

**The Intersection of Climate Change and Mental Health: Understanding the Complexities****Olamide Omigbile¹, Abimbola Bolarinwa², Eyitayo Lawal³, Emmanuel Omoleye⁴, Abe Emmanuel⁵**¹*Center for Health Ethics Law and Development, Lagos*²*Lead City University, Ibadan*³*Sydani Institute for Research and Innovation, Abuja*⁴*Federal Ministry of Health, Abuja*⁵*University of Ibadan, Ibadan***Correspondence: Olamide Omigbile**

Center for Health Ethics Law and Development, Lagos.

Received: 05 May 2026; **Accepted:** 19 May 2026; **Published:** 05 June 2026**Citation:** Olamide Omigbile, Abimbola Bolarinwa, Eyitayo Lawal, et al. The Intersection of Climate Change and Mental Health: Understanding the Complexities. IJCNN. 2026; 1(1): 1-5.**ABSTRACT**

Climate change is increasingly recognised as a significant global health threat with profound implications for mental health and psychosocial well-being. This paper examines the complex and multidimensional relationship between climate change and mental health, drawing on emerging evidence from global studies, policy reports, and interdisciplinary research. It highlights how both acute climate-related events such as floods, wildfires, heatwaves, and storms and slow-onset environmental changes, including drought, desertification, and sea-level rise, contribute to a wide spectrum of mental health outcomes. These range from clinically diagnosed conditions such as anxiety, depression, and post-traumatic stress disorder (PTSD) to emerging constructs such as eco-anxiety and solastalgia, which capture the emotional and existential distress associated with environmental degradation and uncertain futures. The paper further explores the key pathways through which climate change affects mental health, including direct exposure to disasters, indirect socio-economic disruptions such as displacement and livelihood loss, and anticipatory stress linked to perceived future risks. Particular attention is given to populations that are disproportionately affected, including children and youth, low-income communities, Indigenous populations, and frontline workers, who often face heightened exposure and limited adaptive capacity. Evidence reviewed in this study consistently demonstrates elevated levels of psychological distress among these groups, underscoring the inequitable burden of climate-related mental health impacts. In addition, the paper synthesises current evidence on interventions and policy responses, emphasising the importance of integrating mental health into climate adaptation, disaster preparedness, and health system strengthening. Community-based approaches, social support mechanisms, and climate-resilient health systems are identified as critical components for mitigating adverse mental health outcomes. However, significant research gaps remain, including limited longitudinal data, lack of standardised measurement tools, and insufficient evidence from low- and middle-income countries.

Keywords : Climate Change and Mental Health**Introduction**

Climate change is increasingly recognized as a major threat not only to physical health but to mental health and well-being. A growing body of evidence from health agencies and recent studies shows that extreme weather events drive anxiety, depression, PTSD and other disorders in exposed populations [1][2]. In parallel, new concepts like eco-anxiety and solastalgia describe persistent distress or mourning linked to climate change and ecological loss [3][4]. Vulnerable groups including children and youth, the poor, Indigenous peoples, and frontline workers face disproportionately high risks. By 2025, at least 5 billion people over 60% of the world's popu-

lation will have been directly affected by climate-related disasters through injury, displacement, property loss or need for aid [5]. Mental health refers to cognitive, emotional and social well-being disorders include anxiety, depression, post-traumatic stress disorder (PTSD) and others. The term climate-related mental health covers any psychological stress or illness caused or aggravated by climate impacts[1][6]. Two emergent constructs illustrate this, Eco-anxiety or climate anxiety is persistent fear, worry or grief about environmental degradation and uncertain futures[3]. It involves feelings such as sadness, anger and helplessness in response to climate change and to perceived inaction by authorities[3]. Another

example is Solastalgia, which is a state of distress or sense of loss experienced when one's home environment is changed or destroyed[4]. As communities lose ecosystems or traditional lands, people often feel grief at the "loss of home itself" [4].

1. Pathways Linking Climate Change to Mental Health

Climate change affects mental health through multiple pathways. Climate extremes such as hurricanes, floods, wildfires, heatwaves and storms are becoming more frequent/intense. These shock events cause immediate trauma and disrupt communities. Studies show that after such disasters, symptoms of PTSD, anxiety and depression spike sharply[2][11]. For example, one study found 30–40% of exposed residents had clinical-level distress a year later[2]. Globally, IPCC notes that climate-driven disasters are "followed by increased rates of mental illness in exposed populations" [1]. Young people in disaster zones report much higher distress. US data indicate 25–30% of youth exposed to climate disasters experience prolonged sadness and hopelessness versus 20% of unexposed[7]. Gradual trends such as drought, desertification, sea-level rise and prolonged heat contribute to chronic stress. Farmers facing multi-year droughts, for instance, may suffer income loss and food insecurity, leading to depression and anxiety. A 2025 systematic analysis found that slow-onset climate stress was linked to significantly higher anxiety and depression symptoms in affected populations[8][9]. Extreme heat also undermines mental well-being, the IPCC reports that heatwaves have "negative impacts on mental health, well-being and life satisfaction" [10]. Even without direct exposure, people

2. Vulnerable Populations at Risk of the Impact of Climate Change on Mental Health.

Certain groups carry a disproportionate mental health burden from climate change. For instance, low-income countries and regions in the global south face the worst impacts. IPCC projects that by 2050 climate-driven diseases and stressors will cause hundreds of thousands of excess deaths especially in Africa and Asia [14]. Small island states and rural areas in the tropics are especially prone to floods, droughts and heat, with limited health infrastructure. Coastal and floodplain communities repeatedly exposed to storms or sea-level rise report chronic anxiety about property loss and livelihood often with few resources to cope. Young people are acutely sensitive. Their brains and futures are developing alongside intensifying climate news and events. Recent surveys show very high climate anxiety among youth. In a 2021 Lancet study of 10,000 16–25-year-olds across 10 countries, 60% felt "very/extremely" worried about climate, 67% reported anger, and 45% said these emotions disrupted sleep, appetite or school[11][3]. In the US, about 20–30% of teens worried so much about the future that they feared having children[15]. These findings highlight that youth who contribute least to the problem feel intensely betrayed and anxious, a mental health challenge of global concern. Poverty is known to compound vulnerability. Low-income families often live in disaster-prone areas and have weaker social safety nets. They may lack

Together with "climate trauma" and related eco-emotions, these concepts capture how global warming can become a chronic psychological stressor for many people[6][3].

can suffer from anticipatory stress. Awareness of climate risk reading about fires or experiencing extreme weather events can cause eco-anxiety, especially in youth who feel their future is threatened[3][11]. Solastalgia reflects the pain of losing valued environments such as beloved landscapes, wildlife, cultural sites. A recent scoping review found positive correlations between solastalgia and depression, anxiety and PTSD which was strongest in chronic environmental degradation contexts [12][4]. These eco-emotions often co-occur with climate worry and can disrupt daily life. In a global survey of 10,000 youths, nearly 60% were "very or extremely worried" about climate change and 45% said these feelings impaired daily functioning[11][3].

Climate change exacerbates social stressors indirectly harming mental health. For example, prolonged drought may force displacement, separate families and strain social support. Indigenous and rural communities experience this deeply losing forests or fisheries disrupts cultural identity, leading to collective grief [13]. Urban heat also fuels aggression and social conflict, further impacting community well-being.

insurance or savings to recover from losses, prolonging stress. For example, in heatwaves, poorer urban populations without air conditioning suffer more anxiety and sleep problems[16]. Financial strain and food insecurity from climate disasters also trigger depression and suicide risk in disadvantaged groups.

Indigenous groups worldwide rely intimately on local ecosystems. They protect 80% of global biodiversity yet constitute only 5% of population[13]. Climate change destroys sacred lands and livelihoods, causing cultural loss and deep psychological distress[13]. The NPJ Climate Action study emphasizes that for many Indigenous communities, environmental degradation equals existential threat, amplifying trauma beyond clinical diagnosis[13]. For instance, there have been documented reports of anxiety and grief tied to disappearing ice, coral bleaching, and forest fires. Frontline workers and responders also bear the brunt, first responders, aid workers and health professionals repeatedly dealing with disaster aftermath have elevated PTSD and burnout rates. A meta-analysis found that emergency personnel exhibit high levels of depression, anxiety and substance use after climate disasters, underscoring the need for occupational resilience programs [13][17].

3. Evidence from Studies and Reports

Recent research and reports have documented the climate mental health link. Some of these studies are presented in the table below.

Study/Report	Year	Methods	Key Findings
IPCC WGII Ch7[1]	2022	Literature assessment, expert consensus	High confidence that climate extremes increase mental illness rates in exposed populations heatwaves reduce well-being.
Mishra et al. (NPJ Climate Action)[2]	2025	Case study, cost analysis	30–40% had clinical PTSD/anxiety estimated additional mental health costs \$47B by 2030 up to \$537B by 2050 from climate-related disorders.
Hickman et al. (Lancet Planet Health)[11]	2021	International youth survey	60% of young people were very/extremely worried about climate majority felt anger/anxiety/helplessness 45% reported impaired daily functioning due to these feelings.
Vercammen et al. (PNAS)	2025	US youth survey	20% of US youths (16–24) feared having children due to climate; 30% among disaster-exposed; majority reported at least moderate climate distress.
Clayton et al. (BMJ Ment Health)[12]	2025	Scoping review	Found solastalgia consistently correlated with depression, anxiety, PTSD in affected communities. Qualitative reports described pervasive grief and learned helplessness.

4.Interventions and Policy Responses

Addressing climate-linked mental health requires multi-level actions across health systems, communities and climate policy

Mental health services:

Many experts call for integrating climate considerations into mental health care. This includes training clinicians to recognize eco-anxiety, deploying psychological first aid after disasters, and expanding counseling access in high-risk regions. WHO recommends strengthening community-based mental health services and involving them in disaster preparedness[18]. Some countries now fund “climate health units” to coordinate such responses. For instance, after the 2019 Australian bushfires, the government provided free counselling and extended telehealth hours for affected residents, which helped reduce PTSD symptoms in longitudinal studies[21].

Disaster preparedness and resilience:

Proactive measures can blunt mental health impacts. Advanced warning systems and planned evacuations give people a sense of control, reducing trauma. In China, pre-arranged flood shelters with mental health support were shown to lower anxiety/depression rates among evacuees compared to ad-hoc shelters[22]. Integrating mental health into climate adaptation plans e.g. ensuring power and water in shelters to prevent “anxiety about survival” is increasingly advocated by public health agencies.

Community and social interventions:

Building social cohesion and hope are crucial. Community programs that promote solidarity have been found to improve coping and reduce isolation after climate shocks. For example, Indigenous-led healing circles after wildfires helped survivors process grief by connecting traditional practices with counseling. Educational campaigns that frame climate action as empowering can also alleviate despair by giving people agency.

Climate adaptation with health co-benefits:

Many adaptation measures such as urban greening, shade structures or cooling centers have direct mental health benefits by reducing heat stress and providing pleasant recreation spaces. The NPJ perspective argues that every climate mitigation/adaptation strategy should explicitly consider mental well-being co-benefits[23]. For example, transition to renewable energy reduces air pollution, which improves mood and cognitive function, while also slowing warming. Governments could incorporate mental health impact assessments into climate policy.

5. Research Gaps and Challenges

Despite growing attention of the issue, many knowledge gaps remain. These includes,

Limited empirical data:

The field is young and diverse. Most studies are cross-sectional and observational, making causality hard to establish. Longitudinal cohort studies are scarce. IPCC notes the evidence is fragmented, especially in low-income regions where data are weakest[1]. More rigorous monitoring of mental health outcomes following specific climate events is needed.

Measurement issues:

There is no standardized scale for “climate anxiety” or solastalgia most research relies on ad-hoc surveys or qualitative methods. This makes comparisons across studies difficult. Cultural validity is also a concern: emotional responses to climate change may manifest differently across cultures and languages.

Attribution complexities:

Climate change often overlaps with other stressors. Disentangling the unique mental health effect of climate versus, say, poverty or social disruption is methodologically challenging. Researchers call for careful study designs.

Under-researched groups:

Few studies focus on some high-risk populations. For example, there is almost no longitudinal data on climate impacts on the elderly’s mental health, or on people with pre-existing disabilities. Also lacking are intervention trials or therapies or community programs best reduce climate anxiety.

Policy evaluation:

As new policies are implemented, we lack evidence on what works. Monitoring and evaluation frameworks are needed to assess the mental health co-benefits of climate action, as recommended by the authors[23].

Conclusion

Climate change is increasingly recognised not only as an environmental and physical health challenge but also as a significant and growing mental health concern. This review shows that climate-related hazards, including extreme weather events and slow-onset environmental changes, are associated with increased psychological distress such as anxiety, depression, PTSD, eco-anxiety, and solastalgia. These effects occur through both direct exposure to disasters and indirect pathways such as displacement, livelihood loss, cultural disruption, and anticipatory fear. Evidence from global studies consistently indicates higher levels of mental health problems in populations exposed to climate impacts, with young people, low-income groups, Indigenous communities, and frontline workers being particularly vulnerable. However, the evidence base remains limited by a lack of longitudinal studies, standardised measurement tools, and data from low- and middle-income regions. Despite these gaps, emerging interventions show that integrating mental health into climate adaptation and disaster response can reduce harm and improve resilience. Overall, climate change represents a clear and escalating mental health challenge. Strengthening research, policy integration, and community-based responses is essential to protect psychological well-being alongside physical health in the face of ongoing environmental change.

Recommendations

Based on current evidence, we offer actionable recommendations:

For Policymakers : Incorporate mental health explicitly into climate and disaster policies. Allocate funding for climate-resilient mental health services. Involve mental health professionals in national climate task forces. Invest in community resilience programs that also promote well-being. Ensure climate adaptation funding addresses the psychosocial needs of displaced and marginalized communities.

For Health Systems and Clinicians: Train clinicians in climate-sensitive care recognizing eco-anxiety and trauma from climate disasters. Screen high-risk patients for climate-related stressors. Build partnerships with disaster relief agencies to provide psychosocial first aid. Develop and disseminate guidelines for treating climate-related distress. Incorporate discussions of climate stress into routine mental health counseling, especially for young people.

For Researchers: Conduct longitudinal studies on climate exposure and mental health, especially in under-studied regions. Develop validated scales for climate anxiety and solastalgia. Study the effectiveness of interventions in reducing climate-related distress. Use mixed methods, combining quantitative surveys with qualitative interviews, to capture lived experiences. Collaborate with affected communities in participatory research to ensure cultural relevance.

For Communities and Educators: Promote social cohesion and mental health literacy around climate change. Schools should integrate coping strategies and climate education in curricula to empower youth. Media and community leaders can highlight stories of resilience and hope to counteract despair. Encourage intergenerational dialogues so young people’s fears are heard by elders and vice versa.

Cross-Sectoral Actions: International bodies should explicitly include mental health in climate summits and agreements. Funds earmarked for climate adaptation should require mental health impact considerations. Governments should monitor indicators such as post-disaster PTSD rates or climate anxiety prevalence as part of health surveillance.

References

1. Intergovernmental Panel on Climate Change (IPCC). Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report. Cambridge: Cambridge University Press; 2022.
2. Mishra S, et al. Climate change and mental health costs: evidence from wildfire exposure. NPJ Clim Action. 2025.
3. Clayton S, et al. Climate anxiety: psychological responses to climate change. J Anxiety Disord.
4. Albrecht G, Sartore GM, Connor L, et al. Solastalgia: the distress caused by environmental change. Australas Psychiatry.
5. United Nations Office for Disaster Risk Reduction (UNDRR). Global Assessment Report on Disaster Risk Reduction. Geneva: UNDRR; 2023.
6. World Health Organization (WHO). Mental health and climate change: policy brief. Geneva: WHO; 2022.
7. Centers for Disease Control and Prevention (CDC). Youth risk behavior survey data summary. Atlanta: CDC; 2023.
8. Berry HL, Bowen K, Kjellstrom T, et al. Climate change and mental health: a causal pathways framework. Int J Public Health.
9. Cianconi P, Betrò S, Janiri L, et al. The impact of climate change on mental health: a systematic review. Environ Health.
10. IPCC. Summary for policymakers. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. 2022.
11. Hickman C, Marks E, Pihkala P, et al. Climate anxiety in children and young people. Lancet Planet Health.
12. Clayton S, et al. Solastalgia and mental health outcomes: a scoping review. BMJ Ment Health. 2025.
13. Jones R, et al. Indigenous mental health and climate change. NPJ Clim Action. 2023.
14. IPCC. Climate Change 2022: Impacts, Adaptation and Vulnerability. 2022.
15. Vercammen A, et al. Climate distress and reproductive decision-making among youth. Proc Natl Acad Sci U S A. 2025.
16. Obradovich N, et al. Nighttime temperature and human sleep loss. Sci Adv.
17. Brooks SK, et al. Psychological impact on emergency responders. J Occup Health.
18. World Health Organization (WHO). Building climate-resilient health systems. Geneva: WHO; 2021.
19. Australian Government Department of Health. Bushfire mental health response evaluation. Canberra: Government of Australia; 2021.
20. Liu A, et al. Flood preparedness and mental health outcomes. Int J Disaster Risk Reduct.
21. Government of Australia. National bushfire recovery report. Canberra; 2020.
22. Zhang Y, et al. Disaster shelters and mental health outcomes in China. BMC Public Health.
23. Watts N, et al. The Lancet Countdown on health and climate change. Lancet.

© 2026 The Olamide Omigbile. This is an open access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.