

SUMMARY AGENDA

Climate and Mental Health Regional Research & Action Agenda

Oceania



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REGIONAL AGENDA LEADS:



Executive summary

Connecting Climate Minds (CCM) is a Wellcome-funded initiative which aims to cultivate a collaborative, transdisciplinary climate change and mental health field with a clear and aligned vision. Over the last year, we have convened experts across disciplines, sectors and countries to develop regional and global research and action agendas. These agendas set out 1) research priorities to understand and address the needs of people experiencing the mental health burden of the climate crisis, and 2) priorities to enable this research and translate evidence into action in policy and practice. This report summarises the research and action agenda for climate change and mental health in Oceania; the full agenda¹ has been published separately and is available [here](#).

A total of 21 priority research themes emerged covering a wide range of topics, including:

- **The unique nature of climate impacts on mental health and wellbeing** (including repeated, chronic and compounding climate hazards that many people around the region are experiencing and/or anticipating);
- **Psychological and emotional responses to climate change** and their consequences for mental health and wellbeing outcomes, including the psychological impact of increased climate change awareness;
- **Mediating factors and secondary impacts**, such as: government (in)action; violence and conflict; migration; the built environment; structural inequalities and inequities; and interactions between physical and mental health;
- **Co-beneficial actions** around: integrated mental health and climate policies; education and communication; disaster prevention, preparedness, response and recovery; locally-led and co-created initiatives; and nature-based solutions and nature-based social prescribing;
- **Climate-informed and tailored mental health interventions**, and mental health care delivery and access in the context of climate change; and
- **The diverse geographies and cultures** in the region and specific priority groups, including: people with pre-existing mental health challenges; people working on the frontlines of climate and environmental change; children and young people; and rural and remote communities.

In terms of priority actions for implementing the research agenda, there was a strong emphasis on co-designed and co-led research, utilising participatory, action-oriented, strengths-based approaches to deliver relevant and just research outcomes.

Translating evidence into action in policy and practice will require strengthening bidirectional relationships between researchers and policymakers and ensuring representation of priority groups in decision-making processes.



Introduction

Climate hazards in Oceania

Oceania is facing an increase in the frequency and severity of a range of climate hazards, including the following, modelled to approximately 2030 as compared to historical baseline (generally 1986-2005): ^{2,3,i}

- **Extreme heat** across Australia, with Northern Australia, in particular, experiencing an increase of more than 25 hot days per year above 35°C (high confidence);ⁱⁱ
- **Droughts and bushfires**, including an increase in fire weather in Australia and an increase of aridity over the Pacific Islands (medium confidence);
- **Heavy precipitation events**, with the frequency and intensity of extreme rainfall increasing in the western tropical Pacific (high confidence);
- **Sea level rise**, contributing to increased coastal flooding and shoreline retreat along sandy coasts throughout Australia, Aotearoa New Zealand and neighbouring Pacific Islands (high confidence); and
- **Tropical cyclones**, though models generally project a decrease in frequency yet an increase in intensity of Category 4-5 tropical cyclones (low confidence).

Climate change and mental health in Oceania

Existing research

In terms of existing literature on climate change and mental health in Oceania, there is a large body of research from Australia, including epidemiological studies, and a limited but growing number of studies from the Pacific Islands and Aotearoa New Zealand. A summary of current research is provided in the appendix.

Findings from the Connecting Climate Minds project

The following sections present findings from the Connecting Climate Minds (CCM) project – including pre-dialogue scoping, dialogues, surveys and expert consultations (refer to the appendix for details on methods) – to explore: perceptions of mental health risks associated with climate exposures; whose mental health may be most at risk; and the pathways through which climate exposures might produce or exacerbate existing mental health challenges. Please note that the summaries in the following sections are reports or perceptions from diverse experts, including those with lived experience, rather than drawing from published evidence.

ⁱ Future projections are based on the middle of the road emissions scenario (SSP2-4.5 Shared Socio-economic Pathway) from the CMIP6 multi-model ensemble provided in the IPCC, 2021

ⁱⁱ Within the IPCC and other major sources of climate projections, confidence levels are given on a scale of low, medium, high. The ranking refers to the robustness of the evidence available and the agreement between climate models.

What mental health outcomes appear to be impacted?

Dialogue participants mentioned trauma, stress, pre-traumatic stress and burnout, as well as emotional responses including distress, sadness/despair/hopelessness, fear, climate anxiety/grief/anger and solastalgia.^{4,ii} There was also some discussion of diagnosable mental health conditions, including depression, anxiety, post-traumatic stress disorder (PTSD) and substance abuse,

as well as mental health presentations/admissions in emergency departments.

Who appears to be particularly affected by the mental health impacts of climate change?

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Children and young people | Indigenous peoples | Women |
| Elderly people | LGBTQ+ community | Neurodiverse people |
| Culturally and linguistically diverse communities | Coastal residents and people living in low-lying and atoll islands | People with pre-existing mental and physical health conditions |
| Māori and Pasifika peoples that have migrated | Regional and rural communities, including farmers/farming families | People with livelihoods impacted by climate change (e.g., tourism sector) |
| Extended families providing for family members affected by climate events | Communities directly impacted by climate-events (particularly repeated events) or chronic environmental changes | People with disabilities |
| People working on the frontlines of climate and environmental change (e.g., first responders, climate/environment/health professionals, activists) | People working in industries that contribute to climate change; areas where the fossil fuel industry has the largest social footprint (e.g., Queensland and Western Australia) | Homeless people |
| | | Marginalised and socio-economically deprived communities/areas with limited resources (e.g., lower-income Pacific Island nations, remote regions) |

What appear to be the pathways and mechanisms linking these climate hazards to mental health outcomes?



Impacts on social determinants of (mental) health

(e.g., livelihoods, housing, education, culture)



Displacement and relocation



Food and water insecurity



Multiple exposures to climate events



Government (in)action and lack of support

ⁱⁱ 'Solastalgia' is a term coined by environmental philosopher, Glenn Albrecht, to describe the distress caused by environmental change

Research agenda

Priority research themes

This research agenda presents an aligned vision to guide the climate and mental health field in Oceania. Research priorities have been generated through consultation with experts across disciplines, sectors and geographies in the region and iterated with experts regionally and globally. The priority research themes are presented within four overarching research categories that were identified as areas of critical need for further work globally (see appendix for further details). Note that the term 'mental health and wellbeing' was deliberately chosen to reflect cultural understandings and use of mental health terminology in the region (please see appendix for full explanation).



RESEARCH CATEGORY

Impacts, risks and vulnerable groups

Priority research themes:

n = number of research questions ⁱⁱⁱ

Understanding the mental health and wellbeing implications of climate hazards, in particular where it relates to repeated, chronic and compounding events. Climate hazards include singular or repeated extreme weather events (e.g., cyclones, heatwaves, flooding, bushfires) as well as chronic impacts (e.g., drought, sea-level rise). (n = 14)

Understanding how divergent views about climate change/ climate action precipitate or exacerbate interpersonal conflict and the subsequent impacts on mental health and individual/community wellbeing (e.g., in communities highly economically reliant on extractive industries). (n = 3)

Understanding the unique challenges and opportunities for mental health and wellbeing in rural and remote communities in the context of climate change (e.g., impacts on farming communities; access to mental health care; and holistic, culturally appropriate, community-based support). (n = 13)

Understanding the mental health and wellbeing impacts of climate change on people with pre-existing mental health challenges (e.g., assessing whether pre-existing mental health needs are adequately addressed in disaster prevention, preparedness, response and recovery plans, and the effects of mental health service disruptions due to climate change). (n = 4)

Understanding climate-related migration and its impacts on mental health and wellbeing, and mediating factors (e.g., social cohesion, and cultural connection and knowledge). (n = 4)

ⁱⁱⁱ Note that the research themes represent a diverse array of more specific research questions. The collection of research questions summarised by each research theme span multiple research categories; in the table below, the themes have been classified according to the category that best fit the most research questions in that theme. A full list of the research questions (181) can be found in the appendix of the full agenda.

Pathways and mechanisms

Priority research themes:

Understanding the relationship between climate impacts (e.g., extreme heat, climate disasters) and violence (e.g., stress leading to increased family, domestic and group violence) and the implications for mental health and wellbeing. (n = 6)

Understanding the mental health and wellbeing implications of government (in)action on climate change (or actions that contribute to climate change, such as fossil fuel expansion) and conversely, opportunities to use mental health impacts of inaction as an argument/leverage for action on climate change. (n = 2)

Understanding the interactions between systemic factors and structural inequalities and inequities – such as gender inequality/patriarchy, colonialism, racism and capitalism – and mental health outcomes in the context of climate change. (n = 6)

Understanding the interaction between physical and mental health in the context of climate change (e.g., how the physical health impacts of food and water insecurity or heat affect mental health and wellbeing). (n = 2)

Understanding the impacts and potential co-benefits of the built environment on mental health and wellbeing in the context of climate change (e.g., inadequate heating and cooling, climate resilient housing, sustainable urban environments). (n = 6)

Mental health benefits of climate action (adaptation and mitigation)

Priority research themes:

Understanding the mental health and wellbeing impacts of integrated mental health and climate change policies across sectors. (n = 2)

Identifying and evaluating locally-led and co-created climate mitigation and adaptation initiatives and their mental health outcomes (e.g., comparing community-led to externally-led psychosocial support, local climate resilience plans). (n = 10)

Understanding and evaluating the impact of climate hazard prevention, preparedness, response and recovery on mental health and wellbeing. This includes understanding the role of mediating factors (e.g., social determinants, characteristics of the target population) and delivery modes (e.g., social media, involvement of faith communities and church groups, and culturally informed processes). (n = 17)

Identifying and evaluating nature-based solutions and nature-based social prescribing as potentially co-beneficial interventions for mental health and climate change (e.g., understanding best practice, developing theoretical frameworks and ensuring tailored and equitable access). (n = 4)

Identifying and evaluating responsible, inclusive and effective climate change education and communication strategies that promote and support mental health and wellbeing (e.g., building competencies, literacy, agency and resilience rather than instilling fear and apathy; focusing on a strengths-based rather than vulnerability-based framework; and tailoring communication for culturally diverse communities, neurodivergent people or people with a disability). (n = 13)

Mental health interventions/solutions in the context of climate change

Priority research themes:

Understanding and responding to the psychological impacts of climate change awareness from personal or vicarious experience (e.g., understanding phenomena such as eco-anxiety, solastalgia and grief; how these experiences vary between individuals and culturally; and how they relate to mental health and wellbeing outcomes). (n = 24)

Understanding and responding to the mental health and wellbeing implications of working on the frontlines of climate and environmental change (e.g., activists, academics, educators, professionals and field workers). (n = 3)

Understanding and responding to the unique challenges and opportunities for children and young people in the context of climate change, the implications for their development and the impacts on their current/future mental health and wellbeing (e.g., impacts of traumatic childhood experiences including climate hazards; high rates of eco-anxiety/strong climate emotions; effects of socio-ecological uncertainty on future planning/prospects; supporting mental health during engagement in climate action; and parental and peer support). (n = 12)

Understanding and responding to challenges and opportunities in relation to mental health and wellbeing in the context of climate change in diverse geographies and cultures. This includes: the development of conceptual frameworks that integrate Indigenous ways of knowing, being and doing; culturally appropriate language, interventions and supports; and navigating existing barriers including workforce capacity and access to quality mental healthcare in the Pacific. (n = 13)

Understanding the requirements for appropriate/effective mental health care delivery and access in the context of climate change (e.g., managing impacts of reduced service accessibility during and following climate hazards; climate literacy, training needs and wellbeing of service providers; community-based support; and reorienting systems towards mental health promotion and prevention). (n = 11)

Designing, implementing and evaluating tailored interventions to prevent or treat the mental health impacts of climate change across the individual, community and health system level. (n = 7)

Action agenda

This action agenda sets out a shared vision as a rallying focus of the mental health and climate change field in Oceania. It sets out the challenges which must be addressed, opportunities that can be harnessed and priority actions to work towards a thriving climate and mental health field.



Regional vision for mental health in a changing climate

Participants expressed the desire for a future state where people are empowered and well-resourced through sound investments that enable them to look after their communities and environment; mental health and wellbeing considerations are an integral component of climate and environmental policy and vice-versa; awareness about climate and mental health issues is widespread in the community; collective action has achieved positive outcomes for human and non-human life, and people have not just “overcome” challenges, they are thriving; Indigenous rights are safeguarded, and Indigenous knowledge systems are valued and integrated with Western ways of knowing.

Creating an enabling environment for research and translating a growing evidence base into action

Creating an enabling environment for research at the intersection of climate change and mental health

Challenges:

- **Disconnections** bidirectionally between researchers and policymakers
- **Siloed decision-making and limited collaboration** across disciplines
- **Exclusion of priority groups**, such as young people, from research and decision-making processes
- **Implementation challenges** and a lack of research capacity
- **Limited funding/funding restrictions** preventing evaluation of existing programmes and wider involvement from non-academic stakeholders
- **Gaps in baseline and population level data** on mental health in the Pacific region
- **Research fatigue** in some regions, with **communities distrusting the research process** and research feeling transactional
- **Poor reciprocity and data sovereignty** for communities engaged in research

Opportunities and enablers:

- **Leveraging the CCM community of practice** as a potential regional research mechanism
- **Incorporating traditional knowledge** and **engaging with Indigenous peoples** in research
- Drawing on **strong traditions of sharing** and reflecting through narrative and **arts-based practices**
- **Encouraging collaboration** and providing opportunities to pool resources and for collective knowledge sharing
- **Leveraging current policy development** (e.g., National Health and Climate Strategy in Australia) to **ensure research is policy-relevant** and aligns with decision-making needs
- Strengthening the **capacity of Indigenous researchers** and **engaging with priority groups** within research mechanisms
- Designing a **curriculum that links climate change and mental health**

Relevant potential partners:

Stakeholder groups

- Activists
- Civil society organisations, including faith-based organisations and non-government organisations
- Communities impacted by climate change
- Disaster agencies and all levels of government
- Education groups and associations
- Environmentalists
- Funders
- Health and clinical practitioners and networks
- Indigenous peoples
- Regional partners
- Universities and research institutions

Specific organisations

- Empower Pacific and UNICEF, as stakeholders providing mental health and psychosocial support training
- Falease'ela Environment Protection Society
- Green Climate Fund
- Lowitja Institute
- Pacific Islands Association of NGOs (PIANGO)

Translating a growing evidence base into action that can respond to the mental health impacts of climate change

Challenges:

- **Ineffective policy mechanisms**, which limit progress and policy implementation (e.g., siloed decision-making).
- **Limitations in funding and resources** (e.g., human)
- **Denial of climate change**, misinformation, and scepticism
- **A lack of diversity** at the policy level, meaning those involved in decision-making processes are not representative of all groups and ages
- **Reactive policy making**, meaning decision-making actions are in response to events rather than strategic and proactive
- The importance of **climate change and mental health not being embedded** within cultural and social norms within Oceania
- **Personal risks** related to the suppression of climate action that can contribute to the mental health burden associated with climate change

Opportunities and enablers:

- **Leveraging existing policy development mechanisms** to ensure research evidence is implemented (e.g., David Pocock's Duty of Care bill and the National Health and Climate Strategy in Australia).
- Improving evidence-based action through **stronger links between global health policy stakeholders** and the region, together with support from major regional stakeholders (e.g., government actors from Australia, Aotearoa New Zealand) who have the leverage and resources to enact change.
- **Utilising existing forums**, such as the Pacific Islands Forum Meetings, **as opportunities** to integrate mental health within climate policy
- **Using social change approaches to challenge and shift social norms**
- **Enabling research to action progress via knowledge sharing** (e.g., pathways to synthesise and disseminate research, evaluations and programmes)
- **Building capacity and strengthening services** via education and upskilling programs as well as engaging private stakeholders

Relevant potential partners:

Stakeholder groups

- All levels of government
- Civil society organisations, including faith-based, arts and non-government organisations
- Funders
- Health and clinical practitioners, networks and professional bodies
- Industry and private business
- Priority groups, including youth, Indigenous peoples and frontline communities
- Regional partners
- Universities and research institutions

Specific organisations

- Australian Centre for Disease Control
- Australian Psychological Society
- Climate and Health Alliance
- Climate Change Authority, Australia
- National Health, Sustainability and Climate Unit, Australia
- Pacific Community (SPC)
- Pacific Islands Forum Secretariat
- Prevention United
- Public Health Association of Australia
- United Nations
- World Health Organisation

Priority next steps/recommendations to investors and actors

Creating an enabling environment for research at the intersection of climate change and mental health

- **Secure the sustainability and growth of the Oceania mental health and climate change Regional Community of Practice** as a critical mechanism to connect mental health and climate change researchers and stakeholders, and implement the regional research and action agenda.
- **Prioritise co-designed and co-led research** that engages priority groups (e.g., youth, climate migrants, Indigenous Peoples, persons with disabilities, people with lived experience, rural and remote communities), and integrates multiple/different ways of knowing and doing (e.g., Indigenous knowledges).
- **Scope and describe the full range of existing initiatives that address the mental health challenges associated with climate hazards** (e.g., climate mitigation and adaptation actions that embed mental health considerations), with a view to identify and evaluate optimal approaches and best practices.
- **Develop and embed climate change and mental health within educational programmes** and curricula to increase awareness and develop knowledge within Oceania.
- **Invest in and support the delivery of research and programs that respect communities and cultures**, uphold rights and minimise harms such as community and stakeholder research fatigue and mistrust in research processes.

Translating a growing evidence base into action that can respond to the mental health impacts of climate change

- **Leverage current policy mechanisms** to aid evidence-based action on mental health and climate change. This effort should seek to integrate mental health and climate change into policies across sectors (e.g., disasters, social services) and all levels of government.
- **Strengthen bidirectional relationships** between researchers, practitioners and policymakers to ensure research is policy and practice-relevant and that policymakers are aware of current and upcoming research evidence.
- **Create knowledge-sharing pathways** to synthesise and disseminate research findings, evaluations, and program activities and learnings.
- **Engage priority groups** (e.g., youth, Indigenous Peoples) within decision-making processes.

Conclusion

As the Oceania Regional Community of Practice for Connecting Climate Minds, we hope this research and action agenda will be used as a tool to build relationships and foster trust between researchers and people facing the mental health impacts of climate change, with reciprocity embedded in research processes. We want this work to lead to individuals and communities feeling empowered and involved in the decisions and actions that can support their mental health, amplifying the diversity of knowledge systems from across the Oceania region and recognising the fundamental connection between human and planetary wellbeing.



Who produced this report

Authorship team

Dr Suhailah Ali: Project Administration, Investigation, Data Curation, Formal Analysis, Writing - Original Draft, Writing - Review and Editing. Dr Ans Vercammen: Project Administration, Investigation, Data Curation, Formal Analysis, Writing - Original Draft, Writing - Review and Editing. Stacey Pizzino: Investigation, Data Curation, Formal Analysis, Writing - Original Draft, Writing - Review and Editing. Professor Jemaima Tiatia-Siau: Investigation, Writing - Review and Editing. Dr Rebecca Patrick: Investigation, Writing - Review and Editing. Professor Zoltán Sarnyai: Investigation, Writing - Review and Editing. Jessie Panazzolo: Writing - Review and Editing. Dr Emma Lawrance: Writing - Review and Editing. Jessica Newberry Le Vay: Writing - Review and Editing. Didi Thompson: Writing - Review and Editing. Associate Professor Fiona Charlson: Supervision, Investigation, Formal Analysis, Writing - Original Draft, Writing - Review and Editing.

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Doctors for the Environment Australia) (Pre-Dialogue Survey, Dialogue 1)

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Dr Naomi Joy Godden (Edith Cowan University) (Post-Dialogue Survey)

Dr Bronwyn Gresham (Psychology for a Safe Climate) (Pre-Dialogue Survey, Dialogue 1 and 2)

Aaron Jenkins (Edith Cowan University & University of Sydney) (Key Informant Interview)

Sarah Wagang Kasa (Morobe Provincial Health Authority) (Dialogue 2, Post-Dialogue Survey)

Pefi Kingi (Pre-Dialogue Survey, Dialogue 2, Post-Dialogue Survey)

Tamm Kingi (PACWIN) (Pre-Dialogue Survey, Dialogue 1)

Dr Fiona Langridge (Waipapa Taumata Rau, University of Auckland) (Pre-Dialogue Survey, Dialogue 1)

Dr Jo Longman (University of Sydney) (Pre-Dialogue Survey, Dialogue 1, Post-Dialogue Survey)

Amy D. Lykins (University of New England) (Pre-Dialogue Survey, Dialogue 1 and 2, Post-Dialogue Survey)

Delilah Mand (Papua New Guinea Red Cross Society) (Pre-Dialogue Survey)

Jenevieve Mannell (University College London) (Post-Dialogue Survey)

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Professor Matt McDonald (University of Queensland) (Pre-Dialogue Survey)

Erica McIntyre (University of Technology Sydney) (Pre-Dialogue Survey, Dialogue 1 and 2, Post-Dialogue Survey)

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Julie Millard (World Federation for Mental Health) (Dialogue 2, Post-Dialogue Survey)

Fogamomi Nicc Moeono (Global Shapers Apia Hub) (Pre-Dialogue Survey, Dialogue 1 and 2)

Elise Moo (University of Melbourne) (Pre-Dialogue Survey, Dialogue 1)

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Clare Pitt (University of Tasmania) (Pre-Dialogue Survey, Dialogue 1 and 2, Post-Dialogue Survey)

Eliza Puna (Cook Islands researcher) (Pre-Dialogue Survey, Dialogue 1)

Dr Lennart Reifels (University of Melbourne) (Pre-Dialogue Survey, Dialogue 1 and 2)

Professor Alan Rosen (University of Wollongong & University of Sydney) (Pre-Dialogue Survey, Dialogue 1)

Brigid Ryan (St. Vincent's Hospital, Melbourne) (Pre-Dialogue Survey, Dialogue 1 and 2)

Amy Samson (Coutts J&R) (Pre-Dialogue Survey, Dialogue 1 and 2)

Grace Sholl (Griffith University) (Pre-Dialogue Survey, Dialogue 1)

Collin Sivalingum (Australian Red Cross) (Pre-Dialogue Survey)

Jessica Stanhope (University of Adelaide) (Pre-Dialogue Survey, Dialogue 1, Post-Dialogue Survey)

Beiateiti Taira (Kiribati Red Cross Society) (Pre-Dialogue Survey)

Jama'l Talagi (Niue Eco-Logic Consultancy) (Pre-Dialogue Survey, Dialogue 1 and 2)

Ueraoi Taniera (Kiribati Red Cross Society) (Pre-Dialogue Survey, Dialogue 1)

Dr Aloima Taufilo Teatu (Pre-Dialogue Survey)

Laura Tongalea (Le Va) (Pre-Dialogue Survey)

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Conflicts of interest

The authors have no conflicts of interest to declare.

Appendix

Connecting Climate Minds (CCM) overview

Connecting Climate Minds (CCM) is a Wellcome-funded project launched in 2023 to develop an inclusive agenda for research and action in climate change and mental health. The project has two key, intertwined aims. The first is to develop an aligned and inclusive agenda for research and action that is grounded in the needs of those with lived experience of mental health challenges in the context of climate change, to guide the field over the coming years. The second is to kickstart the development of connected communities of practice for climate change and mental health in seven global regions (designated by the Sustainable Development Goals), equipped to enact this agenda. We aim to combine the strengths of a global perspective and regional focus, and bring together diverse disciplinary perspectives into a shared vision that can ensure research is effective at addressing priority evidence gaps and informing changes in policy and practice at the intersection of climate change and mental health.

Regional Community Team

In Oceania, CCM is led by a Regional Community Team (RCT), responsible for convening diverse expertise across the region and building regional capacity to create and enact the research and action agenda. The structure of the RCT is outlined below.

| RCT Structure | Role | Members |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Regional Community Convenor (RCC) | Responsible for developing and delivering project activities in the region, including convening and supporting a regional community of diverse expertise. | University of Queensland (UQ) and Queensland Centre for Mental Health Research, Australia <ul style="list-style-type: none"> • Associate Professor Fiona Charlson • Dr Ans Vercaemmen • Dr Suhailah Ali • Remy Shergill • Stacey Pizzino |
| Co-Convenors | Bringing additional breadth of expertise across disciplines and countries, providing technical advice and review, and supporting project delivery. | <ul style="list-style-type: none"> • Dr Rebecca Patrick, University of Melbourne, Australia • Professor Zoltán Sarnyai, James Cook University, Australia • Professor Jemaima Tiatia-Siau, Waipapa Taumata Rau, University of Auckland, Aotearoa New Zealand |
| Lived Experience Advisory Group (LEAG) | Advisory board of experts with lived experience of mental health challenges in the context of climate change and/or belonging to vulnerable population groups and living with climate hazards. Drawing on their unique expertise and wisdom, LEAGs provide vital community-centred perspectives and guidance that inform the overarching approach and outputs of the project. | <ul style="list-style-type: none"> • Grace Vegesana, Australian Youth Climate Coalition, Australia • Jama'I Talagi-Veidreyaki, 350 Niue/Pacific, local consultant and researcher, Niue • Daniel Angelo Di Fluri, batyr, Australia • Tiana Jakicevich, Te Ara Whatu, Aotearoa New Zealand • Jessie Panazzolo, Lonely Conservationists, Australia |

| RCT Structure | Role | Members |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Youth Ambassador(s) (YAs) | Youth advisors (aged 18-29) with lived experience of mental health challenges in the context of climate change and/or belonging to vulnerable population groups and living with climate hazards. YAs bring unique youth-centred perspectives to the development and implementation of project activities. | <ul style="list-style-type: none"> Lavetanalagi Seru, Pacific Islands Climate Action Network, Fiji |

Methods

We produced this research and action agenda through a robust and inclusive methodology to capture, combine and refine a rich diversity of perspectives while fostering connection across a growing community of practice. Experts across disciplines, sectors and countries were convened in two virtual dialogues and consulted through two online surveys.

The CCM core team developed this methodology at a global level in consultation with the RCT, a Global Advisory Board and Wellcome. Methods and materials were adapted regionally by the RCT to ensure a balance of global standardisation with regional appropriateness and flexibility. Continuous sharing between regions of processes, learnings and challenges facilitated iterative development of the methodology. The process for developing the regional research and action agendas is shown below.

Participants were recruited firstly through the networks of the RCT, CCM core team and Wellcome, with further recruitment through snowball sampling to reach a broad range of experts across disciplines, sectors and geographies.

Full methods can be found [here](#).



Generation of research and action priorities

Priorities for research were generated, refined and finalised through the following process:

- **Developing research categories:** Through a global landscaping exercise of relevant existing climate change and mental health reviews⁵⁻¹⁴ four broad research categories were identified as areas of critical need for further work globally. This framework was used as the basis for structuring discussions within dialogues to generate research priorities and formed the global coding framework for analysis. These were:
 - **Impacts, risks and vulnerable groups:** Improving our understanding of the ways in which mental health is affected by climate change. For example: what mental health outcomes are impacted or at risk; the prevalence, severity, economic and societal costs of these impacts; and who is most vulnerable to these impacts.
 - **Pathways and mechanisms:** Improving our understanding of how mental health is affected by climate change and, in particular, whether there are factors specific to climate change that increase mental health risks. This includes considering biological, psychological, societal or environmental pathways and mechanisms.
 - **Mental health benefits of climate action (adaptation and mitigation):** Understanding and quantifying when and how climate adaptation and mitigation actions, across sectors, can also have win-win benefits for mental health.
 - **Mental health interventions/solutions in the context of climate change:** Identifying the most effective mental health interventions/solutions/actions to support mental health in the context of climate change, across diverse sectors. This encompasses providing support to people already experiencing negative mental health impacts and reducing risk or severity of future negative mental health impacts.
- **Generating priority research themes:** Participants in Dialogue 1 were led through a structured discussion to surface their views on 1) emerging and likely mental health consequences of current and future regionally-relevant climate hazards and opportunities for mental health benefits of action in both mental health and climate, and 2) where more research is needed to understand and respond to identified consequences and opportunities.
- **Analysis:** Dialogue data (transcripts of breakout rooms and notes) was analysed using the Framework Method¹⁵ – a matrix-based approach that allows qualitative researchers to undertake deep interrogation of transcripts and written notes.
- **Draft priority research themes:** This matrix was used in combination with data from pre-dialogue scoping (interviews/literature review/pre-dialogue survey) conducted in the region to draft a list of priority research themes. These were refined through consultation with the RCT and triangulation across breakout notes, transcripts, pre-dialogue scoping and expert consultation.
- **Refinement of priority research themes:** Research themes were shared with participants in Dialogue 2 for their feedback. Research themes were refined in response to this feedback and shared with dialogue participants and a wider sample of experts in the post-dialogue survey.
- **Finalisation of priority research themes:** A final list of priority research themes was generated based on incorporation of post-dialogue survey feedback, consultation with the RCT and regional experts, CCM core team, Global Advisory Board and Wellcome.

Priorities for action were generated, refined and finalised through the following process:

- **Developing action categories:** Through consultation with experts across the global CCM team, two high-level categories for priority actions were identified. These were: 1) creating an enabling environment for research at the intersection of climate change and mental health and 2) translating a growing evidence base into action that can respond to the mental health impacts of climate change. Within each, sub-categories were: 1) a desired future state, 2) opportunities and enablers, 3) challenges, and 4) partners and stakeholders.
- **Generating priority actions:** Participants in Dialogue 2 were led through a structured discussion to surface their views on 1) how the research agenda for climate change and mental health research could best be implemented in the region and 2) how a growing evidence base could be translated into action in policy and practice.
- **Analysis:** Dialogue data (transcripts of breakout rooms and notes) was analysed using the Framework Method (as described above).
- **Finalisation of priority actions:** An action agenda summarising insights from Dialogue 2 and outlining identified priority actions was generated based on consultation with the RCT and regional experts, CCM core team, Global Advisory Board and Wellcome.

Participants

Dialogue participants were a diverse group across geographical spread, gender, sector and discipline. All participants were invited to both dialogues, however in some cases participants were unable to attend both dialogues.

In total 50 participants attended Dialogue 1 and 33 participants attended Dialogue 2. The tables below provide a breakdown of participant characteristics.

Geographical spread:

| Country | Dialogue 1 | | Dialogue 2 | |
|------------------|------------|------------|------------|------------|
| | Number | Percentage | Number | Percentage |
| Australia | 30 | 61% | 20 | 65% |
| Cook Islands | 2 | 4% | 0 | 0% |
| Fiji | 1 | 2% | 1 | 3% |
| Japan | 0 | 0% | 1 | 3% |
| Kiribati | 1 | 2% | 0 | 0% |
| New Zealand | 10 | 20% | 5 | 16% |
| Niue | 1 | 2% | 1 | 3% |
| Palau | 1 | 2% | 0 | 0% |
| Papua New Guinea | 0 | 0% | 1 | 3% |
| Samoa | 1 | 2% | 0 | 0% |
| Solomon Islands | 1 | 2% | 1 | 3% |
| Vanuatu | 1 | 2% | 1 | 3% |

Expertise:

| Expertise | Dialogue 1 | | Dialogue 2 | |
|----------------------------------|------------|------------|------------|------------|
| | Number | Percentage | Number | Percentage |
| Climate change | 26 | 25% | 16 | 26% |
| Mental health | 37 | 36% | 24 | 39% |
| Healthcare | 27 | 26% | 15 | 25% |
| Other | 12 | 12% | 6 | 10% |
| I do not know/ Prefer not to say | 0 | 0% | 0 | 0% |

Discipline:

| Discipline | Dialogue 1 | | Dialogue 2 | |
|----------------------------------------|------------|------------|------------|------------|
| | Number | Percentage | Number | Percentage |
| Activism | 18 | 11% | 11 | 11% |
| Community | 17 | 10% | 10 | 10% |
| Education | 27 | 16% | 17 | 17% |
| Expert through my own lived experience | 13 | 8% | 7 | 7% |
| Funding | 2 | 1% | 1 | 1% |
| Healthcare | 18 | 11% | 11 | 11% |
| Non-governmental organisation | 17 | 10% | 10 | 10% |
| Policy | 14 | 8% | 8 | 8% |
| Research | 35 | 21% | 19 | 19% |
| Other | 6 | 4% | 5 | 5% |

Gender:

| Gender | Dialogue 1 | | Dialogue 2 | |
|----------------------------------|------------|------------|------------|------------|
| | Number | Percentage | Number | Percentage |
| Men | 13 | 27% | 8 | 26% |
| Women | 34 | 69% | 21 | 68% |
| Non-binary | 1 | 2% | 1 | 3% |
| I do not know/ Prefer not to say | 1 | 2% | 1 | 3% |

Survey participants ⁱⁱⁱ:

Pre-dialogue survey: 68

Post-dialogue survey: 31

ⁱⁱⁱ Please note numbers are approximate and do not account for duplicate or incomplete responses.

Ethics, data collection and storage

Ethics

This study has been reviewed and given an ethical favourable opinion by the Imperial College Research Ethics Committee ethics committee (study title: “Global Dialogues to set an actionable research agenda and build a community of practice in climate change and mental health”; study ID number: 6522690).

The approved documents were ratified by the University of Queensland under application 2023/HE001097 entitled “Global Dialogues to set an actionable research agenda and build a community of practice in climate change and mental health.” This included the initial application, which covered the broad project activities, and an amendment to cover the post-dialogue survey.

Data storage and sharing

Dialogues were conducted virtually on Zoom following informed consent from all participants. Dialogues and breakout groups were recorded and transcribed by third party providers (Way with Words and Absolute Translations). Survey distribution and data collection was carried out using the online platform Qualtrics. Data was stored and managed by Imperial College London using a secure server. Data will be stored by Imperial College London for 10 years after study completion.

UQ was a Joint Data Controller for the data provided to this project for Oceania and responsible for securely storing and sharing data with Imperial College London and with regional analyst teams.

In accordance with local data storage requirements, as specified in the study protocol ratified by UQ, all research data (e.g. survey responses, interview notes, dialogue transcripts) were stored on a secure server. The Research Data Manager (RDM) system is a robust, world-leading system designed and developed at UQ, ensuring that data is securely stored in line with best-practice. Only members of the convening team and select members from the global team had secure access to this data. Other information that was used in the management of the project (e.g. spreadsheets containing publicly available details on dialogue attendees, invitation lists, dialogue agendas and other documents shared by the global team) were stored on Google drive.

Use of the term ‘mental health and wellbeing’ throughout the research themes

A note on the use of the term ‘mental health and wellbeing’ throughout the research themes; rather than using only ‘mental health’, this language was chosen to reflect the holistic understandings put forward by participants. This does not reflect a collapsing of mental health and mental wellbeing constructs, nor is it simply a matter of terminology; rather, we are attempting to reconcile Western scientific frameworks with the diverse forms of knowledge found throughout the Oceania region. As described by Tiatia-Seath, Tupou and Fookes,¹⁶ “the concept of mental health relies heavily on the varying cultural understandings of “health and wellbeing” embedded within Pacific peoples’ experiences and beliefs”. This is also relevant to other Indigenous peoples in Oceania, including Aboriginal and Torres Strait Islander peoples, for whom the term ‘social and emotional wellbeing’ represents “a complex, multidimensional concept of health that includes but extends beyond conventional understandings of mental health and mental disorder.”¹⁷ To decolonise and reindigenise research means to value Indigenous ways of knowing, being and doing as equal to Western ontologies and epistemologies. By framing mental health alongside wellbeing, we aim to broaden our scope beyond Western health frameworks to be inclusive of culturally relative definitions linked to different ways of knowing.

Current research on climate change and mental health in Oceania

Epidemiological research from Australia documents the mental health impacts of climate change, particularly linking extreme weather events and chronic hazards to mental health outcomes (such as PTSD, anxiety, depression, mortality in people with mental health conditions, and psychological distress).¹⁸⁻²³ Other studies have examined emotional responses to environmental threats and changes, such as eco-anxiety and solastalgia and have made links to climate action and pro-environmental behaviours.^{4,24-27} Some studies have focused on farmers and rural residents as communities that face increased risks.²⁸⁻³¹

There are emerging research initiatives and agendas centred on the health and wellbeing impacts of climate change on Aboriginal and Torres Strait Islander communities, which is viewed in a holistic context and emphasises the importance of Indigenous knowledge systems in addressing the ongoing effects of colonisation on Country and peoples' relationships with Country.^{15,32,33}

There is limited published literature addressing the specific intersection of climate change and mental health from the Pacific Islands and Aotearoa New Zealand. A Delphi study conducted to gain perspectives on this issue from Pacific experts found themes of: mental health as a hidden and stigmatised concern; the importance of culture, spirituality, family, community, connections to ancestors and the environment, and resilience; and linkages made to livelihoods, workforce, government, education, migration and the impact of disasters.³⁴ These findings are echoed in qualitative research and perspective articles highlighting how colonialism, racism and other injustices interact to influence health and wellbeing, and the importance of climate justice.^{16,35} Some studies have applied psychological methods to understand distress in relation to climate change and environmental concerns and well-being.^{36,37,38}

A recent viewpoint article explored the use of solastalgia in Pacific research and the appropriateness of this term for Indigenous and Pacific communities; they found that to date, there has been no research on solastalgia conducted by or with Indigenous peoples, and that the term holds limited utility in the Pacific region. It fails to capture Pacific experiences of land loss due to climate change events, where loss of land equates to a loss of culture, identity, wellbeing and kinship.³⁹ A seminal literature review on climate change, mental health and wellbeing for Pacific peoples outlines the importance of centring Pacific conceptions of place, and the invasive influence of Western scientific frameworks in relation to Pacific peoples' ways of knowing and holistic worldviews.⁴⁰

Glossary

Climate change, mental health and their intersection are complex and wide-ranging fields. For the purpose of this agenda, we define the scope of these terms as follows.

By **mental health challenges**, we mean thoughts, feelings and behaviours that affect a person's ability to function in one or more areas of life and often involve significant levels of psychological distress. This includes, but is not limited to, anxiety, depression, post-traumatic stress, psychosis, suicidal thoughts and substance misuse.

By **experiences of the effects of climate change**, we mean: 1) experiencing direct impacts of climate hazards, such as more frequent and intense heatwaves, wildfires/bushfires, drought, floods or storms (for example, typhoons, hurricanes, cyclones), and 2) experiencing disruption to the social and environmental determinants of good mental health, such as being forced to move home, not being able to access food or water, losing livelihood or homelands, or disruption to cultural practices as a result of climate change.

Mental health challenges in the context of climate change include:

- How climate change may lead to worsening pre-existing mental health challenges.
- How climate change may contribute to the prevalence or impact of existing mental health challenges.
- How climate change may impact treatment access or effectiveness for those with mental health challenges.
- How climate change may lead to new mental health challenges.

For a glossary describing relevant concepts and key words for the Connecting Climate Minds research and action agendas, please download from [here](#).

Oceania specific terms:

| | |
|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Oceania | Aotearoa New Zealand, Australia and Pacific Island countries |
| Talanoa | Talanoa, a concept deeply embedded in oral traditions, holds significance across several Pacific Island countries such as Sāmoa, Tonga, Cook Islands, Fiji and Tokelau. In the languages of these nations, Talanoa encompasses the essence of 'speaking,' 'engaging in dialogue,' 'deliberating' and 'sharing narratives and stories.' |
| Prevention, preparedness, response and recovery (PPRR) | PPRR refers to a conceptual framework used within the region (primarily Australia and Aotearoa New Zealand) consisting of disaster prevention/mitigation, preparedness (e.g., early warning), response (e.g., search and rescue, emergency relief) and recovery (rehabilitation, reconstruction). |
| NSW | New South Wales (state in Australia) |

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