communities, organic matter accumulation, and nutrient cycling, which can have cascading effects on ecosystem processes.[53]

57. Climate change can result in range shifts and extinction.[54]

58. Many plant species are already shifting their distributions to higher latitudes and altitudes in response to climate change, and some may face extinction if they cannot adapt or migrate quickly enough.[55]

59. Climate change is also likely to increase wilding conifer spread and reduce water yields in regions that are experiencing hot and drier, and water shortages.[56]

Marine Taonga, wetlands and waterways

60. The ocean is becoming warmer and more acidic due to climate change, which directly impacts on marine ecosystems and species. These impacts could include changes in species distribution and abundance, changes in prey availability and increased risk of invasive species. Marine heatwaves have become more frequent, intense, and longer lasting which results in mass die-off of some marine species.[57]

61. Impacts of increased sea temperature, oceanographic changes, ocean acidification, rising sea level and ecosystem responses to climate change will be worst for species and/or independent populations that have a narrow habitat tolerance, are already close to tolerance thresholds, or have a limited ability to adapt to predicted changes.[58]

[52] Ibid.
[53] Ibid.
[54] Ibid.
[55] Ibid.
[56] Ibid at [57.1].
[57] Ibid at [50].
[58] Ibid at [52].

62. DOC commissioned reports assessing climate risks and vulnerabilities of freshwater ecosystems in the Taiari River catchment highlight the susceptibility of coastal wetlands to climate change due to projected changes in hydrologic regimes, disturbances like floods and fires, and sea level rise.[59]

63. Advice provided by Forbes Ecology and Auckland University of Technology includes mapping climate change vulnerability of Doubtless Bay at different sub-catchment scales. Expected climate change pressures include increased drought, wildfire risk and extreme rainfall events. Sea level rise is expected to cause coastal salinisation and increased flooding.[60]

64. There is no evidence marine mammal strandings are increasing with climate change. However, as species ranges may change due to climate change we may expect to see more species from outside of their typical range in our waters e.g. more typically tropical species. Sea temperature and ocean acidification changes may impact food webs and thereby marine mammals, positively and negatively.[61]

65. Only freshwater species in rivers and streams and managed terrestrial flora and fauna were considered to be at moderate risk under present day conditions, however, all categories achieved 'major' risk ratings by 2100.[62]

66. Freshwater species particularly vulnerable to climate change are longfin eels, lamprey (piharau, kanakana), īnanga, kōaro, banded kōkopu, the shortfin eel and the freshwater mussel.[63]

67. In the ocean Kōura (rock lobster) and pāua, were identified as facing substantial risks from climate change as they are sensitive to changes in temperature and acidification. Māori are significant quota holders for these inshore species.[64]

[59] Ibid at [48].
[60] Ibid at [70].
[61] Ibid at [94].
[62] Brief of Evidence of Samuel Martin Dean, Wai 3325, #A132 at [64].
[63] Ibid.
[64] Ibid.

Mahinga kai

68. Mses Haira and Rangi acknowledge the impact of climate change on mahinga kai practices where they note that "Māori also regularly use lands, waters and associated resources for a range of activities including hunting, fishing, food production, recreation, and collection of cultural resources. The effects of climate change may undermine the ability to undertake these practices."[65]

69. Mfe General Manager of Adaptation, Katherine Wilson also recognises that, in some places, climate change may alter patterns of use of mahinga kai (food-gathering sites) or rongoā crops (medicinal plants), and coastal impacts could disrupt access to marae or wāhi tapu.[66]

NCCRA analysis

70. Environmental degradation caused by marine heatwaves, sedimentation, and biodiversity decline, often exacerbated by upstream land-use changes, forestry practices, and extreme weather events, directly contributes to the decline of taonga species.[67]

71. Climate change intensifies pressures on significant mahinga kai species many of which are marine, leading to dire consequences for kaitiakitanga, tribal economies, and eroding whānau connections to their kāinga and therefore well-being.[68]

72. In the northern regions of Aotearoa, anthropogenic pressures, such as overfishing, have resulted in the removal of taonga species that act as natural predators (such as tāmure and kōura), causing a trophic cascade.[69]

[65] Wai 3325, #A118 at [13.5].
[66] Brief of Evidence of Katherine Mary Wilson, Wai 3325, #A141 at [71].
[67] Ngā mea hirahira o te ao Māori above n 7, pp 13–14, citations removed.
[68] Ibid, p 10.
[69] Ibid.

73. Warming seas and declining biodiversity intensify these pressures and disrupt harvesting and other practices, which in turn have effects on intergenerational knowledge transfer and hapū food sovereignty.[70]

74. Climate change further exacerbates the risks, including those of contaminant bioavailability and to population resilience under acidification.[71]

75. Rising ocean temperatures and the accumulation of microplastics are jeopardising customary harvest practices and aquaculture operations.[72]

76. Exposure to environmental contamination caused by climate change, such as heavy metals and to both point and diffuse discharges, poses direct risks to mahinga kai. [73]

77. This is especially concerning given that mahinga kai species, including tuangi and kina, have been found to be vectors of harmful bacteria.[74]

78. Degraded mahinga kai and water systems reduce the reliability of mahinga kai harvests, undermining both the viability of tikanga-aligned enterprise planning in the formal sector and the resilience of whānau-centred, non-commercial economies.[75]

Gaps in knowledge of impacts on taonga species

79. The spatial and ecological modelling of species-specific climate effects is moderately uncertain due to limited data on taonga species and places (especially non-commercial species, and estuarine and marine environments). [76]

80. Additionally, taonga species exposure is difficult to quantify, given the diversity of iwi and hapū relationships with taonga species. [77]

[70] Ibid.
[71] Ibid.
[72] Ibid.
[73] Ibid.
[74] Ibid.
[75] Ibid, p 37.
[76] Ibid, p 12.
[77] Ibid.

81. Nevertheless, the evidence indicates that Māori exposure to this risk is growing and requires close monitoring and a tikanga-based response.[78]

82. There are significant evidence gaps for this risk of losing access to taonga species particularly around spatially specific exposure and sensitivity metrics. [79]

83. There is limited disaggregated data on the extent of climate impacts to mahinga kai as well as how these changes are affecting Māori access to mahinga kai and customary harvesting across rohe.[80]

84. Monitoring systems often focus on biophysical conditions (e.g. shellfish abundance) but do not incorporate Māori-defined thresholds, such as the viability of mahinga kai practices or impacts on tikanga and maramataka-based practices.[81]

85. The adaptive capacity of Māori-led aquaculture, restoration, or fisheries innovation is also under-documented, particularly in terms of its long-term sustainability under climate stress and institutional barriers to scaling.[82]

86. A Climate Change Vulnerability Assessment is recommended as the first step towards increasing our understanding of the potential effects of climate change on taonga species in Aotearoa. [83]

Impacts on whenua, infrastructure and sites of cultural significance

Whenua

87. Bryan Smith and Simon Mandal-Johnson for the Ministry for the Environment (MfE) recognise that “many areas of Māori land are steep and in regions vulnerable to storms and erosion. With the onset of climate change these lands will be even more exposed and vulnerable with the

[78] Ibid.
[79] Ibid, p 18.
[80] Ibid.
[81] Ibid.
[82] Ibid, p 19.
[83] Ibid, p 12.

predicted arrival of more frequent and severe storms, and more frequent droughts in the east of New Zealand".[84]

88. Collins and Keenan for the Ministry for Primary Industries acknowledge that, the lower versatility land use classes that characterise a large proportion of Māori land also increases vulnerability to the impacts of climate change.[85]

89. Lower versatility land use is subject to physical limitations that makes it vulnerable to erosion, the impacts of climate (drought, excessive rain, etc) and wetness, which influences production on the land. The impacts of climate change on Māori land is predicted to increase with a warming climate.[86]

90. Collins and Keenan go on to state that, wildfire risk is estimated to increase for most of New Zealand, with extreme levels of fire risk occurring at the district and local scale.[87]

91. Importantly, Collins and Keenan also acknowledge that pests, diseases and weeds can cause significant damage in forests. The risks from these are expected to increase with climate change as temperatures rise.[88]

92. Joanna Rachel Rogers and Dwain Gerard John Hindriksen of the National Emergency Management Agency (NEMA) further acknowledge that Māori are very often affected by climate-related emergencies such as flooding, coastal inundation and other severe-weather.

93. Ms Rogers and Mr Hindriksen cite the findings of the Hawke's Bay Independent Flood Review with respect to the effects of Cyclone Gabrielle on mana whenua: [89]

> "… [I]t is clear that mana whenua have been disproportionately affected by this flood event. There are many examples of marae, papakāinga and urupā located on

[84] Wai 3325, #A140 at [54].
[85] Brief of Evidence of Robyn Julie Collins and Samuel Ross Keenan, Wai 3325, #A120 at [36].
[86] Ibid.
[87] Ibid at [37].
[88] Ibid at [38].
[89] Brief of Evidence of Jenna Rachel Rogers and Dwain Gerard John Hindriksen, Wai 3325, #A131 at [12] – [13].

> marginal floodplain land in close proximity to rivers that were catastrophically inundated during this event. The Panel observed that, typically, the land currently held by Māori communities is what was left of much larger holdings prior to European settlement, and that prior to the arrival of pākehā the land and resources from the mountains to the sea were often used seasonally, with more temporary types of kāinga (accommodation) that could be readily re-built if damaged by floods. … The kōrero that we were given was that, with little to no high-country lands left in their landholdings because of pākehā occupation, the low-lying land next to rivers was often all that remained and, by default, became the places where more permanent and modern marae and papakāinga were constructed. In many places there were known flood risks and no structural flood defences to manage them."

94. Ms Rogers and Mr Hindriksen note that these historical and geographical factors are not unique to the Hawke's Bay Cyclone Gabrielle experience, and that they also reflect the reality for many Māori communities whose whenua lie in areas such as flood plains and land prone to coastal inundation.[90]

95. Similarly, Paula Rawiri, for Te Puni Kōkiri (TPK) recognises that there were a significant number of whenua Māori blocks impacted by the North Island Severe Weather Events.[91]

Cultural infrastructure and wāhi tapu

96. In terms of impacts on cultural infrastructure and wāhi tapu, Paula Rawiri along with Mses Rangi and Haira acknowledge that:

97. A central issue is that many culturally and/or spiritually significant sites including tūrangawaewae, marae, urupā and mahinga kai are in coastal low-lying areas and exposed to erosion and inundation.[92]

[90] Ibid.
[91] Wai 3325, #A149 at [62].
[92] Ibid at [18.2] and Wai 3325, #A118 at [13.1]–[13.3].

98. An analysis which Te Puni Kōkiri undertook in 2023 to 2024 identified that a significant number of marae are located in areas where there is both very high overall climate risk and very high socio-economic risk.[93]

99. Due to climate change risks and/or impacts, some Māori communities may be forced to move away from significant sites intermittently or permanently, physically severing the link between whānau/hapū/iwi, marae, whenua and taonga.[94]

100. Following the North Island Severe Weather Events (NISWE) a number of marae, and over twenty residential buildings located on whenua Māori, have been categorised by local authorities as having an intolerable risk to life from a future event.[95]

101. Furthermore, Mses Knowles and Wilson cite a Southland Coastal Heritage Inventory Project which found that there has been a profound loss of recorded archaeological sites along the south coast with fewer than half of the 274 recorded sites able to be relocated, 61 of which were directly attributable to loss through coastal erosion.[96]

Transport infrastructure

102. The evidence of Siobhan Anne Routledge for the Ministry of Transport is that climate change will increase the severity and frequency of extreme weather events, and these will have an increased impact on infrastructure, including transport infrastructure.[97]

103. Ms Routledge acknowledges that there are inequities in the transport sector with respect to Māori and that Māori, Pasifika, disabled people, low-income households, women, older people, children and rural communities are often underserved by the transport system.[98] They are also

[93] Wai 3325, #A149 at [108.2].
[94] Wai 3325, #A118 at [13.1]–[13.3].
[95] Wai 3325, #A149 at [18.3].
[96] Wai 3325, #A124 at [87]–[88].
[97] Brief of Evidence of Siobhan Anne Routledge, Wai 3325, #A129 at [79].
[98] Ibid at [21].

overburdened by related negative impacts, such as deaths, serious injuries and illness from transport crashes, and pollution.[99]

104. To illustrate how the impact can differ for households based on their income, the price of petrol is the main way that households are exposed to an emissions price.[100]

105. Fuel costs represent a higher share of income for lower-income households than for higher-income households.[101]

106. Lower-income households that need a private vehicle will also be relatively less able to pay the upfront costs of switching to an EV, or to a more fuel-efficient vehicle such as a hybrid.[102]

107. In 2024, the NZ ETS unit price contributed about 15 cents per litre to petrol prices at the pump. The average household currently spends about 0.27 per cent of annual gross income on NZ ETS costs embedded in private transport.[103]

108. This percentage will generally be higher for lower-income households.[104]

109. Ms Routledge acknowledges that, to ensure an equitable transition, the transport system needs to be more inclusive and affordable.[105]

Drinking and wastewater

110. Richard Ward for the Department of Internal Affairs acknowledges that climate change presents serious and growing challenges for New Zealand's drinking water and wastewater systems.[106]

111. Mr Ward further acknowledges that Māori communities, especially in rural areas with private or small-scale communal systems, are particularly

[99] Ibid.
[100] Ibid at [31].
[101] Ibid.
[102] Ibid.
[103] Ibid.
[104] Ibid.
[105] Ibid at [21].
[106] Brief of Evidence of Richard Ward, Wai 3325, #A119 at [15]–[16].

affected due to limited resources and higher vulnerability to drought, flooding, and contamination.[107]

NCCRA analysis

112. Many marae, papakāinga, urupā, wāhi tapu and wāhi tūpuna are in high-risk zones increasingly exposed to flooding, erosion, sea-level rise, and storm damage. [108]

113. Their exposed locations often reflect historical patterns of land alienation and infrastructure underinvestment.[109]

114. Their degradation or potential relocation may sever intergenerational ties to land and undermine the continuity of customary practices and community governance.[110]

115. Research highlights that hapū/iwi well-being following displacement can manifest as identity disruption, intergenerational anxiety, and diminished social cohesion.[111]

116. These effects are especially pronounced where relocation is imposed, or decision-making authority is held externally.[112]

Impacts on the mauri of the environment

117. Impacts from river engineering and land-use change, including sedimentation, have damaged wāhi tapu and wetlands, severing traditional access routes and compromising the mauri of place.[113]

118. By 2090, with warming reaching 2.5°C–3.5°C, coastal inundation and storm surge may render some significant sites unsafe or uninhabitable without major protection, redesign, or managed retreat.[114]

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[107] Ibid at [15] – [16].
[108] Ngā mea hirahira o te ao Māori above n 7, p 24.
[109] Ibid.
[110] Ibid, p 53.
[111] Ibid.
[112] Ibid.
[113] Ibid, p 25.
[114] Ibid, p 26.

Impacts on the mauri of the community

119. When Māori infrastructure is compromised, the consequences extend beyond physical damage. The relocation or restriction of use of urupā or whare tīpuna, for example, can generate emotional distress and spiritual dislocation for affected whānau. [115]

120. The well-being of Māori is affected by displacement, which leads to identity shocks and intergenerational anxiety, mainly when land degradation and infrastructure damage occur.[116]

121. The decline of tikanga affects both knowledge and emotions - ecological decline causes significant emotional and psychological problems.[117]

122. The risks extend to the maintenance of reo and tikanga, exacerbating intergenerational trauma rooted in historical land dispossession. [118]

123. The decline in regular use of marae for pōwhiri, tangihanga, and hui diminishes access to places where te reo Māori, karakia, and customary protocols are taught and maintained. The loss of Māori infrastructure may amplify identity loss and reduce participation of rangatahi in community life.[119]

124. Damage to urupā can result in the disinterment or relocation of tūpuna, an act associated with profound emotional and spiritual trauma.[120]

Gaps in knowledge of impacts on sites of cultural significance

125. Many marae and kāinga are absent from critical infrastructure inventories, and their spiritual or relational functions are not reflected in standard risk assessments. This limits the visibility of Māori adaptive needs in formal climate planning.[121]

[115] Ibid, p 27.
[116] Ibid, p 50.
[117] Ibid, p 14.
[118] Ibid.
[119] Ibid, p 28.
[120] Ibid, p 25.
[121] Ibid, p 27.

126. While isolated case studies document damage to marae, urupā, and papakāinga, particularly during extreme events like Cyclone Gabrielle, there is no comprehensive national data set mapping the location, condition, or climate exposure of Māori infrastructure. [122]

127. Existing infrastructure risk assessments and regional plans often exclude marae and kāinga from critical infrastructure inventories, limiting visibility in funding and planning systems. Sensitivity is also under-measured, particularly about these sites' spiritual and relational functions, which are not accounted for in conventional asset or impact assessments. [123]

128. Adaptive capacity is similarly under-represented in existing data sets. [124]

129. Although many Māori communities have demonstrated strong leadership in disaster response and local infrastructure planning, information on insurance access, retrofit readiness, or funding eligibility is not systematically collected by hapū/iwi organisations, industry bodies or government agencies. [125]

130. Consequently, assessing the preparedness of different marae or kāinga for projected hazards remains challenging, especially at a national scale. [126]

131. The is also a lack of geospatial data systems that uphold Māori data sovereignty, which further limits the local community's ability to plan by tikanga. [127]

132. The absence of mātauranga-informed indicators, or tikanga-based decision making, in mainstream climate risk tools also means that the relational dimensions of risk remain invisible, primarily to policymakers. [128]

133. This omission reinforces a structural gap between Māori realities and the metrics used in adaptation funding, hazard mapping, or infrastructure prioritisation. [129]

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[122] Ibid, p 30.
[123] Ibid.
[124] Ibid.
[125] Ibid.
[126] Ibid.
[127] Ibid.
[128] Ibid.
[129] Ibid.

Impacts on mātauranga Māori

134. It is striking that very few Crown witnesses acknowledge the impact of climate change on mātauranga Māori.

135. Mses Rangi and Haira acknowledge the social and cultural impacts in respect of relocation on Māori given the interconnectedness of Māori spiritual, cultural, physical, social, and economic wellbeing with the natural environment.

136. They note that cultural sites are deeply connected with Māori identity and may be the source of valuable mātauranga. [130]

137. Daniel Bolger of Fisheries New Zealand, Ministry for Primary Industries acknowledges that there is a risk that climate change will undermine mātauranga through the loss of connection to certain coastal-marine species due to the effects of changing oceanic conditions on those species. [131]

138. They state that similar risks may apply to freshwater fisheries and that spatial constraints of Māori customary fishing mean that climate change shifts or changes in abundance of species, as outlined in Dr Richard Ford's brief of evidence, may impact on traditional harvesting of kaimoana.[132]

NCCRA analysis

139. In contrast, the NCCRA analysis stresses that Māori are highly sensitive to the risk of losing Indigenous knowledge systems, particularly mātauranga Māori, due to the close relationship between environmental integrity, place-based practices, and intergenerational learning.[133]

[130] Wai 3325, #A118 at [13.1]–[13.3].
[131] Brief of Evidence of Daniel Bolger, Wai 3325, #A139 at [69].
[132] Ibid.
[133] Ngā mea hirahira o te ao Māori above n 7, p 65.

140. Mātauranga Māori is transmitted through direct engagement with landscapes, species, and seasonal cycles; therefore, when key ecosystems degrade or taonga species decline, the ability to maintain, practice, and pass on knowledge is threatened.[134]

141. Sensitivity is especially acute for knowledge forms tied to specific locations and ecosystems, such as tohu-based indicators for planting and harvesting, lunar maramataka frameworks, and customary species management.[135]

142. Where climate change alters these ecological baselines (e.g. through the disappearance of harakeke, pāua, or tuna) it not only affects food security and biodiversity but also interrupts the tikanga associated with those species and places. [136]

143. This creates vulnerability for knowledge, especially where the loss of a practice or site means the loss of a knowledge lineage.[137]

144. When access to forests and species is limited, it harms the deep connections Māori people have with their environment. This loss of sensory, narrative, and embodied experience contributes to the erosion of ecological identity and the sustained practice of tikanga.[138]

145. Accelerated climate impacts on marine ecosystems further undermine the ecological baselines on which mātauranga Māori relies.[139]

146. When taonga species, waterways, and wāhi tapu are degraded, closed or habitats disappear, the everyday reference points for learning and practising mātauranga Māori disappear, and tohu used to guide harvests and maintain ecosystem balance vanish.[140]

147. This is not just “lost information,” it interrupts how knowledge is carried, taught, and renewed. Declines in taonga species remove the ecological scaffolding that sustains mātauranga Māori.[141]

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[134] Ibid.
[135] Ibid.
[136] Ibid.
[137] Ibid.
[138] Ibid, p 14.
[139] Ibid, p 63.
[140] Ibid.
[141] Ibid.

148. These ecological changes are biological and knowledge-based, threatening Indigenous languages, dialects, and species-naming systems, as seen in localised dialect erosion linked to species disappearance.[142]

149. While maramataka systems are inherently adaptive and may evolve in response to changing environmental cues, rapid or extreme climate shifts risk decoupling these systems from tohu (signs) grounded in species behaviours, lunar cycles, or seasonal rhythms, especially where those indicators become less predictable or disappear altogether. [143]

150. Declines in taonga species weaken the practice of maramataka-based harvesting, disrupt customary gatherings and rituals, and erode the transmission of place-based environmental knowledge.[144]

151. This risk contributes to the broader erosion of mātauranga Māori and can heighten identity loss, particularly where environmental decline interrupts customary practice and intergenerational knowledge transmission.[145]

152. Their loss would sever vital connections to mātauranga Māori, maramataka (seasonal calendars), the intergenerational knowledge systems that uphold hapū/iwi identities and well-being, and accountability to sustainable practices through kaitiakitanga.[146]

153. Extreme weather events destroy physical sites integral to the performance and transmission of mātauranga Māori, including wāhi tapu, mahinga kai, and marae, leading to accelerated erosion of iwi and hapū-specific environmental knowledge and hapū/iwi identity. [147]

154. Climate events destroy such knowledge-rich environments.[148]

155. Losing access to ancestral lands, whether through coastal erosion, flooding, or managed retreat, poses significant risks to the transmission of tikanga, te reo, and mātauranga Māori. [149]

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[142] Ibid, p 10–11.
[143] Ibid, p 38.
[144] Ibid, p 14.
[145] Ibid.
[146] Ibid, p 10.
[147] Ibid, p 62.
[148] Ibid, p 53.
[149] Ibid, p 62.

Gaps in knowledge of impacts on mātauranga

156. The NCCRA appears justified in its concerns that "there are substantial data and measurement gaps relating to the exposure, sensitivity, and adaptive capacity of Indigenous knowledge systems, particularly mātauranga Māori, under climate change." [150]

157. Mātauranga Māori indicators are often excluded from formal ecosystem condition reporting, meaning that early warnings from Māori of changes in ecological and hapū/iwi well-being may be missed or underweighted.[151]

158. Māori-led biodiversity monitoring risks risk becoming structurally invisible if tikanga are not built into reporting frameworks or data governance rules.[152]

159. Tikanga-based mentoring efforts, especially those led by wāhine Māori, are often site-specific, episodic, and therefore under-represented in cumulative monitoring frameworks. Without place-based mātauranga-informed indicators, shifts in harvest confidence, ritual activity, or intergenerational access may go undocumented until the practice breakdown is already advanced.[153]

160. While regional projects document the use of tohu, maramataka, and mātauranga-based restoration practices, these efforts are not tracked at a national level, nor are they consistently integrated into climate risk assessments or science frameworks.[154]

161. Local dialectal names for flora and fauna are disappearing as species decline. However, this hapū/iwi priority is rarely tracked in conservation frameworks. [155]

162. The social and psychological effects of disconnection on rangatahi Māori, especially regarding identity and language, are also supported

[150] Ibid, p 68.
[151] Ibid, p 19.
[152] Ibid.
[153] Ibid.
[154] Ibid, p 68.
[155] Ibid, p 19.

qualitatively but have not been captured in national-scale metrics or models.[156]

163. Localised mātauranga about climatic rhythms, seasonal indicators, or native species behaviours is not systematically supported by state institutions, meaning it is underused in formal climate risk modelling.[157]

164. The lack of investment in Māori data infrastructure further exacerbates this situation.[158]

165. Importantly, the NCCRA states that "there is a need for cloud-based, trusted geospatial platforms that enable Indigenous data sovereignty, allowing Māori to control, store, and verify their biodiversity and climate data without compromising site security or tikanga-based protocols."[159]

166. Critically, the NCCRA states that, the absence of such systems limits Māori capacity to engage with planning processes on equal terms or to meet compliance standards for resilience funding.[160]

167. In our submission this is the fundamental flaw in the Crown's climate response system as it shapes the approach to policy setting from an inherently non-Māori praxis and will result in recidivist undermining of Māori priorities for climate adaptation.

Impacts on tikanga

168. Mses Rangi and Haira are the only crown witnesses to acknowledge tikanga impacts, where they note that "Kaitiakitanga responsibilities are likely to be impacted when groups are forced to move from their whenua due to climate change."[161]

[156] Ibid.
[157] Ibid, p 45.
[158] Ibid.
[159] Ibid.
[160] Ibid.
[161] Wai 3325, #A118 at [13.4].

NCCRA analysis

169. The decline and potential extinction of taonga species, such as mahinga kai species (tuna, kūtai, pāua, tuangi, rimurapa and kina), tipu (plants), and species used for rongoā, pose significant threats not only to food and health resilience but also to the ability to practice tikanga Māori. [162]

170. The decline of taonga species compromises the relational and place-based ethics that inform tikanga and biosecurity practice.[163]

171. Losing taonga species triggers cascading effects across tikanga, affecting ceremonial observance, intergenerational knowledge transmission, and the ability to maintain ahi kā and enact kaitiakitanga.[164]

172. Damage to Māori infrastructure, exacerbates and amplifies other climate risks, especially those affecting identity, governance, and well-being. When repeatedly damaged, these sites can lose their functional capacity to host community gatherings, coordinate emergency response, or maintain tikanga.[165]

173. The loss of whare tūpuna entails more than structural degradation and represents the erosion of tikanga.[166]

174. When tikanga-based relationships to place are disrupted by climate-related damage, the result may be systemic harm to whanaungatanga and kaitiakitanga.[167]

175. Repeated disruption may eventually render a site unviable – functionally, financially, or spiritually – leading to a tipping point where infrastructure no longer supports community cohesion or sustained practice of tikanga.[168]

176. Over time, these disruptions may lead to the erosion of intergenerational knowledge transmission and tikanga-based governance. [169]

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[162] Ngā mea hirahira o te ao Māori, above n 7, p 10.
[163] Ibid, p 10.
[164] Ibid, p 11.
[165] Ibid, p 27.
[166] Ibid, p 25.
[167] Ibid, p 27.
[168] Ibid, p 25.
[169] Ibid, p 27.

Impacts on cultural continuity

177. Sea-level rise, coastal erosion, and managed retreat present existential threats to Māori communities living on or near their ancestral lands. These challenges disrupt the physical landscape and sever whakapapa-based relationships with place, undermining the transmission of mātauranga Māori. [170]

178. Erosion and marine degradation disrupt whakapapa-based connections to place, particularly when governance fails to prioritise Māori perspectives[171]

179. The ongoing impacts of urbanisation and land alienation, which have fragmented traditional communities and severed ties to ancestral lands are compounded by environmental threats that could lead to further dislocation.[172]

180. Accelerated climate impacts on marine ecosystems undermine the ecological baselines on which mātauranga Māori depends.[173]

181. The loss of access to taonga species is a consequence of other climate-related risks and a driver of further social and economic vulnerability.[174]

182. As climate change disrupts these geographies, there is growing concern about the potential disruption to tikanga and hapū/iwi identity. [175]

183. The breakdown of tikanga relationships, through the erosion of care, reciprocity, and recognition in governance, may cause systemic harm to social cohesion and environmental guardianship.[176]

184. For rangatahi Māori, the absence of opportunities to engage in customary harvesting of taonga species, or in education about taonga species, can contribute to disconnection from whenua and collective identity.[177]

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[170] Ibid, p 50.
[171] Ibid, p 51.
[172] Ibid.
[173] Ibid.
[174] Ibid, p 13–14.
[175] Ibid, p 52.
[176] Ibid, p 14.
[177] Ibid.

Acute impacts on wāhine Māori

185. Climate impacts are particularly acute for wāhine Māori, whose identities, responsibilities, and tikanga-based roles are often place-anchored and embodied through care work and intergenerational knowledge transmission.[178]

186. Wāhine Māori face additional exposure due to their gendered roles as caregivers, practitioners of tikanga, and healers, roles that are particularly affected by degraded infrastructure, unsafe water access, and relocation processes that overlook Māori planning principles.[179]

187. The disappearance of accessible harvest sites impairs the ability of wāhine Māori to lead environmental rituals and tikanga-based mentoring for urban rangatahi. [180]

188. As these roles are disrupted, opportunities to reinforce identity, language, and relational belonging through environmental practice are diminished.[181]

189. Adaptation initiatives that emphasise infrastructure or economic development without addressing intersecting forms of marginalisation can increase the load on wāhine Māori. These women often become the "shock absorbers" of maladaptive policies, working longer hours in hazardous conditions to sustain both income and intergenerational stability.[182]

Gaps in knowledge of impacts on tikanga

190. While qualitative evidence, such as interviews, kaupapa Māori housing reports, and Waitangi Tribunal submissions, provides rich insight into the importance of place-based identity, there is little national-scale data that tracks how climate-related displacement affects whakapapa ties, tikanga use, or intergenerational outcomes.[183]

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[178] Ibid, p 50.
[179] Ibid, p 52.
[180] Ibid, p 14.
[181] Ibid.
[182] Ibid, p 53.
[183] Ibid, p 57.

191. Exposure pathways, such as coastal erosion or flooding, are usually mapped in general terms but not routinely linked to function or Māori settlement patterns.[184]

192. Similarly, there is a lack of monitoring of relocation impacts on marae use, urupā access, or language transmission.[185]

193. Sensitivity for Māori is under-documented in formal systems, especially regarding intangible impacts such as those on mana, tapu, or social cohesion.[186]

194. Wāhine Māori are notably excluded from data collection frameworks, despite playing central roles in adaptation, caregiving, and mātauranga Māori preservation.[187]

195. Place-based knowledge such as of maramataka and tohu indicators remains disconnected from national monitoring systems.[188]

196. This omission makes it harder to measure or respond to tikanga-based ecological thresholds that are not captured by Western environmental metrics.[189]

197. Without access to tikanga-based, locally governed spatial data platforms, many iwi and hapū cannot monitor climate impacts on their assets accurately, or plan for relocation in ways that reflect tikanga.[190]

198. Adaptive capacity, such as Māori-led retreat protocols, kāinga regeneration, or reconnection strategies, exists but it is not systematically captured in planning tools or databases, limiting its visibility.[191]

199. Mainstream policy and climate assessments for overlooking ‘relational indicators,’ such as ahi kā continuity, te reo retention, and whakapapa resilience, as valid measures of adaptation or well-being.[192]

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[184] Ibid.
[185] Ibid.
[186] Ibid.
[187] Ibid, p 58.
[188] Ibid.
[189] Ibid.
[190] Ibid, p 57.
[191] Ibid.
[192] Ibid, p 58.

200. This limitation restricts the recognition of hapū/iwi well-being and the role of Indigenous frameworks in climate adaptation.[193]

201. Unless Māori world views are encoded into the success metrics of restoration and mitigation programmes, the conventional indicators may signal ecological recovery while masking declines in tikanga.[194]

202. This includes failing to account for reduced mana whenua participation, seasonal timing mismatches, or species loss critical to identity and ceremony.[195]

203. This invisibility is not just a measurement issue; it directly undermines the legitimacy of Māori-led adaptation and risk disclosure.[196]

Economic impacts

Impacts on tourism

204. Knowles and Wilson acknowledge that cultural heritage sites, visitor attractions and other assets and infrastructure managed by DOC are at risk.[197]

205. They provide the specific example of the Lewis Bridge on the Heapy Track has been replaced twice in the last 10 years. Extreme weather events of this magnitude are projected to be twice as likely by 2090.[198]

Impacts on employment

206. Collins and Keenan acknowledge that Māori will be affected in similar ways to other New Zealanders, but they are more vulnerable to job loss and reduced household income. [199]

[193] Ibid.
[194] Ibid, p 19.
[195] Ibid.
[196] Ibid.
[197] Wai 3325, #A124 at [25].
[198] Ibid at [25].
[199] Wai 3325, #A120 at [252]–[254].

207. Samuel Dean for Earth Sciences New Zealand (formerly NIWA), along with Messes Rangi and Haira also acknowledge that changing climatic conditions are expected to present diverse risks to Māori capital, enterprise and employment, primarily because of the relatively high exposure to climate.[200]

Primary sector impacts

208. Multiple Crown witnesses acknowledge that the Māori economy is particularly vulnerable to climate change because Māori own a large share of assets in the primary sector and the primary sector is particularly vulnerable to the impacts of climate change.[201]

209. Of those primary industries in which Māori are heavily represented, multiple Crown witnesses highlight that agriculture, forestry, and fisheries are among the most climate-sensitive sectors. [202]

210. The increased risk of floods, wildfires and sea level rise, as a result of climate change, will therefore have significant negative impacts on the Māori economy. [203]

211. Climate impacts are placing measurable pressure on New Zealand's agriculture sector with weather events and seasonal variations, as well as incremental changes, contributing to increased variability in crop yields, pasture growth, and livestock productivity.[204]

212. Maaori-owned businesses are concentrated in regions like Taranaki, Northland, and Gisborne, which are projected to face increased exposure to extreme weather events, droughts, and flooding. These climate hazards pose direct risks to livelihoods and economic sustainability, especially for businesses that rely on natural resources and land-based practices.[205]

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[200] Wai 3325, #A132 at [51] and Wai 3325, #A118 at [13.6].
[201] Wai 3325, #A120 at [35]; Wai 3325, #A134 at [27]; Wai 3325, #A133 at [46]; Wai 3325, #A141 at [71].
[202] Wai 3325, #A134 at [27].
[203] Wai 3325, #A133 at [46].
[204] Brief of Evidence of Robyn Julie Collins (Wai 3325, #A121) at [48].
[205] Wai 3325, #A134 at [27].

213. In respect of commercial fishing, Daniel Bolger for Fisheries New Zealand acknowledges that the major presence Māori have in the fishing industry could mean Māori are disproportionately exposed to climate induced changes to fisheries.[206]

214. Climate induced changes will impact fisheries productivity. In some cases, abundance and distribution may expand (as we are seeing with snapper), in others it may contract (as we are seeing with blue cod).[207]

215. With respect to forestry, Collins and Keenan note that severe wind events can result in broken and uprooted trees and significant value losses for foresters and have already significantly affected Māori forest land.[208]

216. Severe weather events already impact on the forestry sector in New Zealand, particularly in Tairāwhiti/the Gisborne District, which has high erosion susceptibility. [209]

217. More than a quarter of the Gisborne district's land is susceptible to severe erosion (26 percent), compared with only 8 percent of the rest of New Zealand.[210]

218. Overall, Ms Harrison deposes that the degree of climate risk Māori are exposed to will depend on the effectiveness of the Paris Agreement.[211]

NCCRA analysis

219. The disruption of keystone/taonga species access is a driver of social and economic instability.[212]

[206] Wai 3325, #A139 at [70].
[207] Ibid at [123].
[208] Wai 3325, #A120 at [39].
[209] Ibid at [52] – [53].
[210] Ibid at [55].
[211] Wai 3325, #A133 at [46].
[212] Ngā mea hirahira o te ao Māori, above n 7, p 14.

Primary sector impacts

220. Many Māori economic activities are concentrated in climate-sensitive sectors like farming, forestry, fisheries, and aquaculture. Droughts, floods, ocean acidification, and new biosecurity risks threaten the viability of these investments, undermining the economic resilience of whānau and the ability to reinvest in community development.[213]

221. Climate-related disruptions also broadly affect Māori agrifood systems, threatening kai sovereignty and the integrity of tikanga-based land-use practices.

222. Marine-based enterprises, particularly those involving pāua, kūtai, and flatfish aquaculture, are also projected to encounter increased exposure from warming seas, ocean acidification, and storm-driven habitat loss.[214]

Tourism sector impacts

223. In associated sectors, such as ecotourism, Māori-led operators face growing uncertainties due to extreme weather and shifts in marine ecosystems, all of which compromise the viability of low-impact, values-based business models. These impacts increase financial exposure and limit whānau-based economic planning.[215]

Employment impacts

224. When floods, storms, or supply-chain shocks hit, the result is shorter hours, seasonal downtime, lay-offs, and casualisation. These shocks land hardest on Māori who already face systemic barriers in training and employment, increasing income volatility and unemployment spells in affected regions. These income shocks can also spill over into housing security and whānau stability.[216]

[213] Ibid, p 36.
[214] Ibid, p 38.
[215] Ibid, p 37.
[216] Ibid.

Impacts of compounding regulatory uncertainty

225. Māori landowners face compounding pressures from climate change and regulatory uncertainty, which complicate decision-making and reduce access to financial and technical resources. These pressures affect both formal Māori economies, such as agribusinesses and aquaculture enterprises operating within conventional regulatory and financial systems, and informal economies, which encompass customary food practices, whānau-based distribution networks, and non-market systems grounded in tikanga.[217]

Gaps in knowledge of economic impacts

226. Notable data gaps exist in understanding how climate impacts specifically affect Māori-owned or Māori-operated primary industries.[218]

227. Disaggregated data for Māori enterprises is limited, particularly regarding exposure levels by region, land class, or asset type.[219]

228. Existing data sets typically focus on formal enterprises, overlooking informal Māori economies such as mahinga kai networks, whānau-based nurseries, or customary fisheries, which are equally vulnerable to climate impacts.[220]

229. Economic reporting frameworks rarely capture the relational and intergenerational dimensions of Māori development, meaning that economic resilience is likely undervalued in official assessments.[221]

230. Informal economies, remain structurally invisible in economic data, despite their critical role in local resilience.[222]

231. Metrics for economic success in mainstream policy rely on individualised, short-term indicators (e.g., GDP, business margins), which can

[217] Ibid, p 36.
[218] Ibid, p 44.
[219] Ibid.
[220] Ibid.
[221] Ibid, p 45.
[222] Ibid.

misrepresent the actual state of collective Māori economic resilience or obscure the relational costs of ecological degradation.[223]

232. This lack of granularity inhibits effective monitoring of Māori-specific vulnerabilities and obscures where targeted investment or support might yield the most effective resilience outcomes.[224]

Health Impacts

Crown evidence

233. Deputy Director-General of Health for the Public Health Agency of the Ministry of Health, Dr Andrew Old admits that "Climate is a serious and growing threat to human health as identified by the World Health Organisation. The *Lancet* declared it as "the biggest global health threat of the 21st century."[225]

234. Dr Olds further admits that "Certain populations are especially vulnerable to climate-related health risks. These include young children (aged 0-4 years), older adults (aged 85 years and over), Maaori and Pasifika communities, and those living in poverty (living in lower deciles of the New Zealand Index of Deprivation).[226]

235. The risk to Māori is therefore multiplied manifold as Māori are overrepresented in every vulnerable health category. In addition, Dr Olds goes on to say:

> While all New Zealanders are experiencing the effects of climate change, Maaori communities are disproportionately affected due to their geographical locations. Many Maaori live in coastal, rural, and remote areas that are particularly vulnerable to climate hazards such as sea-level rise, flooding, and erosion."[227]

[223] Ibid.
[224] Ibid, p 44.
[225] Wai 3325, #A134 at [18].
[226] Ibid at [24].
[227] Ibid at [26].

> Socio-economic factors further compound the impacts of climate change on Maaori. Maaori communities often face systemic barriers such as lower income levels, limited access to infrastructure, and constraints related to land governance under Te Ture Whenua Maaori Act. These challenges reduce the capacity of Maaori whaanau and businesses to invest in adaptation or recovery. Additionally, legacy issues from ongoing inequities in health, housing, and access to services mean that Maaori are more sensitive to climate shocks and slower to recover from them.[228]

236. Dr Olds sets out some direct and indirect health impacts of climate change:

> **Direct impacts** from climate-related hazards include injury, illness, and impacts on mental health and wellbeing. However, as climate change continues, it is anticipated that other direct impacts will increase, such as heat-related illnesses and deaths.[229]
>
> **Indirect/cascading impacts** can stem from broader social and economic changes, alongside longer-term outcomes of direct impacts. These may include migration stresses, disruption to education, and socioeconomic deprivation (e.g., loss of livelihood due to extreme weather events). Climate change also threatens social cohesion as food security, water availability, health services, and housing are put under pressure.[230]
>
> For individuals, whaanau, and communities, dealing with and anticipating these cascading impacts also has a detrimental effect on mental health and overall wellbeing.[231]
>
> I understand that climate change threatens healthy futures for Maaori, as it directly and indirectly impacts on mauri ora (one's

[228] Ibid at [28].
[229] Ibid at [19.1].
[230] Ibid at [19.2].
[231] Ibid at [20].

own wellbeing), whaanau ora (the wellbeing of families and communities) and wai ora (wellbeing in the context of the environment)."[232]

237. Katerine Wilson also acknowledges that those with poorer health outcomes, such as Māori and Pacific people, children and older people, may also physically suffer more from increased heat and disease.[233]

238. In summary, the Crown evidence is that Climate Change presents the biggest global health threat of the 21st century.[234]

239. The Crown acknowledge that Māori are both especially vulnerable to and disproportionately affected by the impacts of climate-related on health.[235]

240. The Crown further acknowledge that legacy issues from ongoing inequities in health mean that Māori are more sensitive to climate shocks and slower to recover from them.[236]

241. Health impacts that are known to the Crown include injury, illness, detrimental effects on mental health and overall wellbeing, heat-related illnesses and deaths.[237]

242. The Crown further understand that climate change threatens healthy futures for Māori, as it directly and indirectly impacts on mauri ora (one's own wellbeing), whānau ora (the wellbeing of families and communities) and wai ora (wellbeing in the context of the environment).[238]

NCCRA analysis

243. Ecological and economic pressures exacerbate pre-existing health inequities among Māori, who already face high rates of respiratory, cardiovascular, and metabolic conditions. [239]

[232] Ibid at [25].
[233] Wai 3325, #A141 at [71].
[234] Wai 3325, #A134 [18].
[235] Ibid at [24] and [26].
[236] Ibid at [28].
[237] Ibid at [19.1], [19.2], [20].
[238] Ibid at [25].
[239] Ngā mea hirahira o te ao Māori, above n 7, p 85.

244. Climate change is expected to worsen these disparities through increased exposure to heatwaves, poor air and water quality, and stress-related illness.[240]

245. Research has highlighted repeated damage to marae and urupā, particularly during extreme weather events can reduce the ability of marae and wāhi tapu to fulfil their roles, undermining spiritual well-being and intergenerational knowledge transfer.[241]

246. These risks compound an enduring legacy of structural underinvestment and marginalisation within the health system.[242]

247. Climate-related displacement, disruption to tikanga, and environmental trauma pose serious risks to mental health.[243]

248. Emotional and mental well-being is degraded by climate-exacerbated economic vulnerability and exclusion from decision-making processes.[244]

249. The effect is to amplify feelings of powerlessness and solastalgia (emotional distress from negatively perceived environmental change).[245]

250. These protective mechanisms are further undermined when Māori governance is excluded from adaptation planning.[246]

251. With climate change driving more frequent flooding, damp and damaged homes and crowded emergency shelters increase the risk of waterborne and infectious illness.[247]

252. Climate trauma and disconnection from whenua exacerbate solastalgia and mental health distress, especially when tikanga-based anchors such as mahinga kai and marae are compromised.[248]

[240] Ibid, p 85.
[241] Ibid, p 25.
[242] Ibid, p 85.
[243] Ibid.
[244] Ibid.
[245] Ibid.
[246] Ibid.
[247] Ibid.
[248] Ibid, pp 85–86.

253. Environmental degradation impacts hauora/oranga by eroding health-giving relationships with whenua and taonga species.[249]

254. Food insecurity, nutritional decline, and the loss of access to mahinga kai are increasingly intensified by the degradation of ecosystems.[250]

255. The result is worsening health on top of existing inequities.[251]

256. Climate change is expected to interact with these vulnerabilities in ways that increase Māori exposure to adverse health outcomes.[252]

257. Māori well-being is tightly linked to tikanga and whenua, which are highly climate-sensitive and currently under-protected in health system planning.[253]

258. Persistent gaps in cardiovascular disease risk assessment for Māori in primary care, underscoring a baseline vulnerability that is likely to worsen with increased climate-related stressors. [254]

259. Upstream social determinants, such as poverty, overcrowded housing, and environmental pollution, significantly drive asthma disparities for Māori, further intensifying climate-related health exposure.[255]

260. Rising daily temperatures in Aotearoa are linked to increased child hospital admissions.[256]

261. This provides direct epidemiological evidence of how climate exposure can drive acute health impacts, particularly for vulnerable communities lacking robust housing and healthcare access.[257]

262. Many remote Māori communities live in damp, poorly insulated homes with inadequate ventilation. These conditions will all heighten vulnerability to heat, cold, and respiratory illness under climate pressure.[258]

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[249] Ibid, p 10.
[250] Ibid, p 84.
[251] Ibid, p 85.
[252] Ibid, p 87.
[253] Ibid.
[254] Ibid.
[255] Ibid.
[256] Ibid.
[257] Ibid.
[258] Ibid.

263. Climate-induced emotional distress is more intense for structurally marginalised populations, especially Indigenous communities[259]

264. Māori are highly sensitive to climate-related health risks because of the persistence of structural health inequities across Aotearoa.[260]

265. These include elevated rates of respiratory illness, diabetes, cardiovascular and kidney disease, and mental distress.[261]

266. These conditions are likely to be exacerbated by climate-related hazards such as heatwaves, waterborne disease, degraded air and water quality, and disrupted access to quality living conditions and healthcare services.[262]

267. Māori health vulnerabilities are shaped by a range of intersecting risks that climate change is likely to intensify, many of which are affected by overlapping factors such as gender, disability, age, and geographic isolation. [263]

268. Pre-existing inequities in housing, access to healthcare, food security, and infrastructure can place some Māori communities in a position of elevated baseline sensitivity than the New Zealand population overall.[264]

269. Climate-related events such as rising temperatures, flooding, and extreme weather can disrupt access to medical care, clean water, and secure housing, particularly in rural and coastal areas where many Māori communities live.[265]

270. These acute events can exacerbate chronic conditions and place additional pressure on under-resourced services such as marae-based support networks and local clinics.[266]

[259] Ibid.
[260] Ibid.
[261] Ibid.
[262] Ibid.
[263] Ibid, p 91.
[264] Ibid.
[265] Ibid.
[266] Ibid.

271. For Māori with addictions or disabilities, the lack of accessible and tikanga-based planning may exacerbate these vulnerabilities.[267]

Gaps in knowledge of health impacts

272. There are significant gaps in the Crown's understanding of how climate change affects Māori health outcomes across exposure, sensitivity, and adaptive capacity.[268]

273. While some national health data sets disaggregate by ethnicity, they often fail to capture climate-related drivers, such as heat exposure, vector-borne disease risk, or housing-related illnesses, in the context of extreme weather.[269]

274. Data on access to tikanga-based and climate-resilient health infrastructure remains fragmented, with no consistent monitoring of rural Māori-specific infrastructure, including papakāinga-based clinics, hauora units, or marae emergency networks.[270]

275. Sensitivity has not been and is not consistently measured, particularly for high-risk populations such as some Māori with disabilities, kaumātua, and those in insecure housing or experiencing rural isolation.[271]

276. There are no formal indicators for measuring maramataka-aligned well-being, climate-distress, or relational health disruptions, despite their significance in Māori communities.[272]

277. Adaptive capacity data is also limited; while community-led health responses are well documented (e.g. during COVID-19), there is no systematic assessment of Māori health system readiness for climate impacts or tracking of Māori involvement in national health resilience planning.[273]

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[267] Ibid, p 92.
[268] Ibid, p 95.
[269] Ibid.
[270] Ibid.
[271] Ibid.
[272] Ibid.
[273] Ibid, p 96.

278. The absence of Māori-governed data systems, particularly in environmental and biodiversity contexts, limits equitable access to and control over decision-relevant information.[274]

279. Critically, there is no national integration of kaupapa Māori evaluation models or mātauranga Māori-based health frameworks into climate-health surveillance systems.[275]

Impacts on rangatiratanga and community autonomy

280. Climate change is not the only issue. Climate response also creates inequitable impacts for Māori.

281. Paula Huia Rawiri on behalf of TPK notes that, during the North Island Severe Weather Events owners of whenua Māori faced distinct challenges related to their land tenure and governance systems, which were not fully understood across government agencies. This lack of understanding hindered the Government's ability to respond appropriately.[276]

282. Ms Rawiri acknowledges that multiple ownership of, and governance and legislative frameworks impacting, whenua Māori make it more difficult for owners of whenua Māori to respond and adapt to climate change, in terms of reaching decisions around how to respond/adapt and having to comply with bureaucratic and legal processes.[277]

NCCRA analysis

283. Climate exposure for Māori arises not only from environmental stressors such as sea-level rise and erosion, but also from the lack of tikanga-based pathways for adaptation, particularly for relocation or managed retreat. [278]

[274] Ibid.
[275] Ibid.
[276] Wai 3325, #A149 at [81.3].
[277] Ibid at [104.1].
[278] Ngā mea hirahira o te ao Māori, above n 7, p 52.

284. The marginalisation of mātauranga Māori in formal planning and science advisory structures can reduce Māori participation in climate governance and affect the design of environmental monitoring, managed retreat, or resource use decisions.[279]

285. Current relocation and adaptation frameworks frequently treat Māori as stakeholders rather than partners, compounding hapū/iwi well-being risks through exclusion in decision-making processes. [280]

286. Without a Te Tiriti-consistent approach to managed retreat, communities remain at risk of repeating colonial patterns of dispossession disguised as climate adaptation.[281]

287. Failure to invest in iwi- and hapū-led forest and biodiversity management results in lost ecological resilience and missed opportunities to re-centre Māori governance in climate adaptation.[282]

288. When compounded by climate disruption, the disempowerment of Māori in environmental decision making has the effect of limiting the opportunities for institutional learning by environmental decision-making organisations that is necessary for equitable adaptation to occur.[283]

289. Procedural exclusion, where Māori are consulted but not co-decision-makers, undermines whānau and hapū capacity to define their adaptation strategies, thus heightening vulnerability.[284]

290. Where “managed retreat” is approached through market-based or cadastral frameworks, Māori communities face potential loss of ahi kā, spiritual connection, and mana whakahaere over whenua.[285]

291. This can result in further marginalisation, especially where hapū and iwi are excluded from defining the conditions and processes of relocation.[286]

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[279] Ibid, p 66.
[280] Ibid, p 51.
[281] Ibid.
[282] Ibid, p 15.
[283] Ibid.
[284] Ibid, p 53.
[285] Ibid, p 54.
[286] Ibid.

292. As marae and kāinga often serve as hubs for decision making, ceremony, and collective care, their degradation or relocation without community control may affect governance cohesion and identity formation.[287]

293. Disrupted connections to place may weaken the practice of kaitiakitanga, reduce engagement with maramataka, and limit the transmission of site-specific mātauranga Māori. This, in turn, may affect ecological restoration efforts, local food systems, and intergenerational well-being.[288]

294. Institutional design also exacerbates this sensitivity, which privileges extractive over relational land use, marginalising mātauranga Māori in decision making.[289]

295. Overall infrastructure loss can trigger cascading risks across social and economic domains. The relocation or damage to marae complexes, urupā, or whare tīpuna causes emotional trauma to whānau. This, in turn, disrupts marae-based decision-making processes and collective care networks because meeting spaces, taonga, utilities, and tikanga-anchored roles are displaced. In turn, this weakens whānau cohesion and reduces community autonomy, particularly in emergencies.[290]

296. Legal exclusion and governance failures are central risks that compound the effects of other climate-related challenges and, in many cases, shape the capacity of Māori to respond to them.[291]

297. When Māori are excluded from statutory decision-making roles or reduced to advisory functions, the ability to embed place-based values, tikanga, and intergenerational governance in climate planning is limited. [292]

298. This exclusion can delay response coordination, restrict access to adaptation funding, and reduce Māori influence in processes such as managed retreat or infrastructure planning.[293]

[287] Ibid.
[288] Ibid.
[289] Ibid, p 65.
[290] Ibid, p 27.
[291] Ibid, pp 76–77.
[292] Ibid.
[293] Ibid.

299. These governance gaps also generate cascading impacts across other domains. For example, when Māori are not formally included in emergency response planning, the burden of care and coordination often falls informally on marae and hapū without adequate resourcing.[294]

300. This increases pressure on overstretched infrastructure and can lead to burnout or reduced capacity over time. Similarly, when mātauranga Māori is not structurally embedded in environmental monitoring or climate legislation, risks to ecosystems and mātauranga Māori may be under-recognised or poorly managed.[295]

301. Looking toward 2090 (with 2°C – 3.5°C warming), if legal exclusion is not addressed, the cumulative effect may be compounded for Māori communities required to engage in managed retreat, infrastructure decision making, or marine spatial planning.[296]

Increased dependency

302. Marae and kāinga are often excluded from critical infrastructure inventories and resilience planning, which limits their visibility in funding systems. This exclusion is compounded by legal and financial barriers that prevent many Māori communities from accessing adaptation funding, especially for multiply owned land or sites not formally recognised within infrastructure regimes. [297]

303. Repeated physical and emotional strain can accelerate dependency on external systems, such as state-based emergency services, especially where formal adaptation planning does not recognise or resource the role of marae and kāinga as critical infrastructure.[298]

304. Where Te Tiriti-aligned adaptation is absent, the cascading effects of climate change may intersect with housing insecurity, displacement, and economic precarity, compounding climate-related harm across multiple domains. As significant sites lose functionality or are abandoned, their

[294] Ibid, p 77.
[295] Ibid.
[296] Ibid, p 75.
[297] Ibid, p 25.
[298] Ibid, p 27.

loss may initiate a tipping point in the sustained practice of tikanga and intergenerational well-being, especially when relocation is not accompanied by support for restoration or reconnection.[299]

Gaps in knowledge of impacts on rangatiratanga

305. Few national studies assess how Māori governance models, asset portfolios, or economic structures mediate vulnerability to climate events.[300]

306. The absence of kaupapa Māori–aligned indicators in national climate data sets makes it difficult to measure the effectiveness of adaptation or mitigation initiatives in terms that reflect Māori values or goals, such as whakapapa continuity, collective well-being, or whenua stewardship.[301]

307. Furthermore, distinctions between formal commercial enterprises and tikanga-based, non-market systems are rarely captured, masking the different ways vulnerability is experienced and managed in each context.[302]

308. Adaptive capacity remains one of the weakest areas of documentation, with sparse information on Māori access to insurance, climate finance, or emissions-related transition tools, especially for smaller whānau collectives or rural enterprises.[303]

309. There is even less visibility for informal adaptation efforts, such as marae-based food production, community restoration projects, or rangatahi-led initiatives, which often lack legal or financial infrastructure and are excluded from mainstream reporting.[304]

310. Adaptive capacity is also challenging to assess due to the absence of consistent tracking of Māori-led innovation, intergenerational transmission mechanisms, or funding for Mātauranga Māori experts.[305]

[299] Ibid, p 28.
[300] Ibid, p 45.
[301] Ibid.
[302] Ibid.
[303] Ibid.
[304] Ibid.
[305] Ibid, p 69.

311. Johnson and Blackett (2024) argued that current adaptation policy settings lack monitoring frameworks that can recognise or evaluate the role of well-being or knowledge sovereignty in climate readiness.[306]

312. There are moderate to significant data gaps relating to Māori participation in climate decision making, particularly regarding legal and governance aspects.[307]

313. While numerous inquiries and reports (e.g. Ministerial Inquiry into Land Use 2023; Department of Internal Affairs 2024) and submissions to the Emergency Management Bill (introduced June 2023) document patterns of exclusion, these are not backed by consistent national metrics that track Māori involvement in governance roles across emergency management, adaptation planning, or mitigation processes.[308]

314. Data on Māori access to adaptation funding, participation in co-governance arrangements, or structural barriers to legal authority is fragmented and often case-specific.[309]

315. Sensitivity is particularly under-measured in institutional terms; that means there is limited assessment of how repeated exclusion affects Māori capacity to exercise tino rangatiratanga or how fragmented governance systems impact response coordination.[310]

316. Data systems tend to reflect Crown-defined governance indicators, obscuring the leadership roles and governance innovations led by wāhine Māori and hapū-level institutions.[311]

317. While present in many iwi and hapū initiatives, adaptive capacity is not well tracked or resourced across regions, resulting in limited visibility.[312]

318. The absence of Indigenous data sovereignty tools and planning dashboards prevents Māori from recording, analysing, or responding to governance-related climate risks in a timely or tikanga-based manner.[313]

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[306] Ibid.
[307] Ibid, p 79.
[308] Ibid.
[309] Ibid.
[310] Ibid, p 80.
[311] Ibid.
[312] Ibid.
[313] Ibid.

Conclusion

319. Whilst the Crown has taken steps to gather information of the impacts of climate change on Māori they are largely adhoc and fall below the standard required to reasonably or adequate inform itself of the nature and extent of the impacts of climate change on Māori.

320. Whilst the Crown commissions national assessments such as the NCRRA, we note that the NCCRA is critical of the knowledge gaps existing in the Crown's understanding.

321. Furthermore, it is recognised within the NCCRA itself that evidence within this inquiry has been a source of its analysis.[314]

322. The extent to which the NCCRA is adopted or relied upon by the Crown to form policy is unclear from Crown evidence. An example is the impact of climate change on mātauranga Māori which is stressed within the NCRRA yet glaringly absent from the Crown's evidence briefs, with the exception of a few.

323. Instead, Crown evidence tends largely to be driven by Crown priorities, namely understanding and mitigating the economic impacts or climate change on all New Zealanders – with Māori lumped into that category as part of the "balance of national interests".

324. By means of example, the Crown leverages market mechanisms such as the ETS as the primary mitigation policy tool even when the ETS itself results in inequitable levels of prejudice to Māori.

325. In this case, even according to its own framing of the Treaty obligation the Crown is not acting in good faith "to deliver effective climate policies that accord with New Zealand's commitments while maintaining distributional equity and economic growth" [315] The ETS exemplifies that the benefits and harm caused by climate change are not spread equally.

326. Moreover, the NCRRA acknowledges that significant knowledge gaps remain. Notably:

[314] Ibid, p 57.
[315] Wai 3325, #3.3.31 at [17].

327. There is no national climate change vulnerability assessment to inform our understanding of the potential effects of climate change on taonga species in Aotearoa. [316]

328. There are substantial data and measurement gaps relating to the exposure, sensitivity, and adaptive capacity of Indigenous knowledge systems, particularly mātauranga Māori, under climate change." [317]

329. There is little national-scale data that tracks how climate-related displacement affects whakapapa ties, tikanga use, or intergenerational outcomes.[318]

330. Economic reporting frameworks rarely capture the relational and intergenerational dimensions of Māori development, meaning that economic resilience is likely undervalued in official assessments.[319]

331. Informal economies, remain structurally invisible in economic data, despite their critical role in local resilience.[320]

332. There are significant gaps in the Crown's understanding of how climate change affects Māori health outcomes across exposure, sensitivity, and adaptive capacity.[321]

333. Data on access to tikanga-based and climate-resilient health infrastructure remains fragmented, with no consistent monitoring of rural Māori-specific infrastructure, including papakāinga-based clinics, hauora units, or marae emergency networks.[322]

334. Critically, there is no national integration of kaupapa Māori evaluation models or mātauranga Māori-based health frameworks into climate-health surveillance systems.[323]

[316] Ngā mea hirahira o te ao Māori, p 12.
[317] Ibid, p 68.
[318] Ibid, p 57.
[319] Ibid, p 45.
[320] Ibid.
[321] Ibid, p 95.
[322] Ibid.
[323] Ibid, p 96.

335. Few national studies assess how Māori governance models, asset portfolios, or economic structures mediate vulnerability to climate events.[324]

336. The absence of kaupapa Māori–aligned indicators in national climate data sets makes it difficult to measure the effectiveness of adaptation or mitigation initiatives in terms that reflect Māori values or goals, such as whakapapa continuity, collective well-being, or whenua stewardship.[325]

337. As a result, there is a lack of geospatial data systems that uphold Māori data sovereignty, which further limit the local community's ability to plan for climate impacts in accordance with tikanga.[326]

338. The absence of mātauranga-informed indicators, or tikanga-based decision making, in mainstream climate risk tools also means that the relational dimensions of risk remain invisible, primarily to policymakers.[327]

339. This omission reinforces a structural gap between Māori realities and the metrics used in adaptation funding, hazard mapping, or infrastructure prioritisation.[328]

340. In all, the obligation on the Crown to adequately inform itself of climate harm to Māori sets the baseline upon which climate response policy is framed. The evidence shows that within Aotearoa that baseline is driven largely by the Crown's economic priorities, bereft of tikanga and mātauranga.

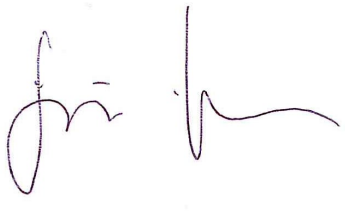
341. From this baseline Māori are suffering and will likely continue to suffer inequitable levels of climate harm.

342. Therefore, the appropriate finding is that the Crown has and is failing to take adequate, reasonable and appropriate steps in good faith to actively protect Māori from suffering inequitable, unfair and unjust levels of climate harm.

[324] Ibid, p 45.
[325] Ibid.
[326] Ibid, p 30.
[327] Ibid.
[328] Ibid.

May it please the Tribunal these are the Generic Closing Submissions for the Claimants on the impacts of climate change on Māori.

DATED this 25th day of September 2026



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Tania Te Whenua
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