

# PSYCHOLOGISTS FOR SOCIAL RESPONSIBILITY

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## **Climate Change and Mental Health: The Dramatic and Damaging Connections** **PsySR's Program on Climate Change, Sustainability, and Psychology**

### CLIMATE CHANGE AND GENERAL PSYCHOLOGICAL SYMPTOMS

1. Climate change will create considerably 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.

The likely symptoms in response to climate change's stressors include:

- Anxiety
- Post-traumatic stress
- Depression
- Interpersonal conflict and societal conflict
- Family stress
- Persistent grief
- Child behavioral and developmental problems and academic decline
- Ecoanxiety, hopelessness, and avoidance and denial related to climate change

2. The sorts of outcomes climate change will present us, from severe storms and droughts to heat waves and more-polluted air, have been shown to increase citizens' rates of depression, anxiety, and traumatization. These symptoms can persist for years after experiencing the damage to or loss of homes, livelihoods, and community resources—such as schools, grocery stores, shops, hospitals, and farms—that help us to manage our daily lives. Hurricane Katrina is but a microcosm of what may happen across the nation in the coming years as climate change unfolds.

3. The burning of oil, coal, and other fuels may be central to our current way of life, but the greenhouse gas emissions that result also significantly contribute to climate change and environmental degradation that is harming that way of life. This seeming paradox creates its own anxiety, depression, and helplessness in populations.

### SPECIFIC CLIMATE CHANGE OUTCOMES

While climate change is a long-term process that prevents us from tying any one outcome to it, the data nonetheless indicate that in the United States alone its citizens are likely to experience the following psychological responses in the coming years:

- Heat waves that can engender increased interpersonal violence, anxiety, and depression as well as sicken or kill those unable to find the means to remain cool, as we saw in Chicago in 1995 when about 700 people died during a massive heat wave and across the country in 2006. Also, recall the European heat wave of 2003 that killed more than 45,000 people.
- Prolonged droughts, heavy rains that run off quickly, and less snowfall, such as we've seen recently in the Southeast, Southwest, and Rocky Mountain states, which can contaminate or

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diminish water supplies, severely limit farming and food production, and cause damaging flash floods that all contribute to persistent, numbing stress, anxiety, and depression.

- More and/or more-powerful storms, such as we experienced with Hurricane Katrina, that include infrastructure-destroying flash floods, storm surge, and damaging winds; displace tens of thousands of people; and disrupt the normal rhythms of families and communities for months or years if not forever. Research continues to demonstrate the severe and persistent psychological consequences of these events in adults and kids that harm not only their potential to be productive, contributing members to society but society itself.
- Sea level rise, which will create inordinate stress, depression, grief, and post-traumatic stress as it inundates many of our coastal areas and displaces potentially millions of U.S. residents—more than half of the U.S. population lives in coastal areas—or requires us to build walls and enlist other costly means to keep the water from harming our communities and polluting our water supplies.
- More polluted air, which causes asthma; increases risks for a host of diseases including heart disease and cancer; and is associated with higher rates of anxiety, depression, and even schizophrenia.

## CALCULATING THE HUMAN COSTS

While it's impossible at this juncture to predict how climate change will unfold and how people will respond to it, already the planet is experiencing historic levels of heat waves, droughts, storms, floods, and rising sea levels that have contributed to higher rates of anxiety, depression, conflict, and other behavioral symptoms in Earth's citizens.

It's also impossible to calculate the psycho-economic costs associated with climate change, but untold billions or trillions of dollars in human capital will be lost as people are displaced; family groups, jobs, and infrastructure are damaged or destroyed; and people contend with their painful psychological responses to all of climate change's harm. The result could be severe, lasting tears in the fabric of our society.

## INDIVIDUAL BEHAVIOR CHANGE ISN'T ADEQUATE

Certainly, some politicians, social scientists, and others suggest that what needs to happen to deter climate change's harm is that individuals and communities must reduce their consumption and live more sustainable lifestyles. Roughly 70% of the U.S. economy, after all, is based on individual consumption.

But the psychological, sociological, and economic research consistently shows that individual and group human behaviors are incredibly complex and resistant to change. As a result, no one has been able to create interventions that have motivated significant, persistent, and adequate consumption reductions or eco-friendly behaviors in populations to deter the level of harm such problems as climate change present. This becomes a more complicated matter when we consider developing nations that are seeking to have their enormous populations consume more on their way to greater economic growth.

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Moreover, climate change's implications are such a pressing matter that we don't have the time to design, test, and implement plans that might show incremental improvements in behavior change. Many scientists now report that to avert climatic disasters we must reduce carbon emissions to stabilize atmospheric levels at 350 parts per million, and we're already at 390 and climbing two to three parts a year.

Time and again research shows that human behavior is most readily altered in response to legislation that creates new behavior-changing laws, changes in economic policy, and broad efforts to create new social norms focused on behavior change. Thus, increased taxes or fees; specific laws to alter individual, community, and corporate behavior; and community-level, social-norm interventions have contributed more substantively to such significant behavior changes as declining rates of smoking and concomitant disease, fewer traffic fatalities, and the greater use of products that use considerably less energy (even as we use ever more of these products and therefore don't diminish our energy consumption!).

Certainly, though, while we are seeking strong congressional action now to help people reduce their consumption of fossil fuels, we also recognize that individual, community, and other levels of response are essential to this task.

## BEYOND INDIVIDUAL CHANGE

Ultimately, while mental health professionals are trained to focus on individual behavior and what can be done to improve it, what most troubles some psychologists in the era of climate change is the breadth of human suffering and environmental degradation that will arise as its devastation unfolds. Clearly, if we are to deter the psychological—much less physical and planetary—harm that climate change portends, bold government action and sweeping economic changes are needed now to implement energy and consumption alternatives that prevent this risk to our collective psychological well-being.

As psychologists, we are at the forefront of addressing human behavior, thought, and feeling, and all of these also are central to tackling the problem of climate change. How individuals, communities, organizations, and larger systems consume resources; how we think about risks; and the emotions we feel and values we embrace for something as complex and seemingly distant as climate change are central to Congress's considerations for legislation to prevent the harm it will bring to our citizens, infrastructures, and natural places in our nation and across the globe.

## SPECIFIC REQUESTS

We are, in specific, asking our senators, and Congress as a whole, to consider the following as climate and energy legislation is drafted:

- 1. The U.S. Senate must take action to write legislation that cuts carbon dioxide emissions swiftly and boldly to prevent the greatest psychological harm from climate change.**

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While the U.S. House of Representatives passed legislation cutting greenhouse gas emissions by 83% below 2005 levels by 2050, research now indicates this is insufficient to lead to adequate emissions reductions to prevent significant mental and physical harm to Earth's citizens. PsySR calls for immediate cuts that allow emissions to peak by 2015 and rapidly decline thereafter to quickly return atmospheric carbon emissions to 350 parts per million, down from 390 and rising.

## **2. The U.S. Senate must preserve the U.S. Environmental Protection Agency's authority to regulate carbon dioxide emissions under the Clean Air Act.**

The House's legislation strips the EPA's ability to regulate carbon emissions, which historically has been an effective tool via the Clean Air Act to monitor industry and promote cleaner technologies. Without EPA oversight, carbon emissions reductions will be more difficult to attain and climate change will be exacerbated.

## **3. The U.S. Senate must look elsewhere than at coal and nuclear power for electrical generation.**

Coal combustion produces about half of the nation's electricity but also contributes to a third of the nation's carbon dioxide emissions and a host of deadly pollutants, including mercury, sulfur dioxide, and particulates associated with both psychological and physical harm. Meanwhile, nuclear power is excessively expensive, fraught with risk to millions of Americans through radioactive processes and waste, and slow to bring on line. With climate change time is of the essence, and PsySR asks Congress to end subsidies for nuclear- and coal-fired power plants, place a moratorium on the building of new plants with a plan to phase them out altogether, and implement greater regulation of existing plants until these goals are met.

## **4. The U.S. Senate must consider more sustainable and healthy means to power our economy and instruct our nation on how to live well while consuming less.**

Greener technologies, such as wind, solar, and geothermal, create far less harm to humanity and the planet than our current means to fuel our economy, so they must receive their due in the climate and energy legislation Congress is drafting. Moreover, legislation must describe the excesses of our economy that allow profligate misuse of our scarce natural resources to the detriment of our climate and our well-being. Thus, PsySR asks our political leaders to create a new social norm, through their words to the public as well as their laws, that bespeaks care for the planet, care for one another, and responsible use of natural resources.

Given these requests for creating a more sane and humane climate and energy policy for the United States, we thank you for taking the time to consider the potential severe psychosocial repercussions of climate change for millions of U.S. citizens and billions of citizens of the world. Bold legislative action to reduce greenhouse gas emissions is vital now if we are to be at the forefront of preventing the impending psychological harm that will arise if our nation fails to take action.