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Climate, Health, and Equity

The Case for TransNational Resilience

08 August 2023

International Conference on Science and
Technology for Sustainability 2023. Tokyo, Japan

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This Talk

1

Two Troubling Trends

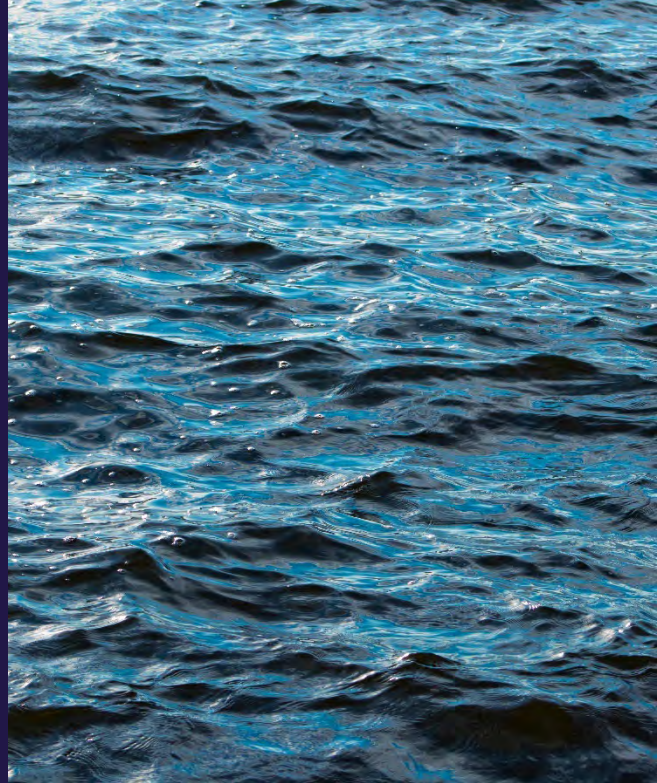
2

What Climate, health, and equity resilience looks like

3

A possible path forward

Two Troubling Trends



01

Trend 1

Climate Change is a Climate Crisis.

Now. And Everywhere

New Records



ALJAZEERA

News

Ukraine war

Features

Economy

Opinion

Video

News | Climate Crisis

July 2023 hottest month on record as heatwaves scorch Earth

Global average temperature for July confirmed to be highest on record of any month, says Copernicus Climate Change Service.

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GULF RESEARCH PROGRAM

The Washington Post
Democracy Dies in Darkness

Gulf Coast temperatures surge to highest levels ever observed

Since late last week, both Houston and New Orleans set all-time highs as water temperatures hover in the upper 80s to near 90

The Washington Post
Democracy Dies in Darkness

2023 is on track to be the hottest year on record



By [Kasha Patel](#)

August 8, 2023 at 4:00 a.m. EDT

The Hot

Record Gulf of Mexico temps and Fish Kill, Texas



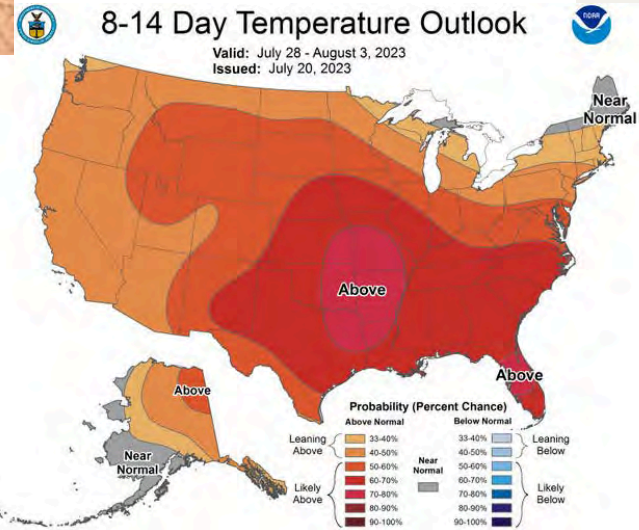
Drought, Horn of Africa



Wildfires, Hawaii



Wildfires, Canada



The Wet



Typhoon Mawar, Japan



Flooding, India



Flooding, South Sudan

The just plain weird

- “Hurriquake” in California
- No snowfall in Pacific Northwest (USA)
- Cyclone Freddy as the longest lasting tropical cyclone
- Smoke from Canada crippling US Cities
- Crazy heat
- Floods in the desert



NATURAL DISASTERS CLIMATE POLITICS

Why Hurricane Hilary is so strange — and how it has impacted California

The storm has caused significant flooding, power outages, and rock and mudslides in the Southwest, with more to potentially come.

By Ellen Ioanes and Nicole Narea | Updated Aug 21, 2023, 3:00pm EDT



Smoky haze covers New York City on Wednesday. COPYRIGHT 2023 THE ASSOCIATED PRESS. ALL RIGHTS RESERVED

With more to come

US sea levels will rise rapidly in the next 30 years, new report shows

By Rachel Ramirez

Updated 2:37 PM EST, Tue February 15, 2022



Flooding in Gulf Shores, Alabama, after Hurricane Sally in September 2020.

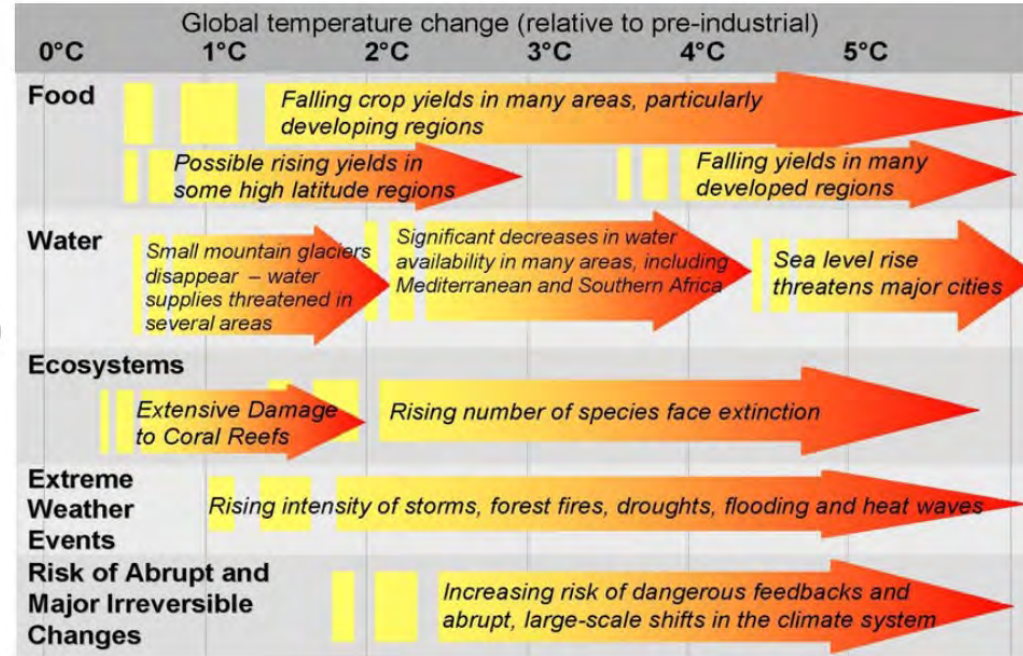
Joe Raedeh/Getty Images

Figure 1 - uploaded by [Belay Simane](#)

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Projected impacts of climate change by Sectors (Source; IPCC, 2007d)

Trend 2

The poor and the disenfranchised
are the most impacted.

Everywhere.

When Climate, Health, and Equity Collide



02

Social Determinants of Health

Housing

Education

Socioeconomic status

Food security

Social support

Overlapping and Incomplete Recoveries

- People who have low SDOH have slower and incomplete recovery to disasters
- They have lower thresholds for impact and lower ability to recover
- Climate change creates conditions of compounding, successive, and multiple disasters
- Disasters leave people with low SDOH in worse shape and with less capability
- People with low SDOH often live in the most risk-prone places

Most people live near coasts

>60% of the world's population live on coasts

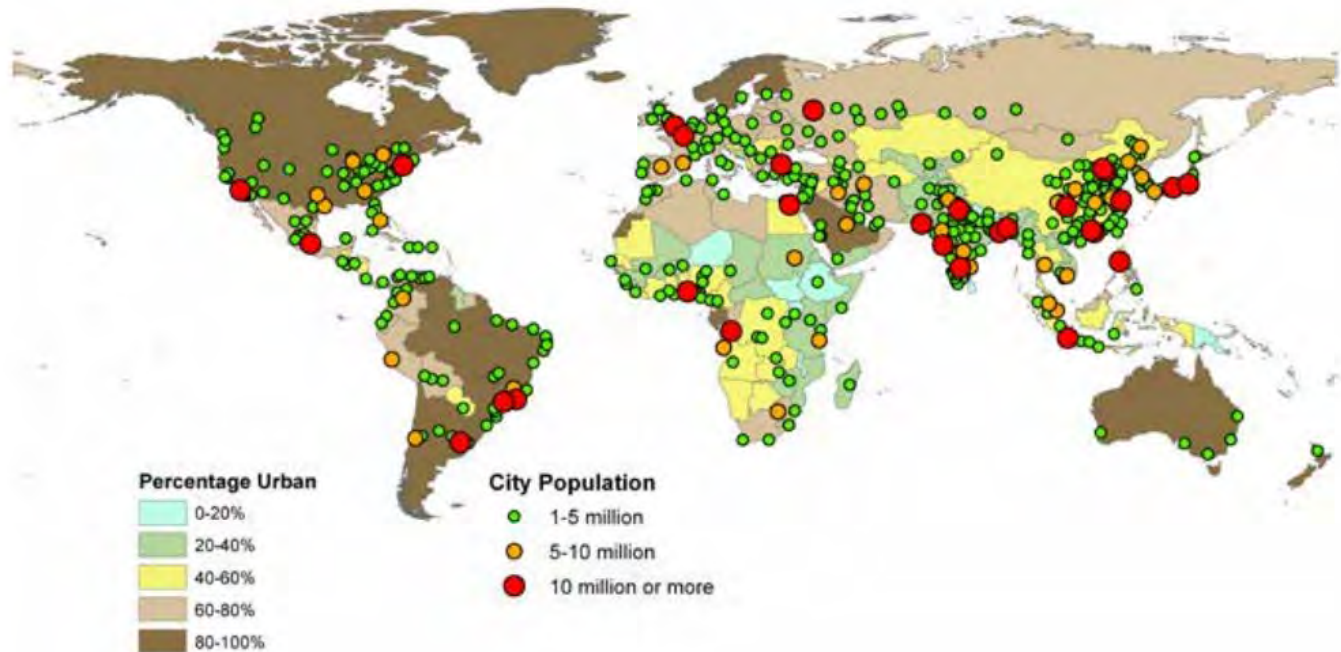
Almost all megacities are on coasts or deltas

>50% of the US population lives on coasts

Population trends show people moving to the coasts

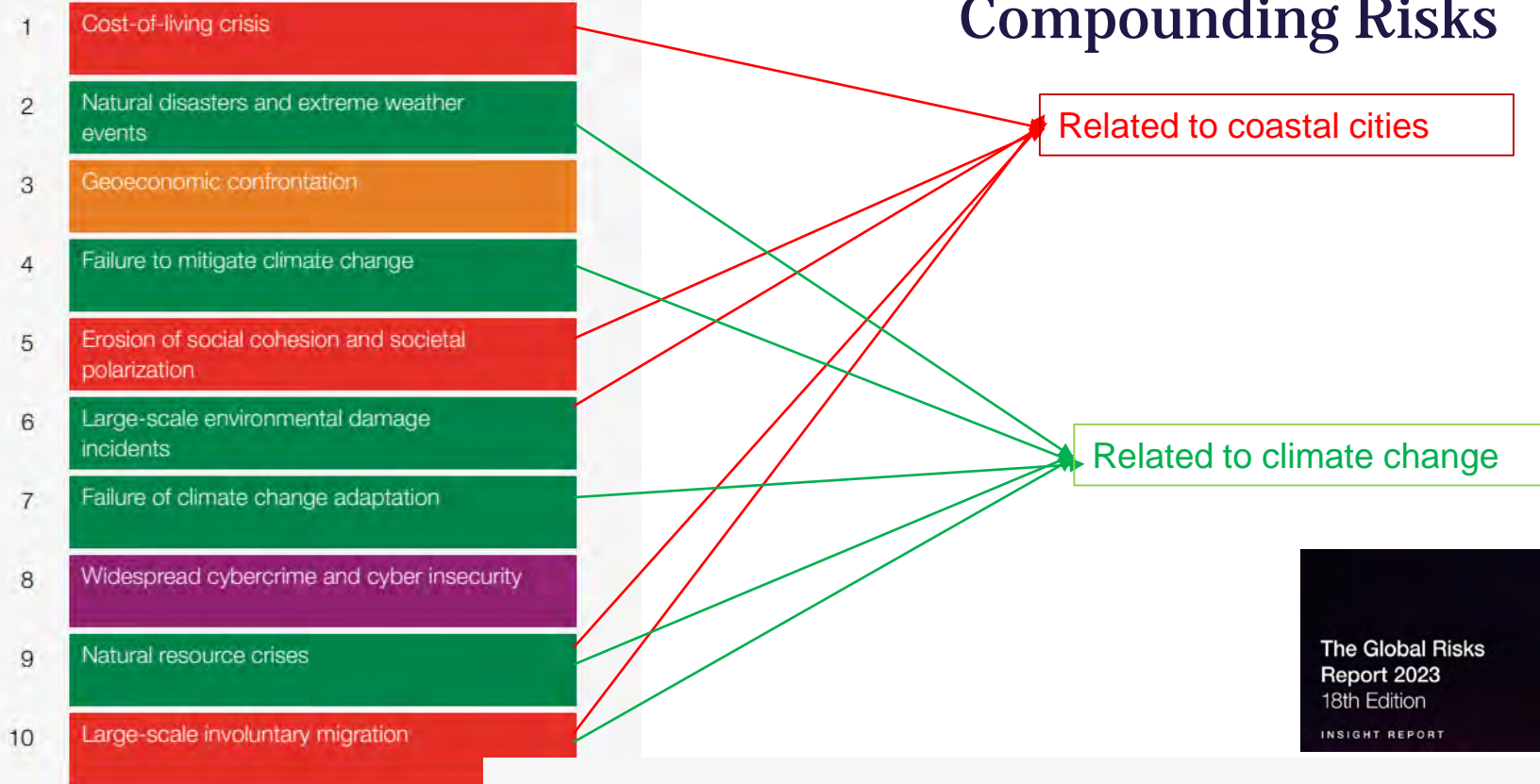
Figure 1.3: Global patterns of urbanization, 2015

Source: Based on United Nations, 2014b.



2 years

Compounding Risks



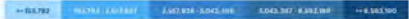
Related to coastal cities

Related to climate change

WORLD ECONOMIC FORUM
The Global Risks Report 2023
18th Edition
INSIGHT REPORT

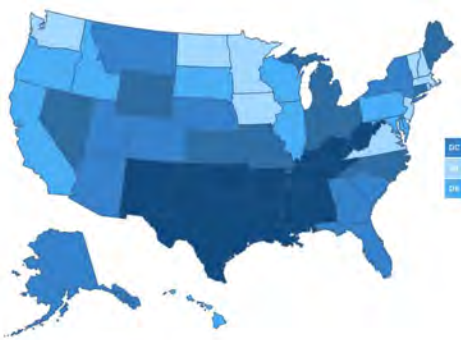


Risk-screening Environmental Indicator Score



Estimated human health-related risk from exposure to toxic chemicals based on emission data of more than 600 chemicals, with higher scores denoting elevated risk (as of 2021).

Source: <https://www.americashealthrankings.org/explore/annual/measure/RSEI/state/TX>

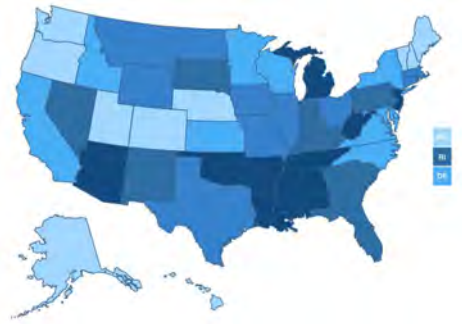


Food insecurity



Percentage of households unable to provide adequate food for one or more household members due to lack of resources

Source: https://www.americashealthrankings.org/explore/annual/measure/food_insecurity_household/state/TX (as of 2021)

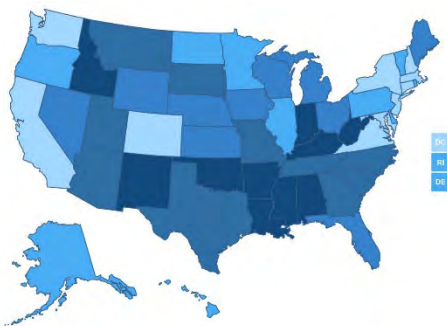


COVID-19



Number of COVID-19 deaths per 100,000 population (as of March 17, 2022)

Source: https://www.americashealthrankings.org/explore/covid-19/measure/Covid_Deaths/state/ALL

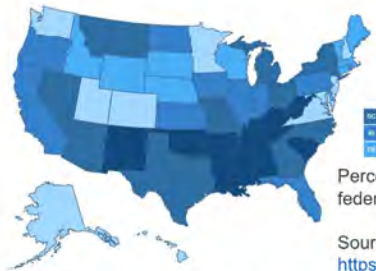


Per Capita Income



Per capita income in the last 12 months, in inflation-adjusted dollars to data year (as of 2021)

Source: <https://www.americashealthrankings.org/explore/annual/measure/PerCapIncome/state/TX>

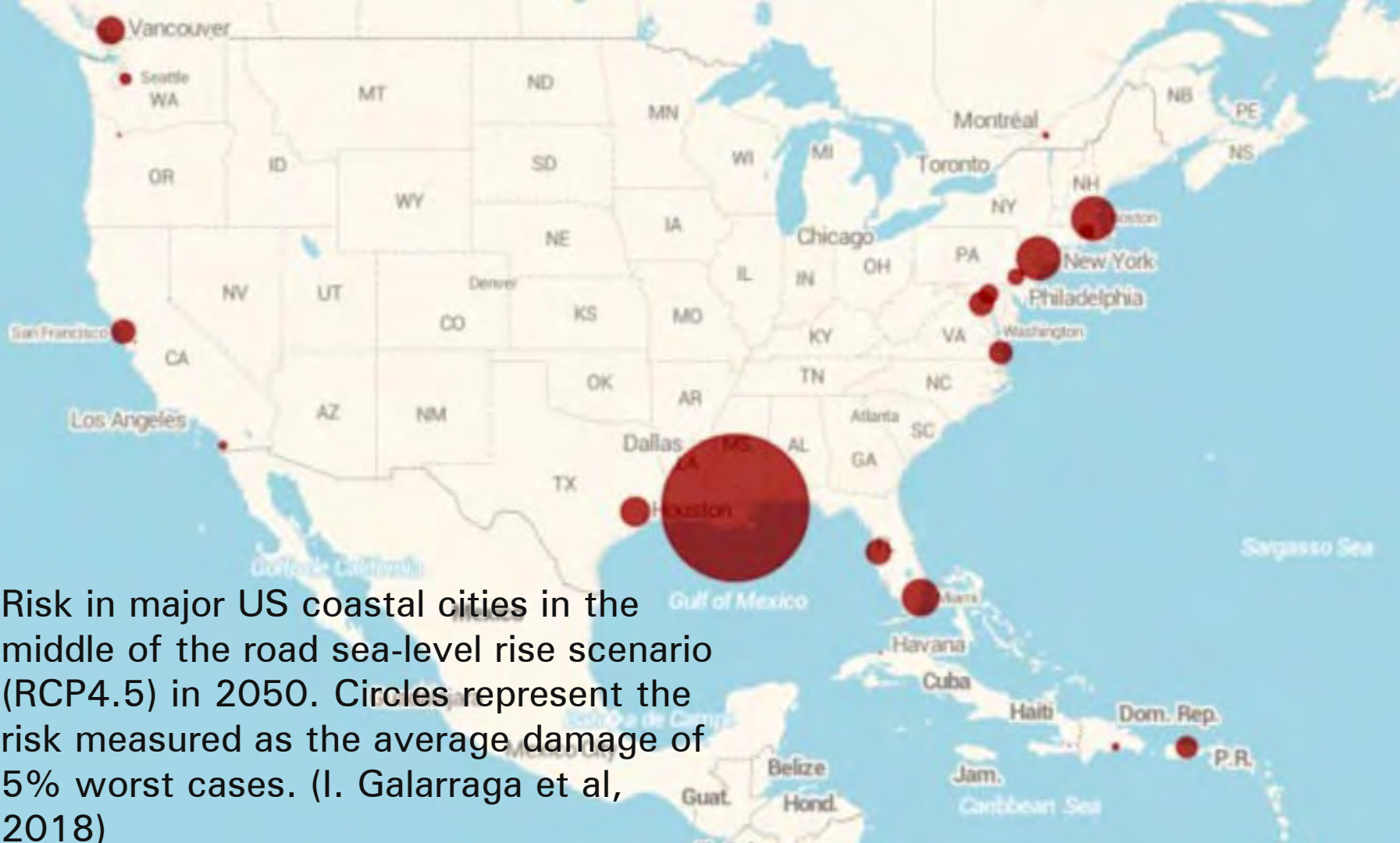


Poverty



Percentage of household living below the federal poverty level (as of 2021)

Source: https://www.americashealthrankings.org/explore/annual/measure/household_poverty/state/TX



Risk in major US coastal cities in the middle of the road sea-level rise scenario (RCP4.5) in 2050. Circles represent the risk measured as the average damage of 5% worst cases. (I. Galarraga et al, 2018)

The Gulf Coast is a harbinger for issues of climate and equity

Poverty is rampant: **ten million Gulf Coast residents** currently live below the US poverty line, with Mississippi topping the list of all states in terms of percentage of people who live in poverty (22%). Texas alone has almost five million poor people . Of particular concern is the level of extreme poverty—defined as less than one-half of the federal poverty level—in the region, especially among minorities.

One in ten black children living in Louisiana and Mississippi live in such near-developing-nation-level conditions [\[2\]](#).

...Periodic exposures to climate and environmental hazards, including hurricanes, floods, droughts, and oil spills [\[3\]](#), [\[4\]](#), which in some cases can further exacerbate financial hardships in the region. Thus, today the Gulf Coast is currently considered America's most vulnerable and impoverished region.

Hotez, Murray, Buekens, 2018

A possible path forward: TransNational Resilience



03

What is TransNational Resilience?

An opportunity for countries to help each other with these climate disasters that depends on

- Good governance for different sectors and groups to work together
- Solid investments to support knowledge, data, materiel and other types of exchange
- Collaboration among various people and organizations in pursuit of a common goal
- Needed to find shared solutions to shared problems

A Network to test principles of TransNational Resilience

Climate Communities Network to have 20 communities from 4 regions around the United States

Each region and each community share common issues around climate, health, and equity

Communities within each regional cohort work together on identifying regional solutions to the shared issues

Regional cohorts work together to elevate solutions for regional or national implementation

The Climate Communities Network

- Includes experts from government, philanthropy, academia, and industry
- Community members catalyze innovation, inform policy, identify funding, and co-design solutions.
- Collaborate to identify and develop solutions to climate-related health inequities
- Work through partners to implement the solutions
- Regional cohorts are:
 - The Gulf States
 - The mid-west
 - The Pacific Northwest
 - The Atlantic Southeast
- Starting in Fall 2023, so stay tuned!

Expected Outcomes for TransNational Resilience

- Identify ways to discuss climate and disaster risk
- Identify ways that the communities and the cohorts exchange information
- Document ways that the communities and the cohorts develop solutions

- Lessons from the CCN across cohorts and regions in the United States could be applied to cohorts in other countries to develop TransNational Resilience

TransNational or National Level

Financial resources

Expertise

awareness

Trust

translation

capacity

exchange

communication

Problem ID

Community Level

TransNational Resilience

Problem Solution

Problem Solution

The Peace and Deal Makers

Collaboration

Problem ID



So. Let's start.

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thank
you