

# Climate Solutions for a Warming World

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Kim M. Cobb  
Director, Institute at Brown for Environment and Society



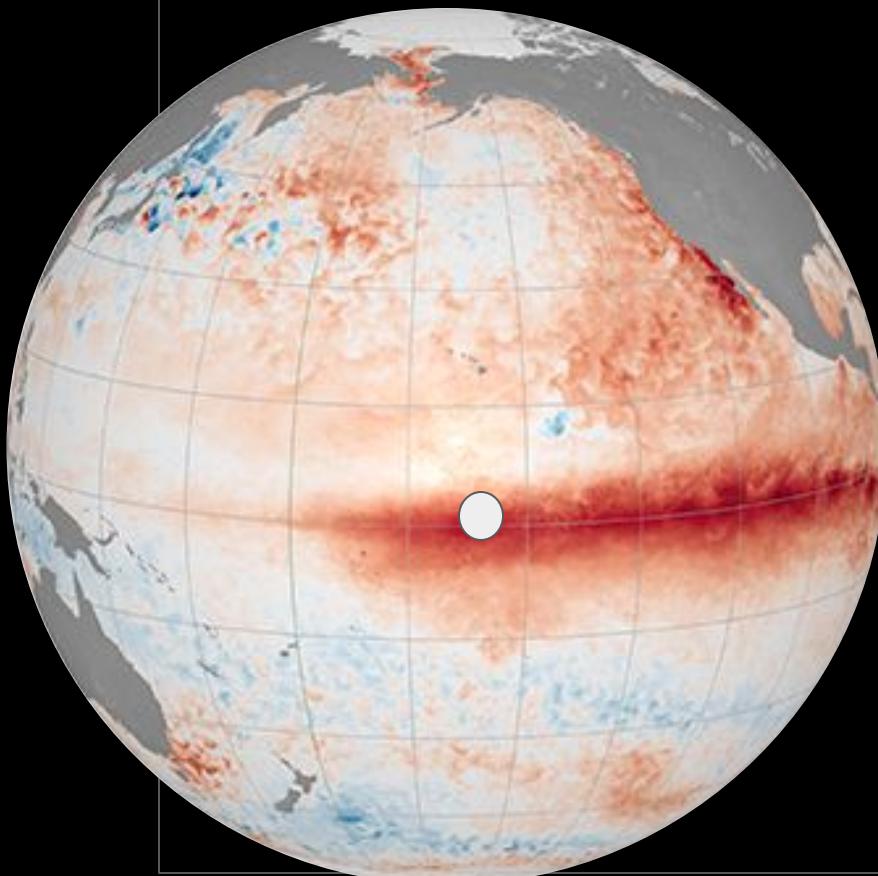
**ClimateMatch**  
Academy —



Credit: Zafer Kizilkaya; CC BY

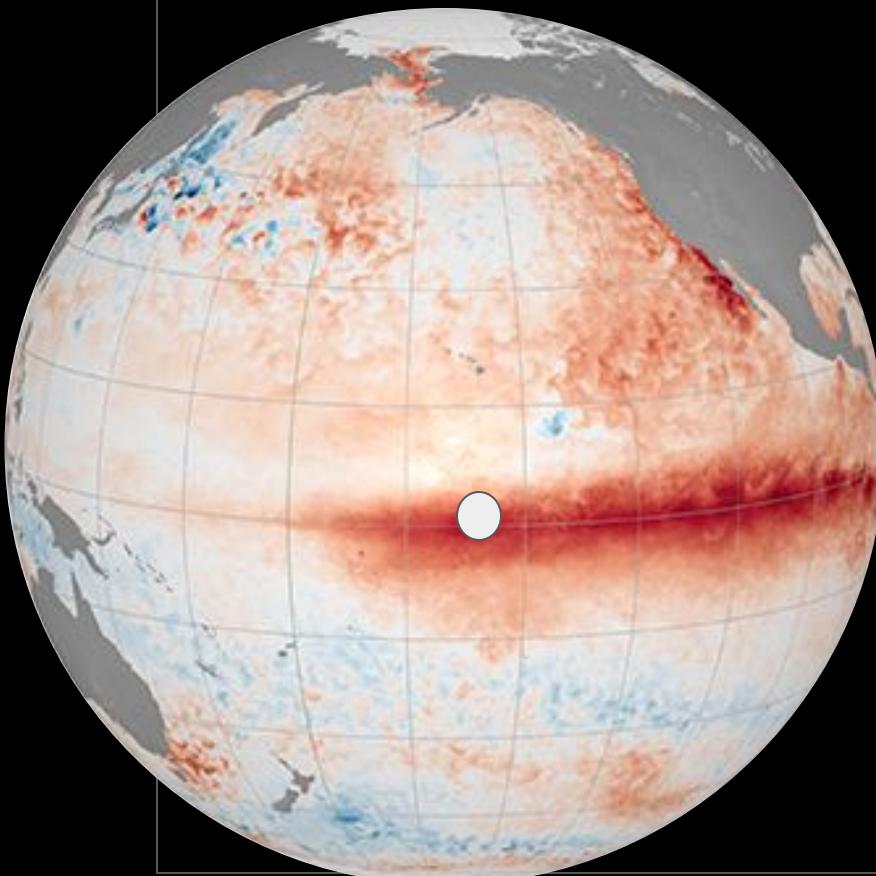
## El Niño events

1997  
1998  
2000  
2003  
2004  
2005  
2007  
2010  
2012  
2013  
2014  
2015  
2016

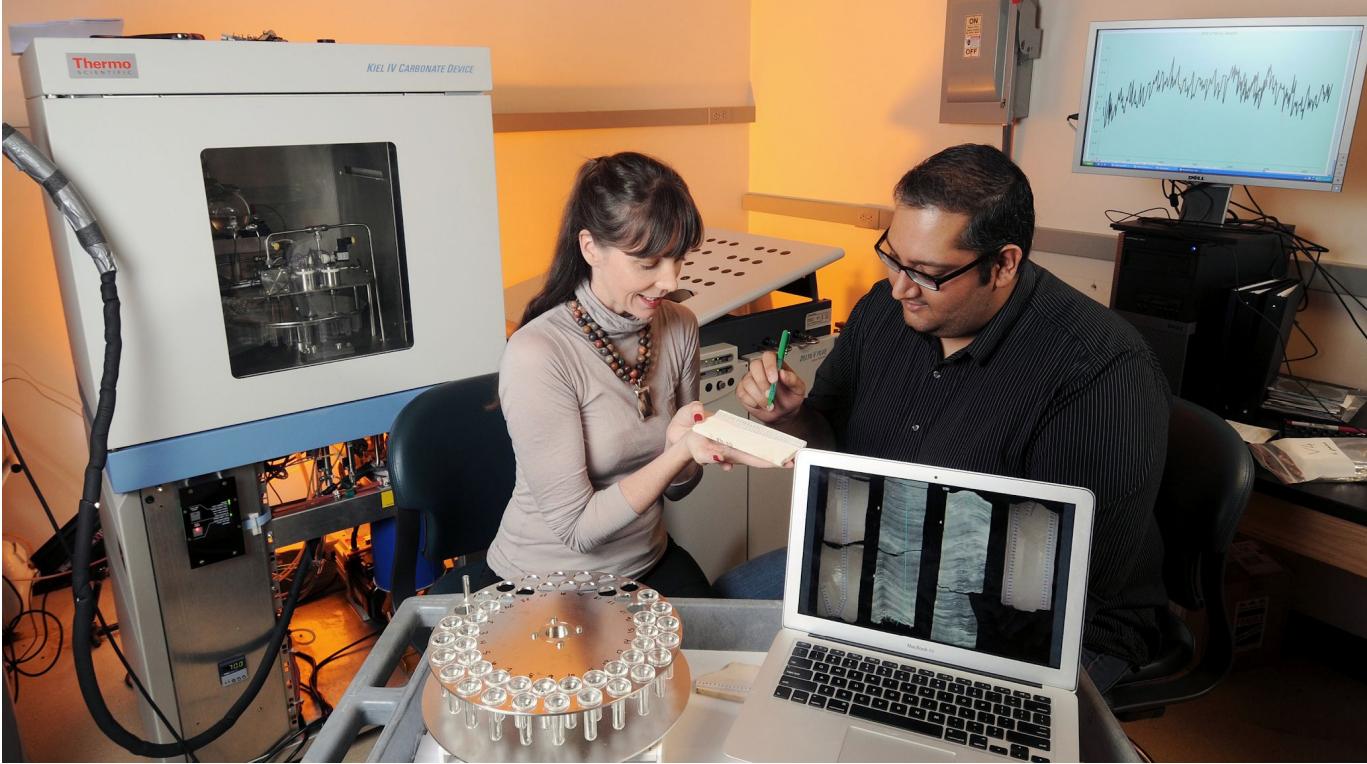


## El Niño events

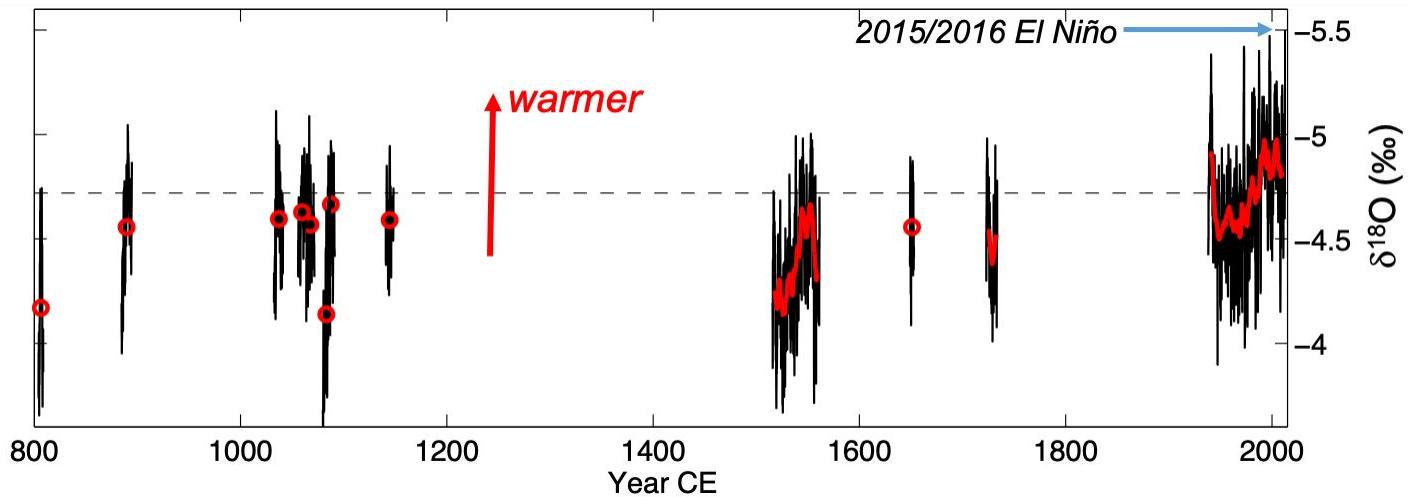
1997  
1998  
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2004  
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2016  
**2023**

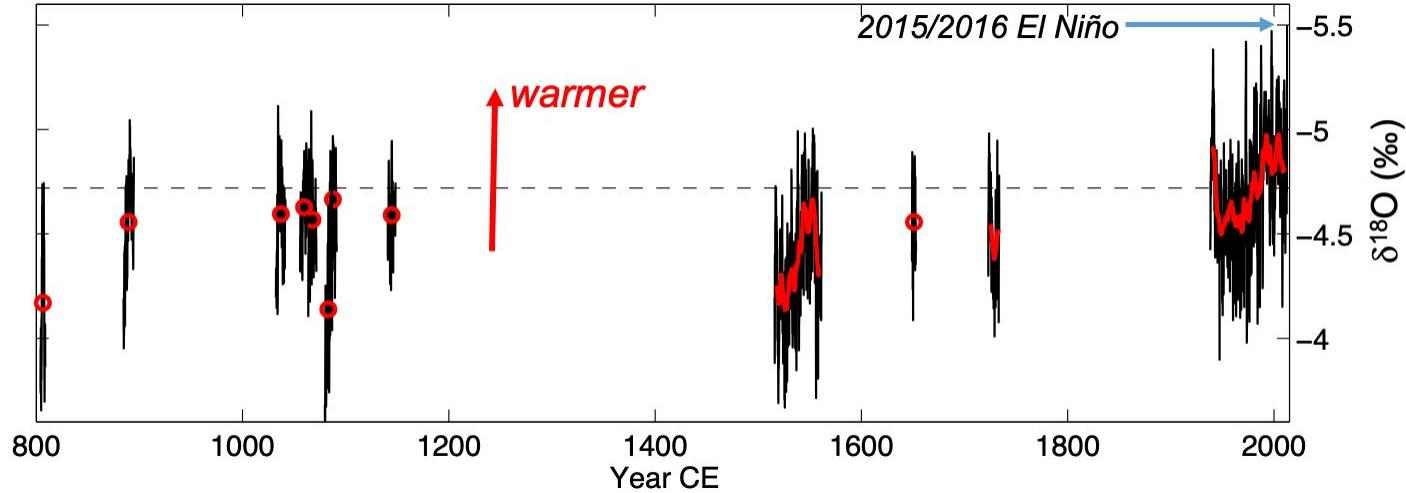






Our coral records show that 2016 was likely hotter than last 1,000 years





Grothe et al., 2020: El Ni\~o events of the last 50 yrs are significantly larger than those of the pre-industrial era





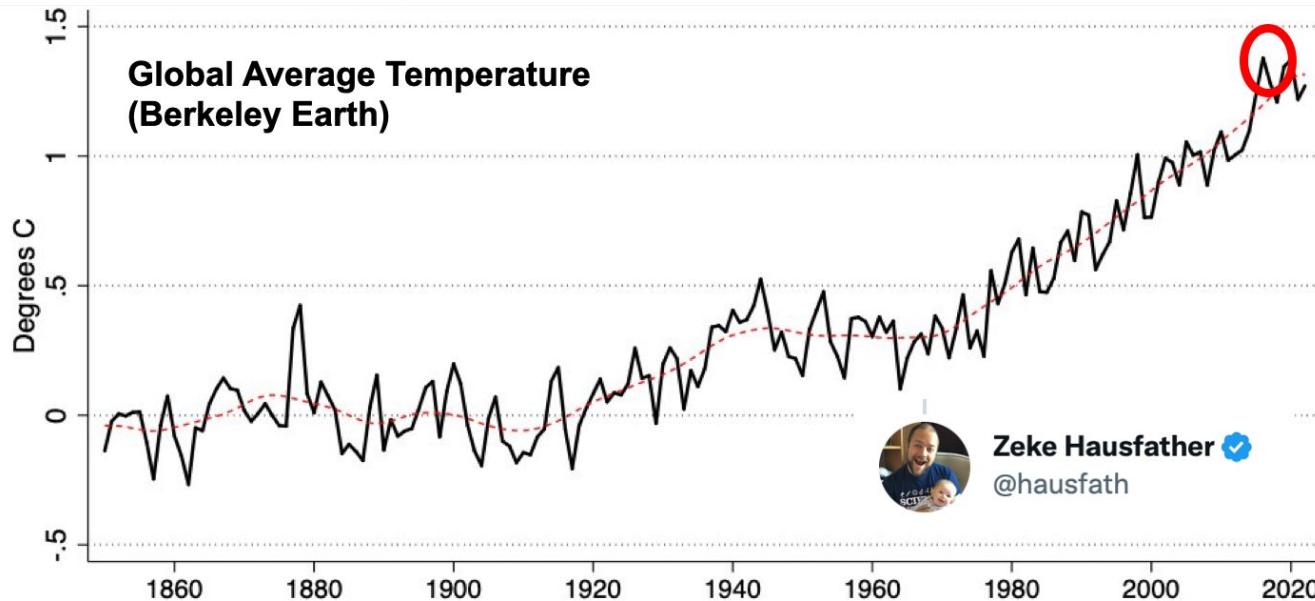
2014



2016

Credit: Cobb Lab; CC BY

# 2016 is (still) the warmest year on record



# 2002 - 2016

Climate scientist working to identify  
climate change problems.

# 2017 - Now

Climate scientist working to advance  
climate change SOLUTIONS.





# Testimony to the US Congress on climate impacts, climate solutions (February, 2019)



# January, 2023

## Biden administration appoints Brown climate scientist Kim Cobb to President's Intelligence Advisory Board

Cobb, a Brown University professor and director of the Institute at Brown for Environment and Society, will join a White House advisory board charged with providing independent counsel on U.S. intelligence matters.



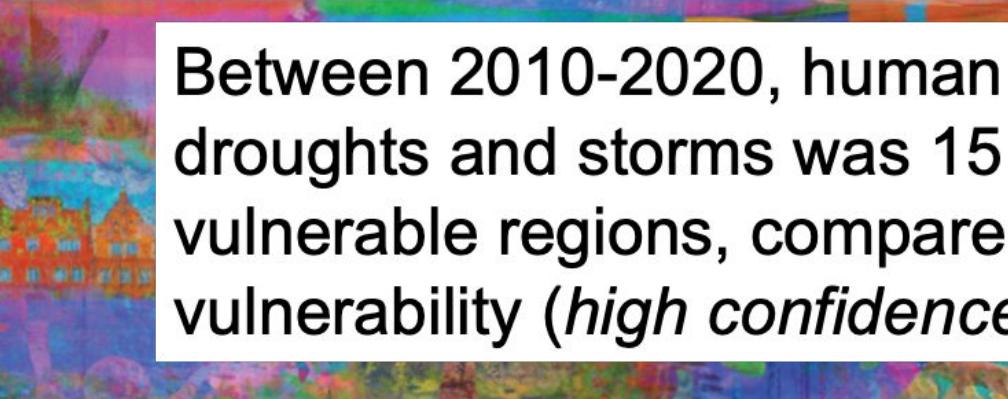
Kim Cobb appointed to President's Intelligence Advisory Board. Photo: Nick Dentamaro/Brown University



# Climate Change 2022

## Impacts, Adaptation and Vulnerability

Summary for Policymakers



Between 2010-2020, human mortality from floods, droughts and storms was 15 times higher in highly vulnerable regions, compared to regions with very low vulnerability (*high confidence*).

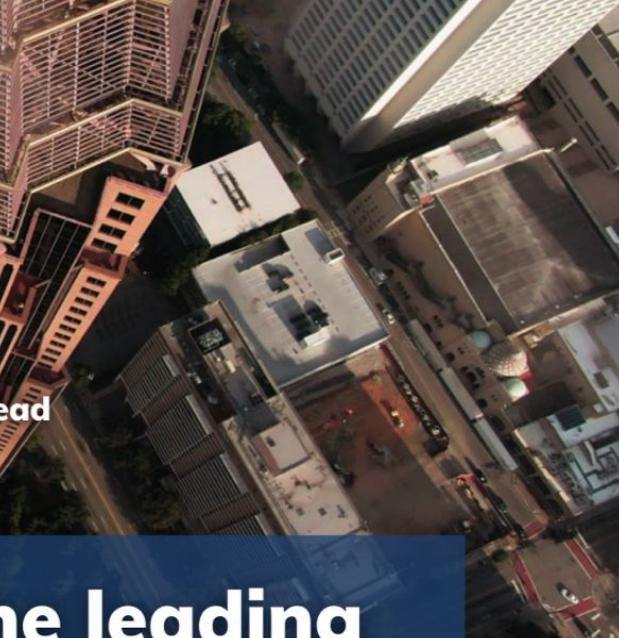




**Dr. Na'Taki Osborne-Jelks**  
UrbanHeatATL Co-Lead  
Spelman College



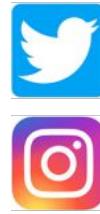
**Dr. Kim Cobb**  
UrbanHeatATL Co-Lead  
Georgia Tech

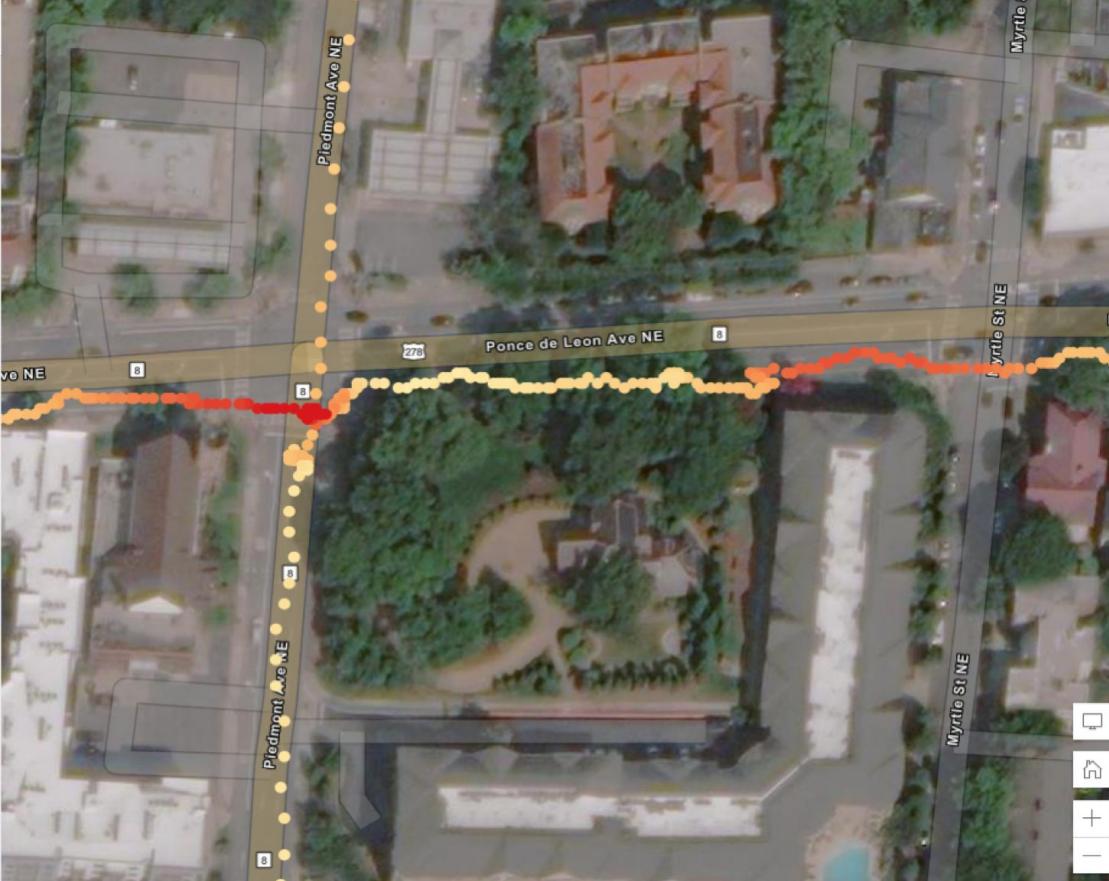




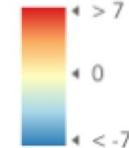
# UrbanHeatATL: community science for solutions

@urbanheatatl





Degree Difference



Identifying “hot spots” in our cities, working to limit extreme heat exposure as the planet warms



# Smart Sea Level Sensors

- Monitoring water levels in flood-prone Savannah, Georgia
- Providing critical data to emergency planners and responders, to keep people, bridges, and other critical infrastructure safe





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# 2023-2028 IBES Strategic Plan



## IBES by the numbers

140 Undergraduate Concentrators

100+ Graduate Student Affiliates

22 Faculty

8 Postdoctoral Fellows

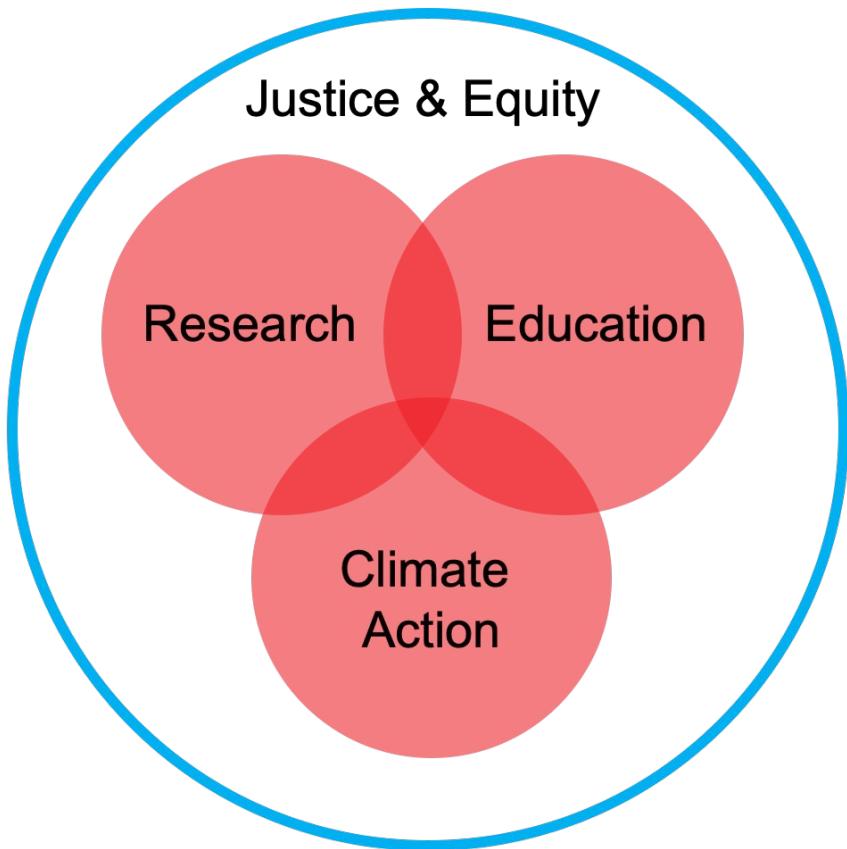
40+ Affiliate Faculty

\$5M/yr sponsored research



Mobilizing for climate solutions,  
with our students, community  
members, and partners





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**PROJECT GOAL:** to improve local air quality, reduce greenhouse gas emissions and support the communities of Providence to reach health and climate related goals.



**What it is:** A network of 25 air quality monitors located around Providence, led by Meredith Hastings, DEEPS



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This is one of the most consequential decades in human history.

It's never been more important to leverage science for climate solutions.

Let's champion an expansive definition of climate solutions research – one grounded in justice and equity, cultivating partnerships across sectors.

