



Climate Emotions Toolkit: Findings from a Nationwide Pilot



Climate
Mental Health
Network



NEEF National
Environmental
Education
Foundation

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Introduction

The "Addressing Climate Emotions in Schools" pilot program, conducted by the Climate Mental Health Network (CMHN) and the National Environmental Education Foundation (NEEF), aimed to support middle school teachers in managing climate-related emotions while promoting student mental health.

This pilot was the final step in a multi-year project on addressing climate emotions in middle school, involving research, resource development, resource prototyping and revision, and resource piloting (Figure 1).

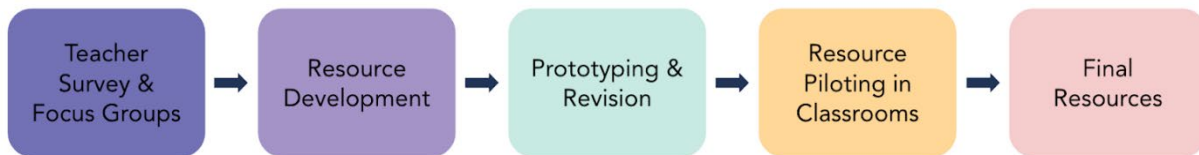


Figure 1: Multi-year program of work on climate emotions in middle school education.

Teacher Survey & Focus Groups

Research for this program began in 2022, including a survey and focus groups with middle school teachers across the United States. The goal of this research was to investigate (1) the emotional impacts teachers encounter in students related to climate change, (2) emotional impacts teachers themselves were experiencing, and (3) ways to support teacher and student mental health in the context of climate change. We collected survey data from 63 middle school teachers and held focus groups with 32 teachers to gain deeper insights.

Key Findings:

- **The majority of teachers and their students had been directly impacted by an extreme weather event.** 71% of teachers in our survey said they had been personally impacted by an extreme weather event; 76% of teachers said their students had been directly impacted.
- **The majority of teachers said their students expressed negative emotions about climate change.** 71% of teachers in our survey said students express worry when learning about climate change; 72% said their students had expressed worry related to directly experiencing an extreme weather event.
- **The majority of teachers said they personally struggled with negative emotions about climate change.** 82% of teachers in our survey reported feeling worried when teaching about climate change. 80% said they had experienced worry related



to being directly impacted by an extreme weather event. Many teachers said that an extreme weather event had caused them anxiety, fear, depression, and/or trauma.

- **The majority of teachers felt they were not fully equipped to help students cope with the mental health impacts of climate disasters.** 67% of teachers in our survey said that they did not have the resources and support they need to effectively support student climate emotions.
- Teachers suggested that any newly developed resources for climate emotions should be **easy to use and implement, targeted to middle schoolers, and aligned with standards.**

The findings from the research phase described above guided the development of our resources, which were designed to help teachers and students cope with climate-related emotions and build emotional resilience in the classroom. The pilot's goals were to evaluate the new resources to help teachers and students cope with the emotional impacts of climate change and promote emotional resilience in the context of climate change and education.



See the full Teacher Survey & Focus Group findings.

Prototyping & Revision

In spring 2024, we developed a rubric to gather teacher feedback on the prototype, ensuring alignment with the toolkit's structure and assessing its value and usability. We categorized their input, made necessary updates, and recorded an average net promoter score of 8.57.

Resource Piloting in the Classrooms

From May to December 2024, we partnered with middle school teachers across the U.S. to pilot the resources in their classrooms. This pilot is the focus of this report.

The pilot's goals were (1) to evaluate new tools to help teachers and students cope with the emotional impacts of climate change and (2) promote emotional resilience in the context of climate change and education.



Methods

Teacher Recruitment

We leveraged state and national partners to invite middle school teachers to apply to the program by filling out an application form. We received 305 applications. Eligibility requirements included being employed at a US public or public charter middle school and have Wi-Fi access. In our selection process, we considered the subjects teachers would be teaching in Fall 2024, incorporating climate change into disciplines beyond science, such as art, history, and language arts. The number of students each teacher could reach and their motivation for participating were also factors in the selection process.

40 public middle school teachers were selected to participated in the program, representing a diverse range of schools and communities across the U.S. Participants came from urban, suburban, and rural areas, including some of the largest school districts such as New York, Los Angeles, Chicago, and Miami-Dade.

Pilot Overview

The pilot ran from September to December 2024, beginning with a kickoff meeting where teachers were oriented to the program and completed a baseline survey. Over 12 weeks, teachers reviewed and evaluated the toolkit, tested our student activities in their classrooms, engaged with mindfulness videos, and provided feedback through surveys. Program organizers offered optional office hours for additional support. The pilot concluded with a wrap-up meeting, where teachers reflected on their experiences, evaluated another mindfulness resource, completed an exit survey, and discussed strategies for sharing the materials with others.

Resources

Our pilot program offered two primary resources, described below:

- 1. Climate Emotions Toolkit for Educators: Information and guidance to help teachers support students through the emotional challenges of climate change.**

This toolkit provided background information about climate emotions to help equip educators with the tools to successfully deliver the student activities in their classrooms. The toolkit included information about the physical and mental health impacts of climate change on youth, a brief background on climate justice, and tools for understanding climate emotions such as identity maps and CMHN's Climate Emotions Wheel. Additionally, it included information about the neurobiology of climate emotions, guidance for channeling student anxiety into action, opportunities and tactics to integrate climate emotions lessons into instruction, and further resources and information.



Teachers were asked to review this information before selecting the classroom activities to use with their students. They took a survey to evaluate the information in the toolkit and provided feedback for how to improve it.

2. Climate Emotions Toolkit for Educators: Activities

- **Mindful Moments for Climate Curriculum Teachers:** This section included links to four mindfulness videos for educators narrated by Leslie Davenport, a mental health professional, a 4-7-8 breathing exercise, a mindfulness exercise called “On the Move with All Five Senses,” and a written exercise called “My Touchstones” that asks educators to jot down the practices that they use most frequently in their everyday lives. Participants were asked to watch and evaluate one mindfulness video before piloting each of the two required activities with their students. The purpose of these resources was to help teachers navigate their own climate emotions and prepare to introduce the theme of climate emotions in their classrooms.
- **Student Activities:** The student activities were provided to participants in both PDF and Word formats. Each of the ten activities featured a lesson plan and student hand out. Participating teachers were asked to select at least two of the ten activities to pilot with their students.

After piloting each activity, participants took a survey to evaluate and provide feedback on the effectiveness and content of the activity. Some teachers made modifications to the activities to better suit the needs of their students.

Adherence

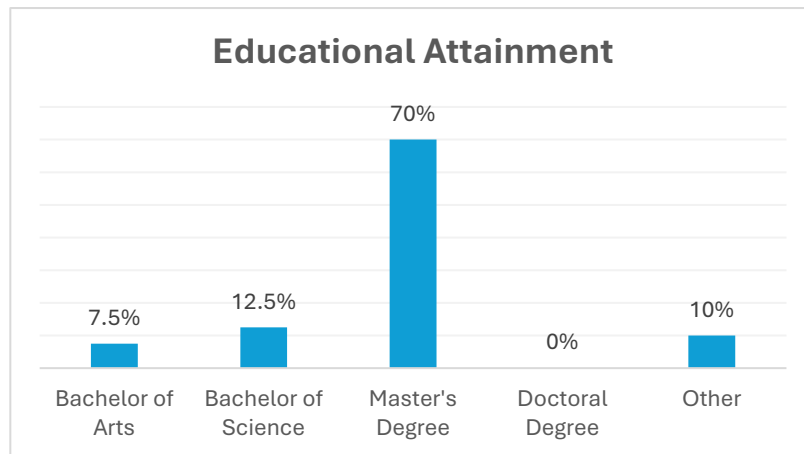
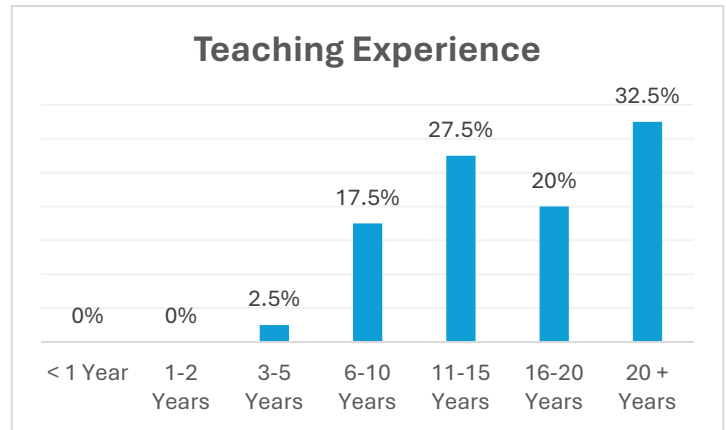
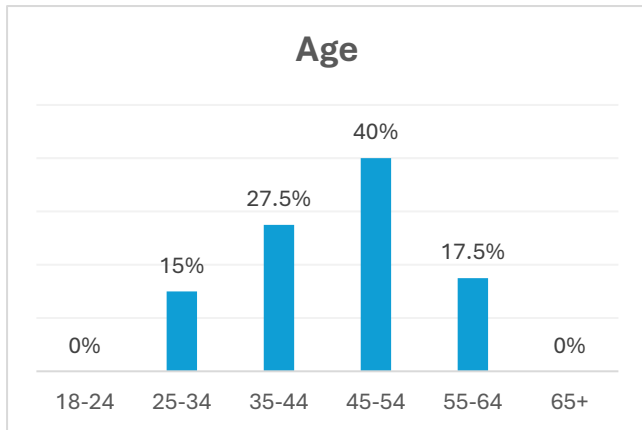
Forty teachers enrolled in the pilot, with two originally selected participants withdrawing due to time constraints. They were replaced in late September. Of the final group, 39 teachers completed all pilot activities, while one participated partially.



Results

Teacher Demographics

The following charts provide a profile of the teachers in our study.

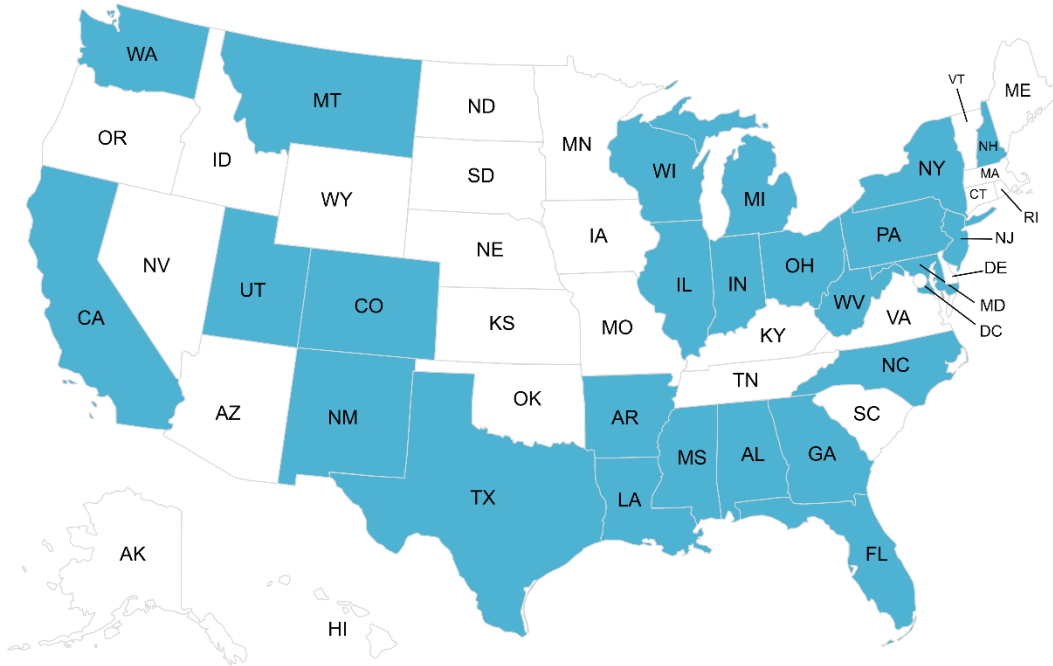




School Characteristics

The following charts provide characteristics of the schools and communities in our study.

School Locations



Geographic Distribution



Suburban
45%

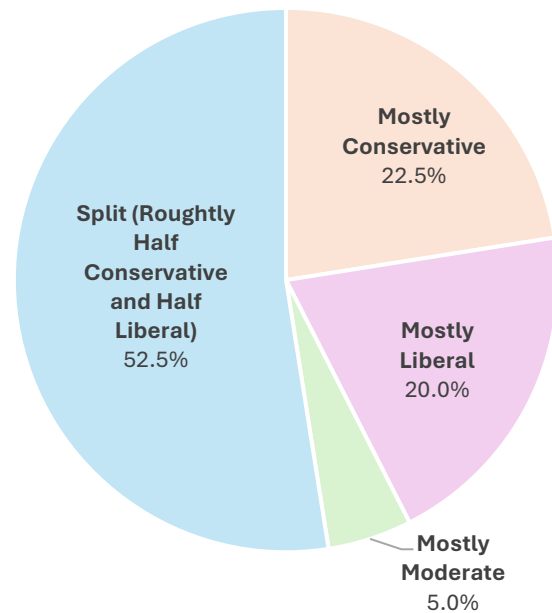


Rural
27.5%



Urban
27.5%

Political Orientation of School Community



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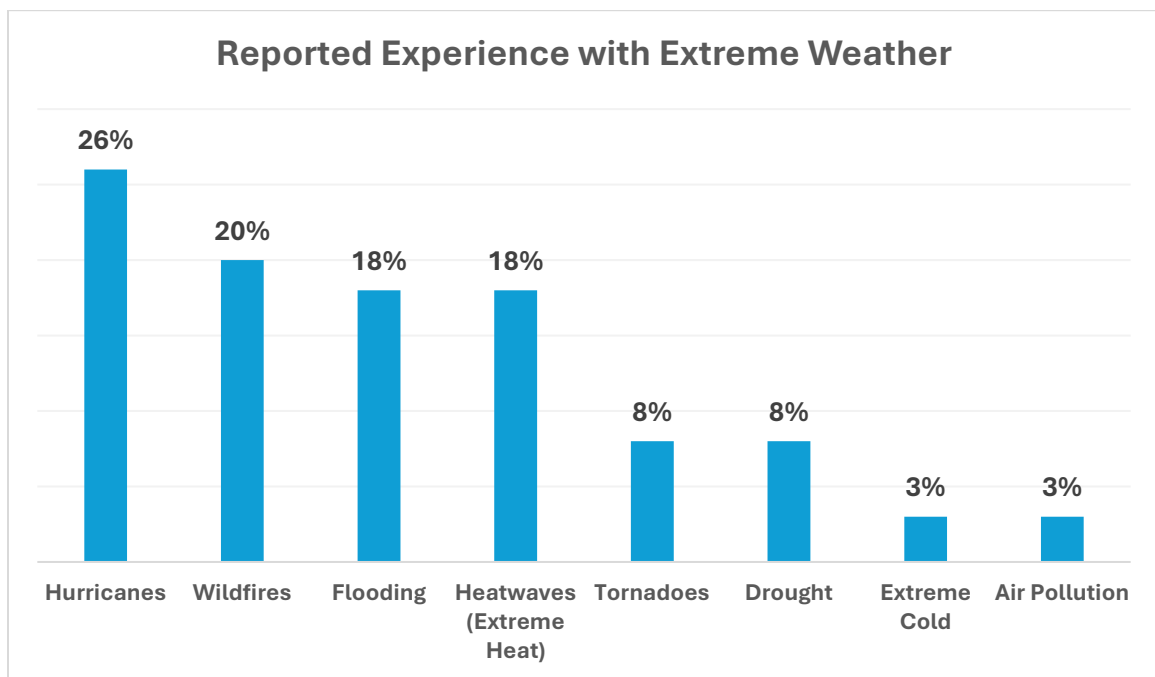


Teacher & School Community Experiences with Extreme Weather Events

- Hurricanes were the most frequently mentioned weather event, with 26% of responses identifying them as the most impactful. At the time of the pilot launch, Hurricane Helene was starting to bear down on regions of the Southern U.S., leading to a school closure for at least one teacher in our pilot. Wildfires were also a significant concern, with 20% of responses focused on it. Flooding and heatwaves were mentioned by 18% of teachers.

83%

Of teachers said their school community had been impacted by an extreme weather event.



Student Climate Emotions

- The majority of teachers said that they encounter emotional reactions in students at least half the time when they discuss climate change in class.
- The most common emotions among students, as reported by teachers, were frustration, anxiety, overwhelm, and worry.

98%

Of teachers said they have encountered emotional reactions from students when teaching about climate change.



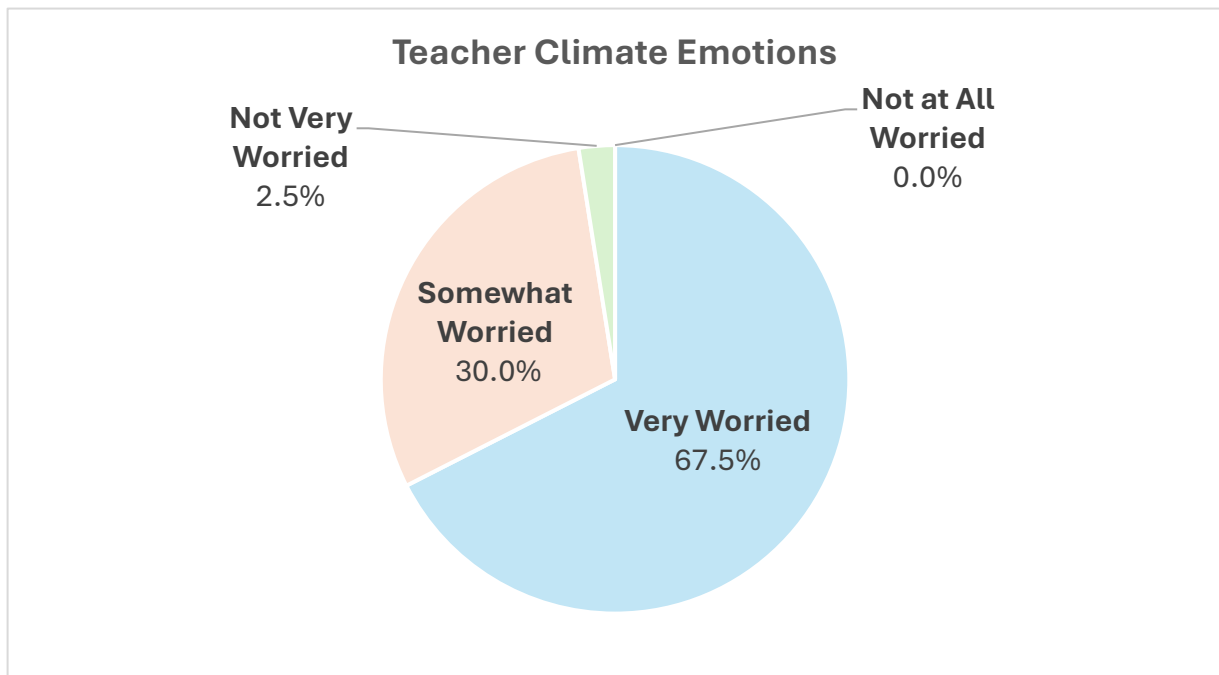


- **Teacher Insights on Student Emotions:**

- *“Typically, students become worried and overwhelmed. Worried about what will happen in the future and how it may impact their life. They also become overwhelmed and express how they feel helpless because the problem seems too big for them to have an impact with. Sometimes, I will have a student who shows excitement to want to make a change.”*
- *“Students feel overwhelmed, angry, sad and afraid of what's happening to the world, especially when they see the impact on other living things and the inequitable impacts on people.”*
- *“Mostly frustration that they can't do anything. Sometimes anger that the adults around them aren't doing anything or enough.”*

Teacher Climate Emotions

- 97.5% of teachers said they are worried about climate change, with 68% of teachers saying they were “very worried” and 30% “somewhat worried”. Only 1 teacher said they are “not very worried,” and no teachers said they were not worried at all.



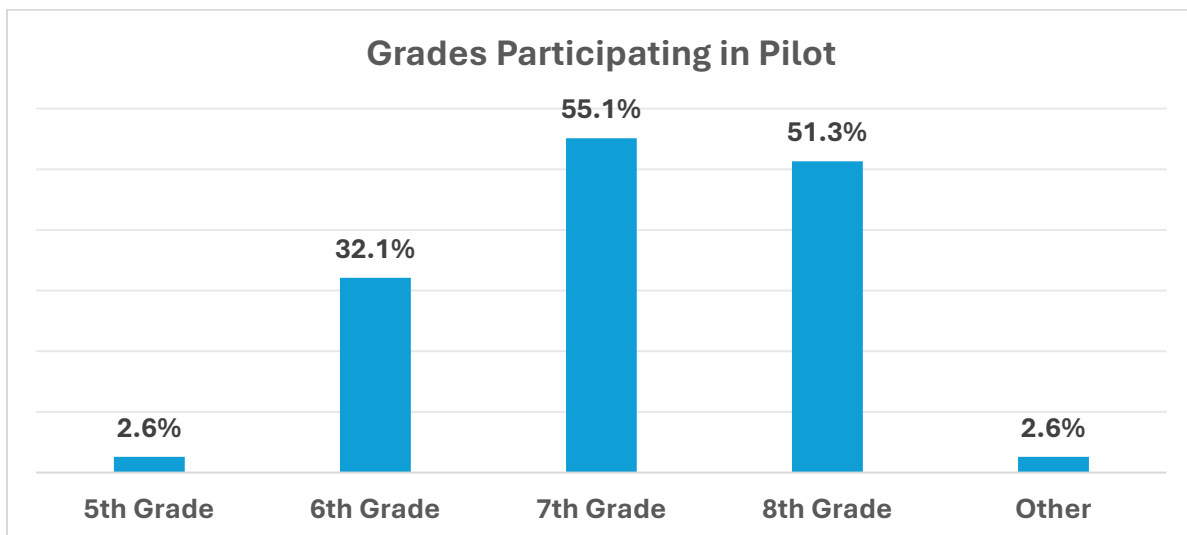
- The majority of teachers (75%) said that they personally experience emotions at least half the time when they think or teach about climate change.



- **Teacher Reflections on Climate Change Emotions:**
 - *“I live in Louisiana. Hurricane Ida destroyed parts of my house and caused me to lose my breast milk supply. I am concerned about having a home.”*
 - *“I become nervous around tornado season or anytime the weather pattern becomes abnormal.”*
 - *“I am worried. I am a mom of three young children and I want the best for them and I am concerned as to what quality of life will even be available due to climate change and the crisis we are experiencing. I feel sad for the future generations pushing a problem off until it had to be addressed is going to set many up for much harder situations and experiences than they needed to have been put in.”*
 - *“The impacts are now felt directly on many outdoor activities I participate in such as flyfishing and backpacking. It has changed the landscape in such a way that I can no longer bring youth out to do what I used to be able to do!”*
 - *“My biggest concern with climate change is that (my wife and I) will leave my son on this planet at a time in history when global change is a true reality. I feel very strongly about my students having to cope with climate change as it grows in a negative direction. I hope that I have inspired enough of my students to be more proactive about caring for the planet.”*
- The most common emotions teachers reported experiencing were worry, frustration, sadness, and also interest in climate change.

Resource Feedback

The activities were most frequently piloted with 7th and 8th graders, and somewhat less frequently with 6th graders.



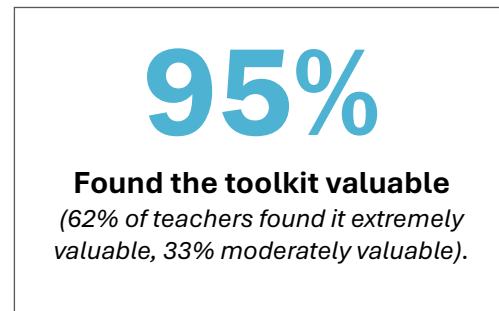
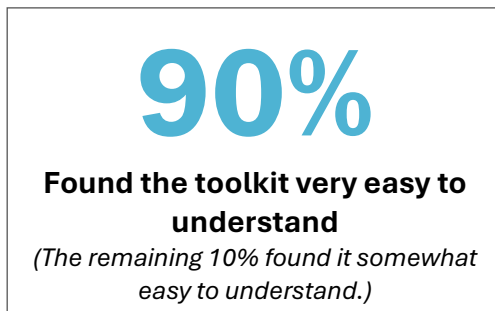
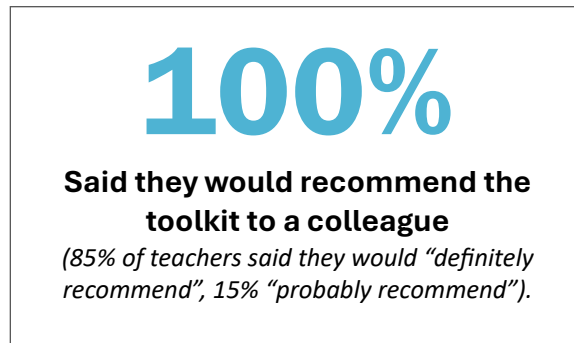


▪ **Teacher General Reflections:**

- *“The activities connected a critical topic that affects our society to the emotions and thoughts of those affected. The selected activities gave my students a sense of empowerment as they could express and think about possible positive actions.”*
- *“The toolkit provides tools for addressing climate-related anxiety, stress, and other emotions that students may experience while learning about climate change. The combination of mindfulness practices, emotion-focused activities, and creative expression creates a positive learning environment for teachers to help students navigate the emotional complexity of learning about climate change. These resources not only support students' mental well-being but also empower them to act in positive ways, transforming anxiety into motivation and resilience.”*

Toolkit

Feedback on the toolkit was positive overall.





▪ **Teacher Thoughts on the Toolkit:**

- *“I am so glad that I am participating in this project because I am not sure that I have been fully acknowledging the mental health impacts climate change has on my students. The data and resources in the tool kit are really helpful to better understanding the brain, mental health, climate change, and where they intersect.”*
- *“The toolkit provided a wealth of valuable resources that made it highly effective for addressing both the cognitive and emotional challenges of teaching climate change. The toolkit didn’t just focus on the science of climate change but also took into account the emotional toll that climate anxiety can have on students. By addressing emotional resilience alongside intellectual understanding, the toolkit offered a well-rounded approach to climate education. This allowed me to support students not only in understanding the facts about climate change but also in processing their feelings and finding constructive ways to cope with their emotions.”*
- *“All of these relatable, real life, straightforward answers to their many questions surrounding climate change [are] going to be so helpful as a teacher trying to meet my students where they are, get them to understand the scientific facts and then also believe and act in a way which helps to create climate solutions.”*
- *“I like that there are short segments on a variety of topics in the toolkit. In other words, a bit of information about the mental health impacts of climate change, background on SEL related to climate change, instructional strategies for addressing mental health related to climate change, and brain science. This formatting not only feels accessible to me as an educator, but is also something that I can consume in the limited amount of time I have when integrating information that may be outside my typical lessons.”*
- *“I am just so thankful for such a comprehensive toolkit that is concise and easily integrated into classroom lessons and resources used to create class activities.”*
- *“There’s nothing really like it that I’ve seen. Students need help managing their emotions in this challenging time.”*



Student Activities

Feedback on the activities was positive overall.

99%

Indicated student engagement with the activity

(68% very engaged, 31% moderately engaged)

95%

Found the activities valuable

(72% extremely valuable, 23% moderately valuable)

97%

Indicated they would use the activity again

(86% very likely, 12% somewhat likely)

97%

Indicated they would recommend the activity

(78% definitely recommend, 19% probably recommend)

90%

Indicated the activity reinforced required SEL topics

The classes and subjects in which the activities were piloted varied:

- **Science-related** classes (science, biology, environmental science, STEAM, integrated science, etc.): 59 mentions
- **Humanities-related** classes (humanities, ELA, literary arts): 3 mentions
- **Leadership / Civic Engagement / Special Classes** (EcoAction, leadership, seminar class, advisory, pentathlon): 7 mentions
- **Art-related** classes: 2 mentions
- Other (careers class): 4 mentions



▪ **Teacher Thoughts on Student Activities:**

- *“The activities got my students thinking about their emotions in a very productive and meaningful way. They also made it easy to lead good discussions and help me understand each individual student better.”*
- *“I really liked how the activities were laid out. They had background information, how to do the activity, and then the activity so it was easy to just pick up and do the activity without too much prep work. I liked that there were options for different types of activities.”*
- *“The lesson plans were aligned with our science standards. The activities were easy, short and effective.”*
- *“I loved that each activity had an established timeline and was connected to learning targets and other standards. As a science teacher, it was great to have the NGSS standards attached!”*
- *“I really appreciate how clear, manageable, and effective they are. Great impact for the time.”*
- *“I appreciated that students had an authentic opportunity to consider their emotions related to climate change.”*
- *“I think they were well designed and engaging for students. The kids could relate to the material without being overwhelmed.”*
- *“One of the standout features of the toolkit is its flexibility. I appreciated that the activities could be used independently or combined in different ways, allowing for adaptation to various classroom settings and student needs. This flexibility made it easier to integrate the resources into existing curricula, rather than requiring a complete overhaul of lesson plans.”*

Mindfulness Mediations

Teachers said the meditations increased their sense of calm, mental clarity, inner strength, and their confidence to address climate emotions with their students.

▪ **Teacher Thoughts on the Meditations:**

- *“I found the meditations incredibly valuable as they provided a structured and calming way to center my thoughts and emotions. They encouraged mindfulness and self-awareness, which helped reduce stress and improve focus. The guided nature of the meditations made it easy to follow, even for those new to the practice, and offered practical strategies for managing overwhelming feelings. Additionally, they created a moment of pause in a*

82%

Found the meditations valuable

(39% extremely valuable, 44% moderately valuable)





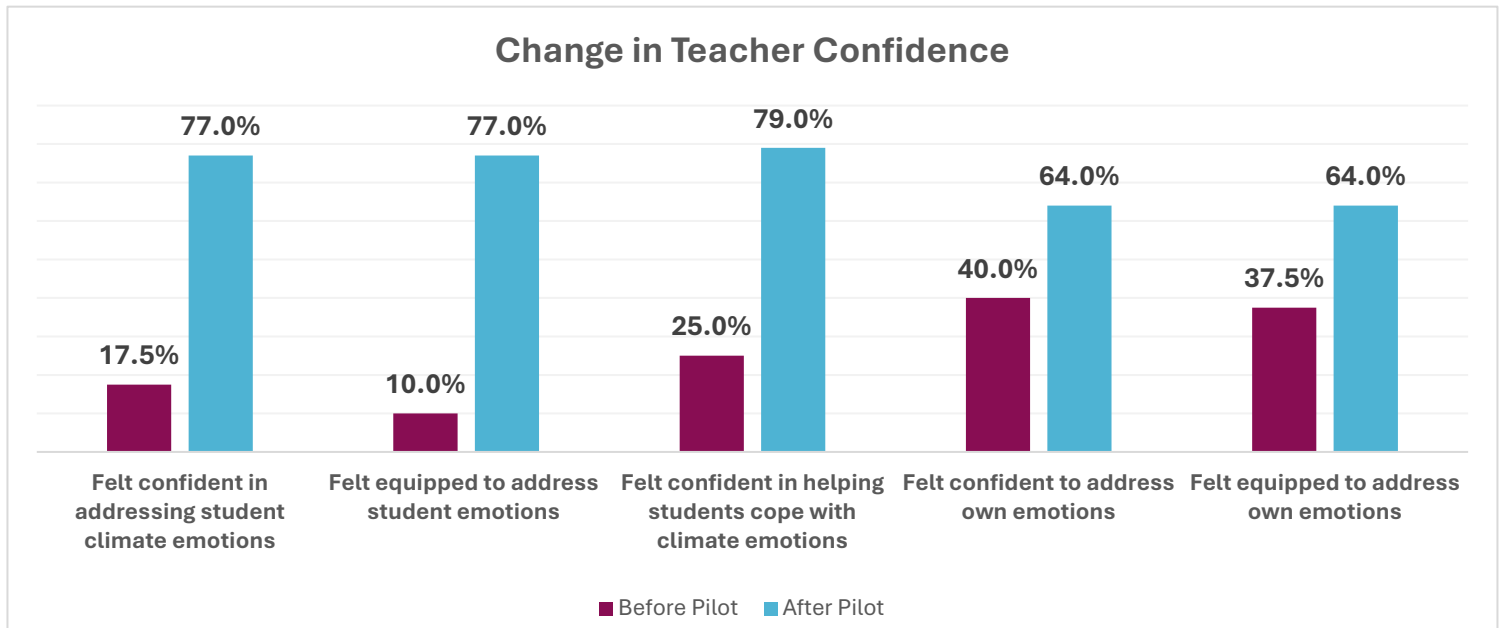
busy day, fostering a sense of balance and mental clarity that was both refreshing and empowering.”

- *"I like how it reminds me to be present and to bring a calming attitude into the classroom (or trail). I'm often feeling rushed and thinking about what is next so this is something I should play to start each day to remind me to be in the moment with the students I have in that moment."*
- *"I actually had a tough couple of days with colleagues at school so this meditation really helped me to realize that I have the ability to get through difficult situations. It was the right meditation at exactly the right time."*
- *"This meditation enhanced my focus and concentration, allowing me to think clearly and eliminate the distractions around me. The completion of this activity fostered a sense of calm that enabled me to face a challenge immediately after more effectively."*
- *"These meditations calm me immensely. I have started using others found online and from other people randomly during stressful moments. I am not sure if I have ever thought to meditate before planning a lesson, but I like how focused and centered I am afterward."*
- *"It was empowering and gave me a positive feeling that I could successfully help students understand and engage with the lesson on climate change."*
- *"The meditation was both inspiring and filled with hope. It helped me realize just how essential my role is as a teacher in guiding young minds to understand and address climate change."*
- *"It was a nice grounding exercise. I appreciated how it focused on community as I often feel like I'm working alone in this realm (in my building and district) - the imagery of standing in the field with people joining was lovely and something I hope to continue using on my own."*
- *"I loved the reminders about making sure our own mental space is healthy before we try to help and teach others."*



Impacts of the Pilot

Teachers reported feeling more confident and equipped to address climate-related emotions.



General Testimonials:

- *“I found I have learned various ways to manage my own emotions related to climate change from this pilot, and I believe I will be able to share these practices with my students better.”*
- *“I feel like I can sit with them in their feelings more, without jumping to problem solving.”*
- *“I feel equipped now, because I understood that the most important thing is to allow them to express their emotions and think about positive ways to address the issue.”*
- *“I’ve been doing this for a very long time; teaching EE, Health and Wellness and Mindfulness for 10 years at a public school in Utah. It was great to know a program that supports what I have been doing for 10 years. The validation was HUGE from this program. I am doing it right, I am not alone and people DO care that our students learn, discuss and take action on the topic of climate change. I KNOW I am capable of managing this hard topic and students feeling around it not only because of my time spent in the ‘trenches’ but the new ideas and validation this program gave me.”*



- *“Knowing that I can be proactive about guiding a feelings-oriented conversation and feelings-oriented learning really helps. I also feel more equipped to help them become metacognitive about the experience, to look at negativity bias, name emotions, look at positive climate emotions, shine light on solutions, find comfort in the company of others with shared concerns and willingness to generate positive impact.”*
- *“I now have tools I can refer back to rather than trying to wing it.”*
- *“These resources are SUPER helpful and can be used as a springboard to dive into all the different emotions associated with climate change.”*
- *“The hands-on activities, like the “See, Think, Me, We” activity and youth climate art, allowed students to express their feelings about climate change in creative and meaningful ways. Knowing I have these activities to facilitate discussions helps me feel more confident in guiding students through their emotions.”*





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