



Building Resilience for the Climate Anxious Generation

STEMTLnet

October 2022 Theme of the Month Synthesis

If global warming continues unchecked, the consequences for climate and the biosphere will be catastrophic, and to date mitigation efforts have been completely inadequate (Tollefson 2022, Ripple et al. 2022). Yet people around the world are increasingly aware both of the dangers that face them, and the need for rapid, radical action at the national and international levels (Daly and Dolby 2022, Leiserowitz et al. 2021, McKibben 2019).

The psychological impacts of climate grief and anxiety were first examined in depth by studies such as that of the American Psychological Association (2009), and that study noted that a sense of powerlessness in the face of ecological crisis would contribute to emotional disturbance. Since then, anxiety about climate change and related issues has been extensively documented around the world (Ogunbode et al. 2022, Dodds 2021), with the impacts particularly notable among climate change scientists (Gilford et al. 2019) — and young people (Schiffman 2022, Hickman et al. 2021, Thompson 2021).

Teachers see their students' climate-related fear and grief even as they carry such feelings themselves. How can they find a way to support students while they grow in their own capacities to deal with constant traumatic and transformative change? The [October Theme of the Month](#), facilitated by [Margo Murphy](#), explored this extraordinarily important topic.

Margo teaches at Camden Hills Regional HS in Rockport, ME and serves as the sustainability coordinator for the district. She was joined by two teacher-leaders, [Denise Rogers](#), who teaches high school biology for the Richmond (VA) public schools, and [Ronnie Vesnaver](#), who currently directs a place-based semester for high school students called the Chesapeake Watershed Semester. The panel also included a climate activist, [Sadie Woodruff](#), now a first-year student at Wesleyan University, and [Dr. Susanne \(Susi\) Moser](#), whose work currently focuses on adaptation to climate change science-policy interactions, climate change communication, and psychosocial resilience in the face of challenges associated with climate change.

After introducing the expert panel and describing in broad strokes the situation the world is facing, Margo spoke of students' anxiety, which is intensified by the evidence that people in positions of responsibility are not taking action in proportion to the threat we are facing. As she said:

Part of what is driving their anxiety is a lack of really understanding why the adults aren't acting in their best interest and for their future.... And then the bigger picture, could this really be leading to this big biodiversity collapse, which could be devastating for a lot of life on this planet. And this is an extremely overwhelming premise for any person to have to handle. And then for young people whose whole future is ahead, it becomes even more dramatic.

Climate anxiety and grief, worry and anger are increasing, but, as Susi Moser explained, for many people these emotions do not translate into action. According to current research by the Yale Program on Climate Change Communication,

even among the most alarmed people [in the general population], what we see is that maybe just a third of those that are alarmed are actually active.... And then there's a bunch that are alarmed but sitting on the couch and not doing anything about it. And oftentimes, those feel actually most disempowered and most anxious because they may not know what to do or they feel helpless (Ballew et al. 2020).

But it is interesting that activism is highest among younger people, for whom the stakes are highest. This aligns well with research that establishes that despair and anxiety diminish when people become

aware of actions they can take in response to the perceived threat (American Psychological Association 2009). Thus, it seems that a significant portion of these young people are translating their worries about the climate into action. What makes that more likely?

Sadie Woodruff spoke of the solace that she has found in getting active with groups like Maine Youth for Climate Justice, which enabled her to "use my voice to talk to my legislators and see the change that I really wanted in my community." But young people are still far from the levers of power, and the older generations are not seeing and feeling the emergency that the young people recognize as coming at them. As Sadie reported, "a lot of the time it feels like the younger generation is alone."

So educators and others can play an important and constructive part in the response to climate change by using the power that they have to help students find ways to get engaged with the science, with community action, and with policy — and get engaged themselves. Sadie added that young people need "good climate role models. Seeing adults that you care about beside you in the streets."

Denise Rogers carried this idea further, describing how urban youth sense the weight of a climate crisis to which they have hardly contributed. An important strategy for constructive engagement in the schools is student inquiry, which is valued, even mandated, by the educational standards. This offers science teachers an opening to encourage young people to turn their concerns into learning and possibly action.

It warms my heart to know that I'm making a difference and I'm still following the objectives, but I'm allowing them the freedom to explore and discover new things about climate anxiety without focusing on the negativity.

It is important to recognize that the scope, the enormity of the problem, can shut down curiosity and hope. The more you learn, the more you realize how radical and uncomfortable the solutions will have to be. Sometimes people need time to take stock, to acknowledge and process their emotional response, after they understand the information and its implications. This can take various forms, and whenever possible nature can be an important ally. As Ronnie Vesnaver said,

When I'm in a classroom with students, I frequently find that they're able to see the problems and be wrecked by what the problems are the solutions are frequently the things that make people feel very uncomfortable because they put us in a world that's going to look very different than what it looks like today. Part of the anxiety is seeing the problem and then feeling really stuck and not knowing how to proceed or feeling uncomfortable with what the outcomes need to be. What I've experimented a lot within these past couple months is just allowing space for reflection and mostly creative reflections. So, my students all keep a journal and they have a spot on campus that I send them to as regularly as I can to debrief the week, to write down their thoughts.

And when we go into the field, they have to write and observe, but they also have to draw and they have watercolor sets where they're generating essentially art as they're observing anything around them and reflecting on what they're seeing and doing. And I have found that to be great, even just in the sense of separating them, giving their own space in the middle of the day, but also allowing them to have the time and place to vent what they need to vent.

Building resilience in our students and in ourselves

Susi suggested that climate resilience could be fostered in students — and in teachers — with four categories of response:

1. Emotional health.

Climate change is not the only issue in anyone's life, and other issues also have deep roots and significant impact. Indeed, part of the corrosive nature of climate anxiety comes from its often being unrecognized as a contributor to one's overall condition. It's important to find opportunities to examine, reflect, talk, process emotionally as well as intellectually:

Students don't come in just with climate anxiety. They live in racism. They live in poverty. They live in, something just happened at home, their parents, whatever, a health issue, a death...it's always more than one thing. So, having a place where you create even 10 minutes of space for students to share about what is going on with them, having a moment to be heard, and beginning with the heart as opposed to the head— I think that's really, really important.

2. Cognitive or mental hygiene.

Research on negative feelings about the climate crisis suggests that your emotional responses will be, as it were, characteristic of your habits of mind. As Moser said,

We come to these issues with our own histories, our own baggage. If you're prone to anxiety, if you have already a lot of grief going on, that is what you're going to mostly experience about the climate issue as well. It's just that's what shows up most.

How to respond? Teachers can help students (and each other) seek out resources and actions that disrupt these habits of response and engage with alternative strategies. Here, too, stories of action and constructive response can encourage an empowered response:

Storytelling is really, really great. And telling stories of people who have acted, which is, of course, often what people don't see. For example, the Yale Climate Change Project. Every single day sends out a one-and-a-half minute story of somebody somewhere in America acting. And that's just one of the many sources of stories of people actually not just laying down, being helpless.

3. Physical care.

Climate anxiety can have physical effects that influence our well-being. Feelings of stress can be somaticized, affecting the ability to sleep and concentrate. On the other hand, stress can lead to unhealthy behaviors, such as poor eating habits, or lack of exercise, which in turn affect our emotional and mental well-being.

A lot of students don't get enough rest, they do not eat well. There are so many ways in which we stress ourselves out in the physical realm by not being rested...You could even have a three-minute mindfulness meditation embedded in your class. Anything that you can do to bring some calming down of the nerves right in the classroom or through those kinds of homework activities that you give.

4. Attending to Interpersonal connection.

Isolation is a common challenge for people experiencing climate anxiety; like other interventions, it needs to be addressed intentionally. Talking with peers is important, but (as participants pointed out in a small-group discussion), intergenerational conversations are very important as well, with people from different ages and experiences sharing insights, information, worries, and sources of hope. As Susi said,

One of the worst things about climate change is that we're isolated with our feelings. We do not talk about it. It is a huge taboo. The fact that we're having this [conversation], it's countercultural bringing it into conversations with teachers, connecting students with each other, actually encouraging them to have those conversations, encouraging to do things together to break out of the isolation, it is probably the safest thing for all of us to do that.

We need to pace ourselves

The self-made crisis that humanity is confronting is terrifying, and part of the challenge for those who are aware of its dimensions is the realization that so many people around them are not paying attention, and that decision-makers are failing to respond. This is why teachers (and all of us) need to develop resiliency that is not only self-protection but can help us act on our knowledge and our anxiety

for the future. The fear, anger, and alarm that we feel are reasonable, appropriate responses to existential threats, after all. Susi said,

It's just absolutely frightening if you actually let in what it [the climate science] means. We have now crossed six out of nine planetary boundaries. We're not going to get away without being hurt in this process. So, we ourselves as teachers, as researchers, have those emotions and those stresses and anxieties. And we need to do the same four categories of things for ourselves.

But as we move from anxiety into action, we need to be aware of our capacity, and not overwhelm ourselves with responsibilities, nor self-accusations about our shortcomings: We have to take our measure, and remember that our capacity can be developed through careful practice. Sadie Woodruff told us about how she had to learn this lesson:

Something that was big in my self-care journey was letting go of this idea of eco perfectionism. When I first found out about climate change, I wanted to make my existence very small. I wanted to go completely zero waste and completely vegan all at the same time. I stopped driving with my parents in the car and just all these things, and it totally was not sustainable for me.

And I think the big thing that I learned in the last few years was that in order to be a better environmentalist and to care about the Earth more, I just had to do a little bit. I don't have to be a perfect vegan. I don't have to be perfectly zero waste. I don't have to perfectly not drive in a car ever but doing a little bit less than you did yesterday, moving a little bit more in that direction, can have a great impact. And if we get rid of that rhetoric, we can have a lot more impact on this planet because the world could do a lot better with a bunch of imperfect vegans than it could with just a few perfect ones.

Susi, Ronnie, and Denise added more recommendations from their own experience, and those of others who have worked on resilience:

- **Do one more thing.** if you can do one thing tomorrow that you didn't do today, one more, wonderful. Do that. Start that this week, hold it.
- **Meditate.** Neuroscience has shown that if you meditate 12 minutes a day, it will make a huge difference in your capacity to deal with stress, whether that's climate stress or any other stress.
- **Take joy.** When was the last time you gave yourself something to enjoy? Just a little something. We think we don't have time for it but go for a run with your dog or play and cuddle with your kid. I don't know, something, that is just complete.

- **Connect to your place.** As Ronnie said,

if students are more connected to their community, there's a lot of resilience in that and there's a lot of importance in that... And the more you can name things and the more you understand the world around you, I have found a lot of strength in that, which is odd because at the same time, that stuff might not look the same 20, 30 years from now. And there's a grief wrapped up in that, but there's a lot of comfort in knowing what's around you.
- **Connect to the outdoors.** As Denise added, renewal comes from:

being outside, earthing. Take your shoes off. Feel the Earth. There's not necessarily an activity that we have to do [with our students]. We just want to go outside and sit in a circle and maybe talk about different things. Just five minutes. Just fresh air. Getting outside of the walls helps a lot and it also relaxes the students. Listen to the birds chirp.
- **Connect to people.** As Denise said:

I enjoy students networking with each other. And adult networking is very important, because what you feel, others feel. And you find that out through talking with people, through sharing,

storytelling. That's helpful as well. Sometimes, you just want to listen and sometimes, you want to talk.

Recommendations for teacher leaders

Research has shown that relatively few people have conversations about climate change with friends, relations, or acquaintances. Help start the conversations if they are not happening in your school or community. Treat the conversation as an inquiry: Start by investigating where people are with this issue and be on the lookout for questions that you could follow up on, with resources on the Web, or with knowledgeable individuals in your communities.

Teachers teach best what they know from their own study and experience, so work with the resilience practices that our panelists suggest yourself, make them part of your conversations with peers and colleagues— and learn along with your students.

Recommendations for researchers

There are many avenues to explore, which may well open up by interrogating your current research program with respect to climate change. The socio-cultural view of learning as change in practice, mediated by cultural and discourse processes, may be a particularly fruitful framing for inquiry about how climate anxiety and related conceptual, social, and psychological issues are manifested and worked with in a particular population, or across community boundaries.

Recommendations for administrators and policy makers

Climate change is not only a matter of science. It is already having measurable impacts in most communities, showing up as social, public health, environmental, economic, political and infrastructure effects. Administrators and policy makers need to make themselves aware of the key issues facing their students and communities and encourage teachers to consider in what ways climate change directly or indirectly relates to their students and their work. In particular, administrators and policy makers should work to understand the evidence and impacts of climate anxiety on their students, and support teachers in finding ways to take it into account in their practice.

References

- American Psychological Association (2009). [Psychology and Global Climate Change: Addressing a Multi-faceted Phenomenon and Set of Challenges](#).
- Ballew, M., Marlon, J., Kotcher, J., Maibach, E., Rosenthal, S., Bergquist, P., Gustafson, A., Goldberg, M., & Leiserowitz, A. (2020). Young adults, across party lines, are more willing to take climate action. Yale University and George Mason University. New Haven, CT: Yale Program on Climate Change Communication.
- Dodds, J. (2021) The psychology of climate anxiety. *British Journal of Psychology Bulletin* 45: 222-226.
- Daly, M. and N. Dolby (2022) [Most in US want more action on climate change: AP-NORC poll](#).
- Gilford, D., Moser, S., DePodwin, B., Moulton, R., and Watson, S. (2019), The emotional toll of climate change on science professionals, *Eos*, 100, <https://doi.org/10.1029/2019EO137460>.
- Hickman, C., E. Marks, P. Pihkala, S. Clayton, R. E. Lewandowski, E. E. Mayall, B. Wray, C. Mellor, L. van Susteren (2021) Young people's voices on climate anxiety, government betrayal and moral injury: a global phenomenon. *The Lancet*: www.thelancet.com/planetary-health Vol 5 December 2021.
- Leiserowitz, A., J. Carman, N. Buttermore, X. Wang, S. Rosenthal, J.R. Marlon, & K. Mulcahy (2021). *International Public Opinion on Climate Change*. Yale Program on Climate Change

Communication. <https://climatecommunication.yale.edu/publications/international-public-opinion-on-climate-change/4/>

McKibben, B. (2019) *Falter: Has the human game begun to play itself out?* New York: Henry Holt.

Ogunbode, C., R. Doran, D. Hanss, and 50 coauthors (2022) Climate anxiety, wellbeing and pro-environmental action: Correlates of negative emotional responses to climate change in 32 countries, *Journal of Environmental Psychology* (2022), doi: <https://doi.org/10.1016/j.jenvp.2022.101887>

Ripple, W.J. C.Wolf, J.W. Gregg, K.Levin, J.Rockström, T.M. Newsome, M.G. Betts, S.Huq, B.E. Law, L.Kemp, P. Kalmus, and T.M. Lenton (2022) World Scientists' Warning of a Climate Emergency 2022. *Bioscience* biac083, <https://doi.org/10.1093/biosci/biac083>

Schiffman, R. (2022) [Climate anxiety is widespread among youth — can they overcome it?](#) *National Geographic Newsletter*

Thompson, T. (2021) Young people's climate anxiety revealed in landmark survey. *Nature* 597:605.

Tollefson, J. (2022) Climate change is hitting the planet faster than scientists originally thought. *Nature* 2022 Feb 28. doi: 10.1038/d41586-022-00585-7.

For more resources: [Download the presentation slides and resources from webinar.](#)



Written
by: Brian
Drayton,
Co-Director for the
Center for School
Reform at TERC.



Copyright 2022 TERC; Funded by NSF
#1922641

Opinions expressed on this site are those of
the contributors and not necessarily those of
the National Science Foundation.

Affiliated Programs & Organizations

