



www.climatepsychiatry.org

Climate Psychiatry 101

Climate change is a global phenomenon so enormous and complexⁱ that mental health experts are just beginning to synthesize supporting data on the prevalence, severity, and nature of its mental health impacts.^{ii iii iv}

What research shows so far:

- **Exposure to climate change can be *direct*** (the impact of acute climate disasters, e.g., PTSD after a flood, wildfire, superstorm) **or *indirect*** (secondary effects of climate not associated with acute disaster, such as the downstream impacts of drought, sea level rise, migration, displacement, etc.).^v
 - **Extreme Weather and Acute Disaster:**^{vi} Storms, fires, etc.
 - Researchers have found connections between extreme weather and increases in PTSD, depression, anxiety, substance use, and risk of suicide—especially if such weather is recurring.^{vii}
 - **Prolonged Disasters:**^{viii} Sea-level rise, droughts, food insecurity, etc.
 - Drought has been tied to farmer suicides; Food insecurity and thirst are tied to increased distress.^{ix}
 - **Temperature Effects:**^x
 - Researchers have demonstrated correlations between higher temperatures (especially heat waves) and, among other findings, (1) increased suicide rates;^{xi} (2) increased hospitalization and mortality for those with diagnosed mental health conditions; (3) increased conflict and violence; and (4) lower sleep quality leading to cognitive and emotional changes.^{xii}
 - **Environmental Pollution Effects:** Air,^{xiii} water, toxicants,^{xiv} etc.
 - Air pollution has significant impacts on mental functioning. Air pollution can have direct impacts on the brain, with aggravation of neurodegenerative disorders across the life span.^{xv xvi xvii} It has been shown to correlate with increased depression, anxiety, psychosis, and incidence of bipolar, schizophrenia, and suicide.^{xviii}

- **Psychological responses^{xi} can be *anticipatory*^{xx}** (pre-traumatic stress arising from exposure to climate-associated difficulties, e.g., an IPCC report, media, general awareness); ***ongoing*^{xxi}** (e.g., experiencing prolonged slow disasters, witnessing endangered species disappear); **or *late onset*** (where symptoms can emerge in a delayed timeframe).
 - **Trauma** related to climate change can be *acute* (surviving Hurricane Katrina), *chronic*^{xxii} (withstanding years of western drought), or *delayed*.
 - **Emotional Experiences and Stress Reactions** range from anxiety, depression, and a sense of being overwhelmed to the point of denial, disavowal, and avoidance^{xxiii}—each influencing how people make decisions and behave.
 - New emotion-terms have been coined—such as **climate anxiety, environmental melancholia**,^{xxiv} **ecological grief**,^{xxv} **climate denial, pre-traumatic stress, and solastalgia**^{xxvi}—to describe these unique, non-pathological responses.

- **Climate change’s mental health impacts are *additive*,^{xxvii} multipliers of existing difficulties.** Those with preexisting mental health issues, substance abuse histories, and medical disabilities will be more at risk^{xxviii} of experiencing further development of mental health conditions.

- **Vulnerable populations^{xxix}—notably low-income; BIPOC; homeless;^{xxx} pregnant; those with co-occurring medical conditions, including the mentally ill; elderly; and impoverished^{xxxi} populations,^{xxxii} both domestically and internationally—carry a greater burden of risk.^{xxxiii}**
 - **Heightened Exposure Risk:**^{xxxiv} Poverty;^{xxxv} landlessness; food insecurity; discrimination; and lack of access to power and resources all increase exposure to climate-change distress.
 - **Intersections with Racism:**^{xxxvi} As an example, Zhang et al., 2021 reports on recent research showing that, after Hurricane Katrina, “Black New Orleanians faced greater stress than their White counterparts, even after adjustment for demographics, parental status, evacuation timing, home damage and job status; income had no clear effect.”^{xxxvii}
 - **Unequal Infrastructure Access:** Resources for prevention, response, and recovery to climate related disasters, along with needed mental health support infrastructures, are currently unequally distributed, with current distribution strongly favoring wealthier nations and populations.
 - **Impacts of Displacement and Migration:** Research shows that by 2050 climate-related hardship in poorer parts of the globe is projected to lead to as many as 200 million refugees; Meanwhile, migration is correlated with an increase in depression, anxiety, and PTSD.^{xxxviii}

- **Youth are especially hard-hit^{xxxix} by climate change–mental health impacts.**
 - Some reasons include: (1) today’s children will be alive for the worst consequences, (2) developmental traumatic stress is even more damaging than traumatic stress incurred in adulthood, leading to more long-term cascading consequences, (3) children suffer from indirect consequences such as the domestic abuse that occurs when families are in crisis, and (4) children are dependent on adults for providing a foundation of safety for secure psychological, emotional, intellectual and physical growth and development.^{xl}
 - A 2021 global survey of 10,000 youth from ages 16-25 shows that more than 56% feel that “humanity is doomed.”^{xli}

- **Taking action,^{xlii} both individually and collectively, can help mitigate negative mental health outcomes.^{xliii}**
 - **Individual action** has been shown to increase subjective wellbeing.^{xliiv}
 - **Political and social action** to reduce climate change’s physical impacts, everything from planting trees to enacting government legislation to restrict emissions, will also support better mental health outcomes.^{xliv} Collective, engaged interactions are more powerful than individual, separate actions, because they contribute to societal tipping points that lead to essential changes.
 - **Psychiatrists and mental health professionals can collaborate with a variety of partners** to manage the impacts of climate change and to prepare other people to manage climate change–mental health impacts.

As partners with Physicians for Social Responsibility, Climate Psychiatry Alliance’s network of psychiatrists are available to collaborate with your efforts to address climate change.

Call upon us.

info@climatepsychiatry.org

www.climatepsychiatry.org

ⁱ <https://doi.org/10.1038/s41558-018-0102-4>

ⁱⁱ <https://www.apa.org/news/press/releases/2017/03/mental-health-climate.pdf>

ⁱⁱⁱ <https://spiral.imperial.ac.uk/bitstream/10044/1/88568/7/The%20impact%20of%20climate%20change%20on%20mental%20health%20and%20emotional%20wellbeing%20-%20current%20evidence%20and%20implications%20for%20policy%20and%20practice%20%281%29.pdf>

^{iv} <https://ijmhs.biomedcentral.com/articles/10.1186/s13033-018-0210-6>

^v <https://ijmhs.biomedcentral.com/articles/10.1186/s13033-018-0210-6>

^{vi} <https://www.climatepsychiatry.org/natural-disasters>

^{vii} <https://spiral.imperial.ac.uk/bitstream/10044/1/88568/7/The%20impact%20of%20climate%20change%20on%20mental%20health%20and%20emotional%20wellbeing%20-%20current%20evidence%20and%20implications%20for%20policy%20and%20practice%20%281%29.pdf>

^{viii} <https://www.climatepsychiatry.org/when-disasters-creep>

^{ix} <https://spiral.imperial.ac.uk/bitstream/10044/1/88568/7/The%20impact%20of%20climate%20change%20on%20mental%20health%20and%20emotional%20wellbeing%20-%20current%20evidence%20and%20implications%20for%20policy%20and%20practice%20%281%29.pdf>

^x <https://www.climatepsychiatry.org/extreme-heat>

^{xi} <https://www.climatepsychiatry.org/suicide-and-heat>

^{xii} <https://spiral.imperial.ac.uk/bitstream/10044/1/88568/7/The%20impact%20of%20climate%20change%20on%20mental%20health%20and%20emotional%20wellbeing%20-%20current%20evidence%20and%20implications%20for%20policy%20and%20practice%20%281%29.pdf>

-
- xiii <https://www.climatepsychiatry.org/air-pollution>
- xiv <https://www.climatepsychiatry.org/toxicant-exposure>
- xv Hahad, O., Lelieveld, J., Birklein, F., Lieb, K., Daiber, A., & Münzel, T. (2020). Ambient air pollution increases the risk of cerebrovascular and neuropsychiatric disorders through induction of inflammation and oxidative stress. *International journal of molecular sciences*, 21(12), 4306.
- xvi Buoli, M., Grassi, S., Caldiroli, A., Carnevali, G. S., Mucci, F., Iodice, S., ... & Bollati, V. (2018). Is there a link between air pollution and mental disorders?. *Environment international*, 118, 154-168.
- xvii Calderón-Garcidueñas, L., Calderón-Garcidueñas, A., Torres-Jardón, R., Avila-Ramírez, J., Kulesza, R. J., & Angiulli, A. D. (2015). Air pollution and your brain: what do you need to know right now. *Primary health care research & development*, 16(4), 329-345.
- xviii <https://spiral.imperial.ac.uk/bitstream/10044/1/88568/7/The%20impact%20of%20climate%20change%20on%20mental%20health%20and%20emotional%20wellbeing%20-%20current%20evidence%20and%20implications%20for%20policy%20and%20practice%20%281%29.pdf>
- xix https://www.ted.com/talks/britt_wray_how_climate_change_affects_your_mental_health/transcript
- xx <https://doi.org/10.1192/bjb.2021.18>
- xxi <https://www.climatepsychiatry.org/missing-home>
- xxii <https://www.climatepsychiatry.org/psychic-impacts>
- xxiii <https://www.climatepsychiatry.org/psychic-defenses>
- xxiv <https://reneelertzman.com/book/>
- xxv <https://uwosh.edu/sirt/wp-content/uploads/sites/86/2020/04/Cunsolo-and-Ellis-2018.pdf>
- xxvi <https://www.bbc.com/future/article/20151030-have-you-ever-felt-solastalgia>
- xxvii <https://www.climatepsychiatry.org/vulnerable-populations2>
- xxviii <https://doi.org/10.3390/ijerph18041487>
- xxix <https://www.climatepsychiatry.org/vulnerable-populations>
- xxx [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(21\)00834-5/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)00834-5/fulltext)
- xxxi <https://unfccc.int/resource/docs/publications/impacts.pdf>
- xxxii <https://gain.nd.edu/our-work/country-index/>
- xxxiii <https://ijmhs.biomedcentral.com/articles/10.1186/s13033-018-0210-6>
- xxxiv <https://www.climatepsychiatry.org/social-determinants>
- xxxv <https://www.nytimes.com/2021/09/02/nyregion/nyc-basement-apartments-flooding.html>
- xxxvi <https://www.psychiatrictimes.com/view/tangled-roots-racism-climate-change>
- xxxvii <https://doi.org/10.1192/bjb.2021.26>

xxviii

<https://spiral.imperial.ac.uk/bitstream/10044/1/88568/7/The%20impact%20of%20climate%20change%20on%20mental%20health%20and%20emotional%20wellbeing%20-%20current%20evidence%20and%20implications%20for%20policy%20and%20practice%20%281%29.pdf>

xxxix <https://doi.org/10.1192/bjb.2021.16>

xl <https://doi.org/10.1192/bjb.2021.16>

xli <https://www.bbc.com/news/world-58549373>

xlii <https://www.climatepsychiatry.org/fear-pathways>

xliii https://www.ted.com/talks/renee_lertzman_how_to_turn_climate_anxiety_into_action

xliv <https://link.springer.com/article/10.1007/s10668-015-9629-y>

xlv

<https://spiral.imperial.ac.uk/bitstream/10044/1/88568/7/The%20impact%20of%20climate%20change%20on%20mental%20health%20and%20emotional%20wellbeing%20-%20current%20evidence%20and%20implications%20for%20policy%20and%20practice%20%281%29.pdf>