

# HOW CLIMATE CHANGE AFFECTS MENTAL HEALTH IN AUSTRALIA

DOCTORS FOR THE ENVIRONMENT AUSTRALIA



Doctors for the Environment Australia (DEA) is an independent, self-funded, non-governmental organisation of medical doctors and students in all Australian states and territories.

We work to address the public health impacts from damage to our natural environment such as climate change, which will increasingly undermine our health and our healthcare services if we fail to act.

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Doctors for the Environment Australia acknowledges the Traditional Custodians of the lands on which this report has been produced. We recognise that First Nations peoples have cared for Country for millennia and seek to learn from Indigenous ways of knowing, being and doing. We acknowledge that sovereignty of this land was never ceded and pay our respects to First Nations Elders past and present, and to emerging leaders.

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# How Climate Change Affects Mental Health in Australia

Climate change has serious and wide-reaching impacts on the mental health of Australians today.<sup>1,2,3,4,5</sup> General practitioners, psychiatrists, psychologists, other mental health professionals and support workers, researchers and people with lived experience and their families in Australia are collaborating on responses to the impacts of climate change on mental health, as much more focus on this is needed now and into the future.<sup>6,7,8</sup>

The latest IPCC report confirms unequivocally that human activities are causing climate change.<sup>9</sup> Governments working with communities to drastically reduce emissions this decade still allows a chance of limiting global warming to less than 1.5°C, with enormous benefits to mental health and wellbeing.<sup>10</sup>

This report discusses climate change and mental health including mental illness and suicide. It summarises existing knowledge and theory about effective responses and highlights areas where further research is needed. This information may be distressing. Please seek resources for support (including the resource list in this document), seek help if you need to, knowing that caring for yourself is necessary, both to respond effectively, and to help others.<sup>6,11,12,13</sup>

## MENTAL HEALTH CONSEQUENCES OF CLIMATE CHANGE<sup>8,14</sup>

### DIRECT MENTAL HEALTH CONSEQUENCES OF CLIMATE CHANGE

Climate change drives increasingly severe and frequent extreme weather events such as extreme heat, bushfires, storms and floods.<sup>9,15</sup> Exposure to these events can result in psychological distress which can manifest in many ways in individuals and communities. There is a spectrum of severity ranging from mild transient distress which resolves without external intervention, to severe mental illness requiring long term involvement of specialist services.<sup>1,11,12,13,16</sup>

The timeframes for presentations of these conditions can vary and may persist long after the acute event. Psychological distress has been documented in increased domestic violence, and alcohol and substance abuse increasing and persisting for years following extreme weather events in Australia.<sup>2,11,16</sup> Clinically diagnosed post-traumatic stress disorder (PTSD), anxiety disorders, depression and suicide increase in communities impacted.<sup>8</sup> Climate change adds an [interpersonal dimension to natural disasters](#) as

individuals may experience such events as due to many years of failure of leadership, including by governments, to take the action required to address climate change.<sup>14</sup>

This interpersonal dynamic can increase mental health disorders, including PTSD, and worsen recovery outcomes. The concept of moral injury relates to injurious events and hazardous situations where leaders fail morally or betray standards, and is associated with post-event spiritual/existential distress and mental health symptoms.<sup>17</sup>

Compound events, where multiple disasters intersect with less time for recovery and erosion of resilience, are made more likely by climate change.<sup>18</sup> An example of this can be seen in the bushfire and flood disasters which affected the east coast of Australia in rapid succession over 2019-2021. These “domino” crises such as the sequence of drought, bushfires, floods, intersected by COVID-19, have an even greater impact than single events, where the mental health impacts are compounded.<sup>19</sup>

Heat is associated with increased aggression, domestic violence and with mental and behavioural disorders including self-harm.<sup>11</sup> There is clear evidence of increased mental health emergency presentations and hospital admissions in hotter weather for children and adults, especially when adjusted for humidity.<sup>4,20,21</sup> This association is more marked in people with pre-existing mental illness, the elderly, First Nations people and farmers whose livelihoods depend on a hospitable environment.<sup>4,11,21</sup>

The mental health impacts of extreme heat are equivalent to those of unemployment, and are more significant for women.<sup>22</sup> Australian data shows an overall trend towards increased suicide rates with increased annual temperatures.<sup>4,5</sup> This finding is consistent across a wide range of countries and populations.<sup>4</sup> Estimates from the USA and Mexico suggest 22,000 extra suicides due to climate change continuing at its current rate by 2050.<sup>23</sup>

Suicide is the leading cause of death in teenagers and young adults in Australia. Rates of suicidal behaviour as judged by hospitalisation for serious self-harm, have risen significantly since 2009 in NSW, during a period of increasing temperatures, particularly in areas with higher humidity. The extent to which this increased suicidal

behaviour can be attributed to heat has been identified as an area for urgent research.<sup>20</sup>

## INDIRECT MENTAL HEALTH CONSEQUENCES OF CLIMATE CHANGE

Flow-on consequences of extreme weather events, along with subacute and chronic climate and environmental changes such as drought and sea level rise, can impact mental health via complex social, economic and cultural interactions which can be challenging to quantify and attribute. These impacts affect vulnerable populations more severely and magnify existing inequalities;

examples include the impacts of climate-driven food and water shortages on social unrest, conflict, displacement and terrorism, and the amplification of structural and intergenerational injustices.<sup>24,25</sup> Additionally, Australian research has identified an increase in suicide for men in rural farming communities following prolonged drought.<sup>26</sup>

These responses are complex and emerge over wide-ranging timeframes and at locations which may be distant to the antecedent events. To properly understand the impacts of climate change on mental health, a “systems thinking” approach is needed, as a simple linear “cause and effect” model fails to account for interactions both between and the range of different impacts and responses.<sup>27</sup>

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## OVERARCHING MENTAL HEALTH CONSEQUENCES OF CLIMATE CHANGE

Even without direct exposure, the mere awareness of the unfolding threat of climate change has mental health impacts. Given the worldwide reach of news reporting and the ready access to information afforded by the internet there are many avenues through which individuals may be exposed and thus psychologically affected by climate change. These responses commonly include feelings of anxiety, grief, hopelessness, frustration and anger.

The majority of Australians are very concerned about climate change. Research demonstrates that government inaction on climate change is linked to increasing climate anxiety in young people, with 93% of those under 30 years stating that government is not doing enough to

address climate change.<sup>17,29</sup> Research also reveals Australians are more worried about climate change than the COVID-19 pandemic (even during lockdowns for COVID-19), and globally there are consistently high rates of distress about climate change.<sup>28</sup>

Health professionals in Australia are twice as likely to be alarmed about climate change than the general population, with 53% alarmed in the largest survey to date.<sup>30</sup> Despite this, people often feel disenfranchised or invalidated when they express distress about climate change, making them feel alone in their distress. Distress about climate change is [not inherently pathological](#) and is a shared, normal, rational response to an abnormal and prolonged global problem.<sup>31</sup>

Nonetheless, it may create substantial distress and functional impairment which, for some individuals, may lead to clinically significant anxiety or depression, which we would expect to be perpetuated by lack of effective local and global action on climate change. The term “psychoterratic syndrome”, which includes eco-anxiety, climate grief and solastalgia, has been coined to describe the specific emotional responses to climate change and environmental degradation.<sup>32</sup>

Eco-anxiety or eco-distress can be defined as the “chronic fear of environmental doom”, and may include a range of anxiety, worry, stress, hopelessness, sleep disturbance, irritability, despair, bodily symptoms of anxiety (such as awareness of heartbeat, butterflies in the stomach, sweaty palms, perceived shortness of breath). Eco-distress and eco-anxiety have been found across all ages, but may particularly affect young people.

Climate grief or ecological grief is “the grief felt in relation to experienced or anticipated ecological losses, including the loss of species, ecosystems and meaningful landscapes due to acute or chronic environmental change”. Climate grief particularly affects people with strong ties to a particular place and those witnessing environmental destruction, especially Indigenous peoples, farming communities and climate scientists. Solastalgia is the emotional response to the negative transformation of a loved familiar environment, such as the Great Barrier Reef and described in many communities, including farming communities, and among Torres Strait elders.<sup>11</sup>

These broad categories of direct and indirect impacts and overarching awareness of climate change exist on a continuum. As the pace of climate change intensifies, they will increasingly overlap. For example, 80% of the Australian population were directly or indirectly affected by the Black Summer fires of 2019/20, and evidence shows that those exposed to the fires have higher levels of concern about climate change.<sup>33</sup>

## PHYSICAL HEALTH MENTAL HEALTH CONSEQUENCES OF CLIMATE CHANGE

Physical health impacts of climate change include the likely increased vector-borne diseases, such as malaria internationally, and dengue fever, Ross River fever, Murray valley encephalitis and others in Australia. These illnesses can impact mental health through the effect on the brain (such as with encephalitis), or through the impacts of severe or chronic illness. In addition, allergen-related respiratory diseases such as asthma are expected to increase with climate change and, like many chronic illnesses, are associated with increased rates of mental health problems.<sup>1,11</sup>

## PEOPLE MOST VULNERABLE TO CLIMATE CHANGE IMPACTS ON MENTAL HEALTH

Those who contribute least to climate change may be impacted most - including Indigenous peoples, refugees, people living in poverty, the unemployed, the homeless, the alienated, the very young and the very old.

Children and adolescents are especially vulnerable to mental health disorders and distress due to climate change with increases in PTSD, anxiety, phobias, sleep disorders, attachment disorders and substance abuse.<sup>34</sup> They may be additionally affected by climate related mental illness and psychological distress in their caregivers.

Their own and their caregivers' increased mental health disorders and distress can impact children and adolescents' developmental trajectory and result in learning difficulties, cognitive and language delays and difficulties with emotional regulation. Many young people experience [hopelessness, despair and anger](#), they are fearful of what the future holds and that the [world will no longer be liveable](#) for humans in their lifetime.<sup>35,36</sup> In a [September 2020 UK survey](#) of child and adolescent psychiatrists, 57% reported seeing patients who were distressed about environmental and ecological issues in the preceding year.<sup>37</sup>

Indigenous Peoples are particularly at risk with connection to country, which is central to culture, being uniquely vulnerable to disruption through environmental degradation. Indigenous Peoples are more likely to live in areas at increased geographic risk, for example the low-lying Torres Strait Islands, and the hot, dry conditions of central Australia. Experiences of intergenerational trauma, displacement and marginalisation as a result of colonisation compound these risks. People living in rural and remote communities are also at increased risk of mental health impacts of climate change, worsened by lower levels of funding and resources, and more fragmented mental health care over time. There has been a pattern of short-term

interventions introduced during and following crises, such as following the 2019-2020 bushfires and floods, without engagement of local communities in longer-term solutions, including for mental health services. As the social and emotional impacts of climate change impacts and extreme weather events will continue for years on present indications, sustained, local resources including community-based, sufficient and stable mental health services are needed.<sup>38,39</sup>

Scientists, environmentalists, conservationists and others who work closely with the environment are vulnerable to increased climate related distress. This has been described as 'pre-traumatic stress', in that they are dealing with evidence and predictions of frightening realities on a daily basis.<sup>40</sup>

## WHAT CAN WE DO?

Being aware of the reality of climate change, there is a need to address the psychological dimensions of this at a personal level if we are to engage effectively. Health professionals providing mental health care need to ensure that they attend to their own wellbeing, including having strategies to avoid burnout. Similarly, climate change advocates' work places them at significantly increased risk of burnout, and strategies to prevent this are essential.<sup>11,12</sup>

For clinicians working with individuals and communities experiencing climate distress there is a need for climate education, along with evidence-based frameworks for assessment and management which avoid pathologising rational distress whilst correctly identifying individuals where the distress is leading to clinically significant illness.<sup>1,8,11,12</sup>

Effective strategies for managing climate distress as individuals include acceptance and validation of thoughts and feelings relating to climate change, positive re-appraisal of the situation in an ecological, historical and societal context, engaging with personal values, and drawing on sources of hope and trust.<sup>8,11,12</sup> Other key themes to emerge are the importance of connection to others for support and validation, engagement with nature as a source of wellbeing, taking action on climate change as a means of empowerment, and particularly for scientists, activists and environmental workers, strategies for self-care and avoiding burnout.<sup>8,11,12</sup>

However, focusing on addressing distress at an individual level must not detract from the need for

decision makers to take strong policy and legislative action to directly address climate change, the cause of the distress itself.<sup>5</sup> Action supports the development of genuine hope and trust, and facilitates a sense of agency, resulting in healthy adaptation.<sup>8,11,12</sup>

Worldwide, mental health care is consistently underfunded, and systems do not have the adaptive capacity to respond to projected increased needs due to climate change.<sup>11,12</sup> Building a climate-resilient mental health sector includes increasing capacity of services and infrastructure to respond to increasingly frequent and compounding impacts of heat and extreme weather events, and indirect and overarching impacts of climate change.<sup>8,11</sup> For example, evidence-based planning for mental health services requires up-skilling of primary care and accounting for expected increases in mental

health disorder and emergency mental health presentations with rising temperatures.<sup>11,12</sup> Evidence-based suicide prevention must consider the clear evidence of increased suicide and suicide attempts with hotter weather, especially given that temperatures in Australia are rising and can be expected to rise more than in most other countries.<sup>20</sup>

A climate-resilient mental health sector requires a focus on education of mental health professionals, developing enhanced assessments, harnessing existing strategies, increasing social prescribing which harness the mental health

'co-benefits' of climate action, a focus on families and a health equity approach.<sup>11,12</sup>

Ensuring that mental health services include ongoing, not transient, community based services that are actively engaged and partnering with local communities, particularly in Indigenous, refugee, transcultural, rural and remote communities is key to these being effective.<sup>38</sup>

## CONCERTED ACTION BY GOVERNMENT AND COMMUNITIES TO LIMIT GLOBAL HEATING TO 1.5C

Concerted, urgent action by Governments, alongside communities to limit warming to 1.5°C, not only mitigates future climate related harms, but also builds trust, hope and positive visions of the future, all of which are important means of supporting young people and the community more broadly to cope with climate related distress.<sup>2,8,11,12</sup> This includes strong, decisive action to reduce the carbon emissions from health care, including

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mental health care in Australia.<sup>41</sup> Critically, without concerted action to limit warming to 1.5° C, it is possible that temperatures could increase beyond our control, leading to irreversible and catastrophic effects to the environment on which our lives depend.<sup>10</sup> It cannot be overstated that experiencing distress in the face of this reality is a rational response to a significant threat, and not in itself pathological.<sup>2,8,11,12</sup>

## Additional Resources

### General resources for coping with climate distress:

#### General:

- [Advice, support and connection from Climate Resilience Network](#)
- [Climate change | Australian Psychological Society](#)

#### Parents and families:

[Our Story - Seed: First Nations Australians climate action](#)  
[FAQ A guide for parents about climate change](#)  
[I'm worried about the environment - Kids Help line](#)  
[Identifying Climate Anxiety and Managing Eco-Emotions for parents](#)

#### Resources for Health Professionals:

- <https://www.psychologyforasafeclimate.org>
- <https://www.climateresiliencenetwork.org/professional>
- <https://www.climatepsychiatry.org/what-to-do>



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