

The Emotions of Climate Justice



ENVIRONMENTAL
SOLUTIONS
INITIATIVE

"Activists from the Climate Reparations Bloc and Defund Climate Chaos prepare for a march." by Insure Our Future is marked with Public Domain Mark 1.0.

What's in this module?

Activities

2 videos
3 readings
2 project
options

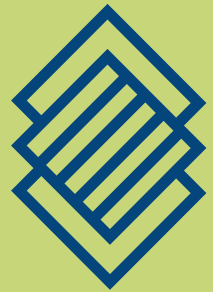
Contents

This module demonstrates the many emotional responses elicited by climate change and climate justice, and asks students to reflect on their experiences.

Key Resources

- [Feeling climate \(in\)justice](#)
- [Finding Joy in Climate Action](#)
- [Climate Change Isn't the First Existential Threat](#)
- [The Climate Anxiety Discussion Has a Whiteness Problem](#)

Agenda and Learning Objectives



Identify the causes of climate change emotions



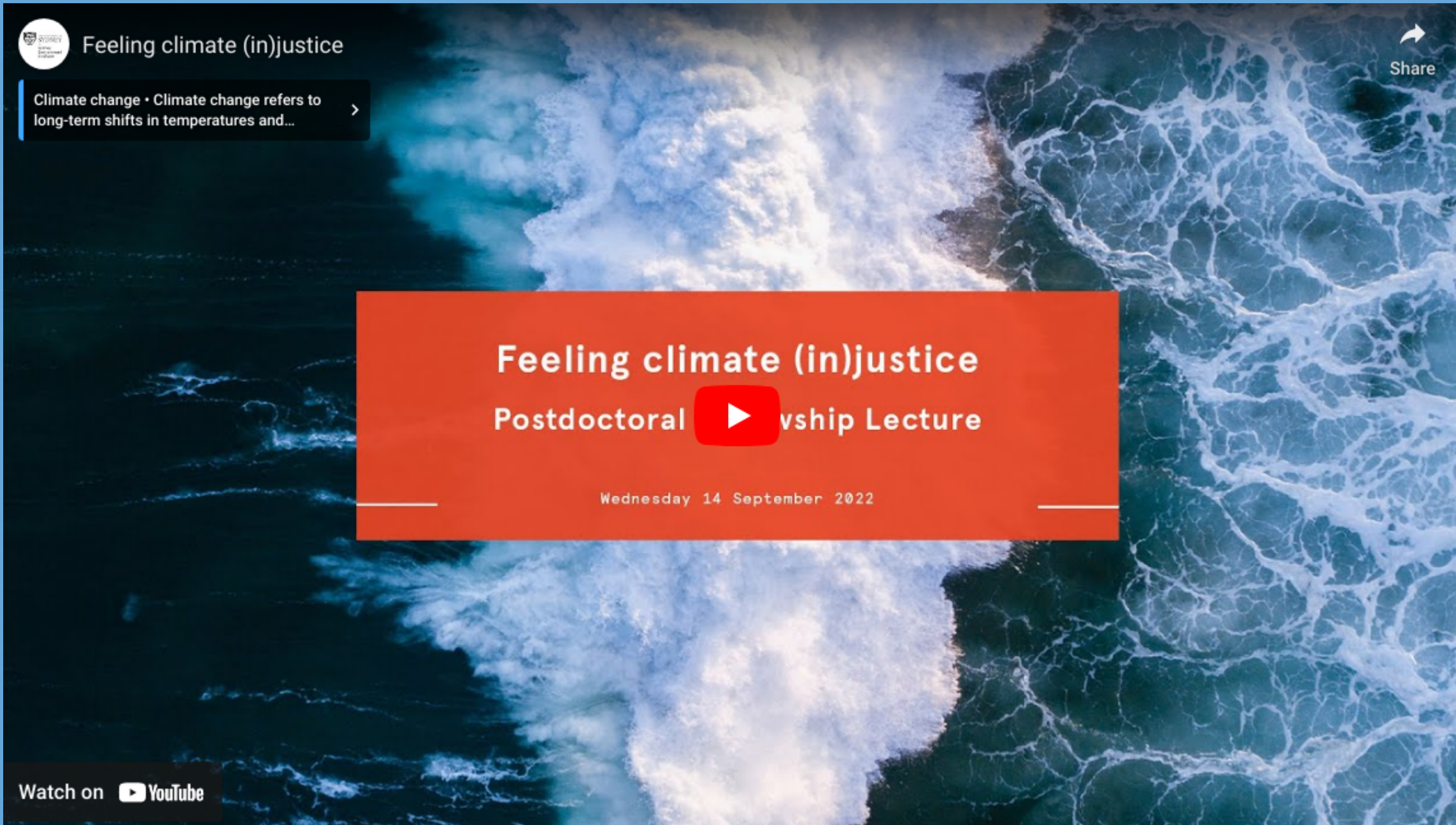
Recognize different responses to climate change



Understand the unequal psychological impacts of climate change



Discuss strategies of systematically addressing climate anxiety



Refresher:

**Pre-class
assignment to
watch "Feeling
climate
(in)justice"**

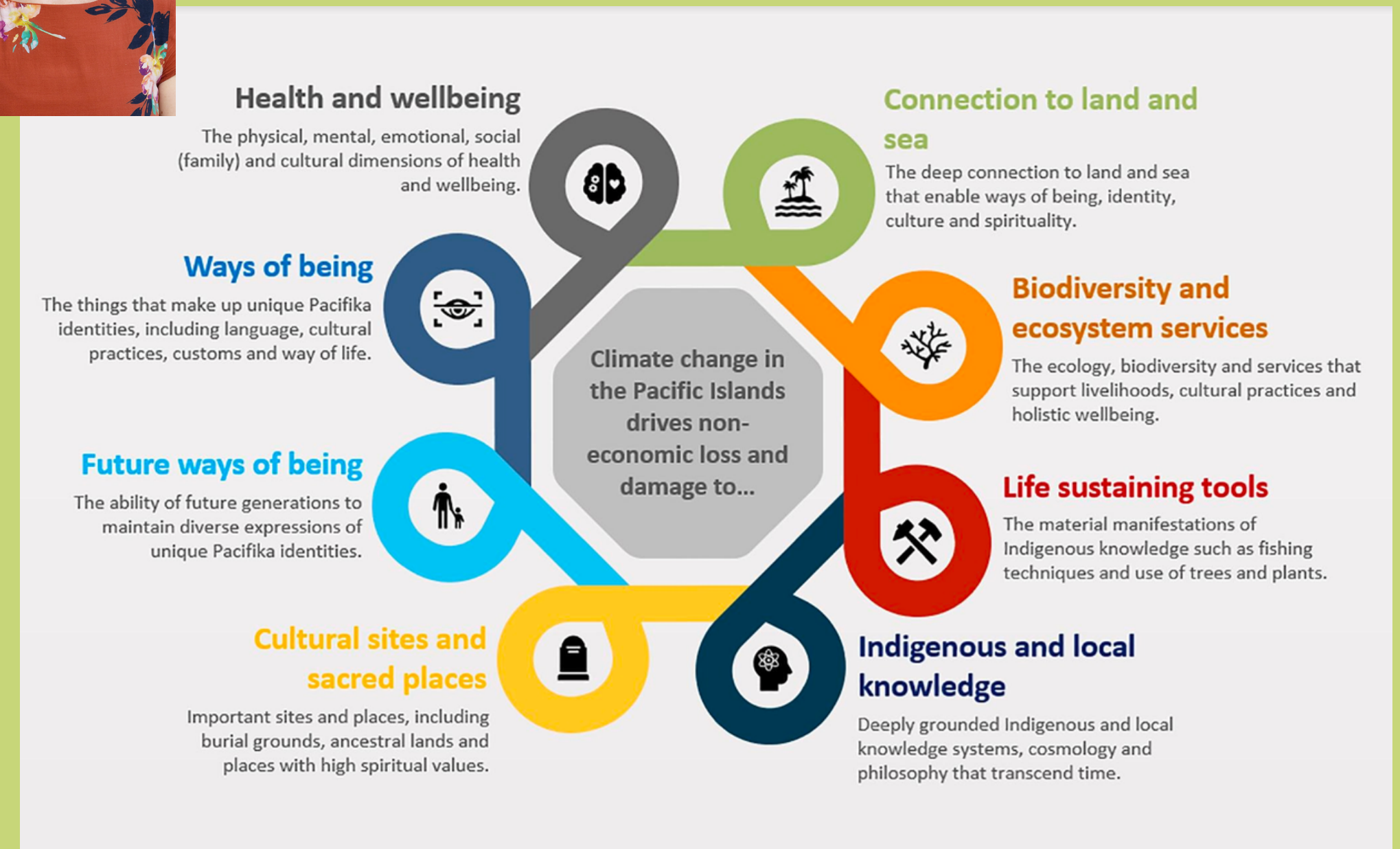
Discuss the lecture by Dr. Blanche Verlie



Turn to a partner or small group and discuss the content of her talk

Guiding Questions:

- In what ways can the discussion of climate change and climate feelings be changed to help individuals feel more supported?
- Do you agree or disagree with her argument about climate anxiety blaming individuals? What about greenhouse gaslighting?



McNamara et al. (2021)

Introduction

Emotions in climate change and climate justice

Thinking about the environment

The way we perceive the environment affects the emotional responses we have to topics like climate change, climate justice, and environmental degradation



"Louisiana Offshore Oil Port Services" by U.S. Department of Homeland Security (Source) is marked with CC0 1.0.



Photos from the National Snow and Ice Data Center's collection of repeat photography of glaciers.

Climate change cognition

Psychological distance



How psychologically near or far an object, event, or idea is perceived as being. Something that is psychologically near is perceived as being more concrete.

Past experiences



People's experiences with nature, positive, neutral, or negative, act as a lens through which they take in information and think about the environment.

Prior knowledge/education



The teaching a person receives about the environment forms the basis of their understanding of the environment.

Emotions of climate change and justice



Feeling climate distress



Climate anxiety

The feeling of dread or helplessness relating to the effects climate change will have on one's self, family, future generations, animals, and plants

Climate change does not impact all people equally, neither does climate anxiety

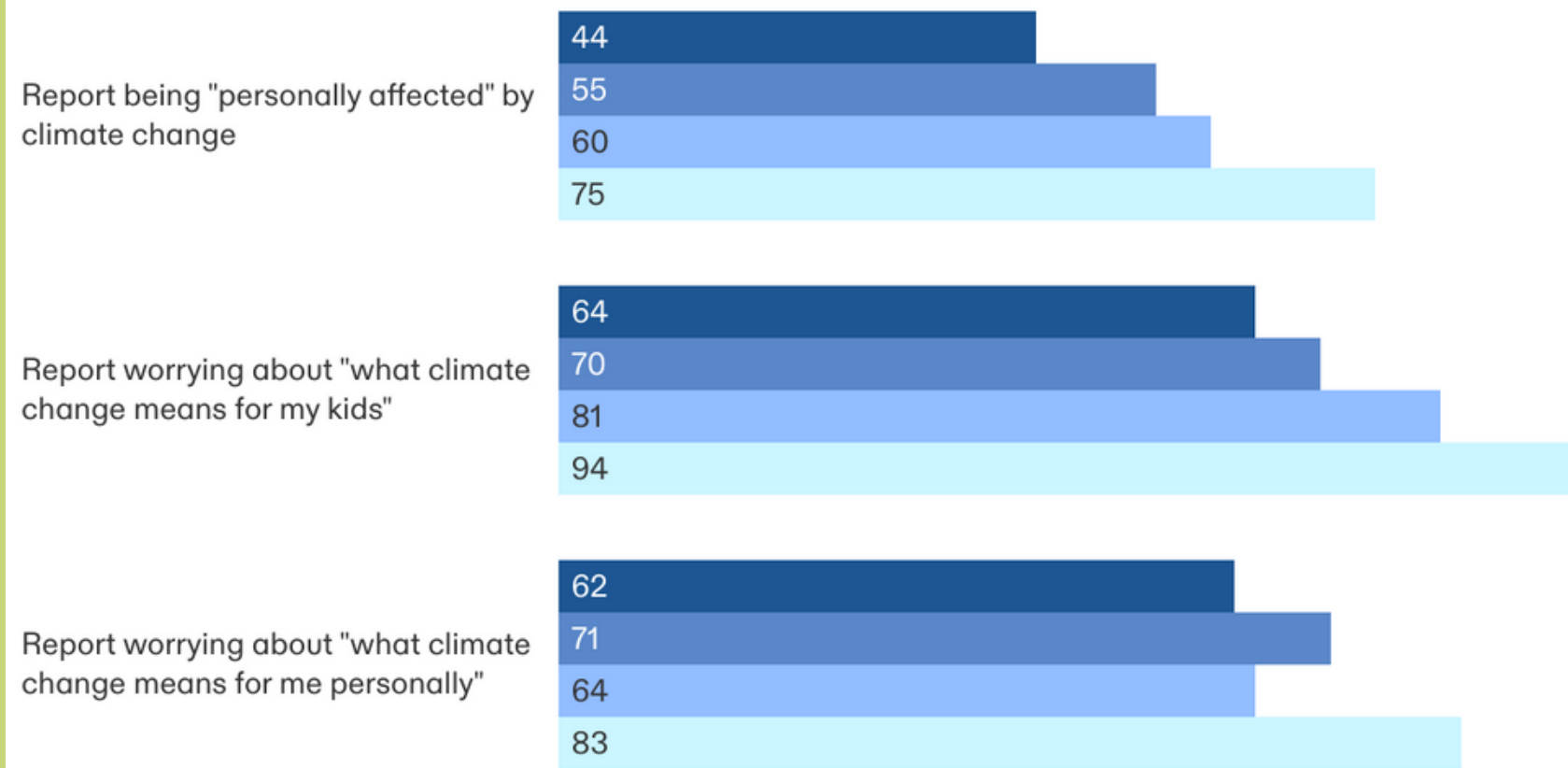


Jeff J Mitchell / Getty Images

Who feels climate anxiety?

Concern about climate change: Breakdown by race

White African-American Hispanic AAPI



Source: Heatmap Climate Poll



Whiteness often dominates the conversation of climate distress. According to the Heatmap survey, people of color actually experience more climate anxiety than white respondents.

How can the discussion change to include more voices?

Lange (2023)

Inequalities lead to disproportionate emotional impacts

The most vulnerable populations who experience the most drastic effects of climate change often had the least hand in causing the problem



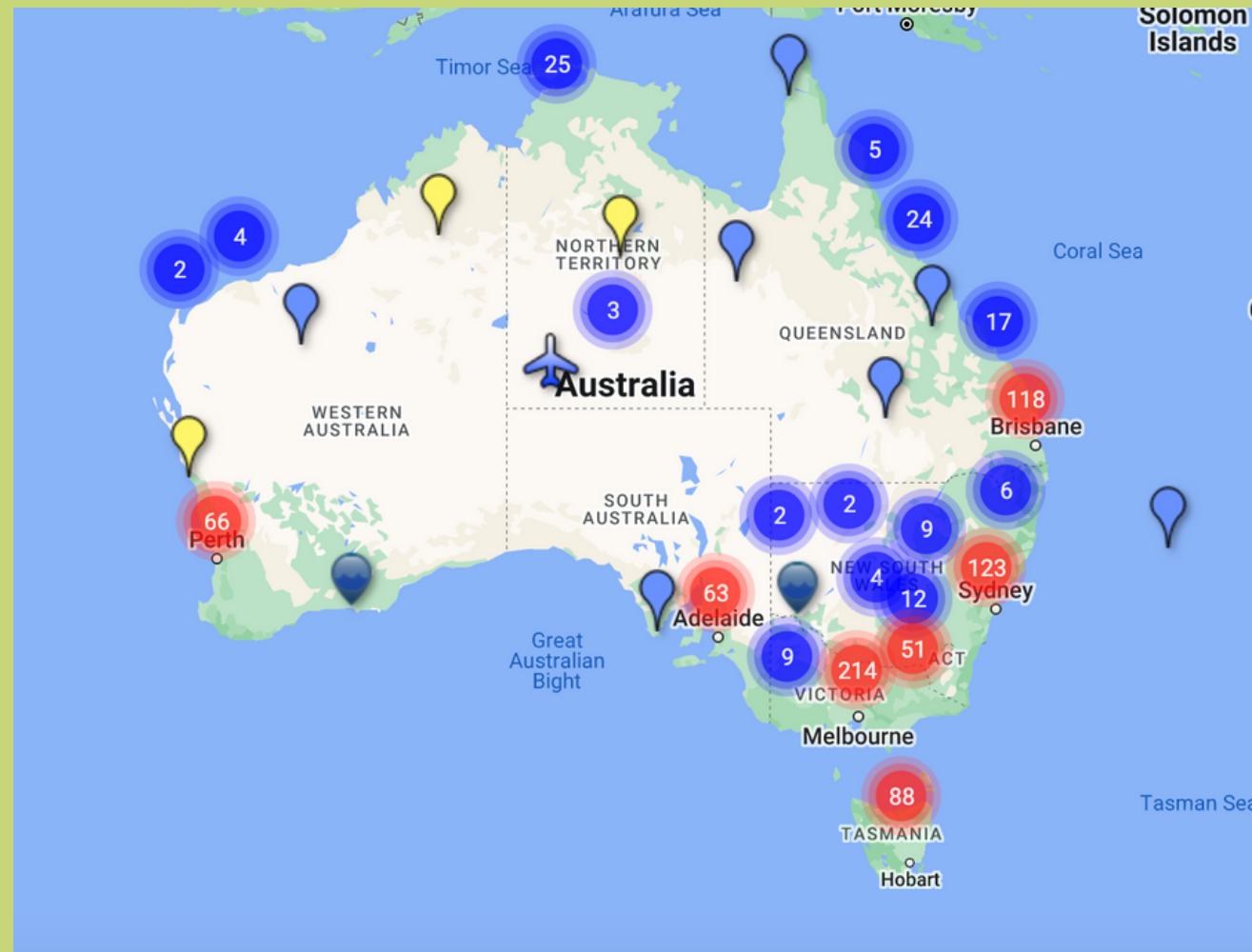
"Flooding near Croydon from Cyclone Nora" by Inspector Rolf Straatemeier - Queensland Police Service is licensed under CC BY 4.0.

Climate change is causing increased extreme weather events than can temporarily displace people, render their homes uninhabitable, cause economic losses, loss of life, and personal injury

Threats or perceived threats to the health or well-being lead of oneself, family, friends, and future lead to psychological distress

- People living in areas contaminated by pollutants are vulnerable to the physical/mental health consequences that come with exposure.
- Location, mobility, available amenities, housing stability, and structural integrity all important variables that factor into an individuals' level of psychological distress from climate change.
- Many women face a unique challenge with the uncertainty of climate change: the decision to have children or not.

Exposure to contaminants



Living in polyfluoroalkyl substance (PFAS) contaminated communities in Australia was associated with greater instances of self-reported psychological distress than in control communities

"In contrast with acute environmental disasters, which follow more defined stages from warning and threat through to eventual recovery and rehabilitation, individuals in chronically contaminated areas are caught in a perpetual state of warning and threat"

- Lazarevic et al. (2023)

Living conditions

People can have cultural and personal attachments to their homes or land. In the Pacific Islands, one's home can be thought of as an extension of one's self, loss of home leads to psychological stress.

Heating and cooling systems, air circulation, and the ability to withstand extreme weather events are intrinsic to protecting physical and mental health in the face of climate change.

For people experiencing homelessness or housing instability, the lack of protection from the elements exacerbates the negative mental health impacts of climate change.

Burdens on women

Many women are citing climate anxiety, increased potential for complications during pregnancy, and fears for their children's future as reasons why they do not want to have children during this climate crisis

Factors that influence women's climate anxiety and reluctance to have children

Case Study 1: Pollution and fertility

Case Study 2: Extreme heat and adverse pregnancy outcomes

Case Study 3: Exposure to wildfire smoke and preterm birth



"File:Kids Want Climate Justice (34168280266).jpg" by Lorie Shaull from Washington, United States is licensed under CC BY-SA 2.0.

Case study analysis

Basis for many women's climate anxiety around childbirth



Small group discussion and sharing

Divide into 3 groups

- Each group will take one of the following studies (linked on the slides)
- Read or skim the paper and summarize its findings
- Discuss its contents within your group: Do you think this impacts women's decisions to have kids?
- Meet with people from other groups and share



"White Desert morning" by CairoCarol is licensed under CC BY 2.0.

Case Study 1: Pollution and fertility.

Metric	Basic Model ^b		Full Model ^c	
	N	OR (95% CI)	N	OR (95% CI)
1-year average ($\mu\text{g}/\text{m}^3$)	9742	1.05 (1.02, 1.09)	9285	1.20 (1.13, 1.27)
3-year average ($\mu\text{g}/\text{m}^3$)	9742	1.06 (1.03, 1.10)	9285	1.19 (1.12, 1.27)
5-year average ($\mu\text{g}/\text{m}^3$)	9742	1.04 (1.01, 1.07)	9285	1.17 (1.10, 1.25)

a

Logistic regression models, presented as OR associated with each $10\mu\text{g}/\text{m}^3$ increase in exposure.

b

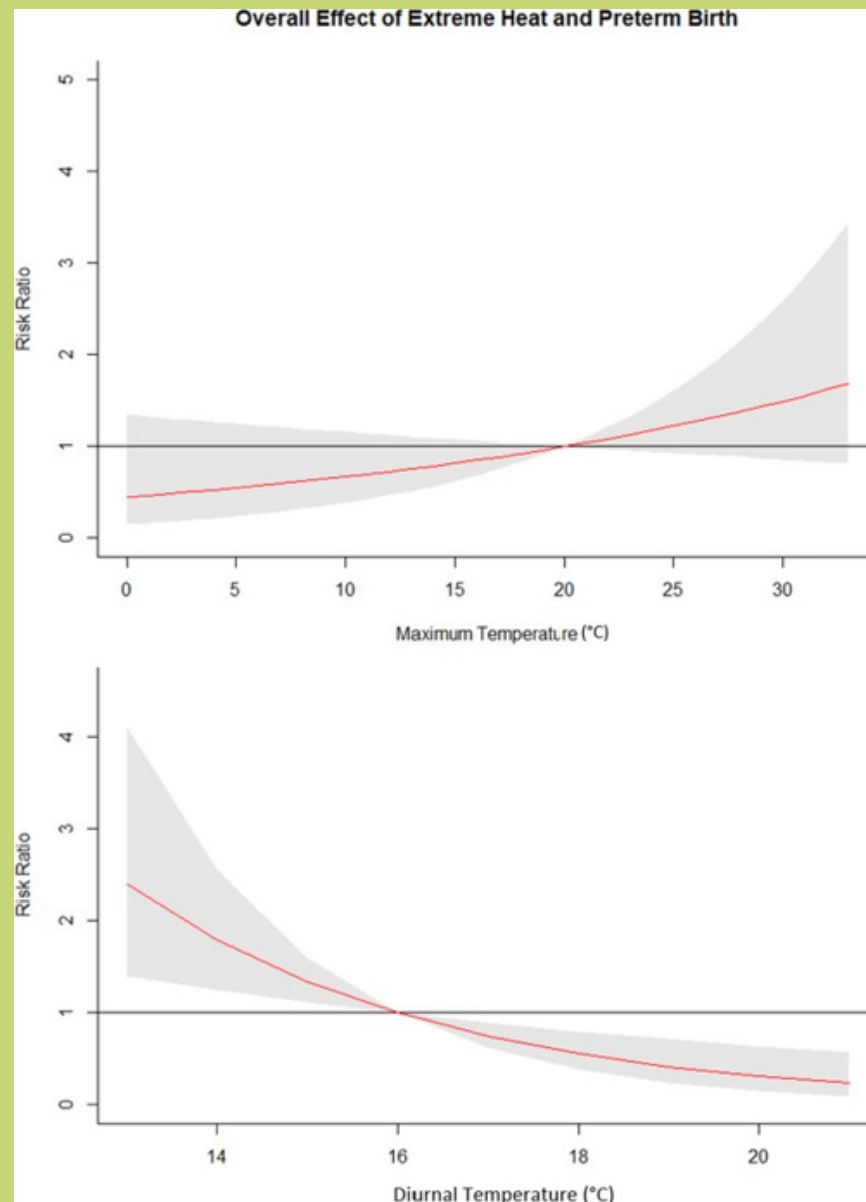
Only adjusted for ambient temperature (nature cubic spline).

c

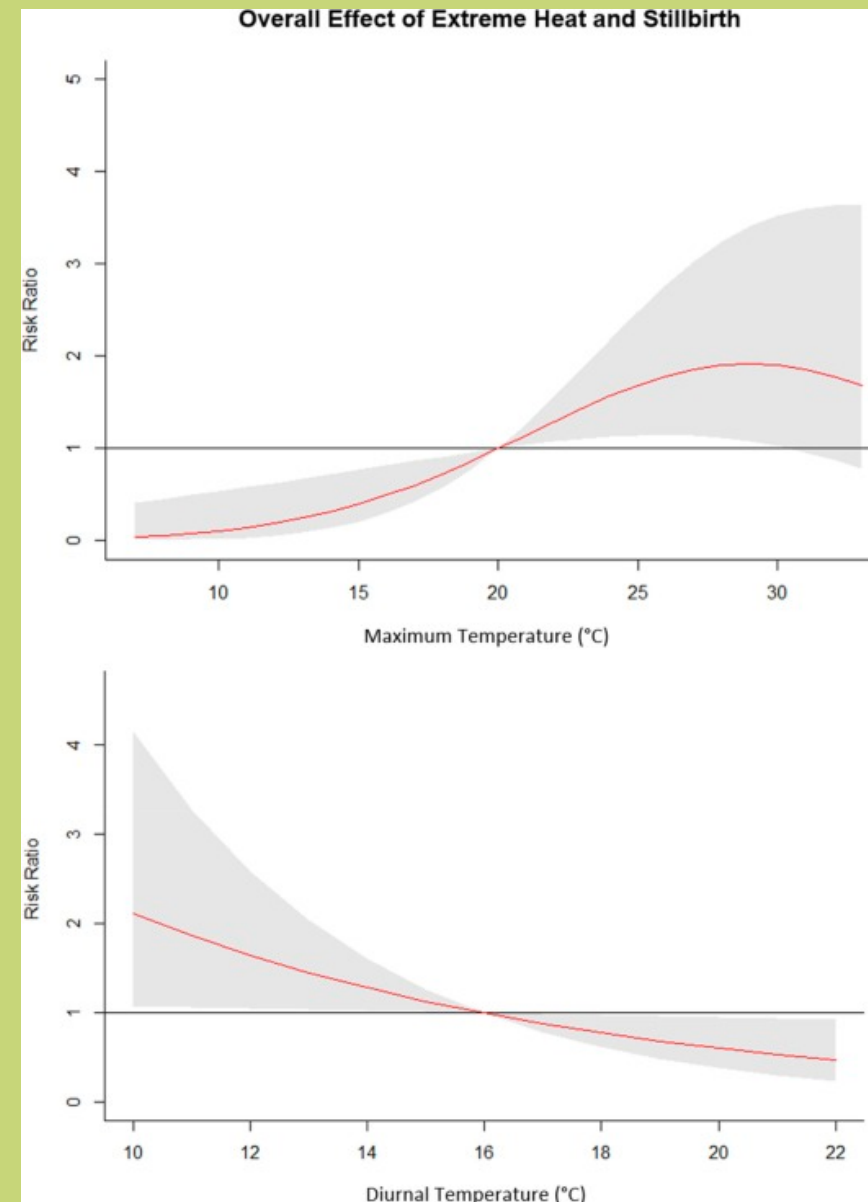
Additionally adjusted for region (random effect), males' age (continuous), maternal body mass index (continuous), ethnicity (Han, minority), education level (primary school or below, middle school, college or above), occupation (clerk, worker, farmer, housewife, others), household income (<10,000, 10,000–20,000, >20,000 Yuan/year), cigarette smoking (yes, never), drinking (yes, never) and physical activity (once/week, 2–3 times/month, once/month or less). A total of 457 observations were deleted because the above adjustments were missing; OR, Odds ratios; 95% CI, confidence intervals.

A study by Li et al. (2021) demonstrated that in eastern China, each increase of $10\mu\text{g}/\text{m}^3$ of airborne particulate matter (PM_{2.5}) was associated with decreased fecundity by 11% and a 20% increased likelihood of infertility.

Case Study 2: Extreme heat and adverse pregnancy outcomes



Research demonstrated an increased risk of preterm and still birth for women who were exposed to extreme heat within seven days before they gave birth



An increased risk of preterm birth was also shown among women who were exposed to daily temperature ranges of less than 16 °C

"The general pattern for the three heat wave definitions was that pregnant women living in rural areas, from less wealthy households, and with low education levels were at greater risk for preterm birth and stillbirth than their counterparts"

- McElroy et al. (2022)

Case Study 3: Exposure to wildfire smoke and preterm birth

Table 3. Crude and adjusted associations between wildfire smoke PM_{2.5} (µg/m³) exposure and preterm births.

	Crude Model		Adjusted Model *	
	OR (95% CI)	p-Value	OR (95% CI)	p-Value
First Trimester	0.972 (0.950, 0.995)	0.019	1.024 (0.986, 1.065)	0.22
Second Trimester	1.058 (1.034, 1.082)	<0.0001	1.132 (1.088, 1.178)	<0.0001
Third Trimester	0.949 (0.930, 0.969)	<0.0001	1.013 (0.978, 1.050)	0.47
Mean Over All Trimesters	0.992 (0.980, 1.004)	0.19	1.055 (1.033, 1.078)	<0.0001
Full Gestation	0.972 (0.938, 1.006)	0.11	1.076 (1.016, 1.139)	0.013

* Model adjusted for: Ozone, non-wildfire PM_{2.5}, PM₁₀, temperature deviation, month, year, mother's race/ethnicity, mother's education and income, mother's age, smoking during pregnancy, drinking during pregnancy, maternal asthma, and gindex.

The study by Abdo et al. (2019) demonstrates a significant relationship ($p < 0.05$) among Colorado women between exposure to wildfire smoke during the second trimester of pregnancy and preterm births.

Addressing climate distress

Using individual and systems-
level solutions

Watch TEDTalk: Finding Joy in Climate Action



1. **Draw** your own venn diagram of climate action.
2. **Identify** the actions you are good at, actions that are needed, and actions that bring you joy. **Find** the center of you venn diagram.
3. Is it something you are already doing? Is it something you could start doing? How can this help address climate anxiety?

Individually addressing climate anxiety



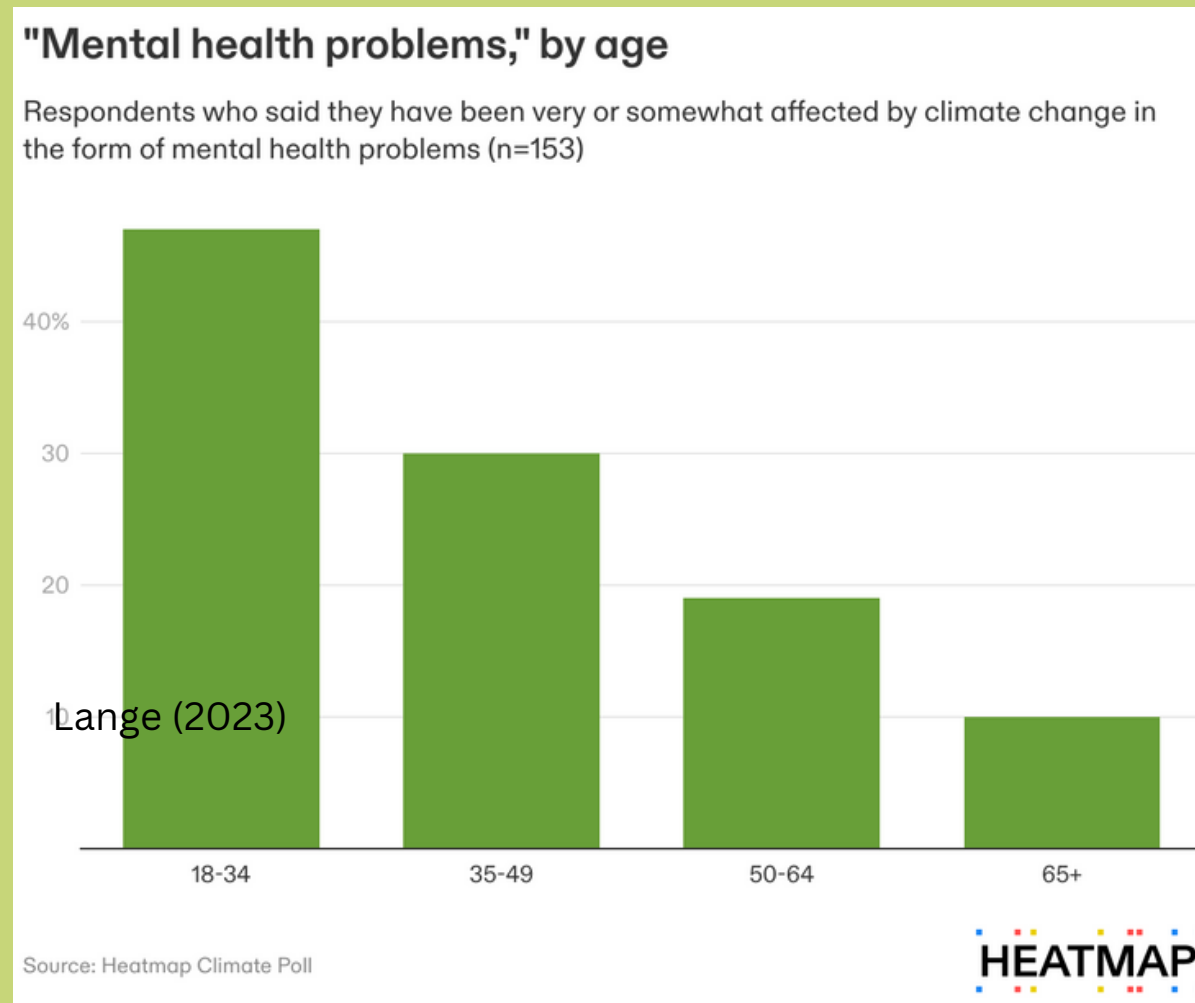
Johnson, A. E. (2022). How to Find Joy in Climate Action. TEDTalk. TED. Retrieved from <https://www.youtube.com/watch?v=VsOJR40M0as>.

Finding your Joy in Climate Action: Find the intersection of doing what you love, doing what needs to be done, and doing what you are especially good at.

Increasing access to mental health services, legitimizing people's worries and fears, and building networks for people feel climate anxious can address climate anxiety on the individual scale.



Systematically addressing climate anxiety



We must stop blaming individuals for their experiences of climate distress. These widespread mental health problems merit systems-level changes to the discussion of climate change.

Climate justice must include actions to prevent the climate change induced threats that disproportionately impact vulnerable populations to promote better mental health.

Discuss methods of addressing and mitigating the impacts of climate anxiety with a partner:

Guiding questions:

- How can we make access to these strategies more equitable and effective?
- How can climate justice help us confront climate distress/anxiety?
- How can we change the way climate change is talked about?
- How can we include more voices in the climate distress discussion?
- Can you identify more tactics of addressing climate distress?



"Wildfire" by NPS Climate Change Response is marked with Public Domain Mark 1.0.

Next steps



Self reflection:

1. Think about your own experiences learning about climate change, sustainability, and climate justice
2. Write down your thoughts, feel free to use the guiding questions below:
 - a. Has the climate change education you received included climate justice?
 - b. How do you think climate justice impacts people's lives?
 - c. How can you include climate justice in your coursework or career?
 - d. How do you feel when you are learning about climate change or experiencing climate change?
 - e. What do you think can help people experiencing climate distress?

Future directions

Connecting module materials to coursework, majors, and careers

Project options:

- Choose 1 of the activities (in the following slides) and write a short paper in response to the articles
- Write a policy memo about modifying climate change messaging to help people suffering from climate distress

Future connections:

- Human perception and emotions define behaviors, it is key to understand both in an increasingly climate affected world



"Iceland - Church Mountain - Impressive view" by Onasill - Bill Badzo - 149 Million Views - Thank Y is marked with Public Domain Mark 1.0.

Project Option 1*: Connecting the emotions of the climate justice movement to past movements

Read the piece from Mary Annaïse Heglar: [Climate Change Isn't the First Existential Threat](#)

Write a short paper including your thoughts on the article. What can we learn about building and handling the emotional responses of a movement for environmental protection from America's ongoing fight for civil rights?



Photo: Library of Congress/Interim Archives/Getty Images

Dear Climate Movement:

I'm with you when you say that climate change is the most important issue facing humankind. I'll even go so far as to say it's the most important one ever. But when I hear folks say — and I have heard it — that the environmental movement is the first in history to stare down an existential threat, I have to get off the train.

*Content warning for disturbing images and references to slavery and the Jim Crow era

Project Option 2: The White-centric discussion of climate anxiety

Read the piece from Sarah Jaquette Ray: [The Climate Anxiety Discussion Has a Whiteness Problem](#)

Write a short paper including your thoughts on the article. How have POC activists and affected individuals been left out of the climate anxiety discussion? What do you think can be done to address all types of climate anxiety? How can we include more voices in the discussion?

The Climate Anxiety Discussion Has a Whiteness Problem

Marginalized groups often think about the mental impact of the climate crisis in different terms—meaning they end up crowded out of the conversation.



PHOTOGRAPH: YUKI IMAMURA/GETTY IMAGES

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