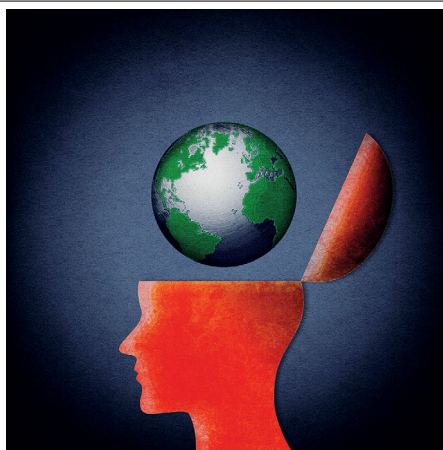


Climate mental health – making connections



As the world grapples with the repercussions of climate change, the consequences for physical and mental health have become more salient. Climate mental health unifies multidisciplinary approaches, including climate science, psychiatry and psychology, to inform and shape public policy and action to mitigate the negative effects of climate change on mental health.



The changing patterns of climate, both directly and indirectly shaping extreme weather events, are costly phenomena. A recent estimate¹ placed the global economic toll at US \$143 billion annually. Evaluating the cost of extreme weather events from climate change, such as heatwaves, wildfires or hurricanes, often focuses on more direct or concrete measures, such as damage to infrastructure or loss of life. Increasingly, however, academic research papers and governmental reports have expanded to include the implications for physical and mental health in costs of disasters. The reverberations of these events are distributed across communities and experienced by individuals beyond those who are immediately affected.

Understanding the mental health effects associated with climate change has prompted the advent of new research disciplines. These include ‘eco-distress’² and ‘eco-anxiety,’³ terms for describing feelings and emotions in response to climate change that may range from healthy and constructive psychological responses to chronic fear about cataclysmic environmental events. Climate psychiatry considers more specifically an increasing frequency of psychiatric conditions associated with disasters, including post-traumatic stress disorder, depression and anxiety, but it also focuses on some of the more immediate and proximal consequences of changing climate, such as rising temperatures and potential complications with psychotropic medications. Bringing these strands of research together, climate mental health serves as a means to describe and to include

how individuals respond to the emerging threats of global climate change. This issue of *Nature Mental Health* presents both commentary and research that conceptually advances understanding of the mental health effect of the ongoing and escalating climate crisis.

Climate mental health as a discipline is in its infancy but draws on long-standing bodies of work in climate science and mental health. There is much work yet to be done to integrate and harmonize these component fields in terms of methodology, data collection and outcomes, as well as to prioritize mental health within the framework of climate policy and action. As Emma Lawrance, a researcher and fellow at the Institute of Global Health Innovation at Imperial College London, describes, “Climate change is multiplying risks to mental health. Conversely, action for a safer climate via mitigation and adaptation strategies is an unmissable opportunity to foster the conditions for a world where no one is held back by mental health problems. While the climate change and mental health field is rapidly emerging to understand and respond to these needs, it remains disconnected, unequal and siloed, with limited investment in this critical area of work for humanity. The task for researchers and funders is to listen to the needs of those experiencing the mental health challenges of a changing climate and learn from stories of resilience and solutions. So often, connection is at the heart of the solution – connecting across disciplines, sectors, countries and cultures, to act on the connections between the health of our minds and planet.”

Toward this goal, a [Comment](#) by Lawrance et al. introduces the Wellcome-funded initiative ‘[Connecting Climate Minds](#)’. The project brings together climate science and policy experts with mental health and global health researchers from around the world to align climate and mental health agendas for translation into national policy, setting the stage for future research in this area and opportunities to incorporate populations who may be most vulnerable, including Indigenous people and people experiencing mental health challenges.

Looking forward is a key element in carving out the field of climate mental health, but there is also an array of work underway. In a [Q&A](#), Melissa Marselle discusses her journey and exploration of environmental psychology as well as the building of an evidence base around the mental health benefits of interacting with the natural environment. Climate change can disrupt biodiversity, limiting the restorative potential of blue (oceans and lakes) and green spaces (parks and forests).

Beneficial contact with nature is a positive conceptualization of interaction with environments, but the converse (the negative effect of experiencing climate disaster) is also crucial to acknowledge. In a [Perspective](#), Minnis et al. describe the ‘bio-exposome,’ an integrative model of intercellular processes, stress physiology and the exposome – that is, everything that one is exposed to – as a means to better investigate and understand the mechanisms linking childhood adversity and negative mental health outcomes. As part of the exposome, climate associated disasters pose threats to human development through upheaval such as food insecurity and forced migration.

Young people are one of humanity’s greatest assets but also one of its most vulnerable to the climate crisis. Although there is a burgeoning literature connecting climate change and adverse youth mental health, there is little data on this linkage in young people in country contexts that are most affected by climate disasters such as Small Island Developing Nations. This month’s issue includes a research [paper](#) from Maharaj and colleagues demonstrating that climate distress mediated the relationship between mental health difficulties related to climate change

and anxiety in a survey of Caribbean youth, adding to evidence demonstrating adverse mental health outcomes associated with climate change.

A [systematic review](#) by Burrows et al. gives us insight into the current landscape of both qualitative and quantitative research delving into the long-term effects of chronic climate change on mental health outcomes. Much of the work on climate-related mental health outcomes has come from studying the effects of acute climate disasters; however, this analysis focusing on chronic climatic exposures finds consistent associations with elevated

suicide risk, increased psychological distress and diminished well-being.

At the outset of building the field of climate mental health, there are two prime messages conveyed. The first is that there is still a scarcity of high-quality data that empirically links aspects of climate change, especially chronic climate change, and specific adverse mental health outcomes. And a second message that bears on the first, which is that to adequately approach these gaps, it is imperative that the open research questions are considered through a multidisciplinary lens. Bringing climate scientists, mental health researchers and

representation of the communities affected presents the best chance we have for mitigating the costs of the climate crisis. Connecting climate minds may be the connection to hope for a healthier future.

Published online: 9 February 2024

References

1. Newman, R. & Noy, I. *Nat. Commun.* **14**, 6103 (2023).
2. Marks, E. & Hickman, C. *Nat. Mental Health* **1**, 379–380 (2023).
3. Clayton, S., Manning, C. M., Krygsman, K. & Speiser, M. *Mental health and our changing climate: impacts, implications, and guidance* (American Psychological Association and ecoAmerica, 2017).