

## Climate Emotions Research Findings

by Drs. Kelsie Fowler & Deb L. Morrison, Institute for Science + Math Education, University of Washington Seattle

Finding #	Things to Consider	Recommended Actions
1	<p>People experience multiple eco-emotions at once—even when these feelings seem contradictory. There is no chronological order to experiencing emotions, where people can “move past” difficult feelings.<sup>1, 2, 3, 4</sup></p>	<p>Avoid placing a value on eco-emotions by labeling some as “good” or “bad”<sup>1,5</sup> or framing challenging emotions as feelings that will “go away with time”.<sup>6</sup> Talk about recent research that shows how common it is for people to experience complex and rapidly shifting feelings<sup>19</sup>.</p>
2	<p>Surveys show that the large majority of youth from all backgrounds and places are concerned about climate change and face anxiety about what the future might hold. By 8 almost all children have voiced some climate change anxiety, and older youth are making choices around higher education, careers, having a family, and maintaining long-term relationships based on their eco-emotions<sup>50</sup>.</p> <p>Not teaching about climate change magnifies youth anxiety, depression, anger, fear, and apathy<sup>5,28,29,30</sup> and triggers feelings of betrayal and abandonment<sup>28,17</sup>, and even powerlessness<sup>19,30,20</sup>.</p>	<p>While it is easy for the desire to protect students to dissuade teaching about climate change<sup>47</sup>, almost all youth need and want the opposite.</p> <p>Teach youth about climate change so the mystery isn’t an added burden and their agency is honored<sup>19,47</sup>! This learning should include what is happening, what is anticipated to happen, and different collective efforts to mitigate and respond to climate change can help reduce anxiety<sup>30,4,17</sup>.</p>
3	<p>Identify what influences emotional responses to ecological destruction<sup>7,8,9,10,11</sup>. This includes: age<sup>9,12</sup>, experience<sup>13,15</sup>, cultural ways of being<sup>10,11</sup>, and other parts of their identity and history.</p>	<p>Recognize which youth are on, or closer to, the frontline of climate change and who may already be experiencing direct climate impacts and therefore will have stronger emotions and realities that need to be centered<sup>33,34</sup></p>
4	<p>Eco-emotional responses take diverse forms<sup>13,12,15</sup>. These can be a range of verbal, behavioral, social, mental/learning, or somatic symptoms<sup>9,12</sup>. Unexpected and varied responses from youth/others are often not taken seriously<sup>19,5</sup> and there are clear trends of dismissing youth, which only worsens anxiety and feelings of isolation<sup>5,28,29,30</sup></p>	<p>Avoid passing negative judgment on youths’ eco-emotional expressions<sup>31</sup> and instead attend to these through a sociocultural lens<sup>9,13,4</sup>, and look for new learning pathways and outcomes that can be pursued through responsiveness<sup>8</sup>.</p>
5	<p>Children and youths’ worlds are saturated in digital environments, where climate “doomism” or sensationalised imagery can intensify climate emotions<sup>44</sup></p>	<p>Teach youth to be critical consumers of media and how to curate a constructive and balanced narrative around the environment<sup>45</sup>. Guide youth in using digital platforms to express ecological care, share local solutions, and participate in global discussions<sup>46</sup></p>
6	<p>Lasting anger and overwhelm can lead to apathy and lack of action<sup>22,5,15</sup>. However, there is significant research that also shows</p>	<p>Encourage youth to slow down, engage in more holistic forms of sensemaking, and to think <i>with</i> their feelings<sup>39</sup>. Prompt youth to</p>

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	how anger can mobilize action. <sup>23, 27</sup> Youth who express more anger, frustrations, and disgust are more likely to engage in caring for the environment <sup>30</sup> and to pursue climate/environmental justice-related careers <sup>31</sup> .	express these feelings through talk, art, or other public facing mediums <sup>aa</sup> . Tell stories of climate activists who have harnessed their challenging eco-emotions to create real change (e.g., through organizing and collective action) <sup>aa</sup> .
7	People, including youth, can sometimes toggle intentionally between difficult climate truths and emotional self-regulation <sup>38</sup> . This is done both in self-defense and to draw attention/thinking to particular ideas or events.	Closely observe and try to understand what has provoked the quick emotional shift — approach the moment with curiosity and care about what the youth is agentially trying to make sense of or communicate <sup>39,40,8,7,11,37</sup> .
8	Developing coping and co-regulation skills from an early age and expanding these throughout adolescence prepares youth to navigate climate-related stressors, engage in adaptive coping, and develop the relational and cognitive tools necessary for pro-environmental action and long-term well-being <sup>9, 43</sup> .	Embed socio-emotional learning opportunities <sup>9, 43</sup> throughout your teaching. This can take the form of scaffolded discussions, art-making, reading stories, emotional check-ins, etc. —>Creative expression and imagination can facilitate self- and co-regulation
9	Talking about eco-emotions either with ourselves or with others can help regulate emotions <sup>5,16,17, 19, 21</sup> and even reduce the allostatic load on a person's body.	Create space for youth to talk about emotions together and to carefully listen to each other <sup>5</sup> .
10	Collective action in the form of youth-led storytelling, community engagement, and environmental advocacy within learning can transform emotional distress and overwhelm into collective efficacy <sup>12,14</sup>	Integrate physical and material civic actions into your teaching, but also prompt youth to engage in creative, play-based, and imaginative models for problem-solving and emotion sharing.
11	When youth learn about varied worldviews, different cosmologies, and different cultural responses to climate injustices, this expands their imagination of what is possible/needed and opens up hopeful pathways <sup>6, 1, 25, 26</sup>	Highlight Indigenous ways of knowing and examples of Tribes leading climate mitigation and adaptations. Bring in elders and other community members to share knowledge and wisdom from the past. Share stories of Earth's resiliency and encourage youth to think about other earthly beings as active agents working towards healthy world <sup>25</sup>

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**Full, cleaned up reference list is in-progress — to be updated by 4/16!**

Note: This is a list of the full citations, and links out to those resources where available.

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