

2025–2030

# HEALTH AND CLIMATE STRATEGY

The first strategy for cross campus  
collaboration on health and climate



# FOREWORD

## LOCAL RESEARCH, GLOBAL ACTION: HEALTH AND CLIMATE

The escalating global climate crisis presents an undeniable threat to human health, wellbeing and to the very fabric of society. From extreme weather events and widespread displacement to the resurgence of infectious diseases and food insecurity, the impacts are profound, far-reaching and disproportionately affect the most vulnerable among us.

Yet, within this immense challenge lies an equally immense opportunity: to shape a low-carbon, resilient and equitable future that prioritises health for all.

Monash University, with its global reach and unwavering commitment to impact, recognises its critical role in confronting this urgent nexus. Our Health and Climate Initiative is a direct response to this imperative – a bold, new mission-oriented priority launched in 2023. This Strategy for 2025–2030 articulates our collective vision and outlines a clear roadmap for how Monash, through an **all-of-university approach**, will drive solutions.

This plan reflects a commitment to bold ambition, a solutions-oriented focus and clear, time-bound impact goals. At its core, the Health and Climate Initiative seeks to cultivate sustained, needs-driven health and climate research capacity across Australia and the Indo-Pacific region. This is crucial as the Indo-Pacific is acutely vulnerable to climate change impacts, threatening decades of progress towards Sustainable Development Goals. Our goal is to

ensure that rigorous, evidence-based outputs are not just produced, but are directly translatable into effective policy and planning.

As leaders of Monash's key faculties and campuses in Australia, Malaysia and Indonesia, we are acutely aware of the unique regional challenges and opportunities. This Initiative will leverage the collective expertise of our diverse academic community, fostering unprecedented cross-campus collaboration to unlock major international funding opportunities and amplify our impact. We are committed to fostering research excellence, nurturing the next generation of climate and health leaders and ensuring our discoveries lead to tangible improvements in public health resilience for current and future generations. This Strategy is more than a document; it is a call to action. It embodies Monash University's dedication to creating a healthier, more just and sustainable world. We invite you to join us on this vital journey.



**Professor Christina Mitchell AO**  
Executive Dean, Monash Medicine,  
Nursing and Health Sciences



**Professor Adeeba Kamarulzaman**  
Chief Executive Officer,  
Monash University Malaysia



**Professor Matthew Nicholson**  
Pro Vice-Chancellor and President,  
Monash University Indonesia

**“THROUGH THE HEALTH AND CLIMATE INITIATIVE, WE CAN LEVERAGE AND PUT INTO ACTION OUR SIGNIFICANT CAPABILITY IN HEALTH AND CLIMATE ACROSS THE FACULTY – AND BEYOND.”**

Professor Christina Mitchell  
Executive Dean of the Faculty of  
Medicine, Nursing and Health Sciences



# ABOUT THE HEALTH AND CLIMATE INITIATIVE

Hosted by the Faculty of Medicine, Nursing and Health Sciences at Monash University Australia, the Health and Climate Initiative (H&CI) is a multi-faculty, cross-campus collaboration. The H&CI spans Monash Australia, Monash Malaysia and Monash Indonesia and is dedicated to building better understanding of the impacts of climate change, generating research, sharing knowledge and developing interventions at scale that protect peoples' health and improve lives across Australia and the Indo-Pacific.

## IMPACT 2030

The Monash Health and Climate Initiative directly supports Monash University's Impact 2030 Strategic Plan through:

- Action on climate change: Generating research and evidence to understand and adapt to the health impacts of climate change, contributing to climate action and resilience.
- Thriving communities: Focusing on equitable health outcomes, health systems and developing solutions for vulnerable and diverse sub-populations, the H&CI cultivates healthier and more resilient communities in the face of climate challenges.
- Geopolitical security: Addressing the intersection of health and climate change, the H&CI fosters a regional understanding and enables context-specific policy and solutions, thereby enhancing regional connections, stability and security.



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Bumi Serpong Damai (BSD) City,  
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**A** **MONASH UNIVERSITY, AUSTRALIA**  
Clayton, Caulfield, Parkville,  
Peninsula

# HEALTH AND CLIMATE NEXUS

## A DOUBLE-EDGED SWORD AND A MONUMENTAL CHALLENGE FOR AUSTRALIA AND THE INDO-PACIFIC

The climate crisis brings immense challenges. However, it also offers an unparalleled opportunity to advance global health. While extreme weather and resource uncertainties pose threats, the necessary shift to a low-carbon future promises profound public health benefits: a healthier, more just and more resilient world.

The H&CI serves as a vital bridge between evidence and action for the Indo-Pacific region, including Australia. This region is disproportionately vulnerable to climate change, risking decades of development progress.

The following critical facts highlight the health and climate nexus across the region:

- **Displacement and health crises:** The Asia-Pacific accounted for 70% of global internal displacements in 2022 due to weather-related hazards, straining regional health systems and demanding cross-border disaster and climate preparedness, a challenge Australia also faces<sup>1</sup>.
- **Fatality extremes:** From 1970–2021, 47% of all reported worldwide deaths from weather, water and climate extremes occurred in Asia,

highlighting severe health risks<sup>2</sup>. In Australia, extreme weather events also lead to significant health burdens, with an average of 912 hospitalisations per year for related injuries between 2012–2022<sup>3</sup>.

- **Heat-related mortality:** Heat-related deaths in Southeast Asia could significantly increase if global temperatures rise above 2°C, a stark warning for Australia, which experiences increasingly frequent and intense heatwaves.
- **Infectious disease surge:** Dengue cases have surged throughout the Asia-Pacific region in the last decade, with hotter, wetter conditions expanding mosquito habitats – a direct threat to northern Australia. Climate-driven environmental changes and human mobility are challenging malaria elimination efforts in the region<sup>4</sup>. The

World Health Organization warns of a “climate-fuelled expansion” of infectious diseases across the region.

Seventy percent of Southeast Asia’s coastal populations face increased waterborne diseases from intensifying floods, a risk shared by Australia’s extensive coastlines<sup>5</sup>.

- **Natural resource strain and health:** The region, home to 60% of the global population but only 30% of freshwater supplies, faces critical water insecurity, threatening public health<sup>6</sup>.

### THE TIME FOR ACTION IS NOW.

1 United Nations Development Program. 2024 Asia-Pacific Human Development Report: making Our future: New Directions for Human Development in Asia and the Pacific. New York: UNDP; 2023. p. 144. Available online: <https://digitallibrary.un.org/record/4027300?ln=en&v=pdf>

2 United Nations Economic and Social Commission for Asia and the Pacific (ESCAP). Asia-Pacific disaster report 2021: resilience in a riskier world: managing systemic risks from biological and other natural hazards. Bangkok: UN ESCAP; 2021. p. 95. Available online: <https://digitallibrary.un.org/record/4043936?ln=en&v=pdf>

3 Australian Institute of Health and Welfare. Extreme weather related injuries in Australia over the last decade. Canberra: AIHW; 2024. Available online: <https://www.aihw.gov.au/reports/australias-health/extreme-weather-injuries>

4 Surendra, H., Djaafara, B.A., Prameswari, H.D. et al. Mitigating risks of malaria and other vector-borne diseases in the new capital city of Indonesia. Nat Commun 15, 10575 (2024). <https://doi.org/10.1038/s41467-024-54891-x>

5 Rentschler J, Salhab M, Jafino BA. Flood exposure and poverty in 188 countries. Nature Communications. 2022;13(1):3527. DOI: <https://doi.org/10.1038/s41467-022-30727-4>

6 Asian Development Bank. Key Indicators for Asia and the Pacific 2016. 47 ed. Philippines: Asian Development Bank; 2016. Available online: <https://www.adb.org/publications/key-indicators-asia-and-pacific-2016>



# WHY MONASH?

On average, it takes 17 years to move from the ‘discovery stage’ of an intervention to its implementation at scale – this is often referred to as the ‘know-do’ gap. With multiple urgent and run-away challenges facing our region, we know we don’t have 17 years to wait for solutions.

Closing the gap at pace and scale will require new and innovative ways of working, as well as experience in knowing how to effectively and efficiently integrate evidence-based practices and interventions into routine care, policy and action. Monash University has a long history of addressing the ‘know-do’ gap and has developed a framework for [catalysing university-led mission-oriented action](#) across disciplines and in deep partnership. Monash’s Framework for catalysing missions is comprised of seven components:

- Research excellence and impact
- Transformational leadership
- External relationships and consortia
- Entrepreneurial spirit
- Institutional supports and innovation
- ‘Tiger teams’ to deliver
- Thinking and working politically

**“THERE IS NO DOUBT THAT CLIMATE CHANGE IS EXACERBATING EXISTING HEALTH CHALLENGES, AS WELL AS LEADING TO NEW CHALLENGES AND DISEASES – ALL OF WHICH IS GETTING WORSE IN THE FACE OF CLIMATE CHANGE, PARTICULARLY FOR THE INDO-PACIFIC.”**

Professor Karin Leder,  
Director Health and Climate Initiative

Launched in 2023, the Health and Climate Initiative is Monash’s newest mission-oriented priority. Monash’s distinct advantage in leading health and climate stems from its unparalleled presence across Australia, Malaysia, Indonesia and other key global locations. This extensive international campus network allows us to build directly on existing regional collaborations, networks and partnerships, uniquely positioning us to

drive impactful research and solutions. It will be delivered through an all-of-university approach, underpinned by bold ambition, a solutions-oriented focus and clear, time-bound strategic objectives. The H&CI’s ultimate aim is to secure the necessary solutions, political will and investments to enhance public health resilience to climate change across Australia and the Indo-Pacific region for current and future generations.



## OUR VISION

**A FUTURE WHERE COLLABORATIVE, EVIDENCE-BASED HEALTH AND CLIMATE RESEARCH DIRECTLY STRENGTHENS COMMUNITY WELL-BEING AND RESILIENCE.**

## OUR MISSION

To generate rigorous transdisciplinary research involving collaborations across diverse fields to produce innovative and evidence-based findings and solutions at the intersection of health and climate.

## OUR ROLE

*The Health and Climate Initiative is uniquely placed to find evidence-based solutions for adapting to climate impacts that improve human health and strengthen health systems. Through collaboration and partnership, we develop and co-design solutions with health practitioners, policy makers and communities to manage risks and respond to current, emerging and future health conditions impacted by climate change.*



# OUR VALUES



## RESEARCH EXCELLENCE

Evidence-based research offering key insights into health outcomes amidst climate change and future climate projections.



## EQUITY

Co-designing equitable climate and health solutions by valuing diverse perspectives and focusing on the most at-risk.



## CRITICAL THINKING

Fostering open inquiry and critical thinking to develop innovative solutions for climate change's impact on human health.



## COLLABORATION

Joining partners to translate research findings into evidence-informed policies and actionable interventions.

**“AIR POLLUTION AND EXTREME WEATHER PATTERNS HAVE SEVERE HEALTH CONSEQUENCES, INCLUDING INCREASED RISK OF DEATH. SO, PROTECTING OUR ENVIRONMENT AND CLEANING THE AIR ARE ESSENTIAL TO SAFEGUARD THE WELL-BEING OF CURRENT AND FUTURE GENERATIONS.”**

Professor Yuming Guo,  
Professor Health and Climate Initiative;  
Head of the Climate, Air quality Research Unit



# OUR CAPABILITIES

We are uniquely positioned to generate impactful, evidence-based research that not only illuminates the complex pathways through which climate change impacts human health, but also develops practical and scalable solutions grounded in evidence to enhance community well-being and resilience.

## CROSS-CAMPUS AUSTRALIA AND INDO-PACIFIC INITIATIVE

A faculty-led, cross-campus Australia and Indo-Pacific Initiative that draws on assets and capabilities in communication, demographic surveillance, public health research, teaching, education and professional development.

## LOCAL AND GLOBAL COLLABORATION AND PARTNERSHIPS

World-class research initiatives from transdisciplinary research partnerships and ground breaking scientific

discovery in Australia and the Indo-Pacific that offer scalable, cost-effective, safe and sustainable ways to address climate-related health impacts and emergencies.

## DATA DRIVEN POLICY AND PROGRAMS

Unique expertise in applying epidemiology, machine learning and AI to understand how climate change, extreme weather events and poor air quality affect health and to develop interventions to mitigate those impacts.

## TRANSDISCIPLINARY RESEARCH

Award winning transdisciplinary research that integrates knowledge and capabilities from different faculties and subject expertise.

## INNOVATIVE METHODS OF EVIDENCE SYNTHESIS

Bringing experts in evidence synthesis, guideline development and digital technologies across Monash to inform health and climate issues.



### CROSS-CAMPUS INITIATIVE

Faculty-led initiative leveraging communication, demographics, public health and education.



### DATA DRIVEN PROGRAMS

Applying epidemiology, machine learning and AI to understand climate change's health effects.



### INNOVATIVE EVIDENCE SYNTHESIS

Experts inform health and climate issues using evidence synthesis and digital technologies.



### GLOBAL COLLABORATION

Research partnerships offer scalable solutions for climate-related health impacts.



### TRANSDISCIPLINARY RESEARCH

Integrates knowledge and capabilities from different faculties and subject expertise.

# OUR FOCUS

The strategic direction for the Initiative is framed around three complementary and interconnected areas that will drive impact.

## HEALTH AND CLIMATE RESEARCH EXPANSION

We are committed to urgent, collective action on climate change and the implementation of evidence-based solutions. The H&CI prioritises building research capacity to best serve communities most affected by climate change, enabling local researchers to lead investigations and develop solutions tailored to specific contexts. We contribute to new and existing platforms and networks to foster collaboration among researchers and partners across disciplines and institutions, both within Australia and the Indo-Pacific.

The H&CI is deeply committed to prioritising and empowering localised and indigenous-led research and knowledge systems, acknowledging their valuable insights into the long-term impacts of climate change on health.

## GENERATE EVIDENCE-BASED SOLUTIONS

Research and innovation serve as the bedrock and central driving force for the H&CI. It is essential to unravel the often poorly understood relationships between specific climate hazards (e.g., heatwaves, floods, air pollution, disease vectors) and differentiated exposures and vulnerabilities for diverse communities and subpopulations and their direct and indirect impacts on human health. This includes fostering transdisciplinary collaborations, investing in training the next generation of

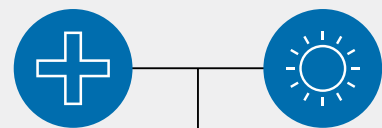
researchers and developing robust methodologies for investigating these complex interactions. Furthermore, translating research findings into education and professional development is essential to support the strengthening of the health workforce.

## RESEARCH TRANSLATION INTO POLICY AND PRACTICE

Co-designing high-quality research with policymakers, using credible evidence, is essential to develop and implement effective climate adaptation policies. These policies should clearly articulate benefits and costs, demonstrate implementation feasibility and scalability and prioritise human health. The H&CI synthesises research findings into clear, concise and policy-relevant recommendations tailored to different levels of government. We work with government and the health sector to raise public and political awareness about the critical links between health and climate change, highlighting the human costs of inaction and the benefits of proactive measures. We work with community organisations, healthcare professionals, environmental groups and other stakeholders to build a collective voice advocating for greater investment and implementation of health-protective climate policies.

Furthermore, the Initiative ensures the seamless translation of research findings into evidence-informed policies and actionable interventions.

## THE CORE ISSUES AT THE NEXUS OF HEALTH AND CLIMATE



Increased frequency and intensity of climate-related health emergencies and disasters including bushfires, flooding and air pollution

Growing burden of climate-sensitive infectious diseases

Exacerbation and growing burden of non-communicable diseases

Food and water insecurity with health consequences

Damage and disruptions to hospitals, health facilities and services

Mental health and psychosocial impacts

Disproportionate impacts on vulnerable and diverse sub-populations

# WHAT WE WILL DO

## STRATEGIC OBJECTIVE 1:

# HEALTH AND CLIMATE RESEARCH EXPANSION

# 1

### OUTCOME:

**Expand and strengthen demand-driven health and climate research and its footprint, ensuring outputs are translatable into action to drive effective policy, planning and investment.**

### ACTIONS:

- Contribute to the growth and capacity of transdisciplinary research teams across Australia and the Indo-Pacific region to address key health and climate issues.
- Ensure our research translates in ways that supports health professionals and policy makers, equipping them with enhanced knowledge and skills on climate change impacts and health outcomes.
- Grow strong collaborative partnerships with key local health and climate institutions and researchers across Australia and the Indo-Pacific region.
- Be a key voice amongst a thriving and interconnected network of health and climate researchers and practitioners actively sharing knowledge and collaborating on solutions.
- Enhance our partnership with First Nations communities in Australia and the Indo-Pacific region addressing health and climate.



## STRATEGIC OBJECTIVE 2

# GENERATE EVIDENCE BASED SOLUTIONS

# 2

### OUTCOME:

To lead cutting-edge research on health and climate interactions and context-specific solutions that unlocks targeted and equitable action and investment and delivers improved public health outcomes and climate resilience.

### ACTIONS:

- Refine and advance research methodologies for comprehensive health and climate research and risk assessments across the region.
- Contribute to more comprehensive and accessible data on health and climate. This may be achieved through data linkages, a data warehouse or data integration of trials and interventions, including evidence of their effectiveness.
- Generate evidence to improve early warning systems to be more effective and scalable for climate-related health emergencies and disasters, such as infectious disease outbreaks, reductions in air quality, extreme heat, bushfires, flooding, cyclones and drought events, are trialled for their efficacy and usability.
- Lead collaborative research to build the evidence base for scalable, locally-relevant and climate-resilient interventions, to inform climate adaptation policy and practice.
- Serve as an action and knowledge hub for health and climate collaborators, offering training, professional development and best practices for the region.
- Trial, test and de-risk interventions to build business cases for support and mainstreaming through blended and diverse funding mechanisms.



## STRATEGIC OBJECTIVE 3

# RESEARCH TRANSLATION INTO POLICY AND PRACTICE

# 3

### OUTCOME:

To contribute to the **translation of research findings into health and climate policy and practice** and to enable communities to effectively address these challenges, both now and in the future.

### ACTIONS:

- Facilitate translation of research for decision-makers to inform evidence-based policy on critical health and climate issues.
- Foster ongoing dialogue and collaboration on health and climate action across Monash networks.
- Pursue the development of locally relevant health and climate programs in partnership with local and national governments, community organisations, health providers and consumers.
- Translate research into education and professional development for students and professionals across health and other disciplines.
- Increase public awareness and understanding of health and climate risks and solutions through Monash and public communication channels.
- Support the integration of improved health data into government tools, targets and plans, e.g., National Adaptation Plans, Local Climate and Health Action Plans, disaster preparedness strategies and urban planning.



## ACKNOWLEDGEMENT OF COUNTRY

Monash University recognises that its Australian campuses are located on the unceded lands of the people of the Kulin nations. We recognise their enduring role in caring for Country and their profound connection to land, sea and sky. We particularly honour their cultural traditions and practices that sustain the land and waters and celebrate their resilience in maintaining, revitalising and celebrating their rich cultures and languages despite incredible barriers. We pay respect to their elders, past and present.

Monash is committed to fostering a society that recognises, respects and includes Indigenous peoples, cultures and knowledge. The University will contribute to the creation of this society by working with and celebrating Aboriginal and Torres Strait Islander peoples, cultures and knowledge, as well as Indigenous peoples of other places where Monash has a campus or major presence.

Monash University is committed to supporting and contributing to:

- The Uluru Statement from the Heart process for a First Nations Voice to the Commonwealth Parliament of Australia; and
- Treaty discussions in the state of Victoria and the Yoorrook Justice Commission.

## JOIN US

For further details on potential collaborations, please reach out to the Health and Climate Initiative. By working together, we can protect health in the face of worsening climate change.

### **Karin Leder**

Director, Health and Climate

### **David Sweeting**

Manager Strategy and Operations, Health and Climate



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