GEH Global Environmental Health Chat
Climate Change and Mental Health Transcript

Narrator: This is Global Environmental Health chat, the podcast that explores environmental health issues that transcend national boundaries. This podcast is produced by the National Institute of Environmental Health Sciences.

Changes to our environment affect our everyday life, perceptions, and experiences. They can be gradual changes in temperature or precipitation as well as more abrupt changes, like extreme weather events. Both impact the way we think and feel. These effects of global climate change on mental health and well-being are a critical part to addressing the climate crisis and responding to its overall health impacts.

In this three-part series we'll hear from experts in the United States and Canada about the mental health effects of climate change, who are the populations affected, and some response strategies. This podcast includes a discussion about death and mentions suicide.

Part I: Susan Clayton, Ph.D.

Narrator: In our first conversation, we are joined by Dr. Susan Clayton to discuss the psychological impacts of climate change. Dr. Clayton is Whitmore-Williams Professor of Psychology and chair of Environmental Studies at the College of Wooster. She authored Conservation Psychology: Understanding and Promoting Human Care for Nature and is a lead author on the upcoming sixth assessment report from the Intergovernmental Panel on Climate Change.

SC: There are many indirect impacts of climate change, the rising temperatures, the rising sea levels, the changing patterns of precipitation have impacts on the economy, and they have impacts on infrastructure. And of course, people are going to be stressed and anxious and depressed, if infrastructure is collapsing, buildings are falling into the sea, or if they lose their job because of impacts on the economy.

But there are also, I think a lot of people don't realize this, there's research suggesting that rising temperatures in particular can have direct impacts on mental health. We know that people tend to be more aggressive when the temperatures are higher. And it's also the case that psychiatric hospitalizations go up, when the temperatures are warmer, and suicide attempts are more likely.

Narrator: Researchers have been studying the mental health effects of climate change and extreme weather events using a variety of questioning and surveys.

SC: There are national surveys that just asked people, are you worried about climate change? Or some more specifically asked: do you feel eco-anxiety and sort of give people a little definition of that. And you tend to find pretty high percentages of people like maybe 60%, who say, yes, I feel at least some worry, I feel at least a little like eco-anxiety.

With a colleague, Brian Karazsia, I published last year, a measure designed to get at climate anxiety and its potentially more serious manifestation. Looking at, does thinking about climate change, interfere with your ability to work, your ability to have fun? Do you have nightmares about it? Do you find yourself crying?

Narrator: The current research on climate change and mental health builds on a wealth of previous research on the mental impacts of extreme weather events. Dr. Clayton explains these events can have similarities in how they affect the mental well-being of survivors.

SC: Before people were talking about climate change, we still had extreme weather events and so people were looking at the impacts of these on mental health. So, there's a lot of data and if you measure what it's like to live through a hurricane, for example, it's a pretty stressful, and in some cases, traumatic event. So, you do see increased rates of post-traumatic stress disorder, or anxiety or depressive disorders, you tend to see increased rates of substance abuse, and even domestic violence.

SC: There is variability, but it's not clear that it's any worse to live through a hurricane or wildfire. It depends on things like of course, how badly were you affected? What kind of social support do you have? What is the surrounding context?

Narrator: The surrounding social context of an extreme weather event influences how populations of concern, such as children, pregnant people, older adults, and people with low incomes are affected by an event. Dr. Clayton reflects on the aftermath of Hurricane Katrina and the role that social determinants of health had on outcomes.

SC: Katrina, was such a national event. And one of the things that we saw after that was some things that were very wrong with society, we saw lots of evidence of racial discrimination that had existed before the storm, we saw evidence for racial discrimination in the way people responded to the storm. And so that's just a very vivid example of the way the societal context is going to affect how you respond to that disaster.

Clearly, there is a social justice aspect that. It's just totally without question that some groups are going to be and are already more affected by climate change and environmental issues than others. And it's associated with, of course, where you live, but also with your sort of social status and whether you have access to financial resources, and whether you have access to political power. Minoritized groups in the U.S. are and indigenous communities are definitely more affected by these environmental hazards.

A lot of people around the world and a lot of people in the U.S. live very close to the coast. Climate change threatens those coastal communities. Losing your home is powerful, a powerful, blow, and losing your entire community is an even more powerful blow, especially if you're in a kind of small, tight knit culturally significant community, which those communities tend to be ones in Louisiana and the ones in Alaska.

Narrator: Changes in precipitation and extreme weather events also affect inland communities, including farms and the livelihood of farmers.

SC: If the rain patterns change, or the sea warms, the same plants aren't going to grow in the same way. And especially for farmers, their identity tends to be highly wrapped up in what they do, especially small farmers, they often have long standing ties to the land, they feel proud of themselves as stewards of the land in many ways. When the conditions change so much that their crops don't do well. It's kind of emotionally devastating.

Narrator: Dr. Clayton currently does research on climate anxiety. She's interested in the role that psychologists can play in discussions about climate and the environment.

SC: I'm trying to understand more about climate anxiety, and who experiences it more, and also, whether that tends to lead to behavior change or not. I'm just about to start a project that looks at the extent to which people make a connection between environmental issues and public health and also social justice - do people recognize that these things are connected?

I think with regard to climate change, we've obviously seen a lot of polarization in our country, we see people who are very much in denial about whether or not it's happening. Understanding how people think about this issue and how they process information about this issue is something else that psychologists can bring to the table.

The natural environment can have a powerful influence on us, both in bad ways as when we experience these environmental stressors and destruction, but also in very good ways. And there's a lot of, you, a huge and growing body of research about the benefits of nature for mental health. The idea of conservation psychology is to take those psychological tools and try to apply them to promoting a healthy relationship between humans and nature, one that's beneficial for humans and for nature.

Part II: Joshua C. Morganstein, M.D.

Narrator: In our next conversation with Dr. Joshua Morganstein, we focus on natural disasters and extreme weather events. Dr. Morganstein is Assistant Director at the Center for the Study of Traumatic Stress as well as Associate Professor and Assistant Chair in the Department of Psychiatry at the Uniformed Services University of the Health Sciences and a Captain in the Commissioned Corps of the U.S. Public Health Service. He was a contributing author on the mental health and well-being chapter of the 2016 Climate and Health Assessment led by the United States Global Change Research Program.

JM: A lot of what we know about changing global climate, and the research on that, comes from our study of climate-related disasters. I'll call them climate-related disaster certainly because there are some natural disasters that really clearly have a component that is directly related to a changing global climate, there are other natural disasters we aren't so sure about at this point and the evidence isn't quite as strong.

Narrator: Climate-related disasters can cause anxiety-related responses as well as chronic and severe mental health disorders.

JM: There are really early types of responses and they're often later responses and we often think about things like post-traumatic stress disorder and depression and anxiety, and those things happen for some people some of the time after disasters of different types, but certainly after climate-related disasters. There are also other things that happen that we don't talk about or think about as much, but they can contribute significant public health burden to our society and really adversely affect health. And those include things like distress reactions, which would be insomnia, reduced perceptions of safety, irritability or distractibility among other things and physical health symptoms as well as things like health risk behaviors that would include things like increasing our use of alcohol or tobacco to cope with stressing emotions.

Narrator: Risk of these anxiety-related responses can be examined before, during, and after a climate-related disaster.

JM: I think the way it might be helpful to think about the impacts on individuals and communities is when we look at a disaster, we think about things that confer risk. So, perhaps risk can be looked at in the pre-event or pre-disaster timeframe as well as things that are related to the impacts of a disaster. And then, finally variables that occurred during the recovery from the disaster.

So, for instance in the pre-disaster time frame, we know that people who have a lower socioeconomic status are consistently at risk. People who have lower socioeconomic status for instance are often more likely to live in communities that are more vulnerable to more frequently experienced climate-related disasters reside in dwellings that are less resistant to climate-related disasters. And then receive services in systems that are less prepared and less equipped to manage the effects of climate-related disasters.

Things that may happen during a disaster might involve things like the duration and severity of exposure to trauma or extreme events. People who are closer to an event or who watch someone die or multiple people die or exposed to death and human remains, those might be citizens in a community. It might be public health emergency workers or first responders or health care providers. There's a phenomenon called psychological identification for instance which where we sort of think that could be me or that could be my loved one. And that increases psychological health risks in a number of ways.

Then in the post disaster timeframe during the recovery period, we know that things that can increase risk have to do with people being separated from primary attachment figures so children who are separated from caregivers for instance or older adults maybe with some cognitive difficulties who are separated from a caregiver or even from someone separated from their spouse that can increase risk as well as the death of a loved one (bereavement) can certainly increase elements of risk.

Narrator: Indirect and secondary effects, like displacement, can carry an immense personal mental health burden.

JM: Another sort of indirect pathway would involve things like, have to evacuate. Then people can end up in evacuation centers which are noisy, and they're crowded and they're bright and they may not feel safe and when people don't feel safe, they don't sleep well, and they also tend to develop other

symptoms of negative mental health systems that can be troublesome as well as depression or post-traumatic stress symptoms as well as just general psychological distress.

A very interesting graphic that a national media outlet did is to sort of visually helps to articulate this in what's called the Katrina diaspora and it's a graphic that sort of shows where people relocate, almost 1.5 million people that were relocated after hurricanes Katrina and Rita. All those 1.5 million people brought with them a burden of distress that they were experiencing with them into other communities, they also left behind jobs and friends and coworkers and relatives and places that were comfortable and known and social connections.

Narrator: Many who experience anxiety-related responses and chronic mental health disorders may grow and become more resilient in the future.

JM: I think one of the things that's really important to make sure and remind people is that in addition to things like distress reactions or health risk behaviors or psychological disorders a lot of people also experience resilience. I think our goal is to help foster health and coping and restore well-being from themselves as well. And we have to remember that there also is growth that can come from many people. Sometimes people use the expression post-traumatic growth. I just call it growth where people ultimately go through a difficult situation and they emerge feeling increased ability or perception of their ability to manage a stressor the next time it comes around. That may be one of the reasons why theses a lot of literature that shows that older adults tend to have lower rates of difficulties in many different ways.

Narrator: Young children on the other hand may experience distress differently than older adults.

JM: I think one of the most important things is educating parents and educating caregivers and educators, reminding people that children show distress often in different ways. And we really need to be alert to these kinds of things because it's easy to misinterpret some of these particular behaviors as misbehavior and the tendency with misbehavior in our society certainly is to respond with discipline. And when we respond to distress with discipline, we might temporarily alter behavior, but we also can amplify feelings of distress and cause it to kind of manifest in other troubling ways as well as really undermine a sense of trust and decrease the likelihood that a child and adolescent will bring their concerns to an adult in the future.

Narrator: Dr. Morganstein explained that promoting community collective efficacy and psychological first aid can build resiliency to climate-related disasters.

JM: Community collective efficacy is sort of a related concept to community efficacy which is one of the five essential elements that we know are protective for people early after crisis or disaster events or after exposure to mass trauma. And those five essential elements which include enhancing a sense of safety and calming and social connectedness. So efforts to and intervention that enhance those essential elements are thought of as being part of psychological first aid. Which is again an evidence-based framework for supporting individuals and communities after disasters to improve well-being and reduced distress and increased people's ability to function.

I think really the goal, of course is to lower the overall health burden for people, reduce the number of people that develop psychiatric disorders in the long run, and improve the trajectory of recovery for people, that people are recovering more quickly and getting back to doing the things that they want and need to do more promptly.

Part III: Katie Hayes, Ph.D.

Narrator: In our final conversation with Dr. Katie Hayes, we focus on what defines populations as vulnerable as well as response strategies to cope with mental health illnesses. Dr. Hayes is a policy analyst and lead author for the climate change and mental health chapter for the upcoming National Climate Change and Health Assessment led by Health Canada.

KH: For me, vulnerability is challenging language. I always like to challenge the language of vulnerability because the term vulnerability when we apply it to populations, it can really be seen as a deficit, that there's some sort of intrinsic issue with that person which is not the case. We know that those who are most at risk tend to be those who are already experiencing health inequities based on race, gender, age, socioeconomic status. So really looking at these overarching systemic causes.

Narrator: Dr. Hayes explained how social and ecological determinants of health contribute to risk and vulnerability.

KH: And so when we think of climate change as well, we know that those who are at greater risk tend to be living in areas or communities that are at higher risk from climate-related hazards whether they live in downwind, downhill, or downstream, which is a kind of and often an environmental justice type approach that they live in substandard physical environments that are greater risk to flooding, that are a greater risk to sea level rise and so it's really important to understand this relationship between the environment and the social determinants of health.

Narrator: Rural and urban populations may experience different anxiety-related responses. Dr. Hayes explained that understanding these challenges can inform appropriate response strategies.

KH: In a rural environment, particularly in a Canadian context, many of our rural communities don't necessarily have access to the physical infrastructure so physical mental health care, offices buildings that mental health care professionals. And even if they do have access, community members may not have transportation access. There might not be public transportation access to access that mental health care.

Often rural communities tend to be tighter knit have tighter knit communities. There are things like social capital and social networks and a sense of belonging that tend to be stronger in these rural communities which can be a protective factor.

Urban or dense communities might also be more at risk to climate exposures, experiencing, urban heat island effects, which we know that heat has not only physical health implications but can affect mood

and behavioral disorders as well. As well in urban environments there may be access to physical mental health infrastructure.

There is still a rural-urban divide, it's really nuanced in terms of the type of care that might be available because mental health care means different things to different people. And so that sense of community in a rural environment may be very supportive. And in an urban context, even if you're surrounded by people, you can still feel very socially isolated so that can also counteract the mental health benefits of access to care.

Narrator: Nearly 2.4 billion people live within 100 kilometers of the coast. The Canadian coastline is the largest in the world. Dr. Hayes explained that coastal populations, northern populations, and indigenous populations face unique challenges.

KH: Particular in coastal communities, the concerns are as you mentioned sea level rise and in northern communities in Canada the thawing permafrost and melting sea ice tend to be the greatest risk.

And particularly for our indigenous populations: First Nations, Metis, Inuit, whose traditional ways of hunting and gathering food can be highly impacted. So trapping, fishing, and hunting can be put at greater risk because of not having access to frozen highways and or not having safe access to continue these traditional practices. So that puts a real weight not only on the person who tends to rely on this type of hunting and gathering, but also on their family networks for increasing food insecurity also related to depression and anxiety because your way of life, your way of knowing has been shifted.

So this real impact to livelihood this sense of place can be highly impacted. And so this loss of a sense of place we see in the research can lead to things like depression or substance misuse or family breakdown, anxieties related to a changing environment in a changing climate.

And another key thing to consider as well for many of our coastal communities and globally coastal communities and low-lying Pacific Nations, for example, is displacement related to climate change and that comes with a whole host of mental health outcomes. Not only people experiencing stress and trauma related to being displaced from their homes, but they may experience xenophobia and racism and new host communities, which obviously have mental health and well-being impacts as well.

Narrator: For treating and recovering from mental health illnesses, Dr. Hayes explained that individuals and communities should embrace mental health literacy.

KH: Mental health literacy is really a better understanding of what our mental health means and that our mental health really exists on a spectrum. Mental health exists on the spectrum just like our physical health does. We might be in a state of affirmative or positive mental health at times we might be struggling, or mental health may be challenged and again at times we might be in deep distress and really need of mental health care, so mental health literacy is really trying to destigmatize mental illness.

Even if people are seeking formalized mental health care, we need to make sure that all of our healthcare providers are really trained in what climate change impacts for mental health can be so

making sure that there's an awareness of the types of needs. And that the types of needs differ based on social location based on cultural locations, so making sure that the types of mental health support are culturally relevant. So, for Indigenous populations making sure that there's a connectedness to the land and to land-based activities and community events can be highly supportive of mental health and well-being.

Narrator: Looking forward, Dr. Hayes encouraged the term 'active hope,' coined by eco-philosopher Joanna Macy, when discussing mental health impacts and distress related to climate change.

KH: The reason I like the term active hope is not that we're just co-opting this whole waiting for someone else to do something about the issue but active hope is really about reckoning with our grief reckoning with the deep feelings that we're having related to our emotional responses. It's really about being active and intentional in our decisions to support our well-being not only to support our own well-being but public health and planetary health more broadly.

Narrator: The National Institute of Environmental Health Sciences funds research to better understand the health impacts of climate change. You can learn more about the institute's research by visiting our website at www.niehs.nih.gov/GEH. Thanks again to Dr. Susan Clayton, Dr. Joshua Morganstein, and Dr. Katie Hayes for joining us today. You've been listening to Environmental Health Chat, brought to you by the Global Environmental Health program at the National Institute of Environmental Health Sciences.