Atua Māori Profiles Table

A foundational resource outlining key atua and their environmental domains.
This table provides names, roles, and descriptions of major atua Māori to support understanding of their relevance to climate patterns and observed environmental changes.

Atua (Environmental Domain)	Te Whakamaramatanga (Description)
Ranginui – Atua of the sky	Ranginui is the atua of the sky, weather systems, and rainfall. Under his domain, climate change brings increasingly intense storms, rainfall, and shifting weather patterns. These changes affect the natural balance, damage infrastructure, disrupt transport and isolate rural communities during extreme weather events.
Papatūānuku – Atua of the land and soil	Papatūānuku represents the land, soil, and body of the earth itself. Climate change manifests through her as erosion, drought, land instability, and contamination. Her distress is seen in the shifting of the whenua, with increased slips, dry seasons, and degraded soil health affecting both people and ecosystems.
Tamanuiterā – Atua of the sun	Tamanuiterā is the sun — the source of light, energy, and seasonal rhythms. Under climate change, his intensity is heightened, with hotter summers, UV exposure, heatwaves, and disruptions to growing cycles. Tamanuiterā governs both lifegiving light and the burning extremes, reminding us of the fine balance between warmth and wounding.
Tāwhirimātea – Atua of the winds and atmospheric pressure	Tāwhirimātea is the atua of winds, storms, and weather. As climate systems shift, his presence is seen in unpredictable wind patterns, violent gusts, cyclones, and atmospheric turbulence. His movements disrupt flight paths, uproot trees, damage homes, and amplify the volatility of climate extremes, particularly in coastal and highland communities.
Whatitiri – Atua of thunder	Whatitiri is the atua of thunder and atmospheric power. Climate change amplifies his presence through electrical storms, strong winds, and sudden weather changes. This leads to increased damage to infrastructure, power outages, and community isolation during high intensity events.
Uira – Atua of lightning and electrical energy	Uira, the atua of lightning and energy, moves with increasing frequency as climate systems destabilise. His domain includes electrical surges, technological disruptions, and fire risks. Whānau are vulnerable to outages, damaged equipment, and safety hazards from unpredictable lightning activity.
Tāne Mahuta – Atua of the forests and birds	Tāne Mahuta is the atua of the forests, birds, and plants. Climate disruption under Tāne is seen in forest dieback, invasive pests, wildfires, and biodiversity loss. The ngahere becomes vulnerable, and the ecological balance between species begins to fray, affecting rongoā, bird populations, and forest resilience.
Mahuika – Atua of fire	Mahuika is the atua of fire, flame, and ancestral heat. In a shifting climate, she is seen in increasing wildfire risk, prolonged droughts, and the drying of landscapes. Her presence is also evoked in the overuse of fossil fuels and energy systems that disturb natural balance. Mahuika reminds us of both the sacred and destructive potential of fire in our changing world.

Moana Tu i te Repo – Atua of wetlands and swamps	Moana Tu i te Repo represents the living waters of the wetlands and peatlands. She holds the mauri of swamps, puna, and repo ecosystems. Climate threats manifest through wetland desiccation, invasive species, peat fires, and drainage. As the repo dries or floods, its role as a natural sponge and habitat is compromised, affecting both biodiversity and cultural practices.
Moana Tu i te Wao – Atua of freshwater lakes	Atua of freshwater lakes located within forested lands. These lakes provide life-sustaining waters for surrounding ngahere, birdlife, and ecosystems. Moana Tu i te Wao embodies the still, deep waters of the interior, the secluded lakes held within the shade of Tāne Mahuta's cloak. Climate disruption is seen in warming waters, invasive species, lowered lake levels, algal blooms, and the degradation of lake-edge biodiversity. The wellbeing of these freshwater systems reflects the mauri of inland water sanctuaries.
Tangaroa – Atua of the ocean and marine environment	Tangaroa governs the oceans, tides, and all marine life. The impacts of climate change under Tangaroa are rising seas, warming oceans, acidification, and depletion of kaimoana. He is disturbed by overfishing, marine pollution, and the breakdown of natural ocean rhythms, which impacts food sovereignty and coastal resilience.
Ruaumoko – Atua of earthquakes and volcanic movement	Ruaumoko is the atua of earthquakes, volcanic activity, and the unborn energy beneath the earth. As the climate warms, his presence is increasingly felt through shifting tectonic pressures, geothermal imbalances, and permafrost melt. He reminds us that climate change is not only about the surface, but also the restless forces of the deep.
Rongomaraeroa – Atua of cultivated food and peace	Rongomaraeroa is the atua of cultivated food, gardens, and peace. His domain is disrupted by unpredictable seasons, failing crops, and declining soil fertility. Whānau maara kai, traditional planting calendars, and kai security are under threat due to climatic unpredictability and ecological shifts.
Whiro – Atua of decay, disease, and imbalance	Whiro represents darkness, decay, and disease. His movement in a climate context is seen in increased illness, loss of balance, and mental distress. Damp homes, contaminated water, and isolation compound his presence, requiring a spiritual and hauora led response to maintain mauri and oranga.
Tūmatauenga – Atua of warfare and resilience	Tūmatauenga is the atua of war and human resilience. Under climate pressure, he manifests in social stress, conflict, and breakdown of community systems. Whānau may become displaced, leadership structures strained, and collective strength tested during frequent climate related crises.

Papatuanuku		
Wāhanga ō Te Ao Hurihuri	**Short-Term Climate Risks**	**Long-Term Climate Risks**
A. Te Taiao *(Natural Environment)*	• Sudden land slips and erosion • Soil drying or cracking during drought • Contaminant runoff into whenua • Dust storms or loose topsoil • Surface soil degradation	• Long-term soil infertility • Ongoing land instability • Altered landforms and ecosystems • Desertification and loss of productive land • Deep contamination of whenua and groundwater

B. Ngā Āhuatanga Hanga *(Built Environment)*	• Ground movement affecting roads and buildings • Foundations weakened by saturated or shifting soil • Dust and sediment damage to housing and utilities • Access blocked by minor slips or land collapse • Infrastructure pressure from rapid land movement	• Structural failure due to persistent subsidence • Entire sites become unsuitable for building • Costly retrofitting to stabilise affected land • Relocation needs due to long-term land instability • Reduced capacity for marae or papakāinga development
C. Te Tangata *(People)*	• Disruption of everyday life due to land movement • Health risks from dust or exposed contaminants • Injury from slip or unstable ground • Stress from repeated land-related hazards • Reduced access to traditional food sources	• Displacement from ancestral land • Mental and emotional fatigue from long-term risk • Loss of trust in whenua as safe and stable • Reduction in whānau land-based activities • Intergenerational loss of land security and connection
D. Te Tuakiri *(Cultural Identity)*	• Restricted access to urupā or wāhi tapu on unstable land • Interrupted land-based tikanga and customary practices • Damage to whenua associated with tūpuna and key events • Limited cultural use of certain sites	• Disconnection from cultural landscapes • Loss of kaitiakitanga expression over whenua • Fragmentation of place-based identity • Erosion of whenua-based mātauranga • Cultural trauma linked to whenua degradation
E. Ōhanga me ngā Rawa *(Economic & Resource Security)*	• Crop loss due to soil instability or drought • Repair costs for whenua-based infrastructure • Loss of productivity from affected land blocks • Contaminated kai and water affecting livelihoods	• Devaluation of land assets • The financial drain on whānau and hapū from ongoing repair costs for whenua-based infrastructure can divert essential pūtea away from housing upgrades, māra kai development, or education, which slows collective progress and deepens economic vulnerability. • Shift away from traditional whenua-based economies • Long-term reliance on external resources or income • Barriers to papakāinga, farming, or eco-enterprise development
Tāwhirimātea – Atua of the Winds and Atmospheric Pressure		
Wāhanga	Short-Term Climate Risks	Long-Term Climate Risks
A. Te Taiao *(Natural Environment)*	• High winds snapping or uprooting native trees	• Long-term loss of wind-sensitive native species (e.g., shallow-rooted rākau)

	• Canopy damage in ngahere reducing bird nesting and shade cover • Spread of wind-dispersed invasive weeds like gorse and pampas • Coastal sea-spray damage to salt-sensitive ecosystems • Disruption to bird flight and manu migration during storm cycles	• Expansion of wind-spread pest species in ngahere and riparian zones • Fragmentation of habitat due to canopy degradation • Reduced ngāhere resilience to wind and drought interactions • Decline in pollination services from native manu or insects disrupted by wind regimes
B. Ngā Āhuatanga Hanga *(Built Environment)*	• Roofs lifted or damaged on kāinga and marae buildings • Power and communication outages from fallen trees and poles • Debris damaging windows, solar panels, fencing or pou whenua • Access roads blocked by storm-felled trees or surface debris • Temporary evacuation due to cyclone-level wind alerts	• Ongoing structural damage to unreinforced rural housing • Increased repair and insurance costs for high-risk locations • Relocation pressure on exposed whānau and infrastructure • Need for climate-adapted building design and materials • Unsuitability of some whenua for safe permanent dwellings
C. Te Tangata *(People)*	• Injury from airborne roofing iron, branches or storm debris • Interruption to wānanga, school, or work due to unsafe conditions • Stress or fear during prolonged or repeated storm warnings • Isolation from key services due to blocked roads or cut power • Increased respiratory illness from dust and storm-borne particles	• Trauma and climate fatigue from recurring wind disasters • Declining mental wellbeing in whānau repeatedly impacted • Migration away from high-risk papakāinga areas • Loss of whānau routines and hauora connected to outdoor living • Decreased preparedness due to economic and emotional exhaustion
D. Te Tuakiri *(Cultural Identity)*	• Karakia, pōwhiri, or tangihanga disrupted by unsafe wind conditions • Storm damage to pou whenua or cultural landmarks • Wānanga and hui cancelled due to cyclone conditions	• Fewer tangihanga or pōwhiri held at marae due to unpredictability of weather, leading whānau to shift to alternative venues or urban spaces • Repeated damage to pou whenua or cultural structures leads to their removal rather than replacement, reducing physical cultural markers in the landscape • Wānanga frequency declines as organisers avoid cyclone seasons, creating fewer opportunities for intergenerational learning on marae • Kaumātua participation in tikanga events decreases due to wind-related safety concerns, reducing their presence as holders of knowledge

E. Ōhanga me ngā Rawa *(Economic & Resource Security)*	• Damage to crops from windburn or lodging (e.g., corn or kūmara) • Māra kai structures (netting, frames, shade covers) destroyed • Power outages disrupt storage of cold and frozen kai or rongoā • Delays in transporting goods due to blocked roads or ferry cancellations • Increased clean-up and repair costs following wind events	• Higher long-term insurance premiums or withdrawal of cover in exposed areas • Inability to maintain outdoor-based economic activity (e.g., māra kai, honey) • Cost barriers to climate-resilient upgrades for rural Māori communities • Disrupted kai supply chains, especially for remote whānau, hapū and iwi • Decrease in local economic viability due to repeated storm recovery costs
Tāne Mahuta – Atua of the Forests, Birds, and Plants		
Wāhanga	**Short-Term Climate Risks**	**Long-Term Climate Risks**
A. Te Taiao *(Natural Environment)*	• Dieback and disease stress in native tree species (e.g., mānuka, kauri) • Increased spread of invasive forest pests and weeds (e.g., climbing asparagus, woolly nightshade) • Heat and humidity triggering fungal outbreaks • Disrupted flowering and fruiting cycles of key native plants • Decline in native bird feeding due to reduced food availability	• Collapse of specific forest layers (understory, canopy) due to cumulative stress • Local rohe based extinction of vulnerable bird and plant species • Ecosystem imbalance from dominance of invasive species • Permanent loss of culturally important rongoā and kai resources • Decrease in ngahere carbon uptake and resilience to climate extremes
B. Ngā Āhuatanga Hanga *(Built Environment)*	• Access tracks and boardwalks damaged by overgrowth or fallen trees • Restoration planting areas lost to pest invasion • Damage to fencing or plant enclosures protecting regeneration sites • Weather-related event closures of ngahere-based projects	• Increased cost to maintain ngahere infrastructure and pest control lines • Loss of viability for forest-based eco projects or mātauranga-based tourism • Decline in usable space for planting or native bush recovery • Pressure to abandon native planting due to persistent damage or failure • Infrastructure damage from weakening forest health (e.g., tree fall)
C. Te Tangata *(People)*	• Cancellation of ngahere-based wānanga, rongoā walks or taiao education • Barriers to safe foraging or harvesting due to pest spread or dieback zones • Reduced availability of plant materials for weaving or healing • Health risks from exposure to spores or pest-triggered allergens • Less frequent engagement with ngahere due to degraded access	• Declining whānau connection to ngahere as a place of identity and healing • Loss of oral and practical knowledge about forest systems • Increased health inequity from loss of free, nature-based wellness practices

D. Te Tuakiri *(Cultural Identity)*	• Ngahere closures block access, cutting whānau off from places of cultural significance • Culturally significant tracks or sites become inaccessible due to track closures or safety hazards • Planting or returning the pito of pepi to the whenua delayed due to severe wind conditions, making the site unsafe to undertake this tikanga.	• Years of closed access mean entire generations lose lived connection to forest-based tikanga • Whānau stop visiting ancestral ngahere, and the spiritual link to tūrangawaewae fades • Generational knowledge of how, when, and where to return pito fades due to repeated delays or cancellations. Future generations of mokopuna may not experience the grounding effect of returning their pito to whenua, disrupting whakapapa-based belonging
E. Ōhanga me ngā Rawa *(Economic & Resource Security)*	• Reduced harvest of rongoā, weaving plants, or ngāhere based kai • Loss of ngahere-based economic opportunities (e.g., forest tours, eco-kai) • Decline in productivity of native plant nurseries • Extra cost for pest and disease management	• Long-term collapse of wild-harvest or cultural economy tied to native forest species • Financial pressure on ngāhere restoration projects • Loss of economic potential for ngāhere-based enterprises • Whānau, hapū and iwi economic exclusion from nature-based markets • Unsustainable cost of maintaining healthy ngahere under climate stress
Tangaroa – Atua of the Ocean and Marine Environment		
Wāhanga	Short-Term Climate Risks	Long-Term Climate Risks
A. Te Taiao *(Natural Environment)*	• Sudden sea temperature spikes causing fish die-off or species retreat • Algal blooms affecting marine ecosystems and water quality • Storm surges eroding sand dunes and coastal reefs • Acidification events harming shellfish and coral systems • Coastal pollution from storm runoff entering marine zones	• Shifting migration patterns of fish and marine life away from mahinga mataitai (traditional fishing areas) • Ongoing ocean acidification degrading shell-based species (e.g., pāua, pipi, kūtai) • Decline in biodiversity and kaimoana across reefs and estuaries • Collapse of fragile marine ecosystems • Loss of balance in trophic systems (e.g., predator-prey relationships)
B. Ngā Āhuatanga Hanga *(Built Environment)*	• Flooding of coastal infrastructure and wharves during king tides or storms • Damage to marine monitoring gear and navigation markers • Coastal erosion threatening marae, urupā, and roads near the shore • Saltwater intrusion into coastal freshwater supplies • Waka and equipment damaged or inaccessible during extreme tides	• Long-term retreat or reinforcement of coastal marae and kāinga • Costly upgrades to marine infrastructure (ramps, piers, sea walls) • Relocation of transport, waste, or water infrastructure inland • Reduced access to moana-based spaces for everyday and cultural use • Ongoing damage to marine nurseries

C. Te Tangata *(People)*	• Whānau unable to gather kaimoana due to algal bloom warnings or safety alerts • Unsafe water conditions prevent cultural diving, snorkelling, or harvesting • Tamariki disconnected from moana due to limited safe learning access • Increased risk of water-borne illness or skin infections from contaminated seawater • Cancellation of whanau, hapū, iwi and marae events (e.g., moana days, waka ama, or hākari)	• Loss of confidence in the safety and mauri of the moana • Decline in whānau participation in customary moana practices • Generational disconnection from ocean-based identity and activity • Inequity in access to clean, safe coastal spaces for uri whakatupu • Rising reliance on shop-bought kai as kaimoana becomes unpredictable, unsafe to consume or inaccessible
D. Te Tuakiri *(Cultural Identity)*	• Access to taonga species like toheroa, pāua, and kūtai is restricted due to population stress, algal blooms, or rāhui triggered by degraded marine conditions • Inability to gather kaimoana for marae and papakāinga hākari due to unsafe conditions, depleted stocks, or rāhui, impacting collective manaakitanga and food sovereignty • Traditional tauranga waka are damaged or buried by storm surges and coastal erosion, disrupting waka launching and navigational practices • Tangihanga, pōwhiri, and hākari held at coastal marae are disrupted by tidal flooding, high winds, or storm conditions, forcing cancellations or relocation inland • Coastal urupā and wāhi tapu are impacted by tidal encroachment or erosion, exposing remains, undermining site integrity, and limiting access for whānau and upkeep	• Customary harvesting fades as taonga species decline, breaking links to tikanga, karakia, and whakapapa • Waka traditions and ceremonial arrivals disappear as tauranga waka are lost to erosion • Marae withdraw from hosting tangihanga and hākari due to repeated flooding and coastal instability • Coastal urupā and wāhi tapu are permanently damaged or relocated, severing ancestral connection to place • Kaimoana becomes too depleted for hākari, weakening manaakitanga and food-based cultural identity
E. Ōhanga me ngā Rawa *(Economic & Resource Security)*	• Customary or commercial kaimoana harvests cancelled due to unsafe or depleted stocks • Loss of income from moana-based tourism or cultural experiences	• Long-term depletion of kaimoana resources reduces whanau, hapū, iwi and marae food sovereignty • Economic collapse of small-scale moana-based enterprises

	• Repair costs from storm damage to boats, aquaculture gear, or moana access points • Seasonal income affected by unpredictable marine conditions • Kaimahi unable to work safely on or near the moana	.• Rising cost of sea-based restoration and marine pest management • Permanent shift away from traditional marine harvesting economies • Increased competition over remaining moana resources across public and private sectors
Moana tu i te repo – Atua of wetlands and swamps		
Wāhanga ō Te Ao Hurihuri	Short-Term Climate Risks	Long-Term Climate Risks
A. Te Taiao (Natural Environment)	• Wetlands flood or dry rapidly, damaging the mauri of the habitat balance • Unstable conditions allow invasive species to spread • Peat soils catch fire during extreme heat or drought • Sediment and debris clog repo and affect water quality • Ecosystems become stressed and lose resilience	• Loss of species dependent on stable wetland environments • Carbon storage and natural filtration functions decline • Water systems change permanently, disrupting repo catchment flows • Wetland ecosystems lose their ability to recover without major intervention
B. Ngā Āhuatanga Hanga (Built Environment)	• Roads flood or collapse into wetlands due to poor placement or unstable ground • Access routes and tracks become impassable after heavy rain or seasonal changes • Infrastructure is damaged by rising groundwater, erosion, or waterlogging • Repo overflow into surrounding developments during intense rainfall events • Drainage systems fail to manage stormwater, causing repeated surface flooding	• Transport routes near wetlands need constant repair or full relocation • Infrastructure proves unfit for increased rainfall and seasonal extremes • Pressure grows to drain or fill wetlands to protect poorly placed developments • Ongoing costs to maintain or rebuild access in flood-prone areas rise sharply • Community infrastructure becomes cut off from natural buffers, increasing risk over time
C. Te Tangata (People)	• Whānau avoid visiting or using repo due to safety concerns • Wānanga, learning and healing activities postponed or cancelled • Health concerns arise from stagnant water or mosquito blooms • Repo becomes viewed as hazardous rather than safe space	• Connection to wetlands as places of identity, learning, and wellbeing weakens • Restoration efforts decline due to ongoing setbacks • Knowledge of local water systems and plant uses fades • Increased dependence on engineered systems over natural ones • Cultural and wellbeing benefits of wetlands no longer experienced directly

D. Te Tuakiri (Cultural Identity)	• Access to cultural plant species and repo disrupted • Kōrero tuku iho disconnected from place when sites become inaccessible • Shrinking wetlands expose taonga tuku iho such as waka, pou whenua, or kōiwi, triggering urgent cultural and spiritual response • Important sites once hidden within wetlands become vulnerable to damage, looting, or misuse • Karakia or repatriation processes are rushed or compromised due to environmental urgency and unsafe conditions	• Traditional knowledge of wetlands as sacred and healing places fades • Wetlands become symbolic rather than lived cultural spaces • Language, whakapapa and tikanga tied to puna and repo erode • Repeated exposure and mismanagement of unearthed taonga leads to cultural harm, mistrust, and loss of whakapapa-based care for ancestral places • Mishandling of exposed kōiwi or taonga leads to intergenerational trauma and loss of trust in site protection • Sacred wetland spaces lose their tapu status as cultural boundaries are broken or forgotten • Breakdown in traditional protocols and care for hidden taonga weakens the role of tohunga and kaitiaki in guiding appropriate response
E. Ōhanga me ngā Rawa (Economic & Resource Security)	• Wetland materials become harder to access due to extreme conditions • Eco-tourism, education, and cultural programmes postponed • Restoration projects damaged or delayed by flooding or drought • Pest and weed management costs rise in unstable repo	• Traditional and economic uses of wetland resources decline • Funding for repo protection reduced as risks grow • Wetlands undervalued, leading to pressure for land conversion • Carbon sink and climate regulation functions lost • Long-term burden on hapū and community to protect degraded repo
Tāwhirimātea – Atua of the Winds and Atmospheric Pressure		
Wāhanga	**Short-Term Climate Risks**	**Long-Term Climate Risks**
A. Te Taiao *(Natural Environment)*	• High winds snapping or uprooting native trees • Canopy damage in ngahere reducing bird nesting and shade cover • Spread of wind-dispersed invasive weeds like gorse and pampas • Coastal sea-spray damage to salt-sensitive ecosystems • Disruption to bird flight and manu migration during storm cycles	• Long-term loss of wind-sensitive native species (e.g., shallow-rooted rākau) • Expansion of wind-spread pest species in ngahere and riparian zones • Fragmentation of habitat due to canopy degradation • Reduced ngāhere resilience to wind and drought interactions • Decline in pollination services from native manu or insects disrupted by wind regimes
B. Ngā Āhuatanga Hanga *(Built Environment)*	• Roofs lifted or damaged on kāinga and marae buildings • Power and communication outages from fallen trees and poles	• Ongoing structural damage to unreinforced rural housing • Increased repair and insurance costs for high-risk locations

	• Debris damaging windows, solar panels, fencing or pou whenua • Access roads blocked by storm-felled trees or surface debris • Temporary evacuation due to cyclone-level wind alerts	• Relocation pressure on exposed whānau and infrastructure • Need for climate-adapted building design and materials • Unsuitability of some whenua for safe permanent dwellings
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Tāne Mahuta – Atua of the Forests, Birds, and Plants		

Wāhanga	Short-Term Climate Risks	Long-Term Climate Risks
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B. Ngā Āhuatanga Hanga *(Built Environment)*	• Access tracks and boardwalks damaged by overgrowth or fallen trees • Restoration planting areas lost to pest invasion • Damage to fencing or plant enclosures protecting regeneration sites • Weather-related event closures of ngahere-based projects	• Increased cost to maintain ngahere infrastructure and pest control lines • Loss of viability for forest-based eco projects or mātauranga-based tourism • Decline in usable space for planting or native bush recovery • Pressure to abandon native planting due to persistent damage or failure • Infrastructure damage from weakening forest health (e.g., tree fall)
C. Te Tangata *(People)*	• Cancellation of ngahere-based wānanga, rongoā walks or taiao education • Barriers to safe foraging or harvesting due to pest spread or dieback zones • Reduced availability of plant materials for weaving or healing • Health risks from exposure to spores or pest-triggered allergens • Less frequent engagement with ngahere due to degraded access	• Declining whānau connection to ngahere as a place of identity and healing • Loss of oral and practical knowledge about forest systems • Increased health inequity from loss of free, nature-based wellness practices
D. Te Tuakiri *(Cultural Identity)*	• Ngahere closures block access, cutting whānau off from places of cultural significance • Culturally significant tracks or sites become inaccessible due to track closures or safety hazards • Planting or returning the pito of pepi to the whenua delayed due to severe wind conditions, making the site unsafe to undertake this tikanga.	• Years of closed access mean entire generations lose lived connection to forest-based tikanga • Whānau stop visiting ancestral ngahere, and the spiritual link to tūrangawaewae fades • Generational knowledge of how, when, and where to return pito fades due to repeated delays or cancellations. Future generations of mokopuna may not experience the grounding effect of returning their pito to whenua, disrupting whakapapa-based belonging

E. Ōhanga me ngā Rawa *(Economic & Resource Security)*	• Reduced harvest of rongoā, weaving plants, or ngāhere based kai • Loss of ngahere-based economic opportunities (e.g., forest tours, eco-kai) • Decline in productivity of native plant nurseries • Extra cost for pest and disease management	• Long-term collapse of wild-harvest or cultural economy tied to native forest species • Financial pressure on ngāhere restoration projects • Loss of economic potential for ngāhere-based enterprises • Whānau, hapū and iwi economic exclusion from nature-based markets • Unsustainable cost of maintaining healthy ngahere under climate stress
Tangaroa – Atua of the Ocean and Marine Environment		
Wāhanga	Short-Term Climate Risks	Long-Term Climate Risks
A. Te Taiao *(Natural Environment)*	• Sudden sea temperature spikes causing fish die-off or species retreat • Algal blooms affecting marine ecosystems and water quality • Storm surges eroding sand dunes and coastal reefs • Acidification events harming shellfish and coral systems • Coastal pollution from storm runoff entering marine zones	• Shifting migration patterns of fish and marine life away from mahinga mataitai (traditional fishing areas) • Ongoing ocean acidification degrading shell-based species (e.g., pāua, pipi, kūtai) • Decline in biodiversity and kaimoana across reefs and estuaries • Collapse of fragile marine ecosystems • Loss of balance in trophic systems (e.g., predator-prey relationships)
B. Ngā Āhuatanga Hanga *(Built Environment)*	• Flooding of coastal infrastructure and wharves during king tides or storms • Damage to marine monitoring gear and navigation markers • Coastal erosion threatening marae, urupā, and roads near the shore • Saltwater intrusion into coastal freshwater supplies • Waka and equipment damaged or inaccessible during extreme tides	• Long-term retreat or reinforcement of coastal marae and kāinga • Costly upgrades to marine infrastructure (ramps, piers, sea walls) • Relocation of transport, waste, or water infrastructure inland • Reduced access to moana-based spaces for everyday and cultural use • Ongoing damage to marine nurseries
C. Te Tangata *(People)*	• Whānau unable to gather kaimoana due to algal bloom warnings or safety alerts • Unsafe water conditions prevent cultural diving, snorkelling, or harvesting • Tamariki disconnected from moana due to limited safe learning access • Increased risk of water-borne illness or skin infections from contaminated seawater	• Loss of confidence in the safety and mauri of the moana • Decline in whānau participation in customary moana practices • Generational disconnection from ocean-based identity and activity • Inequity in access to clean, safe coastal spaces for uri whakatipu • Rising reliance on shop-bought kai as kaimoana becomes unpredictable, unsafe to consume or inaccessible

	• Cancellation of whanau, hapū, iwi and marae events (e.g., moana days, waka ama, or hākari)	
D. Te Tuakiri *(Cultural Identity)*	• Access to taonga species like toheroa, pāua, and kūtai is restricted due to population stress, algal blooms, or rāhui triggered by degraded marine conditions • Inability to gather kaimoana for marae and papakāinga hākari due to unsafe conditions, depleted stocks, or rāhui, impacting collective manaakitanga and food sovereignty • Traditional tauranga waka are damaged or buried by storm surges and coastal erosion, disrupting waka launching and navigational practices • Tangihanga, pōwhiri, and hākari held at coastal marae are disrupted by tidal flooding, high winds, or storm conditions, forcing cancellations or relocation inland • Coastal urupā and wāhi tapu are impacted by tidal encroachment or erosion, exposing remains, undermining site integrity, and limiting access for whānau and upkeep	• Customary harvesting fades as taonga species decline, breaking links to tikanga, karakia, and whakapapa • Waka traditions and ceremonial arrivals disappear as tauranga waka are lost to erosion • Marae withdraw from hosting tangihanga and hākari due to repeated flooding and coastal instability • Coastal urupā and wāhi tapu are permanently damaged or relocated, severing ancestral connection to place • Kaimoana becomes too depleted for hākari, weakening manaakitanga and food-based cultural identity
E. Ōhanga me ngā Rawa *(Economic & Resource Security)*	• Customary or commercial kaimoana harvests cancelled due to unsafe or depleted stocks • Loss of income from moana-based tourism or cultural experiences • Repair costs from storm damage to boats, aquaculture gear, or moana access points • Seasonal income affected by unpredictable marine conditions • Kaimahi unable to work safely on or near the moana	• Long-term depletion of kaimoana resources reduces whanau, hapū, iwi and marae food sovereignty • Economic collapse of small-scale moana-based enterprises • Rising cost of sea-based restoration and marine pest management • Permanent shift away from traditional marine harvesting economies • Increased competition over remaining moana resources across public and private sectors
Moana tu i te repo – Atua of wetlands and swamps		
Wāhanga ō Te Ao Hurihuri	Short-Term Climate Risks	Long-Term Climate Risks

A. Te Taiao (Natural Environment)	• Wetlands flood or dry rapidly, damaging the mauri of the habitat balance • Unstable conditions allow invasive species to spread • Peat soils catch fire during extreme heat or drought • Sediment and debris clog repo and affect water quality • Ecosystems become stressed and lose resilience	• Loss of species dependent on stable wetland environments • Carbon storage and natural filtration functions decline • Water systems change permanently, disrupting repo catchment flows • Wetland ecosystems lose their ability to recover without major intervention
B. Ngā Āhuatanga Hanga (Built Environment)	• Roads flood or collapse into wetlands due to poor placement or unstable ground • Access routes and tracks become impassable after heavy rain or seasonal changes • Infrastructure is damaged by rising groundwater, erosion, or waterlogging • Repo overflow into surrounding developments during intense rainfall events • Drainage systems fail to manage stormwater, causing repeated surface flooding	• Transport routes near wetlands need constant repair or full relocation • Infrastructure proves unfit for increased rainfall and seasonal extremes • Pressure grows to drain or fill wetlands to protect poorly placed developments • Ongoing costs to maintain or rebuild access in flood-prone areas rise sharply • Community infrastructure becomes cut off from natural buffers, increasing risk over time
C. Te Tangata (People)	• Whānau avoid visiting or using repo due to safety concerns • Wānanga, learning and healing activities postponed or cancelled • Health concerns arise from stagnant water or mosquito blooms • Repo becomes viewed as hazardous rather than safe space	• Connection to wetlands as places of identity, learning, and wellbeing weakens • Restoration efforts decline due to ongoing setbacks • Knowledge of local water systems and plant uses fades • Increased dependence on engineered systems over natural ones • Cultural and wellbeing benefits of wetlands no longer experienced directly
D. Te Tuakiri (Cultural Identity)	• Access to cultural plant species and repo disrupted • Kōrero tuku iho disconnected from place when sites become inaccessible • Shrinking wetlands expose taonga tuku iho such as waka, pou whenua, or kōiwi, triggering urgent cultural and spiritual response • Important sites once hidden within wetlands become vulnerable to damage, looting, or misuse	• Traditional knowledge of wetlands as sacred and healing places fades • Wetlands become symbolic rather than lived cultural spaces • Language, whakapapa and tikanga tied to puna and repo erode • Repeated exposure and mismanagement of unearthed taonga leads to cultural harm, mistrust, and loss of whakapapa-based care for ancestral places

	• Karakia or repatriation processes are rushed or compromised due to environmental urgency and unsafe conditions	• Mishandling of exposed kōiwi or taonga leads to intergenerational trauma and loss of trust in site protection • Sacred wetland spaces lose their tapu status as cultural boundaries are broken or forgotten • Breakdown in traditional protocols and care for hidden taonga weakens the role of tohunga and kaitiaki in guiding appropriate response
E. Ōhanga me ngā Rawa (Economic & Resource Security)	• Wetland materials become harder to access due to extreme conditions • Eco-tourism, education, and cultural programmes postponed • Restoration projects damaged or delayed by flooding or drought • Pest and weed management costs rise in unstable repo	• Traditional and economic uses of wetland resources decline • Funding for repo protection reduced as risks grow • Wetlands undervalued, leading to pressure for land conversion • Carbon sink and climate regulation functions lost • Long-term burden on hapū and community to protect degraded repo