

# The psychological impacts of the climate crisis: a call to action

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A report released by the White House in April 2016 reviewed the impacts of climate change on human health in the USA (USGCRP, 2016). The report cited the injuries, deaths, disruption and displacement from increasingly frequent and intense heat waves, fires, droughts, floods, extreme weather events and rising sea level. It also reported on the increase in infectious diseases and – associated with pollution from higher temperatures – asthma, cardiovascular disease, pulmonary disorders, obesity and cancers. Of special interest, the report addressed the often-overlooked psychological impacts of climate change, devoting an entire chapter to carefully vetted, evidence-based data.

Mental health professionals will see the links between extreme weather and climate events causing huge loss of life, property, and community and psychological suffering. Individual and institutional avoidance of this exceedingly painful topic is rampant.

An overview of the mental health impacts in this report may be summed up as follows: humanity is already suffering – and will increasingly suffer – varying degrees and types of psychological harm as climate-related disasters alter how and where we live, and, in some cases, if we live. Many people will not experience the effects directly but will suffer vicariously in empathic identification with the victims. The cumulative toll of repeated events will be especially challenging. Many will suffer at the thought of what they fear is coming and indeed what they are being told is coming. A full range of psychological disorders is emerging, and increased incidence of depression, anxiety, and trauma-related conditions may be expected. Some of these conditions will become chronic. The study also refers to post-traumatic *growth* – suggesting positive psychological outcomes from trauma – but to those on the front lines, it may seem like cold comfort. The misuse of alcohol and drugs in an attempt to cope with stress will be more common. Domestic violence and child abuse will rise. Those who are elderly, sick, disabled, children and those individuals from low-income communities are especially vulnerable, as are those living in the centre of disaster-prone areas: along coastlines and rivers; ‘tornado alleys’; inner cities, where temperatures are particularly high due to the ‘heat-island’ effect; and lands stricken by drought. Emergency workers rank high on the list of those who are vulnerable. People with mental illness are at special risk – they have fewer resources and less general

resilience. Getting these people to safe ground can be unusually challenging, and disruption of treatment can quickly lead to decompensation. At higher temperatures, psychotropic drugs carry more life-threatening side effects. The report notes that cultivating resilience and general resourcefulness will mitigate some of the impacts.

The White House report was expressly envisioned as a first step. Below are amplifications and additions that build on the report, with special emphasis on the geopolitical ramifications and impacts that carry the heaviest burdens, along with a special call for help from mental health professionals – because we are trained and naturally inclined to urge people to change for the good and safety of all.

## Aggression

The report cites the link between extreme climate and weather events to an increase in aggression. Not included in the report were the precise numbers:

For each standard deviation of increased temperature and change in rainfall, society can expect a 4% increase in conflict between individuals and a 14% increase in conflict between groups (Hsiang *et al.*, 2013).

Behind the numbers lie more assaults, murder, suicides, domestic violence – including child abuse, as well as increasing global unrest because these findings are valid for *all* ethnicities *and across every region*.

## Cognition

Exposing workers to increasing levels of carbon dioxide has a major impact on cognitive functioning. Testing at concentrations to which Americans are frequently exposed indoors shows the most serious decline in our ability to think strategically, to use information and to respond to a crisis (Datz, 2015).

## Air quality

Smog from pollution forms more quickly at higher temperatures. It is linked to multiple mental and physical health problems:

The American Psychological Association reported children exposed to small particles of chemicals in the air are more likely to have symptoms of anxiety or depression (Weir, 2012).

Emergency room visits for anxiety and suicide threats are significantly higher on days with poor air quality (Szyszkowicz *et al.*, 2010).

Polluted air causes neuro-inflammation that is linked to neurodegenerative disorders such as Alzheimer's disease, Parkinson's disease and amyotrophic lateral sclerosis (Frank-Cannon *et al.*, 2009; Calderón-Garcidueñas *et al.*, 2015). It is also linked to psychiatric disorders (Lundberg, 1996; Oudin *et al.*, 2016).

### 'Not everything that counts can be counted'

The authors of the report confined themselves to the psychological impacts from climate change that were measurable. As important as these are, much of the psychological harm comes from complex stressors and is hard to measure. But it is these sweeping psychological effects, inchoate though they may be, from the massive-scale disruptions that are the guts of the psychological toll and show why immediate action is needed and why alarm is so legitimate.

Predictions of upstream triggers show that unless immediate major changes are made to reduce greenhouse gas emissions, irreversible catastrophes will be set in motion:

The Middle East, experts have predicted, may be uninhabitable by the end of the century (Funkhouser, 2016).

As many as 50% of all living species may be on the road to extinction by mid-century (Thomas *et al.*, 2004).

### Refugee crisis

Of all the traumatic consequences of climate change, one of the most dramatic is the prediction that hundreds of millions of refugees will soon be searching for safety (Vaughan, 2016). Antonio Guterres, the United Nations High Commissioner for Refugees, has declared that we 'no longer have the resources... to pick up the pieces...' (Welsh, 2015).

### Professional opportunities

The canon of ethics of many organizations, including the American Psychiatric Association, declares that we have a responsibility to recognise the need to protect public health (American Medical Association, 1995–2016).

Mental health professionals are well positioned to challenge denial, influence public policy and care for the victims of climate disasters because of our clinical training and expertise. We can address psychological mechanisms of defence

and harmful behaviour and use our skills in treating the impacts of illness and injury.

This urgent call to action is further conveyed by the choices we make to live sustainably in our professional and personal lives – because we also lead by example.

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