



The Impacts of Climate Change on Mental Health

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“Climate change will cause more psychological than physical harm for U.S. citizens and people around the world, and the costs socially, societally, and economically are apt to be enormous.”

Psychologists for Social Responsibility

Understanding Climate and Weather Impacts as a Mental Health Issue

The medical community is becoming increasingly aware of, and highly concerned about, the impacts of climate change on physical health. Currently there is very little attention being paid to examining the impacts on mental health, including raising this topic as a major public health concern. This brief report is meant to provide an overview of the subject, and it proposes a basic framework for describing the issues. The hope is that this discussion contributes to the growing movement among medical and health professionals to educate the public and lawmakers about all the health impacts of climate change - and the need to act quickly and aggressively to address this looming global health crisis. In addition, we hope this information will be useful to medical professionals in their own practices as they interact with patients who recognize the threat that climate change poses to their families and communities.

The framework organizes the mental health impacts of climate change into three categories:

- **Acute Impacts**

Acute climate change impacts are related to extreme weather events, such as heat waves, floods, extreme precipitation events, and severe droughts. All of these are predicted to occur more

frequently as a result of climate change.⁷ The severity and speed of these increases will vary by location, but they will impact every village, town, city and country on the planet.

The mental health impacts of these events include high levels of stress, trauma, and shock, and can result in post-traumatic stress disorder (PTSD), depression, generalized anxiety, and high-risk coping behaviors, such as substance abuse. Suicidal ideation and even suicide have been shown to increase after extreme weather events.^{3,4,6} The effects are exacerbated for those who have experienced other traumatic events, and for those who have lost property or loved ones due to these events.

Additionally, these events tend to amplify existing stressors, thereby compounding stress and can serve as a tipping point into stress-related impacts, such as depression, anxiety, and substance abuse. Disruptions to one's home or sense of place can disrupt social networks and strain personal relationships, potentially contributing to an increase in domestic abuse.³

- **Chronic Impacts**

The chronic impacts of climate change on mental health arise as people slowly become aware of the growing evidence of emerging severe negative changes in the physical environment. These changes include rising sea levels, changes in temperature and precipitation patterns, reduction in air quality, adverse large-scale changes in ocean/sea temperature, water pollution, and the like. These environment impacts, as well as the individual weather events noted above, may lead to chronic psychological stress.⁶

All of these changes to the environment will have highly negative impacts on physical health across both human and animal populations.^{3,4} For example, climate change impacts and its drivers (such as air pollution) can lead to asthma, allergies, infectious diseases, cardiovascular disease, cognitive decline, and respiratory problems.^{1,6} Physical ailments add a lasting source of stress to those experiencing them, as well as those watching loved ones affected by them.

Increased temperatures have been associated with increased mental health emergencies and even suicide.^{3,4} With hotter temperatures, people spend less time outdoors, which reduces access to stress-reducing activities and exercise.⁶ Increases in temperature and rainfall have also been linked to increased aggression and violence, including domestic violence, assault, and homicide.^{3,4} At a larger scale, migration due to climate change (“ecomigration”) is accompanied by a multitude of adverse psychological impacts across large groups of people simultaneously.³

- **Indirect Impacts**

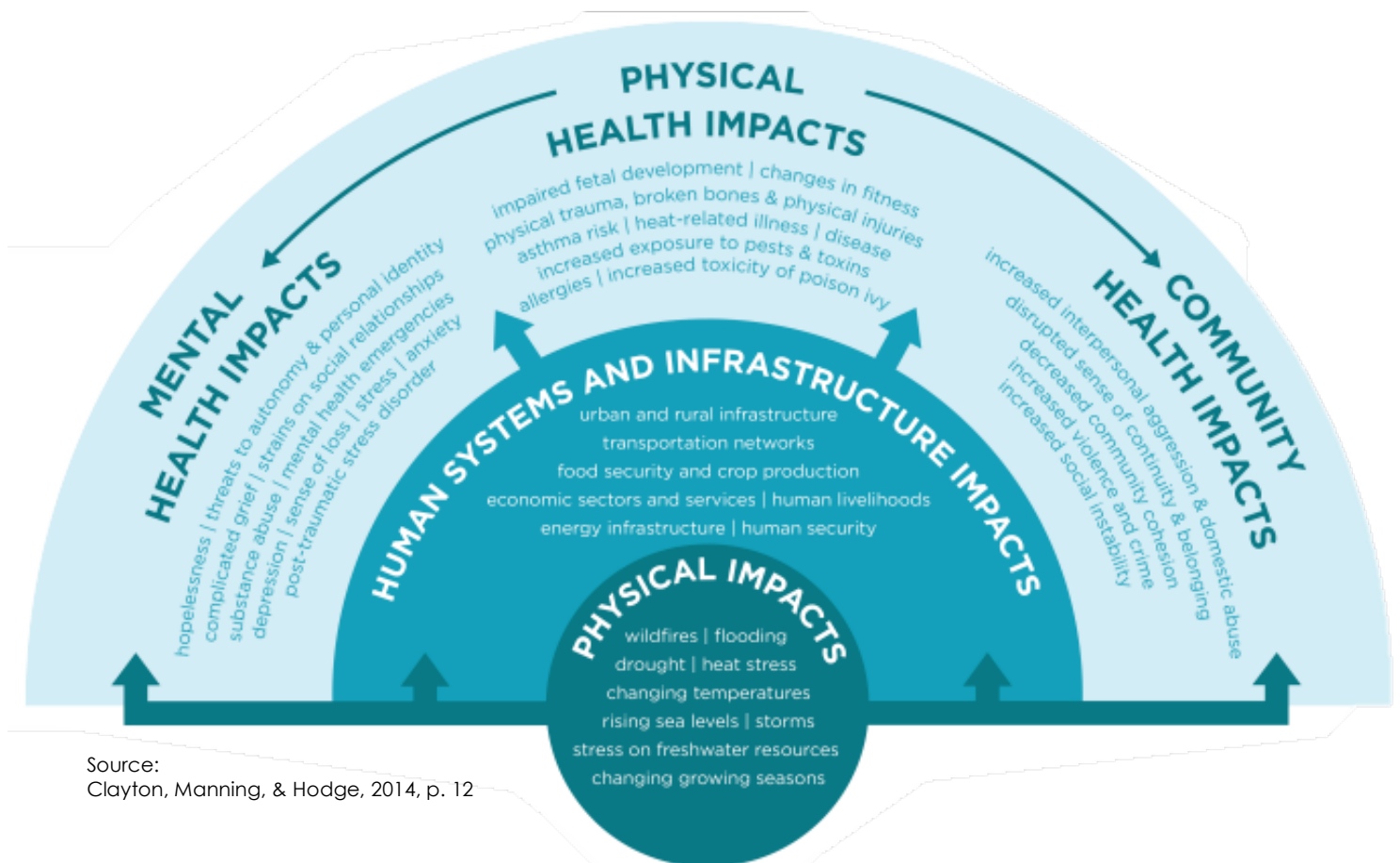
Climate change can also indirectly affect people through disrupting how they view themselves, other people, their communities, and the world.^{1,4} One form of this psychological distress is known as “solastalgia” – defined as a sense of loss, desolation, or distress caused by a changing environment.^{3,4} As landscapes change, people may feel they are losing a source of solace, identity,

and security.⁴ These impacts may be particularly acute for those whose identities are strongly tied to the land.

People may also experience “ecoanxiety” – defined as anxiety or worry about adverse changes to the environment. This response is often accompanied by feelings of powerlessness. People witnessing a changing environment may also feel anger, depression, fear, fatalism, resignation, exhaustion, worry, and guilt for what might happen to future generations.³ These impacts are heightened for those who see climate change as a “hybrid risk” - a risk that has both human and natural causes. Overall, worry about climate change is prevalent in America, with about half of the respondents in a 2017 study indicating they were worried about climate change.⁸

The Interactive Nature of Climate Change Impacts

As detailed in the graphic below, the physical impacts of climate change affect mental, physical, and community health (via social systems and infrastructure impacts). One key relationship is how physical impacts, such as asthma, disease, and injury, can cause stress and other psychological challenges. Conversely, diminished mental health often has physical manifestations, including impaired sleep quality, changes in eating habits, substance abuse and the like.



Source:
Clayton, Manning, & Hodge, 2014, p. 12

Connecting the Dots on Community Impact

Impacts experienced by individuals will not only interact with complex community dynamics and systemic issues, but can also synergistically aggregate to present new problems at the community level. As noted earlier, increases in temperature and rainfall have been linked to increased violence and aggression. Additionally, stressors experienced driven by prolonged and severe climate change issues, such as competition for scarce resources and disruptions to livelihoods and social supports, are likely to contribute to community conflict and aggression. These stressors are particularly acute for those in developing nations (e.g., Kenya and Syria), and have serious global safety implications.^{9,10}

With increased levels of interpersonal and inter-group conflict, social stability and cohesion will decrease. The provision of mental and physical health services will also be strained, especially due to extreme weather events. As people experience more anxiety about the future, and for those who are dealing with immediate climate change impacts, there is likely to be an increased focus on the self, which diminishes one's care for and relationships with others.

Changing temperatures and landscapes may take away important outdoor areas where people gather and bond. For communities who have particularly strong connections to the land, their entire culture and social structure will be disrupted if the land changes, is harmed, or becomes uninhabitable. If people are forced to migrate due to climate change, entire communities could disintegrate, thus creating a new set of extremely serious mental and physical health challenges.^{2,3,4,6}

Vulnerable Populations

At the outset, certain groups are more likely to bear the burden of mental health effects due to climate change than others. New tools, such as the Social Vulnerability Index (SVI), are being developed to help medical professionals and planners identify who may be affected most.* Vulnerable groups include the following:^{3,6}

- **Children:** More susceptible to developing mental health issues as the result of trauma and stress.
- **Women:** Increased risk of domestic violence after a disaster; additional stress related to potential role as primary caretakers.
- **Elderly:** Preexisting health conditions and mobility challenges can augment impacts; air pollution linked to cognitive decline in the elderly.
- **Economically Disadvantaged:** Higher levels of stress; greater difficulty accessing resources that help to mitigate stresses of climate change; evacuation challenges.
- **Agrarian and Farm Communities** (including indigenous communities and outdoor workers; changes to landscape and weather patterns can disrupt culture and livelihoods and threaten safety.

* For more information on SVI: www.atsdr.cdc.gov/placeandhealth/svi/index.html

Promoting Metal Health

People are often remarkably resilient in adapting to a wide range of changing conditions if they have the adequate support and access to resources. A testament to this is that some people experience post-traumatic growth after a trauma where they find a new sense of meaning in their lives and a new persistent resolve to improve their lives. Important components of resilience include:^{3,4}

- **Readiness:** Understanding what potential climate change impacts look like for one's specific geography and how to respond to these; awareness of vulnerabilities.
- **Taking Action:** Taking action is empowering for many people, by helping to cope with feelings of powerlessness and worry. Group action can help people feel supported, and that they are not alone in their efforts. Many of the actions taken to combat climate change will have both environmental and health co-benefits. For example, biking lessens pollution and brings exercise-related benefits, and eating less meat reduces greenhouse gas emissions while improving cardiovascular health.
- **Cooperation:** For communities, building and strengthening mental health and disaster preparedness infrastructure; for individuals, building and strengthening relationships with family, friends, and community at large (support networks).
- **Harboring Hope:** Having a sense of hope, optimism, and self-efficacy can help individuals build mental resilience, sustain motivation for taking action, and overcome feelings of helplessness and fatalism accompanying ecoanxiety.

Conclusion

This brief report is meant to add to the emerging call for attention to the impacts of climate change on mental health. As the climate crisis grows, common sense leads to an understanding that the psychological impacts of accelerating environmental decline will be severe. This is readily apparent when one spends time among communities that have already been impacted, or among scientists and activists who are immersed in the topic. The time to act is now.

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