

# to Face & Teach the Climate Emergency



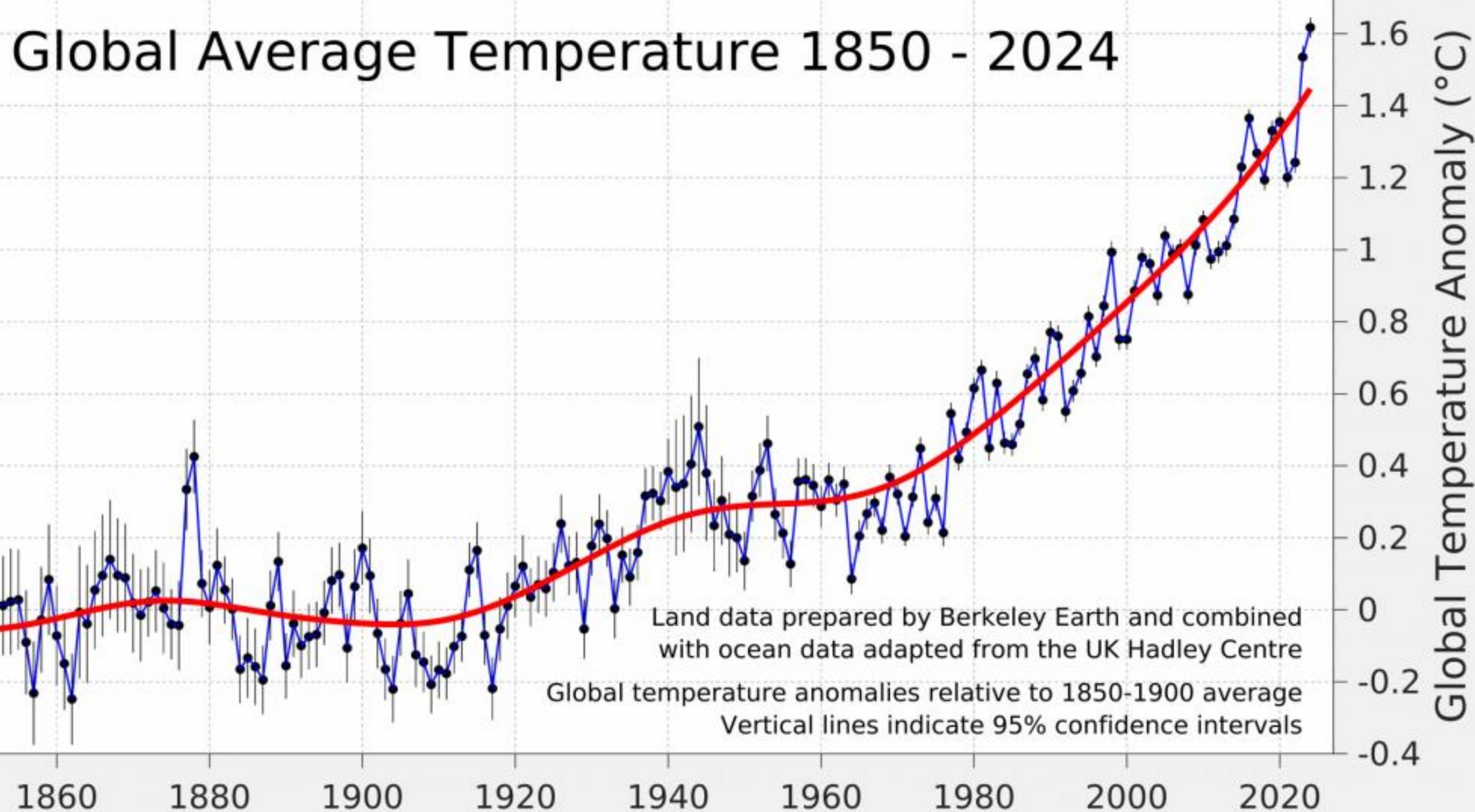
Allen Webb

Western Michigan University

[allen.webb@wmich.edu](mailto:allen.webb@wmich.edu)

What are you and your students noticing about climate change?

# Global Average Temperature 1850 - 2024



# 2023 & 2024 Hottest Years in 120,000 years...



- In 2023 & 2024 human produced greenhouse gasses added 9 Hiroshima bombs of heat per second
- 2023 & 2024  $> 1.5^{\circ}\text{C}$  – Paris Target for 2100. Several months of 2024  $> 2^{\circ}\text{C}$
- July 21, 2024 hottest day ever recorded
- Global heating accelerating ([James Hansen](#))
- Greenhouse Gas Emissions keep rising! 2023 & 2024 setting new records.

# Climate Emergency: 1) Greenhouse gas emissions.



**Burning Fossil Fuels**



**Deforestation**



**Animal Agriculture**

## 2) Failure of governments and society to act.

***Nations That Vowed to Halt Warming  
Are Expanding Fossil Fuels, Report  
Finds***

G20 poured more than \$1tn into fossil fuel subsidies despite Cop26 pledges - report

In 2030, if current projections hold, the United States will drill for more oil and gas than at any point in its history. Russia and Saudi Arabia plan to do the same.

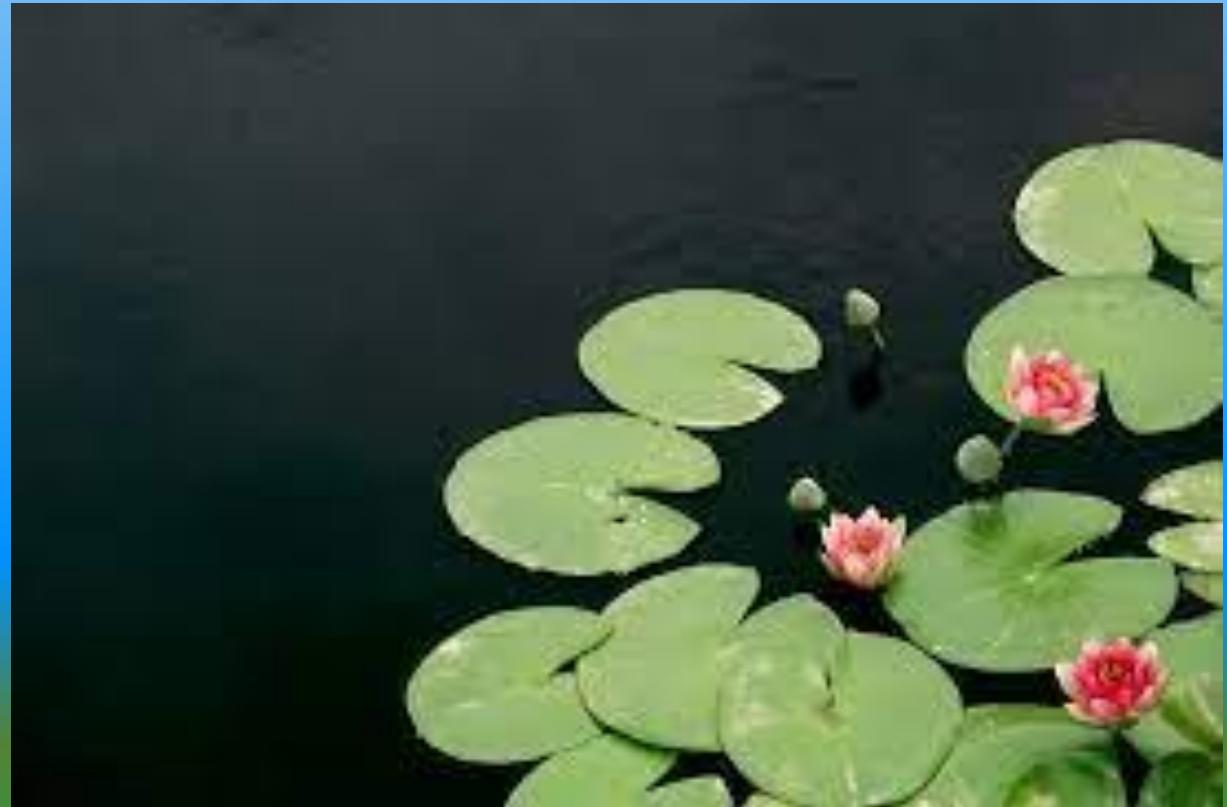
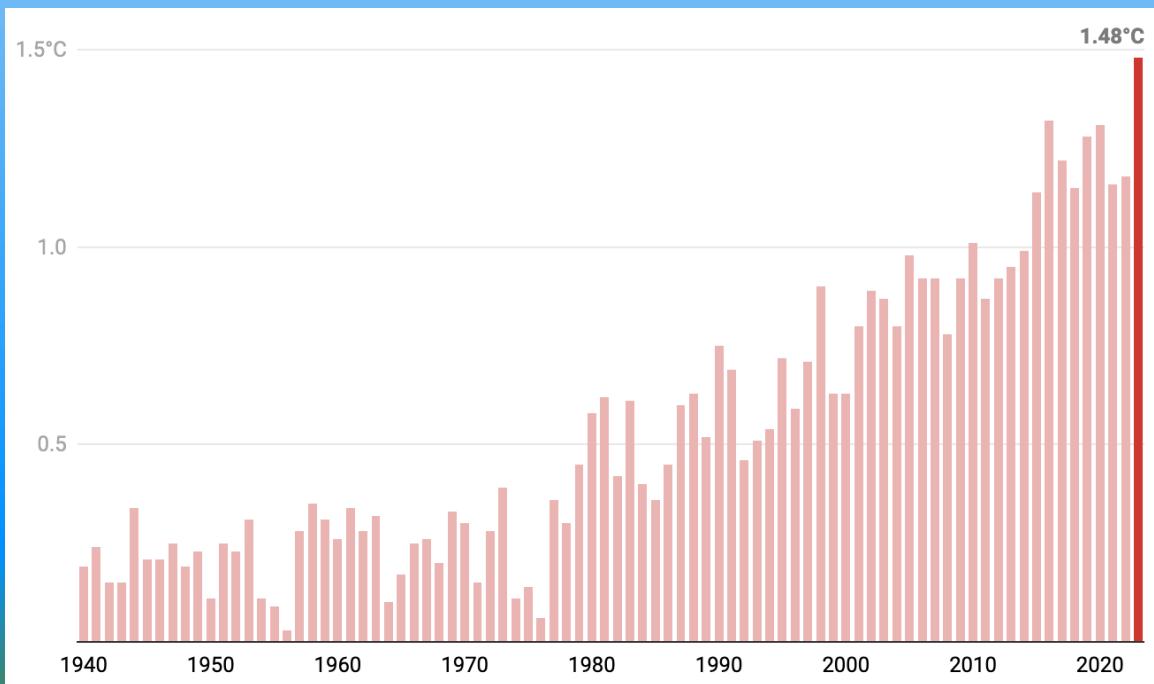
# Fossil Fuels Killing 1 in 5

- Air pollution caused by the burning of fossil fuels responsible for *8.7 million deaths globally in 2018*
- Especially in areas with high fossil fuel use, North America, Europe, China, India

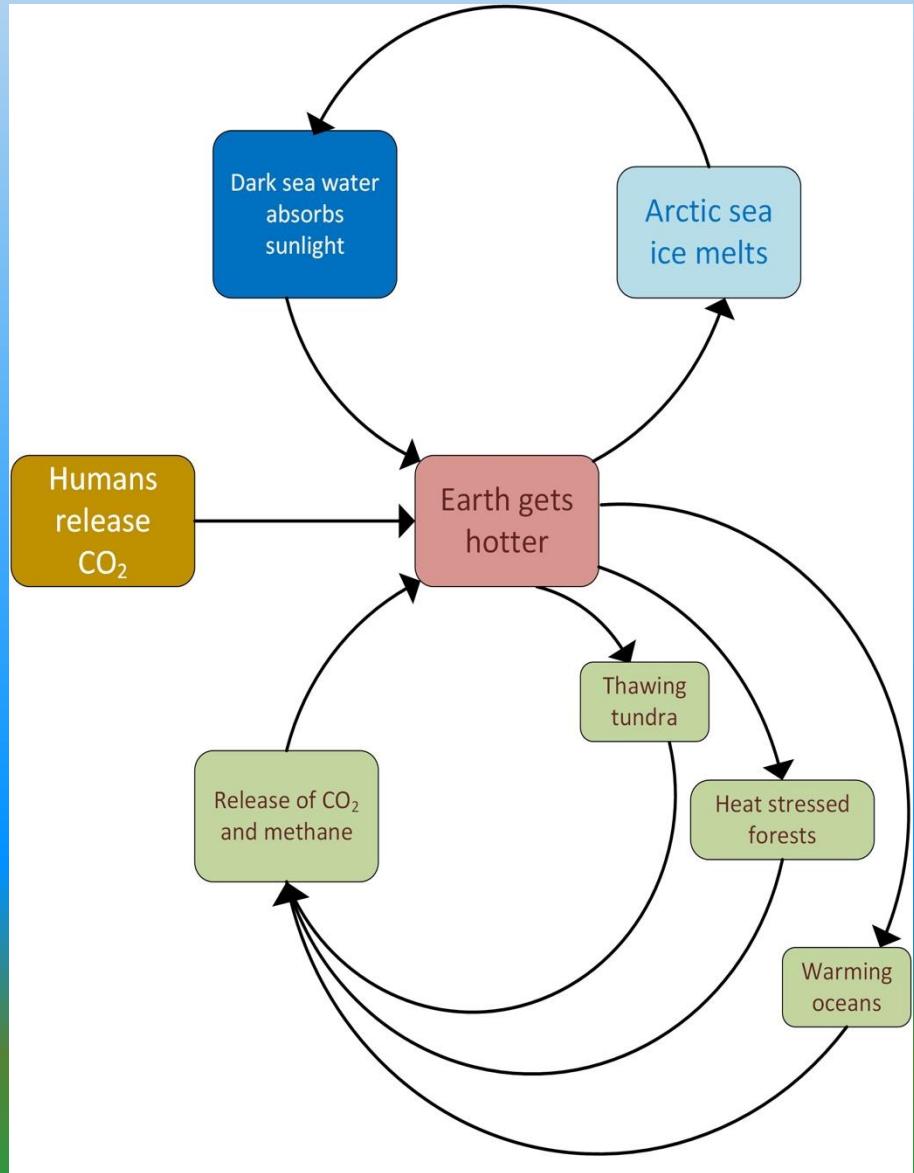


What have you heard in the news about what might happen with climate change in the future (during your students' lifetimes)?

# Exponential Growth Can Confuse Us



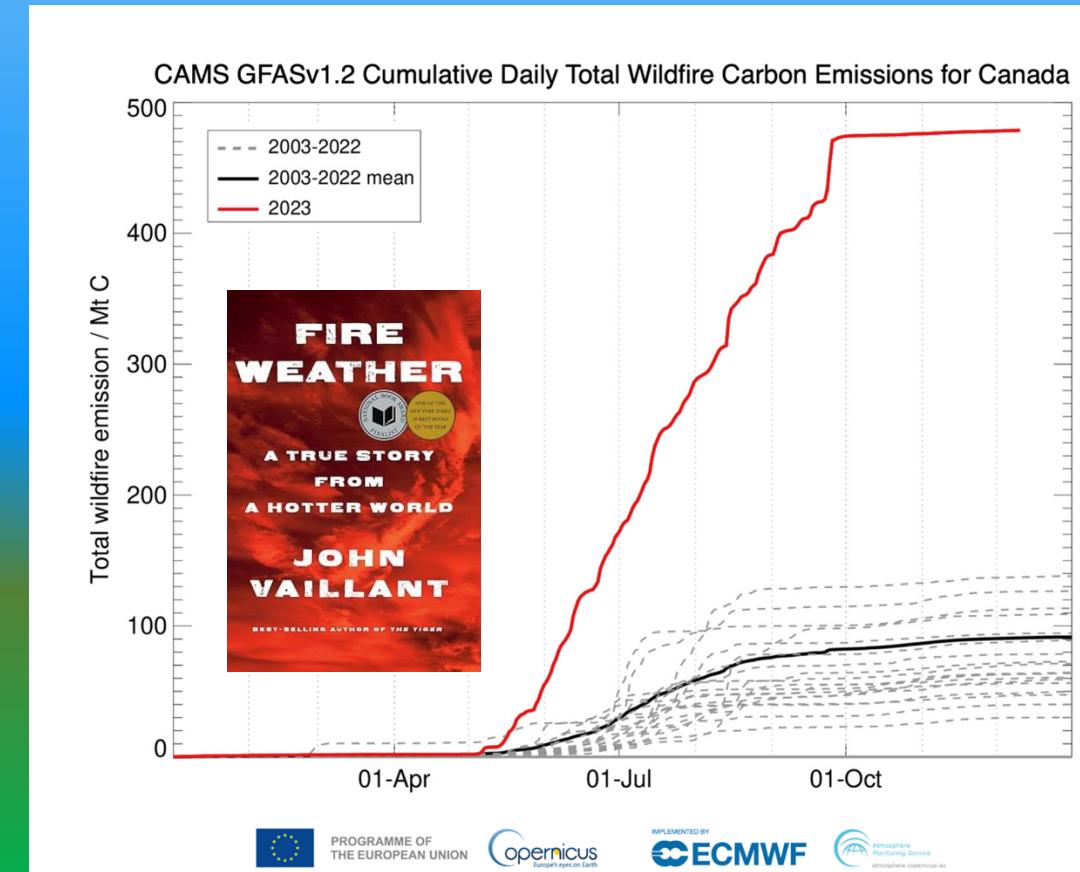
1<sup>st</sup> month 1 lily pad. 2 months 2 pads. Covered in 36 months. [When is the pond half covered?](#)



2° may initiate dangerous feedback loops & tipping points that could spiral beyond human control...

# Wildfires turn Canada's vast forests from carbon sink into super-emitter

- About 2.2 billion tons of CO<sub>2</sub> released, also fostering melting of permafrost (480 x 3.67)
- Same as 4 x global airline industry in a year, or 647 million gas burning cars
- Canadian wildfires only 22% of 2023 global total wildfires



# Future Impacts of Increasing Temperature

3°

- Tremendous heat waves. 1/3 of global land area exceeds heat deadly threshold 20 days per year
- Mediterranean region becomes desert, drought engulfs majority of land area now inhabited by humans, megafires

4°

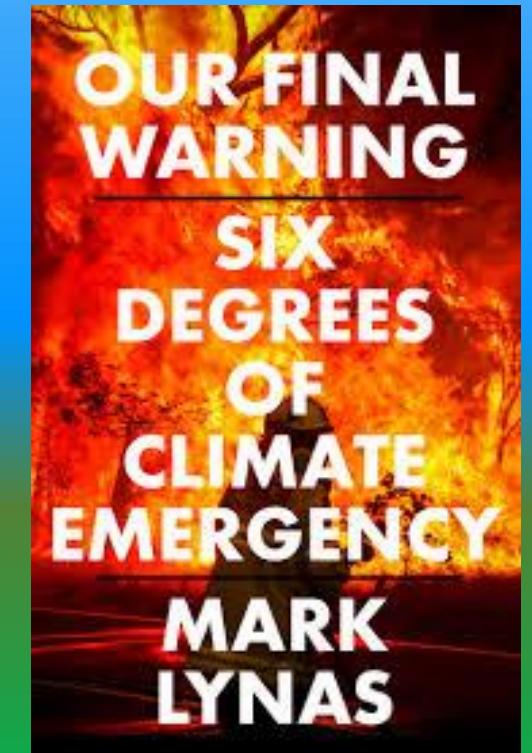
- Collapse of food production in China, the western half of India, southern Africa, Australia, and the western United States
- Sea level rise forces billions to move

“The difference between 2°C and 4°C is human civilization.”

[Hans Schellnhuber](#), founding director  
of the Potsdam Institute for Climate Impact Research



“If we stay on the current business-as-usual trajectory, we could see two degrees as soon as the early 2030s, three degrees around mid-century, and four degrees by 2075 or so. If we’re unlucky with positive feedbacks...from thawing permafrost in the Arctic or collapsing tropical rainforests, then we could be in for five or even six degrees by century’s end.”



# Earth's 6 Mass Extinction Events

450 M 75%\*

380 M 75%

252 M 96%

200 M 80%

66 M 75%

Present

global heating: greenhouse gas

global heating: greenhouse gas

global heating: greenhouse gas

global heating: greenhouse gas

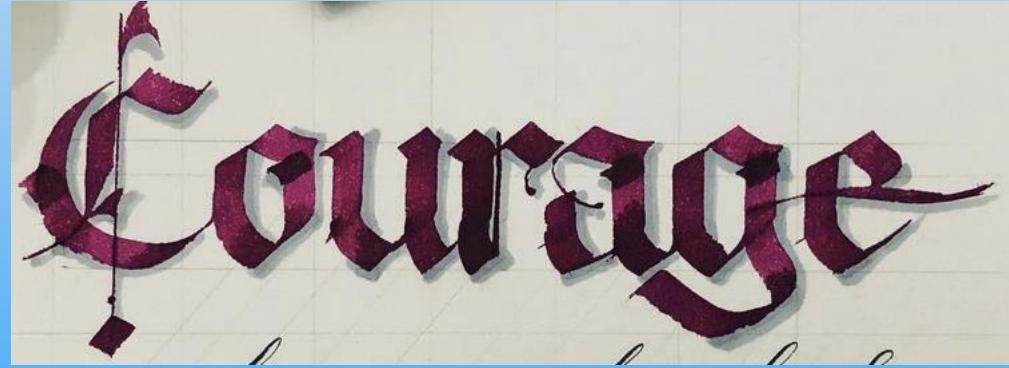
asteroid & greenhouse gas

global heating: greenhouse gas



- Currently adding carbon at a rate [10x faster](#) than at any time in Earth's history.
- Already more carbon in the atmosphere than the last [20 million years](#)
- 50% of the greenhouse gasses in the air in the [last 30 years](#), since 1990.

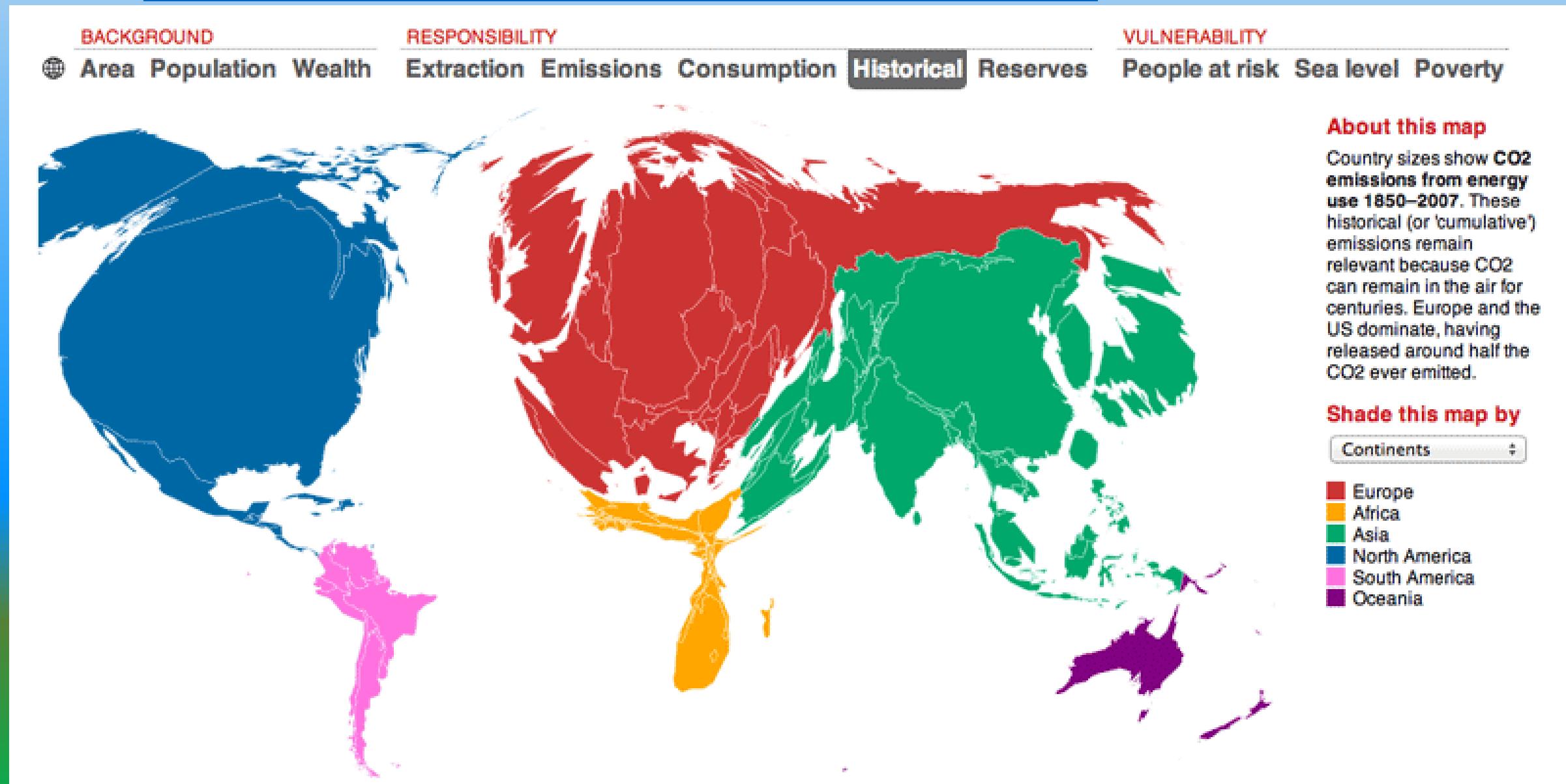
\*percentage extinction of all life on earth



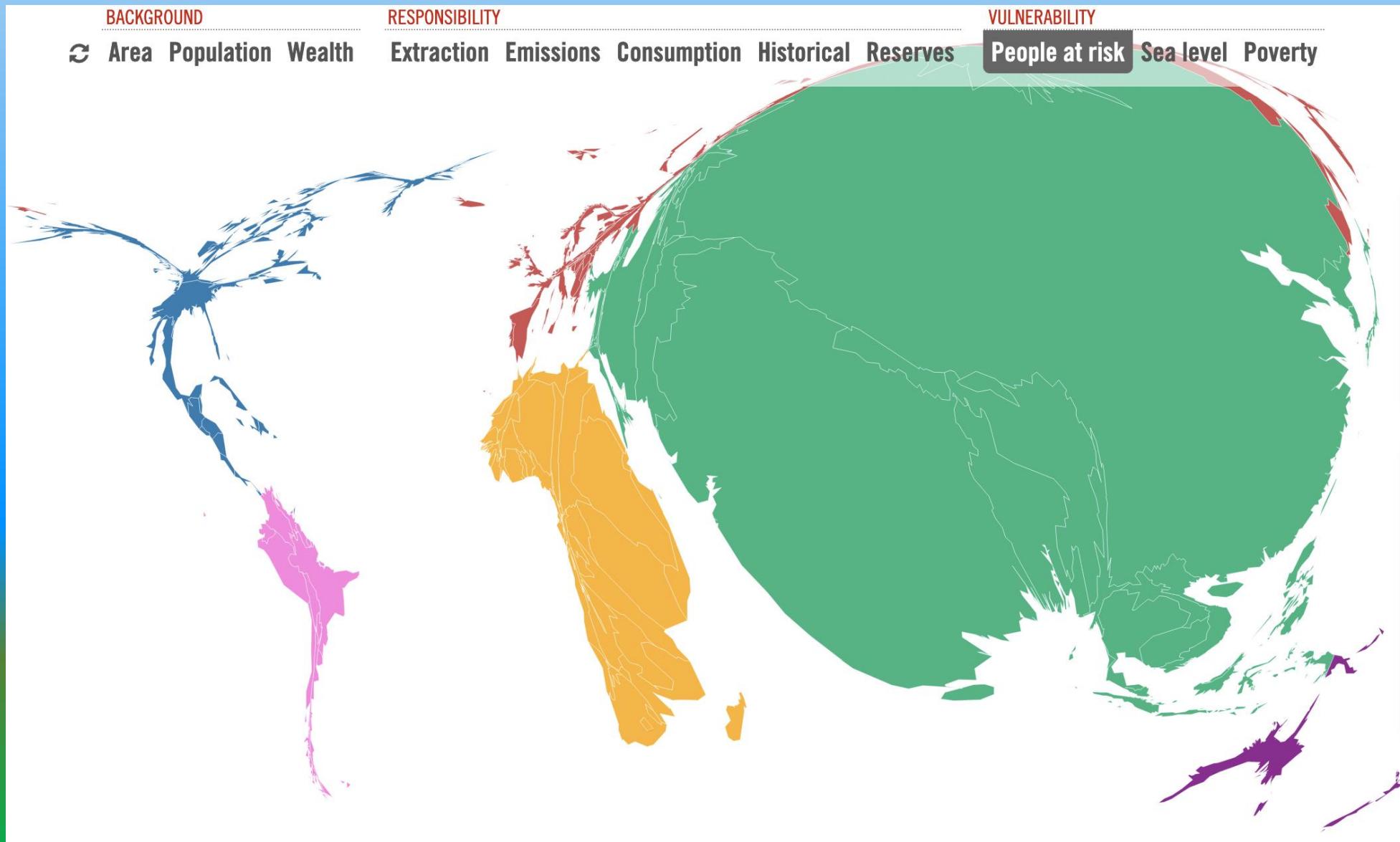
For our students  
& the future.



# Responsibility for Climate Crisis

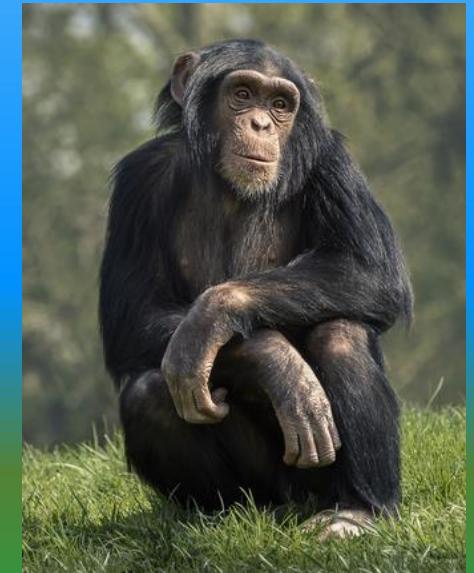


# Already Suffering from Global Heating



# Climate Crisis is a Justice Crisis

- Who caused the crisis? Who suffers first and most?
- Who knew and could have acted? Who fostered denial?
- How will decisions of the older generation impact the young?
- What is it like to be a climate victim or refugee? What responsibility do we have to victims and refugees?
- What should be America's role in the global community?
- What responsibilities do humans have to animals, plants, and the natural world?
- What would a just and fair approach to addressing the climate emergency look like? How do we create a just transition?

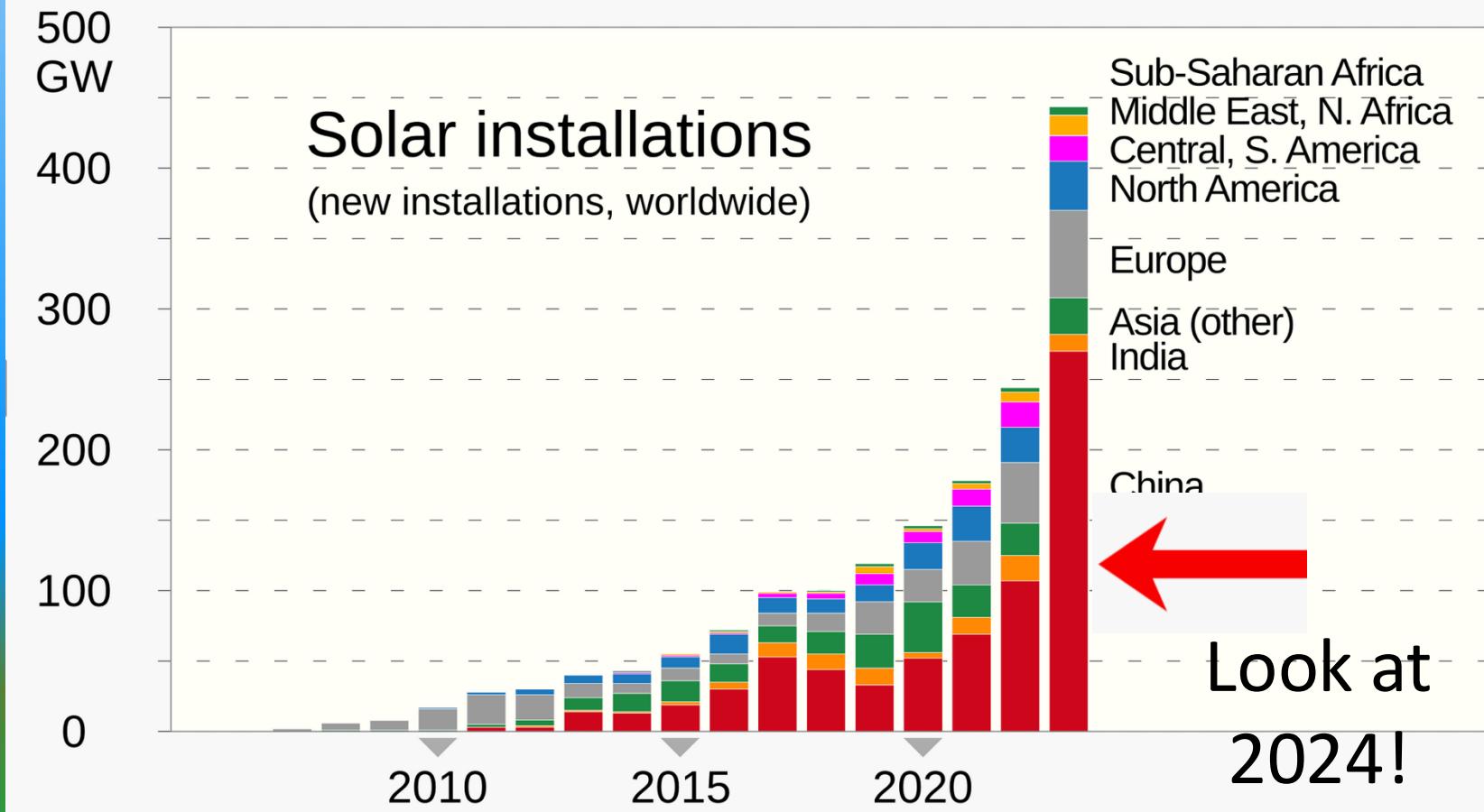
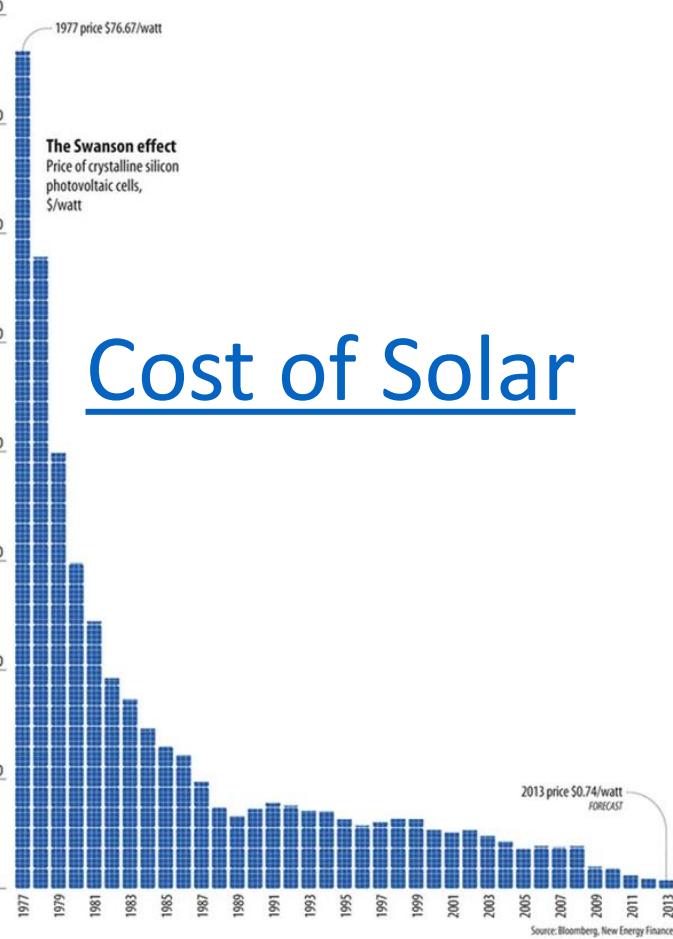


94% or 85% habitat loss  
by 2050

What do we know about solutions?

# Two Charts

## Cost of Solar



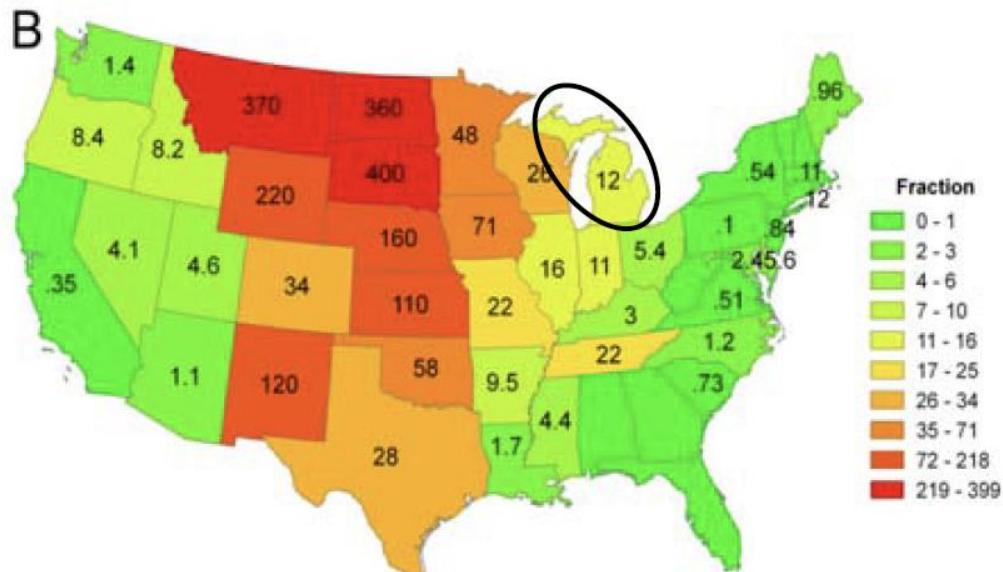
# Renewable Energy Breakthrough

- Solar power is being deployed 100x faster than nuclear.
- In California solar and wind supplied 100% of power, for months.
- China 6 years ahead of schedule to build renewables.
- Far greater efficiency and less cost than any other energy sources.



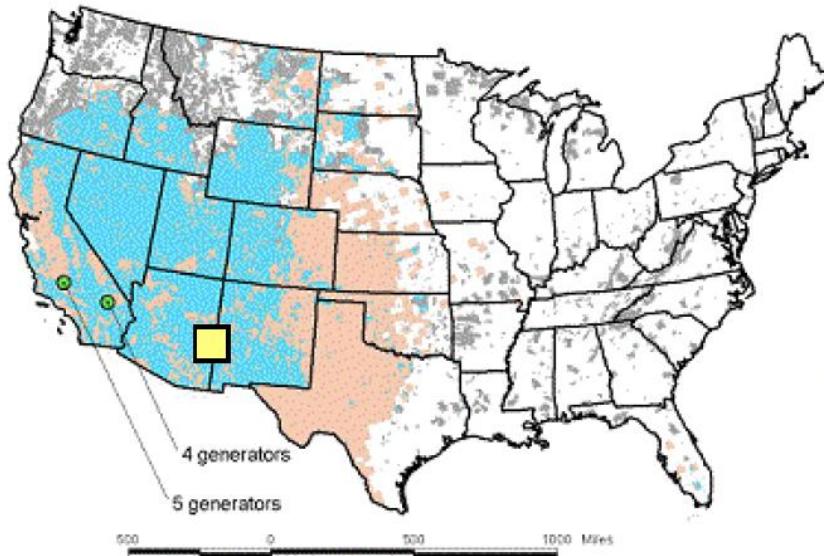
# Wind, solar, and batteries can provide **all** US power!

**Wind power could supply 16 times current U.S. electricity demand using only onshore windmills**



- Michigan can supply 12 times our current use

**A CSP solar array 100 x 100 miles could provide all of U.S. electricity needs today**



- excess energy captured during the day could be stored as heat and used to produce electricity at night

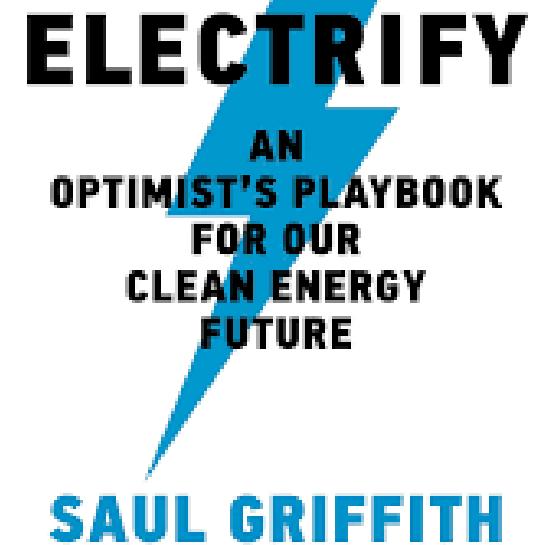
[Mark Jacobson, Stanford](#)

# Electrify. Everything.



"Required reading for an economy-wide green transition in the USA."

MARINA MARIKATO, AUTHOR OF MISSION ECONOMY



# NOT Solutions

- Natural (fossil) gas
- Fracking
- Carbon capture & storage
- Carbon tax
- Hydrogen, inc “green”
- Nuclear
- Geoengineering
- Ethanol
- Biomass combustion



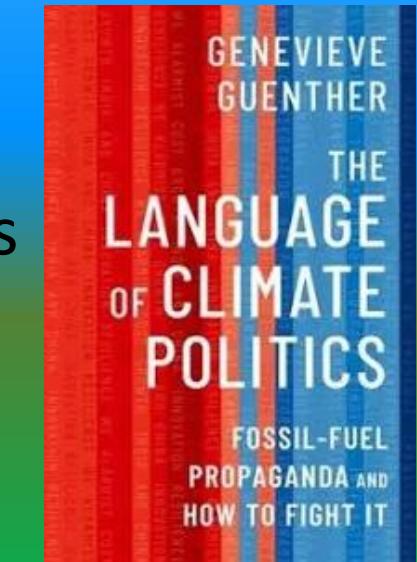
Someone profits from  
these... but not the rest of  
us or life on earth.

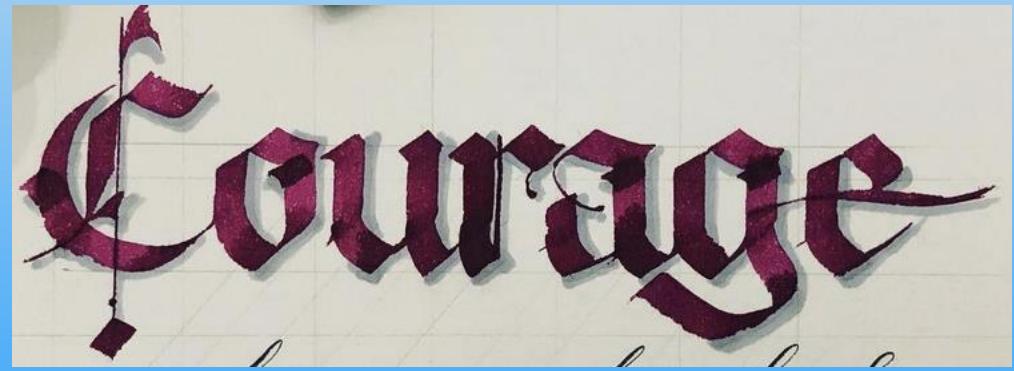
# What is Trump's Administration Doing?

Everything possible to increase fossil fuels and stop renewable energy.



- Withdrawing from the Paris Agreement – US only country not in
- Destroying climate science, data, and research, federal & university
- Dismantling the EPA and greenhouse gas regulation
- Discourage electric cars and electrification
- Eliminating all previous Biden and blocking state climate actions
- Removing climate change from Defense Department planning
- Solar and wind excluded from “energy”
- Dismantling democracy and creating a climate of fear.





Is contagious.



Anyone tried climate change teaching?

30% of teachers  
are concerned  
that parents may  
complain if  
students are  
learning about  
climate, but...

77% of parents  
support climate  
change teaching.

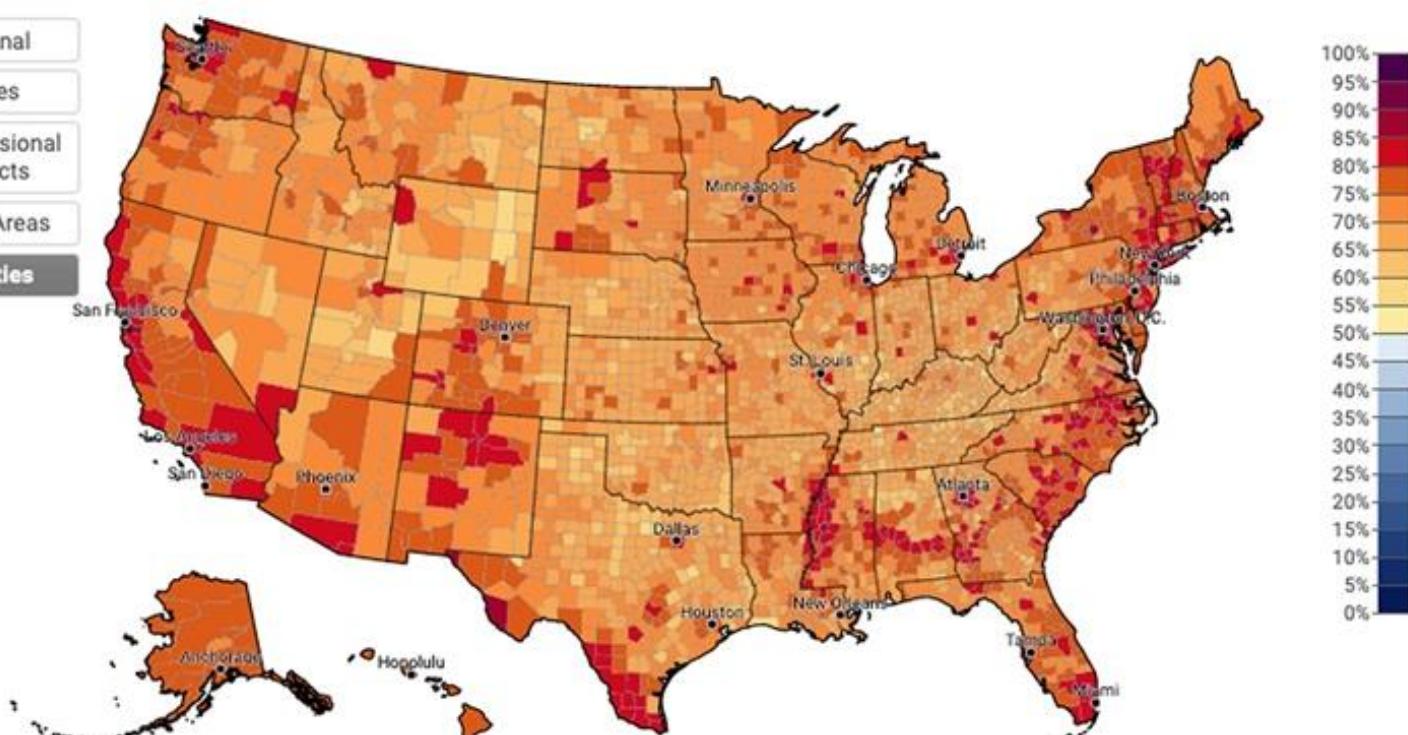
Estimated % of adults who believe schools should teach about the causes, consequences, and potential solutions to global warming (nat'l avg. 77%), 2021

Select Question: Schools should teach about global warming

Absolute Value

Click on map to select geography, or: Select a State Select a County

National  
States  
Congressional  
Districts  
Metro Areas  
**Counties**



United States

50%

Agree

77% 22%

Disagree



# We Need to Address Young People's Concerns

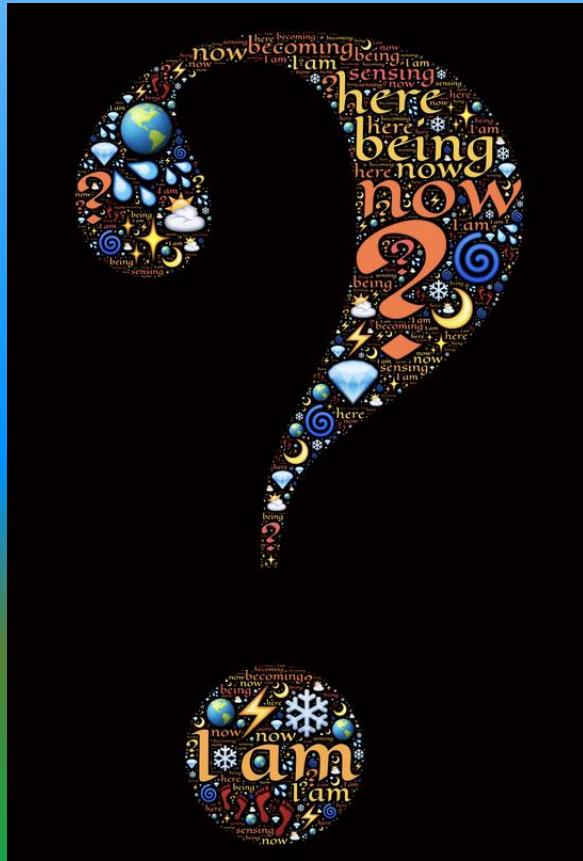


- 85% “moderately worried” & 57.9% “very or extremely worried.”
- 42.8% “impacts their mental health,” and 38.3% “negatively affects their daily life.”
- Question whether the work they put into their education (59.5%) or their career, job, or vocation (57.9%) will matter.
- Hesitant to have children (52.3%).

Across all 50 states, ages 16-25, Lancet 2024

# Climate Crisis Teaching

## Inquiry



## Justice



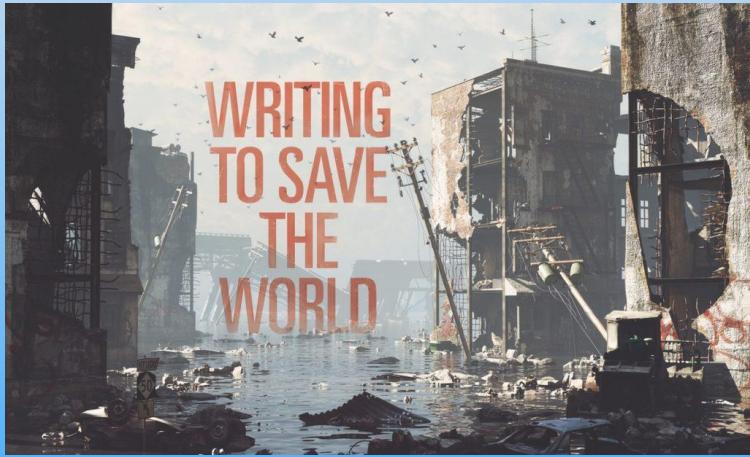
## Action



# Hope Comes from Taking Action

- Learn about the difference action can make
- Learn about others taking action
- Educate others
- Persuasive and personal writing
- Online writing and social media
- Join groups, create local chapters
- Support global co-operation
- Direct action, social activism / nonviolent methods (Gene Sharp)





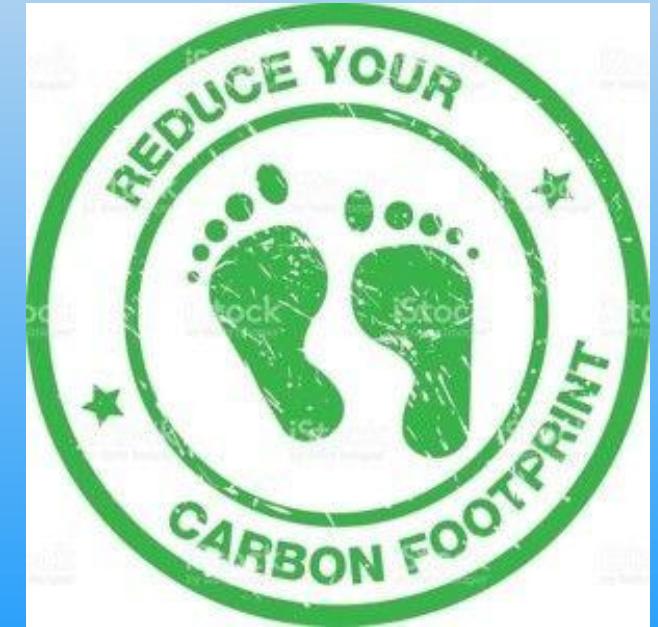
# – English Language Arts – Most Important Discipline for Climate Inquiry and Action

- Imagining what future may hold, not only scientifically, but also socially, politically, and at interpersonal levels.
- Considering ethical questions: climate justice, generational justice
- Utopia/Dystopia/“Cli-fi”
- Understanding the perspective and rights of others
- Critical media analysis
- Fostering student voices, persuasive, place-based, & creative writing
- Activism in school, locally, globally using Internet, social media

# Rethinking Carbon Footprints

Why would fossil fuel companies promote the study of individual carbon footprints?

Citizen education not refined consumerism!



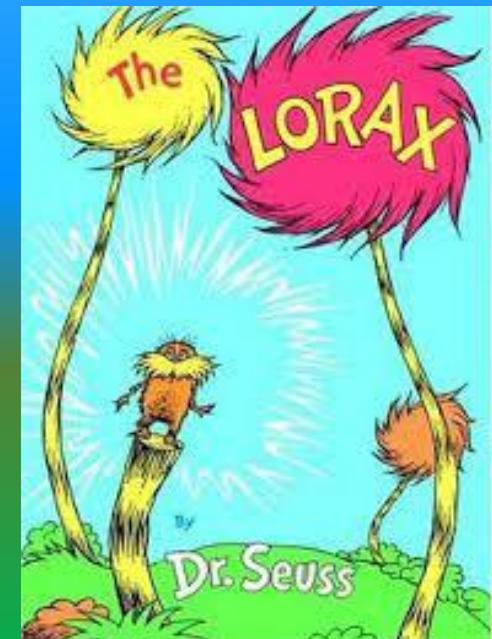
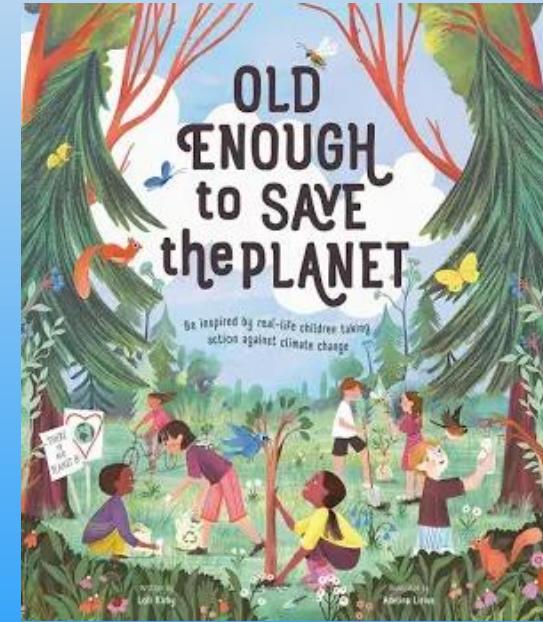
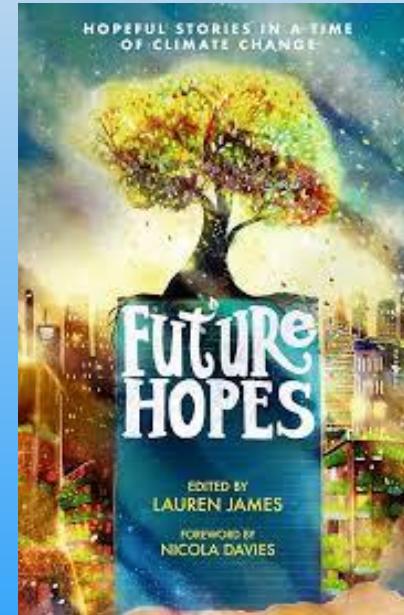
# *Critical* Place-Based Inquiry



- How is your location ground zero for climate change?
- How are those impacts experienced differently for different social, economic, and racial groups?
- What history made certain groups vulnerable? How does wealth or power cause or protect against the impacts? Who does the government help or protect? Why?
- What climate refugees are in your area and how are they treated?
- How are climate crises militarized in your area?
- What would need to be done to create a Just Transition in your community?

# Cli-Fi Short Stories & Picture Books

- Future Hopes (2024) Short stories
- Rich-"Hermie," May-"The Audit"
- Chadrasekera- "Half-Eaten Cities," Everything Change II
- Atwood-"Time Capsule Found on the Dead Planet" (Flash fiction)
- Everything Change I: "Into the Storm" (Canada), "The Grandchild Paradox," "Acqua Alta" (Venice), "LOSD and Fount"
- Atcheson-"How Close to the Savage Soul" – mature themes



# Climate Change Raps, YouTubes, & Poetry

Dr.Octagon 'Trees'

YouTube · geekhead · Nov 8, 2006



- Trees Are Dying, Dr. Octagon ([lyrics](#))
- Dear Future Generations ([Lyrics](#)), Man vs Earth, ([Lyrics](#)), Prince Ea
- Climate Change, Coma Niddy
- Global Warming, Make It Hot, Baba Brinkman
- Climate Summit "Poem to My Daughter," Kathy Jetñil-Kijiner, [Lyrics](#)

*Two Degrees*, Alan Gratz (2022)

*Dry*, Neil & Jarrod Schusterman (2018)

*Carbon Diaries 2015*, Staci Lloyd (2010)

*Pacifica*, Kristen Simmons (2018)

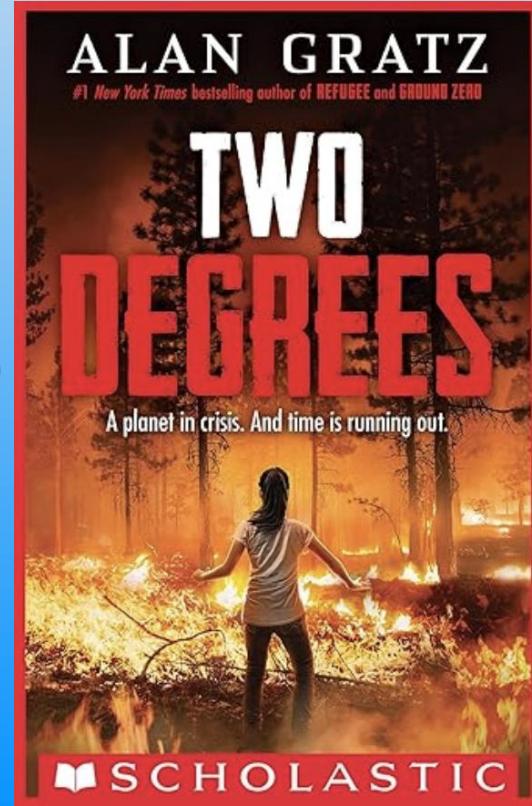
*Orleans*, Sherri Smith (2013)

*Ship Breaker*, Paulo Bacigalupi (2010)

*Fireseed One*, Catherine Stine (2011)

*Hunger Games*, Suzanne Collins (2009)

*The Last Panther*, Todd Mitchell (2017)

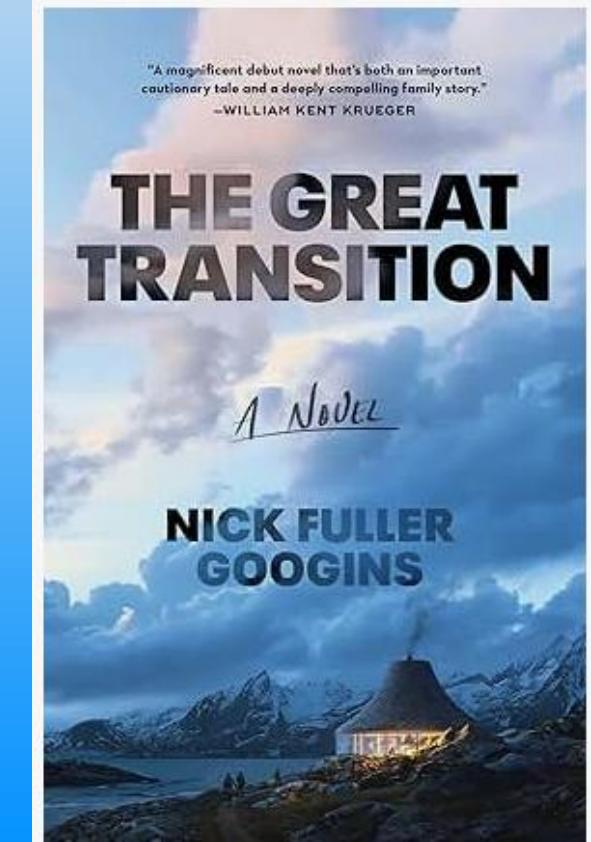


Cli-Fi YA



# Cli-Fi Appropriate to High School

- *The Great Transition*, Goggins (2023)
- *Ministry for the Future*, Robinson (2020)
- *The Rapture*, Jensen (2009)
- *Water Knife*, Bacigalupi (2010)
- *Parable of the Sower*, Butler (1993)
- *The Marrow Thieves*, Dimaline (2017)
- *Odds Against Tomorrow*, Rich (2014)
- *Collapse of Western Civilization*, Oreskes & Conway (2014)
- *Grapes of Wrath*, Steinbeck (1939)



# CLICK Framework



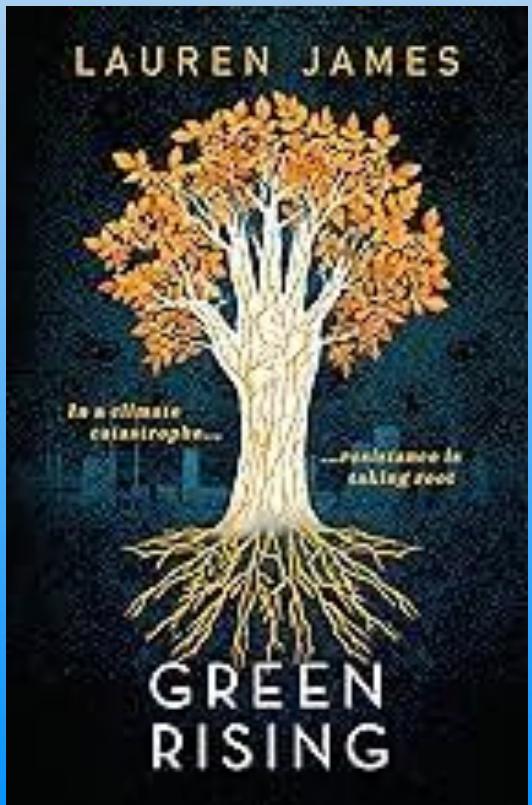
## Climate Literacy Capabilities and Knowledges - Marek Oziewicz

Considerations of individual and collective values, knowledges, and capabilities inspires reflection and action.

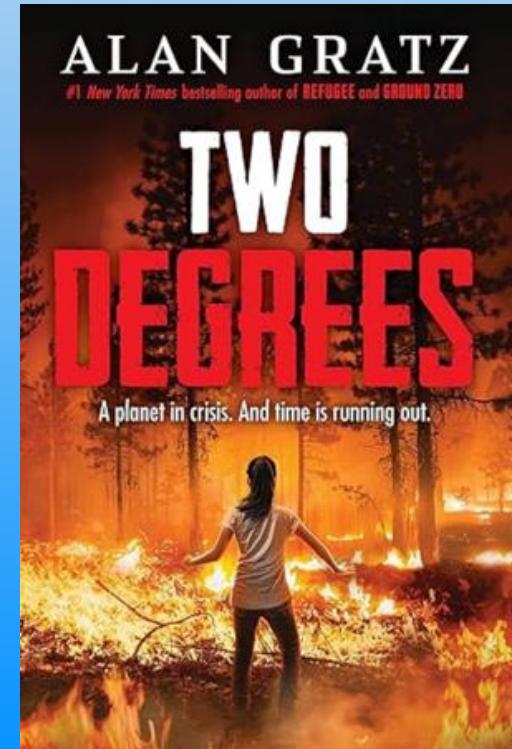
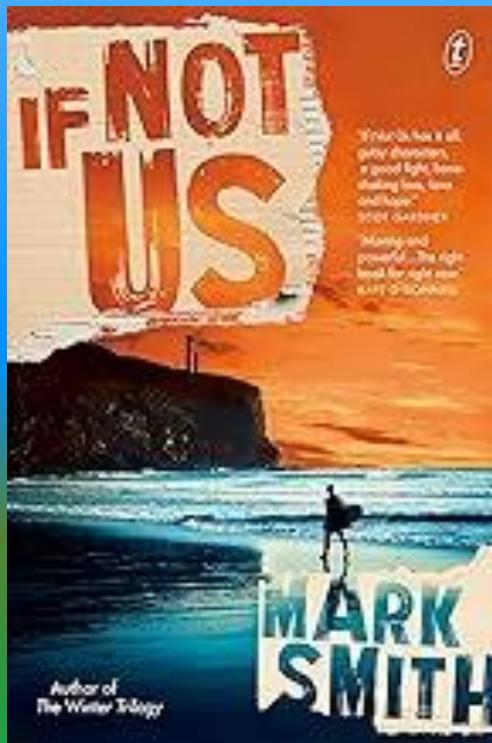
“Intentional, routine classroom conversations also helps counter young people’s feelings of eco-anxiety by fostering concrete capabilities and allowing students to articulate their own environmental values and ethics.”

Earth Care  
Kinship Care  
People Care  
Systems Care

[ClimateLit.org](http://ClimateLit.org)  
University of Minnesota

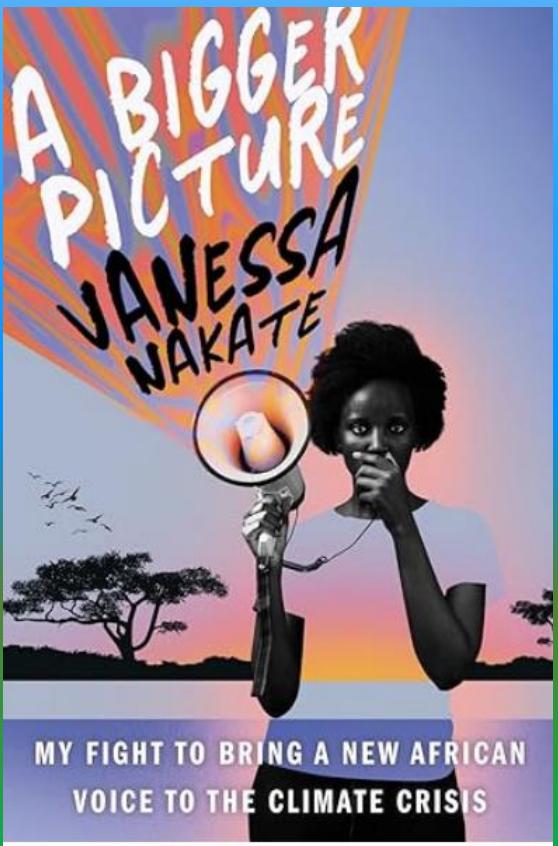
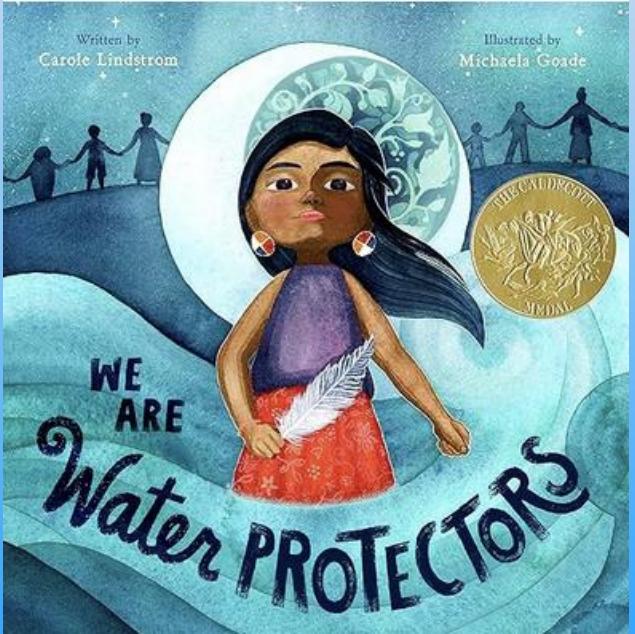


# YA Literature about Youth Climate Activists

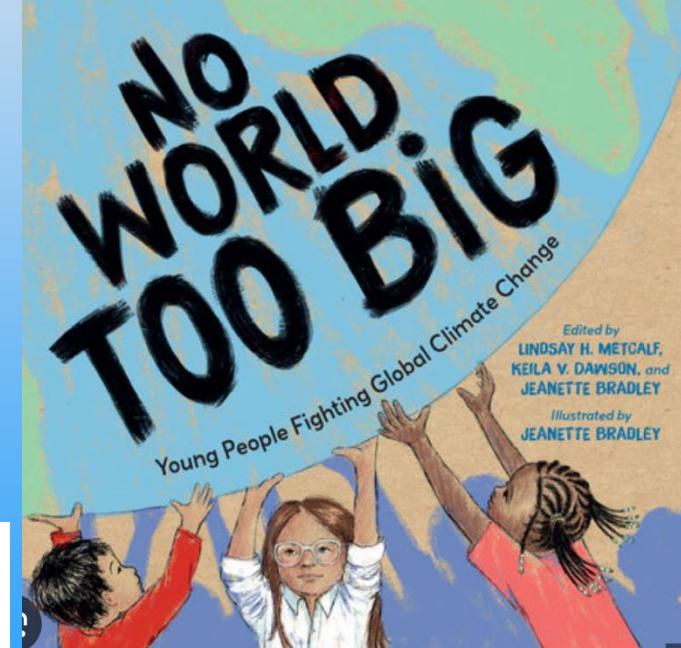
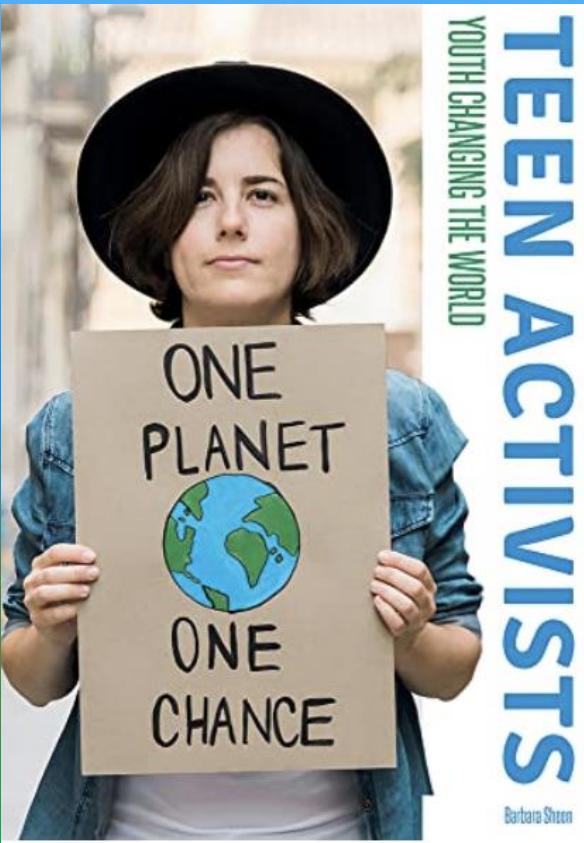


# Youth Climate Activist Novels: Questions

- How is climate change portrayed? What are its impacts? Who is impacted? Are the impacts unequal or unjust?
- In the novel, how is climate change caused? By whom?
- What groups/individuals prevent or delay taking action on climate change?
- What actions do characters take to address climate change? How do those actions impact self and others?
- How do the characters' attitudes toward climate change evolve?
- What connections can you make between the novel and the real world?
- What did you learn about climate change from reading the novel? What else would you like to know or learn about climate change?
- How are youth and youth climate activists portrayed? Can you find youth activists in the real world acting in a similar way? What are real world youth climate groups doing?
- How could we educate others about climate change? How might we connect with youth climate groups? What actions could students at our school take to learn about and address the climate crisis?



# Research Youth Climate Activists



# Research Youth Climate Organizations



[FridaysForFuture.org](https://FridaysForFuture.org)



[SunriseMovement.org](https://SunriseMovement.org)



[EarthUprising.org](https://EarthUprising.org)



[EarthGuardians.org](https://EarthGuardians.org)

Students can:

- Learn about youth activism
- Research youth climate groups
- Write about and present to others
- Organize school clubs & chapters

How might your students write to address climate change?

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Pull down to show history

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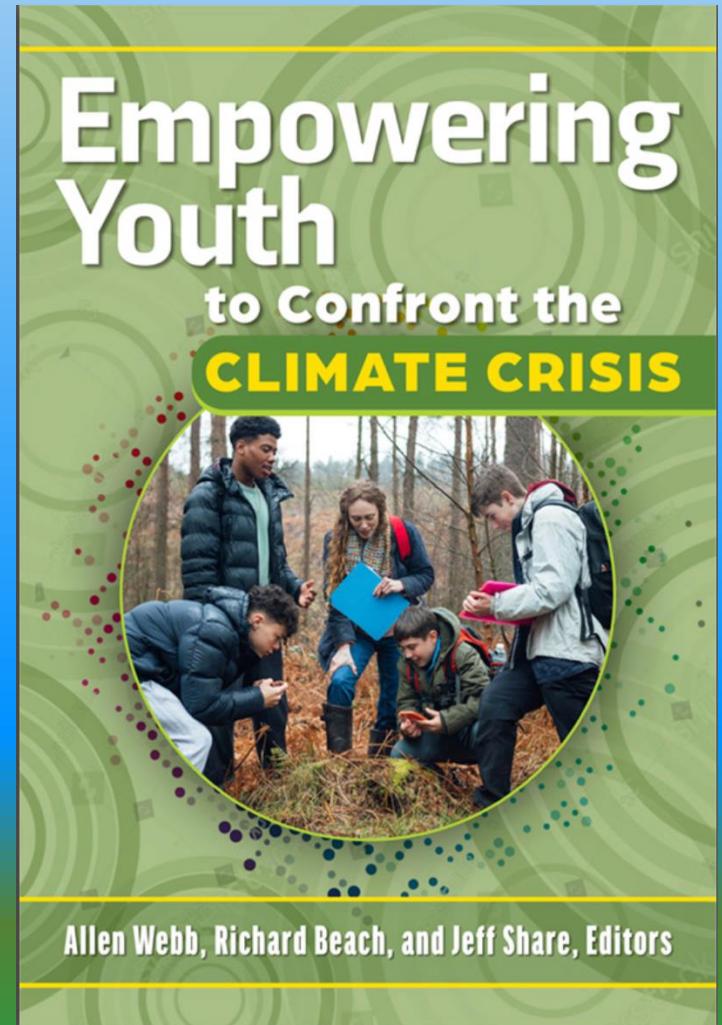
2° [What's a Mother To Do?](#) A journey to climate activism  
2° [As the Ice Leaves](#) Last polar bear in the arctic  
2°-3° [Pacifica Verde Island](#) Anna becomes a leader  
3° [A Desolate California Coastline](#) Father and daughter face heat and disease  
3° [Sow and Reap](#) A scientist creates a breakthrough  
3° [Iridescent Determination](#) From a fish point-of-view  
3° [Joining the Resistance](#) A beacon of hope  
4° [Arctic Echoes](#) Environmental collapse in Northern Canada  
4° [Political Stalemate](#) US Government and global diplomacy  
4°-5° [The Sanctuary](#) An opportunity to travel to a haven  
5° [Waves of Resilience](#) Floating homes on the East Asian coastline

# Local Audiences for Student Writing

- Other students, families, school boards, other schools
- Townships, city, local government - Do they have a climate action plan? What are they doing to reduce greenhouse gas emissions?
- Homeowners - access to insulation & solar panels
- Realtors – have a carbon rating for homes
- Utilities – speak to utility boards
- Business – local better business bureau, sustainable business forums

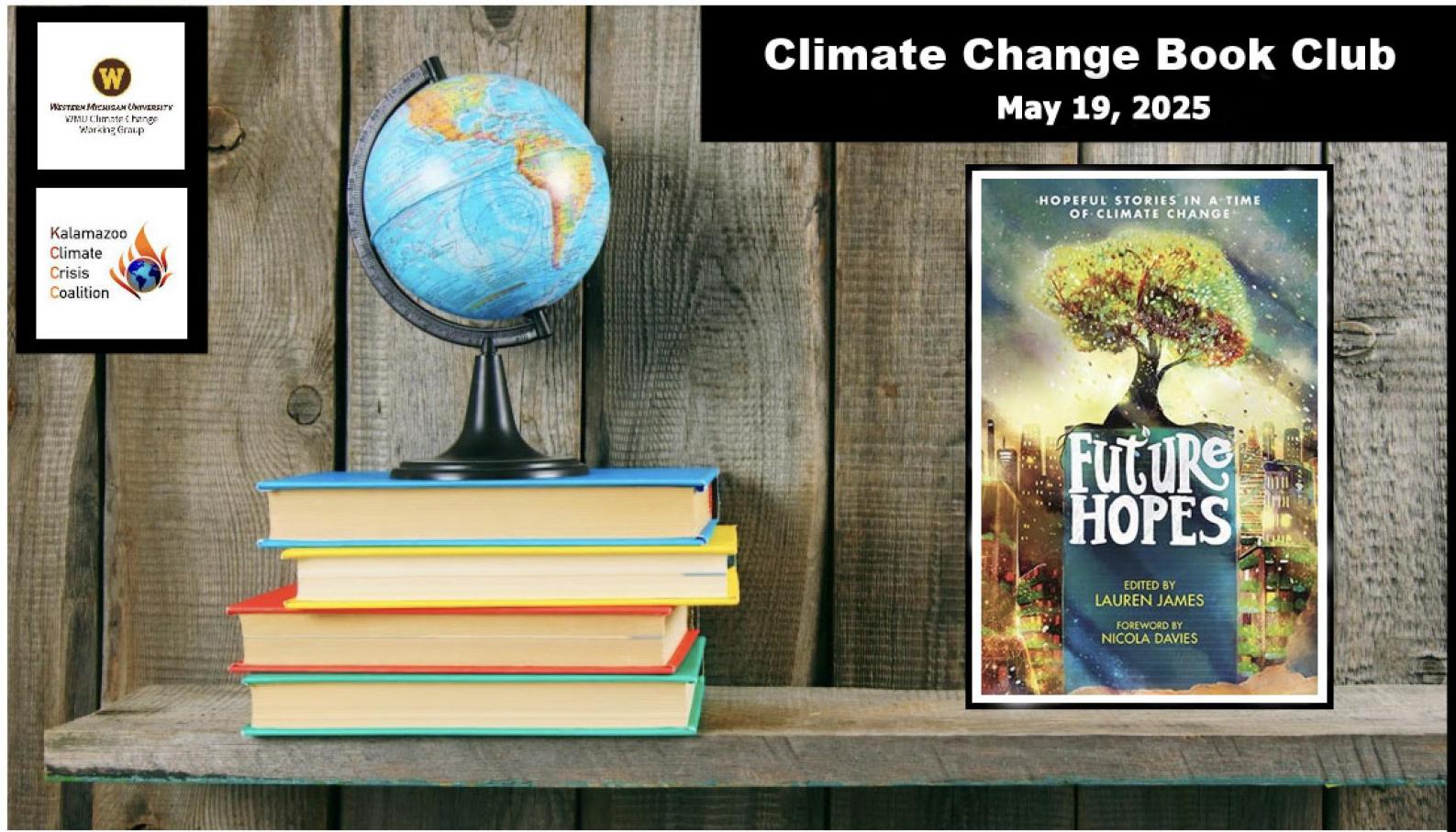
# Empowering Youth to Confront the Climate Crisis in English Language Arts

- 20 teacher classroom stories
- Introductory chapters establish frameworks
- Literature
- Writing
- Critical Media
- Teaching in Resistive Communities



[Additional Resources](#)

# You are invited to join:



**Climate Change Book Club**  
**May 19, 2025**

**5:30  
to  
7:00**

**(via Zoom)**

The image features a stack of colorful books and a globe on a wooden shelf. To the left, two logos are displayed: one for Western Michigan University's WIND Climate Change Working Group and another for the Kalamazoo Climate Crisis Coalition. To the right, a book cover for "Future Hopes" is shown, with the title and subtitle "HOPEFUL STORIES IN A TIME OF CLIMATE CHANGE". The background is a blue gradient.

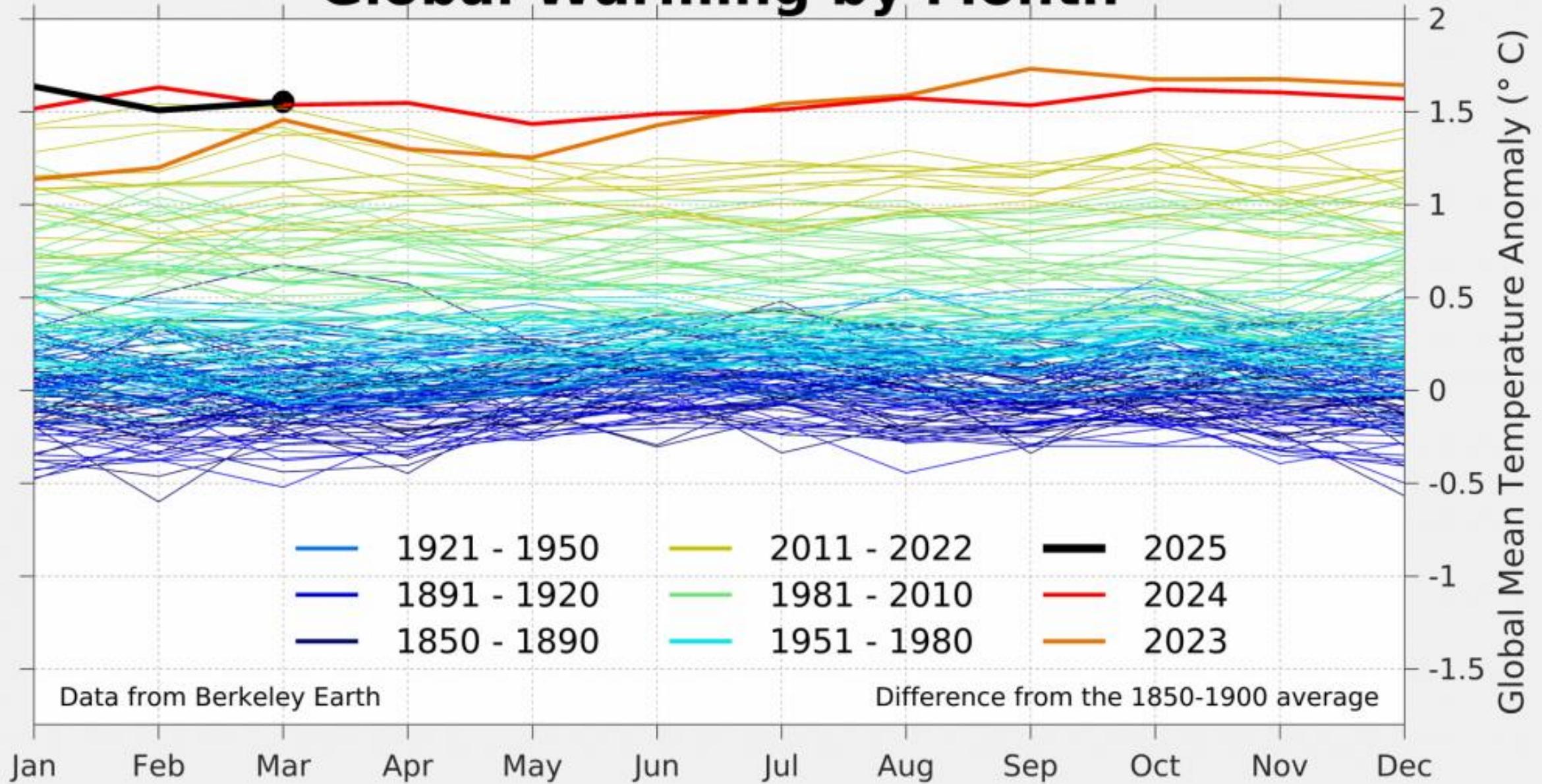
[Allen.Webb@wmich.edu](mailto:Allen.Webb@wmich.edu)

Presentation  
online at:



# Extra Slides

# Global Warming by Month



# Abrupt Climate Breakdown Already Upon Us



- High temperatures
- Droughts
- Wildfires
- Storms
- Flooding
- Polar Vortex
- Ocean Currents
- Species Loss
- Refugees

# We are entering a “critical and unpredictable new phase of the climate crisis”

- Trees and land –earth’s carbon sinks- no longer absorbing carbon.
- World rivers drying up. Amazon “savanahification.”
- Thwaites “doomsday glacier” undermined by warmer water.
- 28 positive feedback loops, including increasing emissions from melting permafrost, can trigger multiple tipping points, inc AMOC currents.
- “Climate change has already displaced millions of people, with the potential to displace hundreds of millions or even billions. That would likely lead to greater geopolitical instability, possibly even partial societal collapse.”
- Global heating accelerating. (James Hansen, 11-2-23)

# History of Climate Crisis = History of Global Development & Underdevelopment

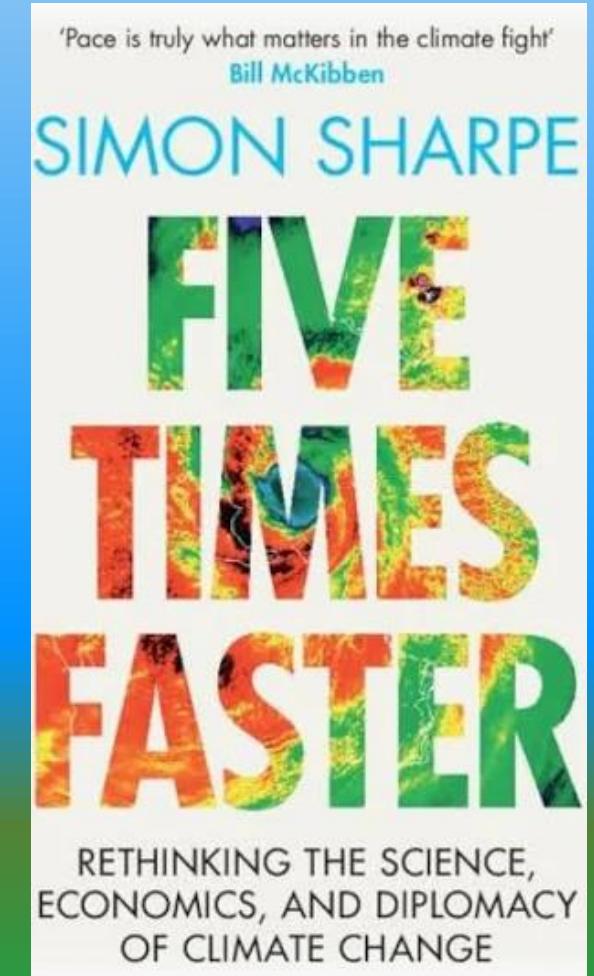
- Colonialism
- Slavery
- Capitalism
- Cold War
- Neoliberalism (radical privatization and deregulation creating state crisis and greater inequality)
- Racism



*How Europe Underdeveloped Africa*, Walter Rodney  
*Tropic of Chaos*, Christian Parenti  
*This Changes Everything: Capitalism vs. the Climate*, Naomi Klein  
*A Billion Black Anthropocenes or None*, Kathryn Yusoff  
*How Capitalism Broke the Planet*, Kate Arnoff  
*Nutmeg's Curse*, Amitav Ghosh

# Prediction vs Risk Assessment

- Prediction focuses on providing at least 90% accurate estimates of future events
- Risk Assessment focuses on worst case scenarios and their likelihood
- Risks of climate change keep increasing until all greenhouse gas emissions are stopped and the world returns to equilibrium
- Medium level of GHG emissions = 20% chance of 4°C
- Would you take an airplane flight with a 20% chance of crashing?



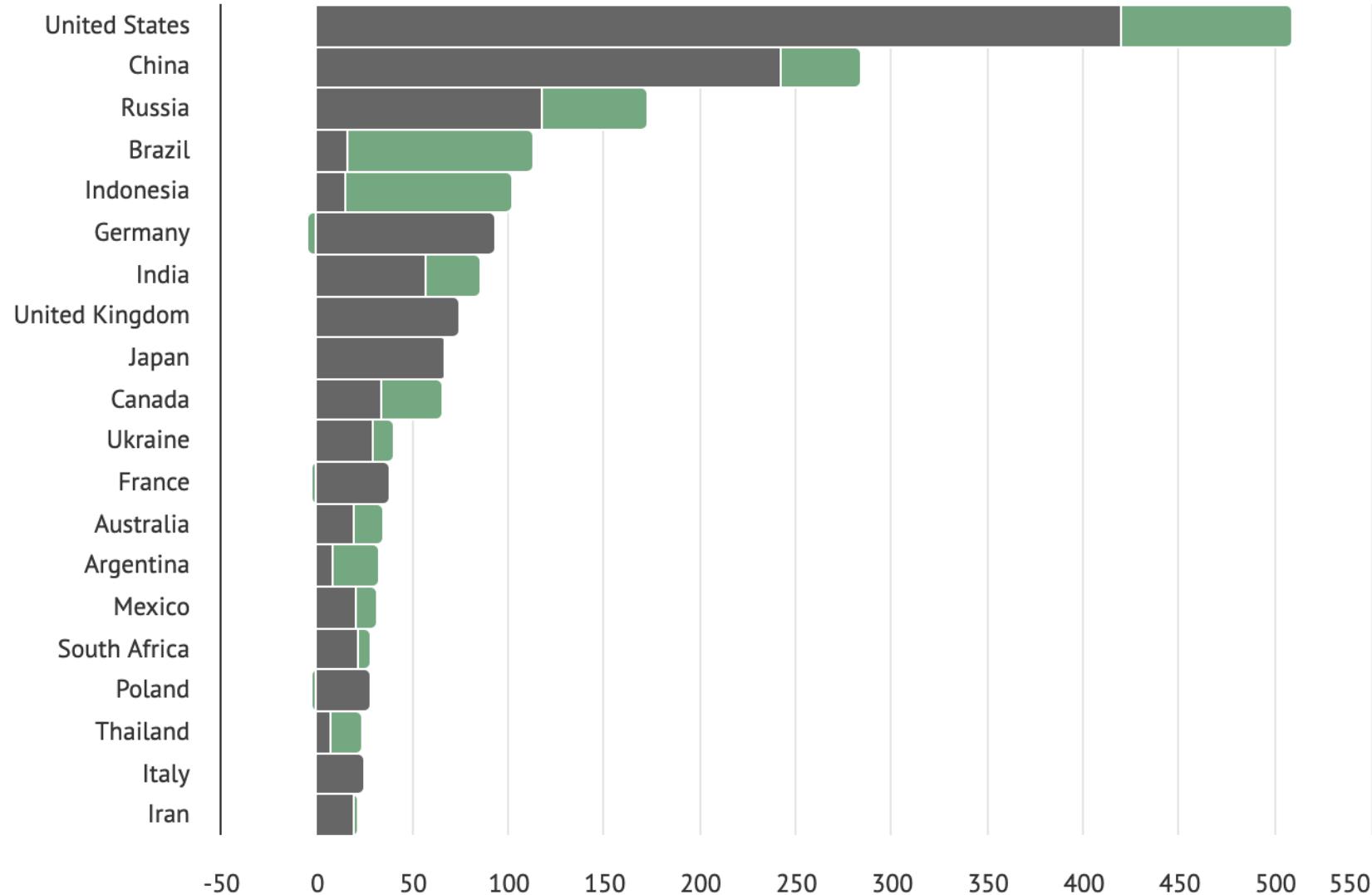
# Positive feedback loops & Tipping points

- Melted polar ice cap
- Thawing tundra releasing methane
- Methane hydrates
- Wild fires
- Drying earth
- Etc

# The countries with the largest cumulative emissions 1850-2021

Billions of tonnes of CO<sub>2</sub> from fossil fuels, cement, land use and forestry

● Fossil    ● Land



# Urgency

More than half of the greenhouse gasses in the air have gotten there in the last 30 years.



IPCC: To keep the world livable and avoid risks of feedback loops there must be a reduction of 45% of GHG by 2030, and “net-zero”\* by 2050

Current Paris Agreement (voluntary, self-reported) nationally determined contributions (NDCs) are still for 9% increase by 2030.

immediate and transformative action declare climate emergency, cascading tipping points and positive feedback loops

# Poverty, Racism, Militarism



Militarized borders and armed lifeboat global politics

To keep our planet livable...



- 90% of known fossil fuel reserves must stay in the ground.
- Reduce emissions by 50% by 2030, zero by 2050 (IPCC)
- Electrify everything using renewable energy

# Carbon must stay in the ground

- In July 2022, U.N. Secretary-General António Guterres said, “The only true path to energy security, stable power prices, prosperity and a livable planet lies in abandoning polluting fossil fuels and accelerating the renewables-based energy transition. [...] Current national commitments will lead to an increase of almost 14 per cent this decade. That spells catastrophe.”

# Carbon Capture and Storage

Investing in carbon capture and direct air capture increases air pollution, carbon dioxide emissions, fossil-fuel mining, fossil-fuel infrastructure, carbon dioxide and fossil-fuel pipelines, energy requirements, private energy costs, and social energy costs (by a factor of 9-12) relative to investing the same money in clean, renewable energy.

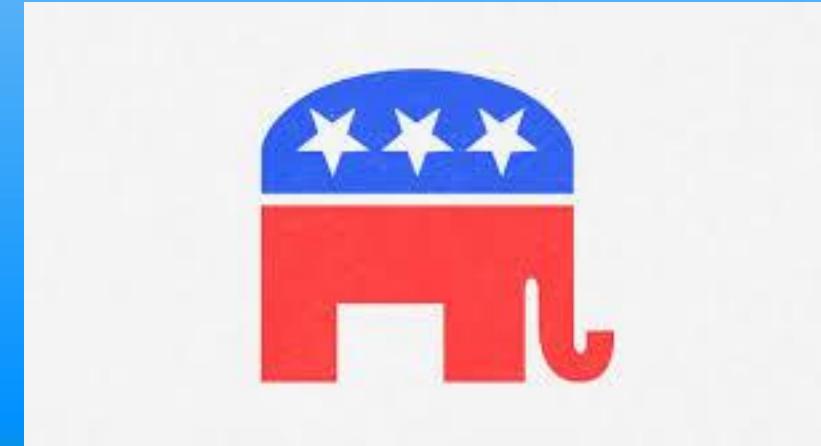
What is more, over 82 percent of all carbon dioxide captured worldwide, in reality, is used for enhanced oil recovery. During this process, 30 to 40 percent of the carbon dioxide captured is released back to the air.

Further, another 20 to 80 percent captured is released due to the additional oil obtained, so a total of 50 to 120 percent of the carbon dioxide captured during enhanced oil recovery is released.

# Hydrogen and “Green” Hydrogen

- Using renewable energy to make hydrogen is a lot less efficient than simply using the renewable energy directly.
- Releasing hydrogen... increases the lifetime of methane in the atmosphere with huge climate impact & hydrogen is the leakiest gas known to humankind.

# World's Greatest Climate Criminals

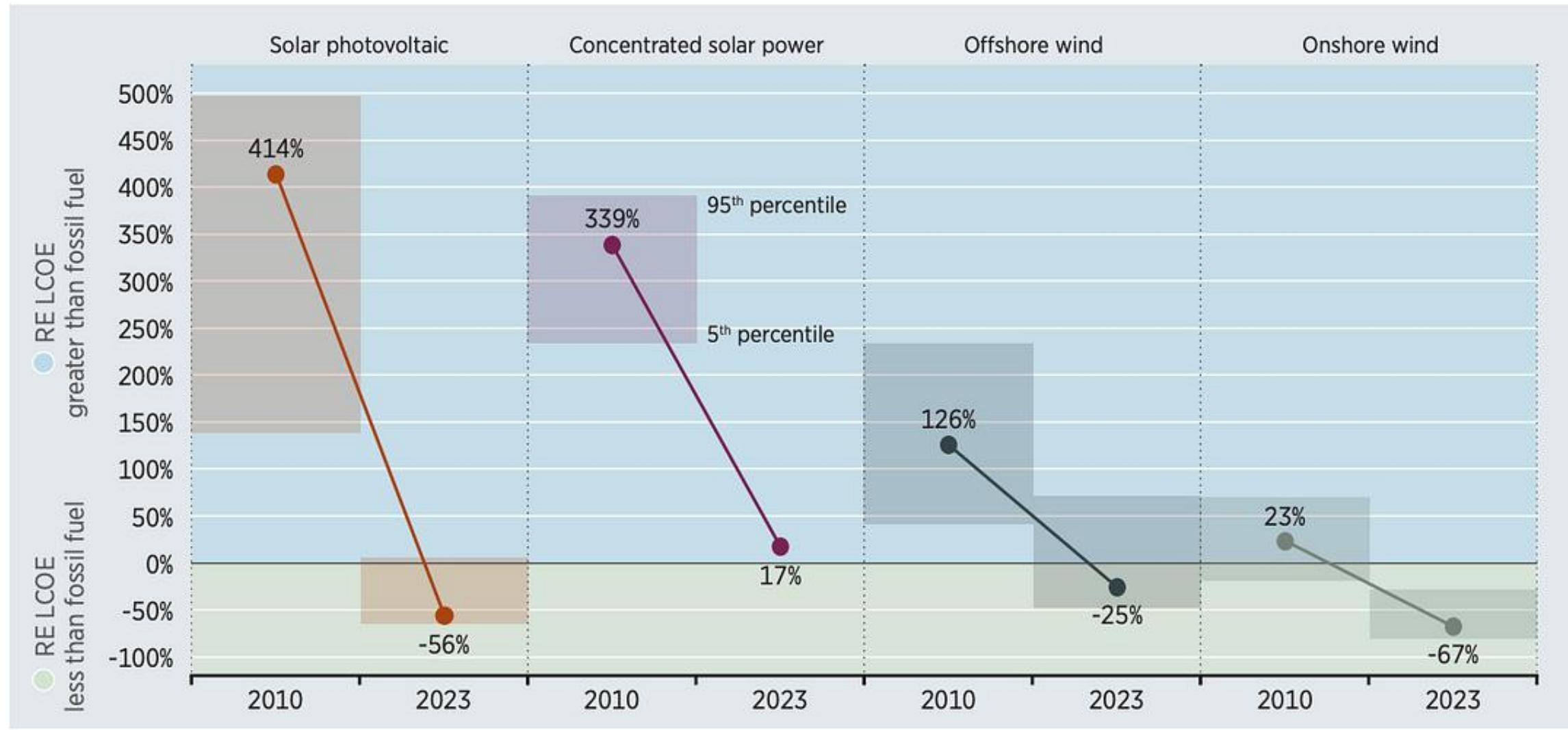


# The “Oh, Shit” Moment

They say that everyone who finally gets it about climate change has an “Oh, shit” moment — an instant when the full scientific implications become clear and they suddenly realize what a horrifically dangerous situation humanity has created for itself. - Mark Hertsgaard, *The Nation*

Al Gore once told me that he thinks that everyone who cares deeply about *climate change* has had what he called an "oh, shit" moment when the full scientific implications become clear and the future scary. - Jeff Goodell

**Figure S1** Change in global weighted average LCOE for solar and wind compared to fossil fuels, 2010-2023



Note: RE = renewable energy.

# Science Education: New Focus on Climate Crisis



- Median number of hours devoted to climate change by *science* teachers: Middle school 1.5; High school: Earth Science 4.0, Biology 1.5, Chemistry 1.5, Physics, 1.5.
- Teachers play a “neutral” role - 47% of science teachers “allow students to discuss the controversy without me taking a position [on whether or not it is happening or human caused]” Only 39% of science teachers indicated that they knew there was a scientific consensus that global warming is human caused.
- 88% mention new technologies like hybrid cars or alternative energy or things students “can do themselves” such as “walking to school or turning off the lights.”

# Science Education Needs to Include: Inquiry, Justice, Action

Inquire into:

- Future impacts
- Social impacts
- Fairness
- Politics
- Fake Science

Find ways for students to:

- Educate others
- Be heard and Take Action



November 2024



## 'Ready to Fight' for Climate, Students Walk Out Over Trump

"We won't stand by while Donald Trump's dangerous agenda threatens everything we believe in," said one student.

# Young People Can't Afford to Give Up on International Climate Action

# Fossil Fuel Company Lawsuits

Product liability law

In all legal and religious traditions the next generation has a right to a livable world

Union of Concerned Scientists has a remarkable [report](#) on exactly what and when the fossil fuel industry knew about climate change and hence how much they owe. May 2025 “Decades of Deceit”

The evidence could hardly be clearer: For decades these companies possessed detailed and accurate knowledge about the dangers their products pose to the global climate and understood that climate action would threaten their business models. Yet they planned, funded, and continue to engage in a campaign to profit from the planet’s destruction by deceiving the public and blocking climate action.

Trump Department of Justice and doing everything to stop forever

# Opening the Conversation about Climate Refugees with *The Grapes of Wrath*

*Allen Webb used Steinbeck's novel to encourage students to consider the implications of a climate refugee crisis.*

English Journal  
Nov 2019

*Something there is that doesn't love a wall,  
That sends the frozen-ground-swell under it,  
And spills the upper boulders in the sun;  
And makes gaps even two can pass abreast.*

—ROBERT FROST, "MENDING WALL"

**T**he *Grapes of Wrath* may be the most honored American novel ever written: winning the National Book Award in 1939, the Pulitzer Prize in 1940, and cited by the Nobel Prize Committee in 1962. Set in the 1930s Dust Bowl, the novel describes a severe drought in the southern Plains that created massive dust storms, removed topsoil, and destroyed food crops. The Joads, in their forced departure from Oklahoma and journey to California, were just one family of 3.5 million people who left the Plains. *The Grapes of Wrath* chronicles this desperate drought-caused human movement, the largest short-term migration in US history.

Recent science indicates human-caused global warming contributed to the Dust Bowl of the 1930s (Foderaro), and scientists tell us that the greenhouse gasses humans have emitted since then are rapidly warming our planet and causing severe droughts and dust storms around the world (Lynas 30; Wallace-Wells 55). As droughts, heat waves, wildfires, enormous storms, polar vortices, sea-level rise, and other human-caused "natural" disasters increase, the numbers of climate migrants, displaced people, and refugees will swell worldwide, from currently tens of

millions to hundreds of millions of people. This will happen certainly within the lifetime of our students and is already underway. Indeed, climate change may be the greatest challenge facing humankind, yet most Americans are not discussing it.

The latest data gathered by the Yale Program on Climate Communication indicates that although 70 percent of Americans believe global warming is happening, 64 percent never talk about it (Marlon et al.). My experience teaching *The Grapes of Wrath* as an opening for conversation about climate change and learning about the experience of climate refugees

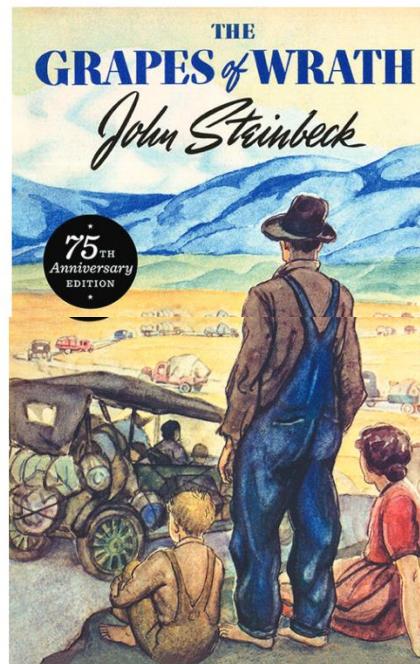


FIGURE 1.  
The original cover of *The Grapes of Wrath* appears on the 2014 anniversary edition.

# AI Cli Fi.com

# Climate Documents ([tinyurl.com/yhcmvbfe](https://tinyurl.com/yhcmvbfe))

www.aicliifi.com

Go back one page (⌘←)  
Pull down to show history

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2º [What's a Mother To Do?](#) A journey to climate activism

2º [As the Ice Leaves](#) Last polar bear in the arctic

2º-3º [Pacifica Verde Island](#) Anna becomes a leader

3º [A Desolate California Coastline](#) Father and daughter face heat and disease

3º [Sow and Reap](#) A scientist creates a breakthrough

3º [Iridescent Determination](#) From a fish point-of-view

3º [Joining the Resistance](#) A beacon of hope

4º [Arctic Echoes](#) Environmental collapse in Northern Canada

4º [Political Stalemate](#) US Government and global diplomacy

4º-5º [The Sanctuary](#) An opportunity to travel to a haven

5º [Waves of Resilience](#) Floating homes on the East Asian coastline

THIS IS NOT A REAL ACT. THIS IS A CLASS PROJECT.

# Healthcare FOR ALL

Camryn Truex & Chat GPT

## 1.2 Billion Seeking Climate Refuge

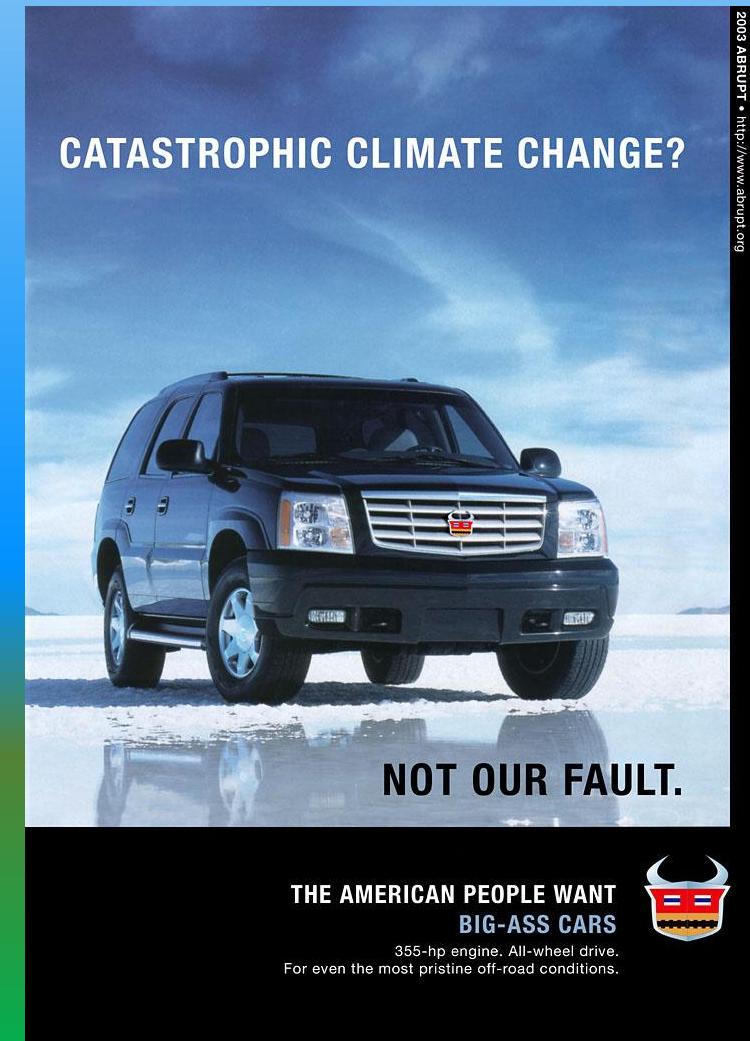
Introducing the Healthcare For All Act (HCAA), a groundbreaking legislation poised to revolutionize healthcare access for all individuals residing within the United States, regardless of immigration status.

A photograph shows two people walking across a dry, arid landscape under a hazy sky.



My students... Use Online Tools to Communicate Globally

- Blogs, wikis, websites, Snapchat, Facebook
- Climate crisis “culture jams” Memes [Culture Jamming](#), [samples](#), [Brandalism](#)
- Online climate change cook book for young people



# Climate Refugee Starting Points

## Testimonials

[Climate-Refugees.org](http://Climate-Refugees.org)

[ClimateRefugeeStores.com](http://ClimateRefugeeStores.com)

[Testimonials and Human Stories](#)

## Documentaries

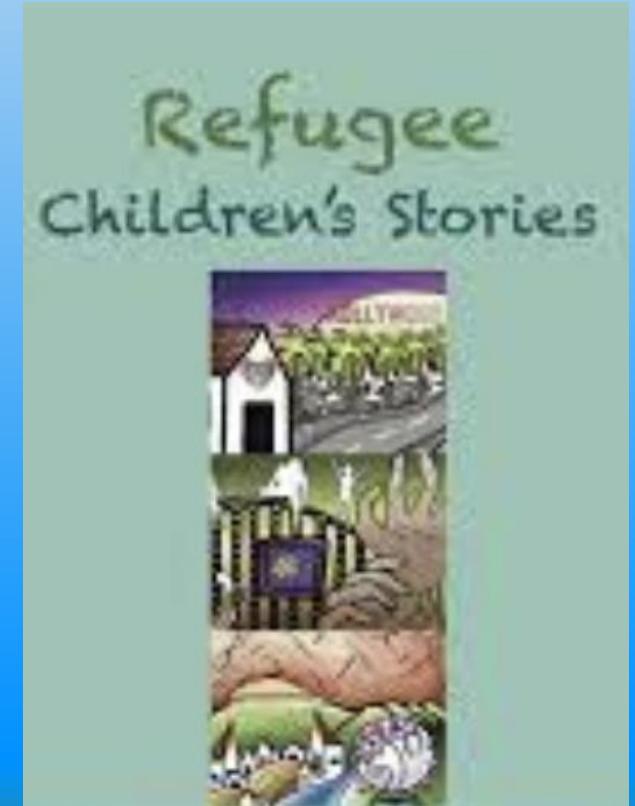
[Human Flow](#)

[Climate Exodus](#)

## Poetry

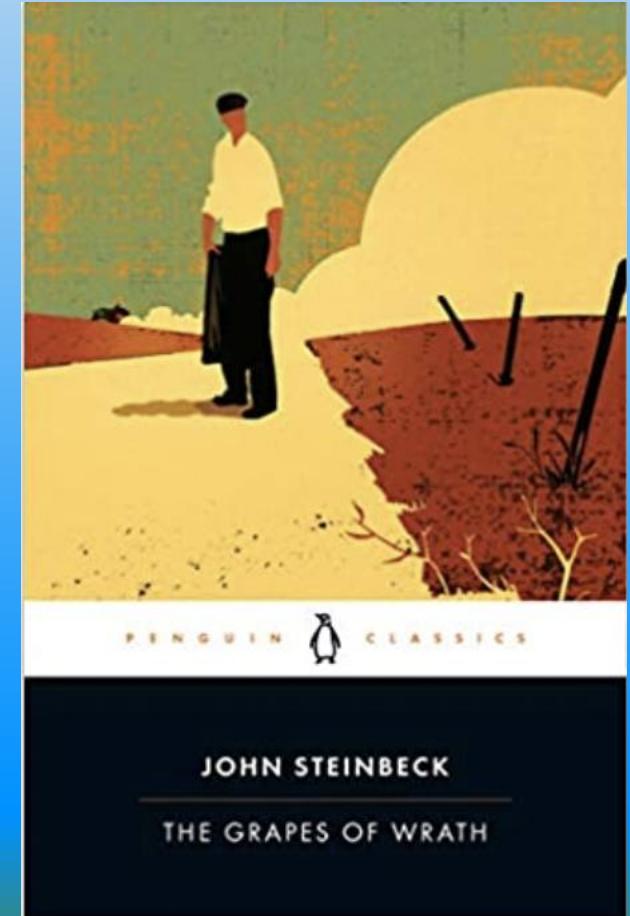
"[Home](#)" by Warsan Shire

Immigration and Refugee Poetry: [Poetry Foundation](#), [Warscapes](#), [Poem Hunter](#), [Hello Poetry](#).



# Climate Migration Literature

- *Grapes of Wrath*
- *Parable of the Sower*
- *Marrow Thieves*
- *Water Knife*
- *Ministry for the Future*
- *Dry*
- *The Hungry Tide*
- *Sleep Dealer* (film)
- *Exit West*
- *Hope and Other Dangerous Pursuits*
- *Refugee* by Alan Gratz



Syllabi at [AllenWebb.net](http://AllenWebb.net)

# Longer Cli-Fi

*Ministry for the Future*, Kim Stanley Robinson (2020)

*Arctic Drift*, Clive Cussler (2009)

*Gun Island*, Amitov Gosh (2019)

*The Hungry Tide*, Amitov Gosh (2004)

*Flight Behavior*, Barbara Kingsolver (2012)

*Forty Signs of Rain*, Kim Stanley Robinson (2005)

*Future Home of the Living God*, Louise Erdrich (2017)

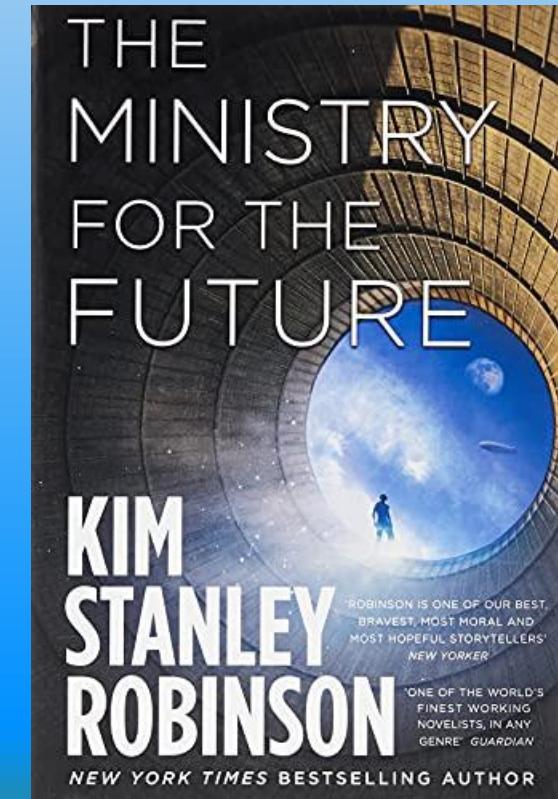
*Gold Fame Citrus*, Claire Watkins (2015)

*A Friend of the Earth*, T.C. Boyle (2001)

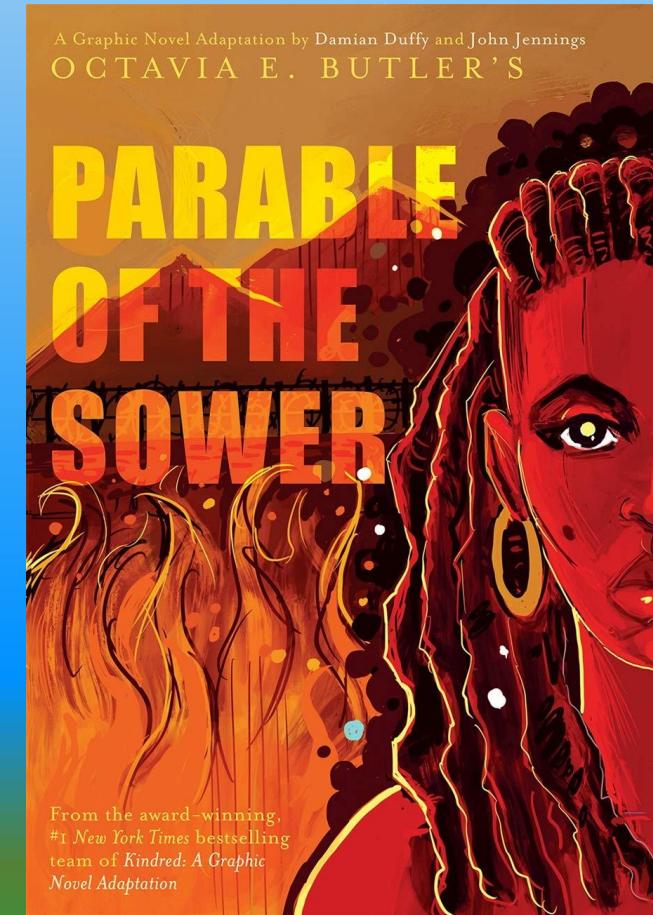
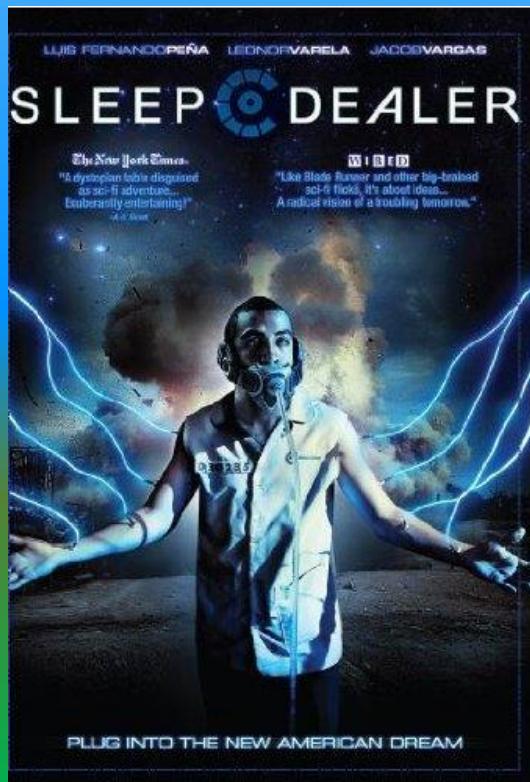
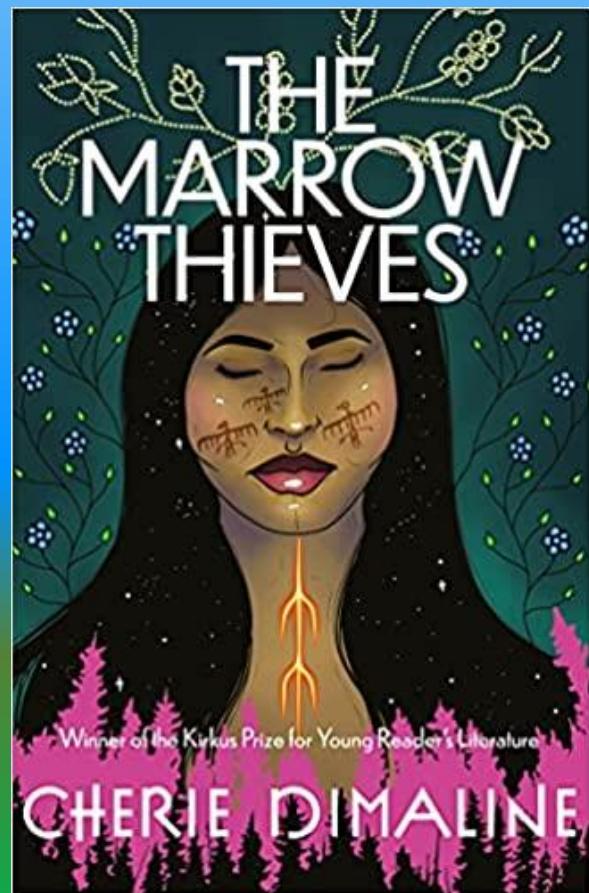
*The Year of the Flood*, Margaret Atwood (2010)

*Maddaddam*, Margaret Atwood (2014)

*Windup Girl*, Paolo Bacigalupi (2009)



# Ethnic Futurism



# Ethnic Futurism



- Persistence & resurgence of marginalized groups
- Resist Western ways of knowing and ordering society
- Challenge rationality/reason/capitalism as inherent in the colonial project
- Resist nature vs culture binaries and existing definitions of what it means to be human.
- Disrupt dystopia as new or impending
- Military/police states, surveillance, social and environmental collapse and reconfiguration permeate the past and present.
- Confront frightening futures and offer ways of seeing and being that might allow coping, even transforming possibilities in the present.
- See the past through the lens of the future, and prepare us to live in the present with the future in mind.

# 10 Ideas For Monday – Students...

1. Read and discuss a cli-fi short story or stories, poetry, picture books, or form cli-fi novel reading groups.
2. Research future impacts of climate change, locally and globally considering unequal impacts, and present their findings.
3. Write their own cli-fi short story, poem, or picture book and share beyond the classroom.
4. Watch different climate documentaries and compare and contrast their representation of the crisis.
5. Research climate action plans of local governments or politicians and educate others.
6. Research corporate greenwashing and create culture jams to post on social media.
7. Read climate refugee testimonies and discuss how their community could support climate displaced people and refugees.
8. Research youth climate activists, share what they learn, and discuss similar actions they could take.
9. Research climate change solutions and present ideas for action in their school or local community.
10. Research climate action organizations and investigate creating a school chapter or club.

# Join Organizations for Climate Teachers

- [National Council of the Teachers of English \(NCTE\)](#)
- [Action for Climate Emergency \(ACE\)](#)
- [Teach Climate Network](#)
- [Take Action Global](#)
- [CAMEL Climate Change Education](#)
- [Climate Action Project](#)
- [Climate Stories Project](#)
- [Green Schools Alliance](#)
- [National Earth Science Teachers Association: Climate](#)
- [Schools for Climate Action](#)
- [Zinn Education Project](#)

# Model Climate Activism



Activism



Scholarship

Western Michigan University

Professor of English Education  
and Postcolonial Studies

Dr. Allen Webb

Courses

Resources

Research

Contact

[AllenWebb.net](http://AllenWebb.net)

TEACHING  
CLIMATE CHANGE  
TO ADOLESCENTS

Reading, Writing, and Making a Difference



Richard Beach, Jeff Share, Allen Webb



A Co-publication of Routledge and the National Council of Teachers of English

Empowering  
Youth  
to Confront the  
**CLIMATE CRISIS**



Allen Webb, Richard Beach, and Jeff Share, Editors

# What are some things ELA might contribute to children and young people understanding the climate crisis?

- Things you are doing or could do? (Share in groups of 2/3):
- imagine futures
- social and political dimensions
- justice, experience of others
- critical media,
- Public writing – creative & persuasive, memes, social media, manifestos, public writing, potential space

# Young People – Critical to Saving the Planet



# Youth Climate Activists

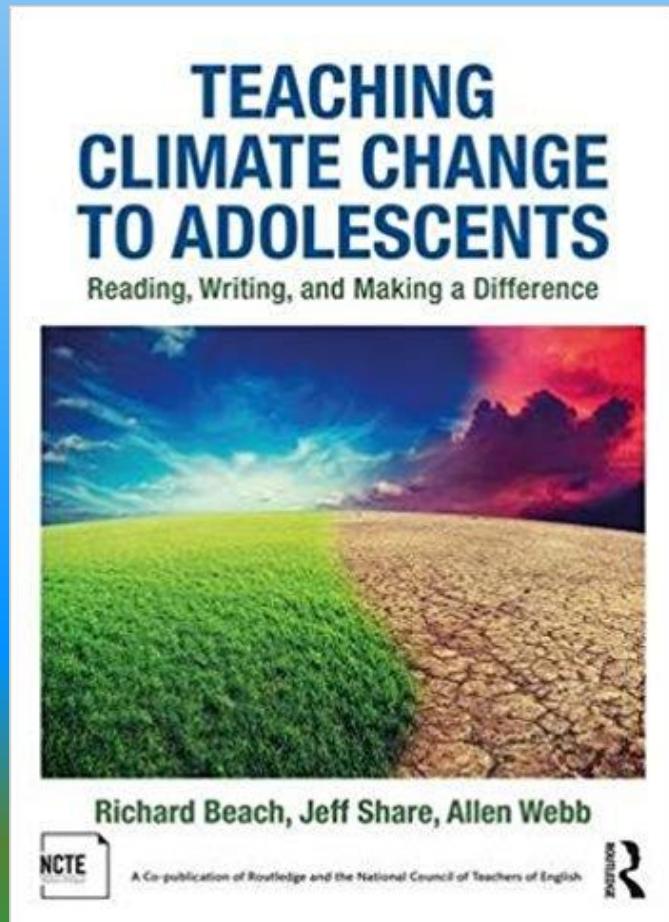
- Greta Thunberg
- Vanessa Nakate
- Varshini Prakash
- Dominique Palmer
- Elizabeth Wathuti
- Tori Tsui
- John Paul Jose
- Xiuhtezcatl Martinez
- Xiye Bastida
- Luisa Neubauer
- Jerome Foster
- Haven Coleman
- Lea Namugerwa
- Txai Surui
- And so many more...

# My students... Educate and Act Locally

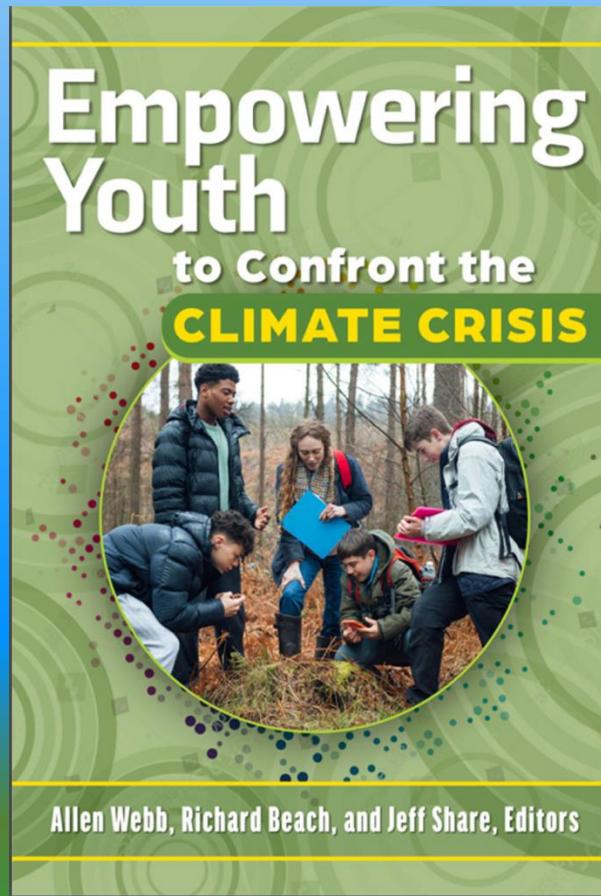
- Wrote and shared poetry, short stories, & persuasive essays
- Led community discussions about climate change
- Wrote “Climate Manifestos”
- Wrote climate documents
- Spoke at community climate protests
- Organized a climate change “teach-in”
- Designed climate action projects
- Organized community film/discussion/tabling on refugees
- Showed a climate change documentary at school and led panel after
- Examined how future careers can address climate change
- Protested tree cutting, and planted trees
- Joined Fridays for Future and Global Climate Strike



# Resources for English Teachers



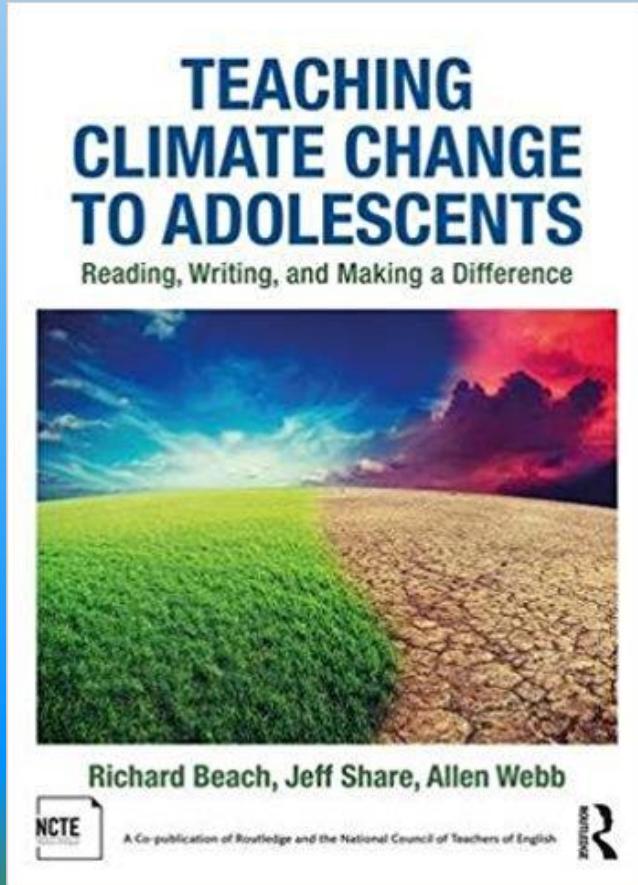
2017



2025



January 2025



The scientists and engineers have done their work, providing a timely warning on climate change and producing the technologies that would help take it on. It's the rest of us that have so far failed, and it's largely a failure of...imagination, precisely the reason that we have English class. This book will help many teachers understand their craft in light of the planet's great crisis.

Bill McKibben