

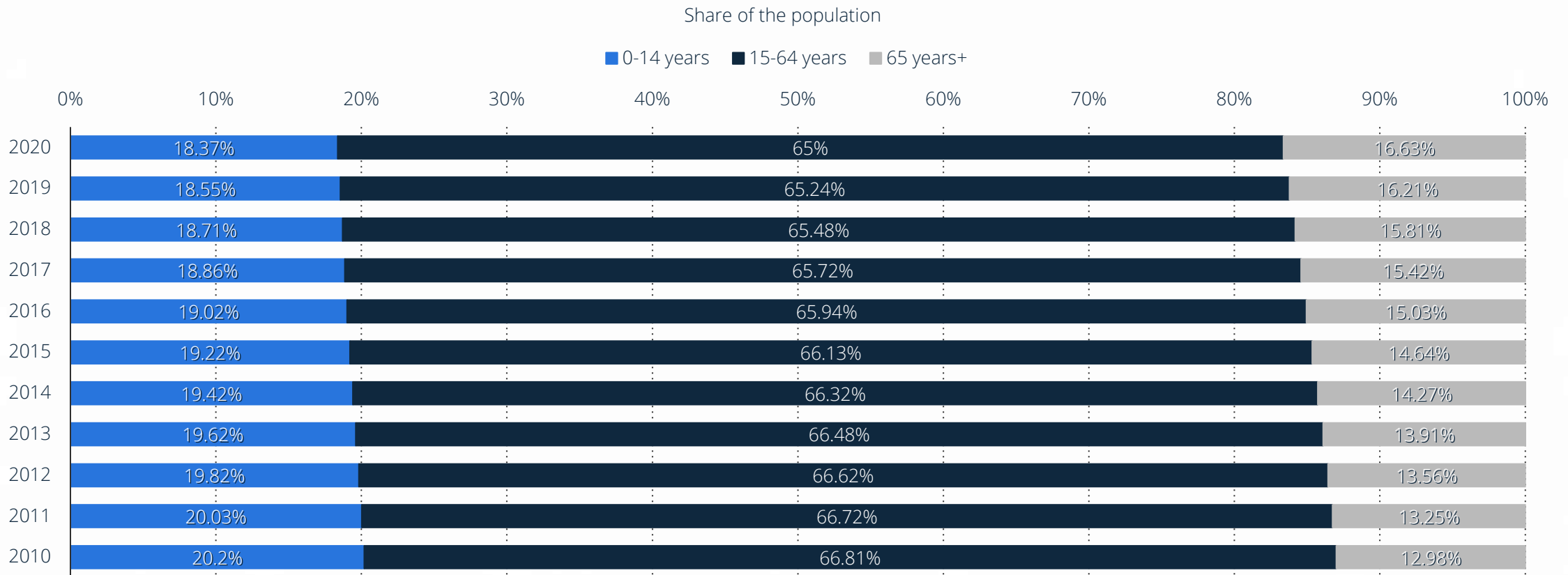
## U.S. Latin Population

1. Nearly 50% live in counties that violated ground level ozone standards.
2. Major employment in agriculture, manufacturing, and construction.
3. 55% live in Florida, California and Texas, three states already experiencing serious effects related to climate change:.

<http://www.nhmamd.org/index.php/nhma-media/nhma-in-the-news/233-northjerseycom-news-report-hispanics-disproportionately-impacted-byair-pollution>

# Age distribution in the United States from 2010 to 2020

Age distribution in the United States 2020



Note(s): United States

Further information regarding this statistic can be found on [page 8](#).

Source(s): World Bank; ID 270000



# Vulnerable Populations

- Demographics, socioeconomic status, and physical location can impact climate vulnerability
- Climate change exacerbates existing inequities

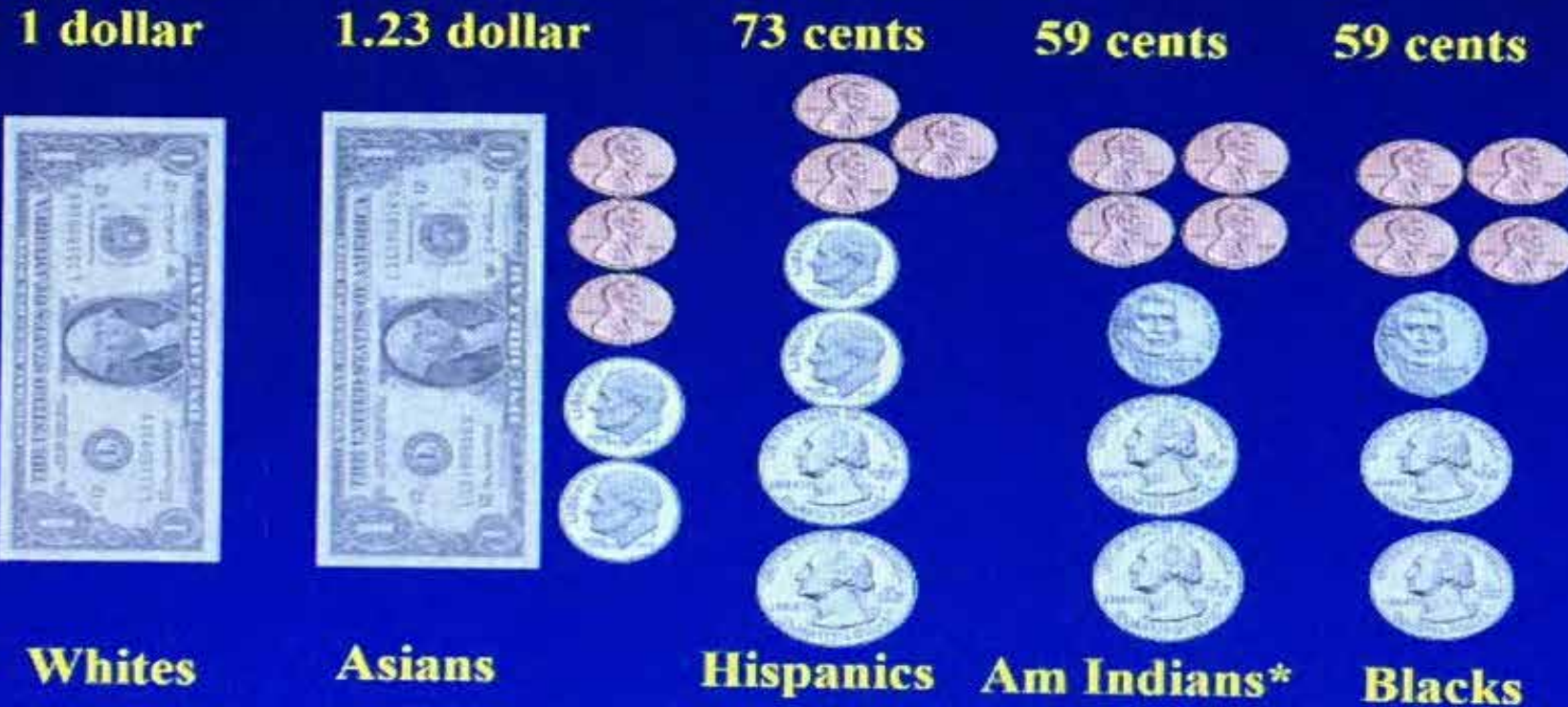
While climate change impacts all of us, low-income communities, communities of color, children, the elderly, and those with limited language proficiency are some of the most vulnerable.

# POLICY MATTERS

1619

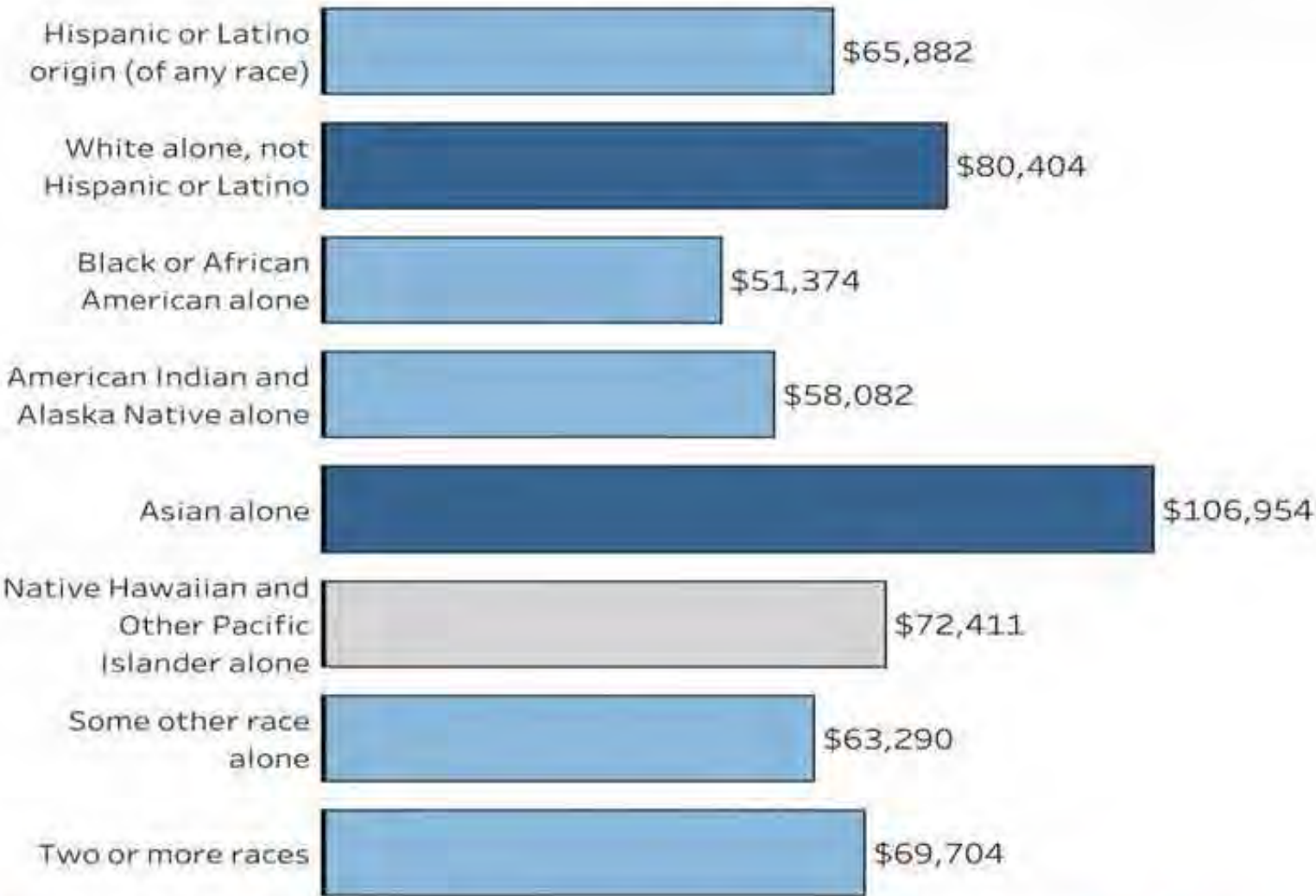
# Median Household Income and Race, 2018

Racial Differences in Income are Substantial:



U.S. Census Bureau, Semega et al., 2019; \* For 2017; US Census Bureau, ACS, 2017

# Median Household Income by Race and Ethnicity in the United States



Different than National/State Estimate?

- Higher
- Lower
- Not Statistically Different

Source: U.S. Census Bureau  
2022 American Community Survey  
Note: \* denotes that an estimate is unavailable.



[https://www.reddit.com/r/dataisbeautiful/comments/1984sfw/median\\_household\\_income\\_by\\_race\\_and\\_ethnicity\\_in/?rdt=44849](https://www.reddit.com/r/dataisbeautiful/comments/1984sfw/median_household_income_by_race_and_ethnicity_in/?rdt=44849)

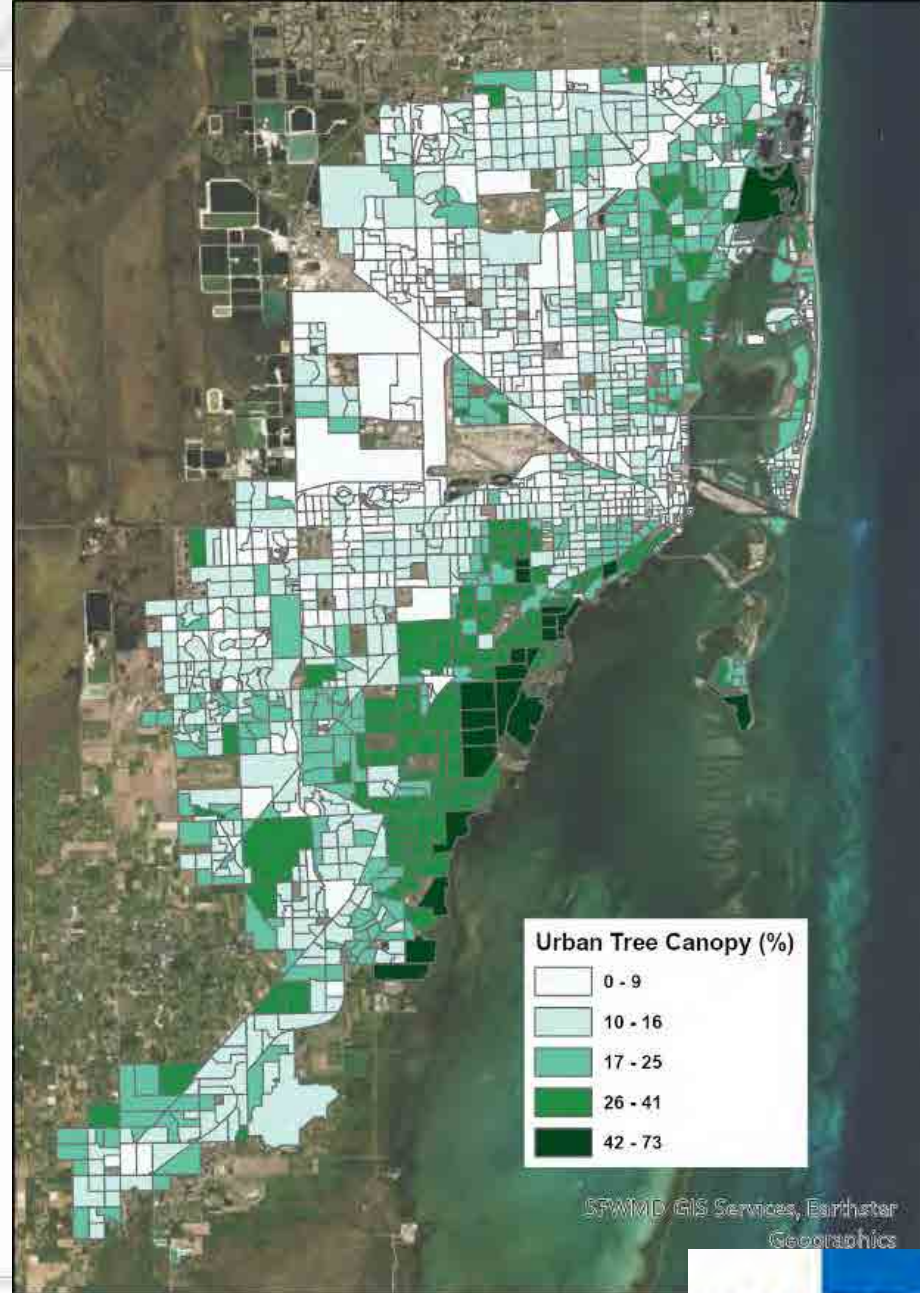
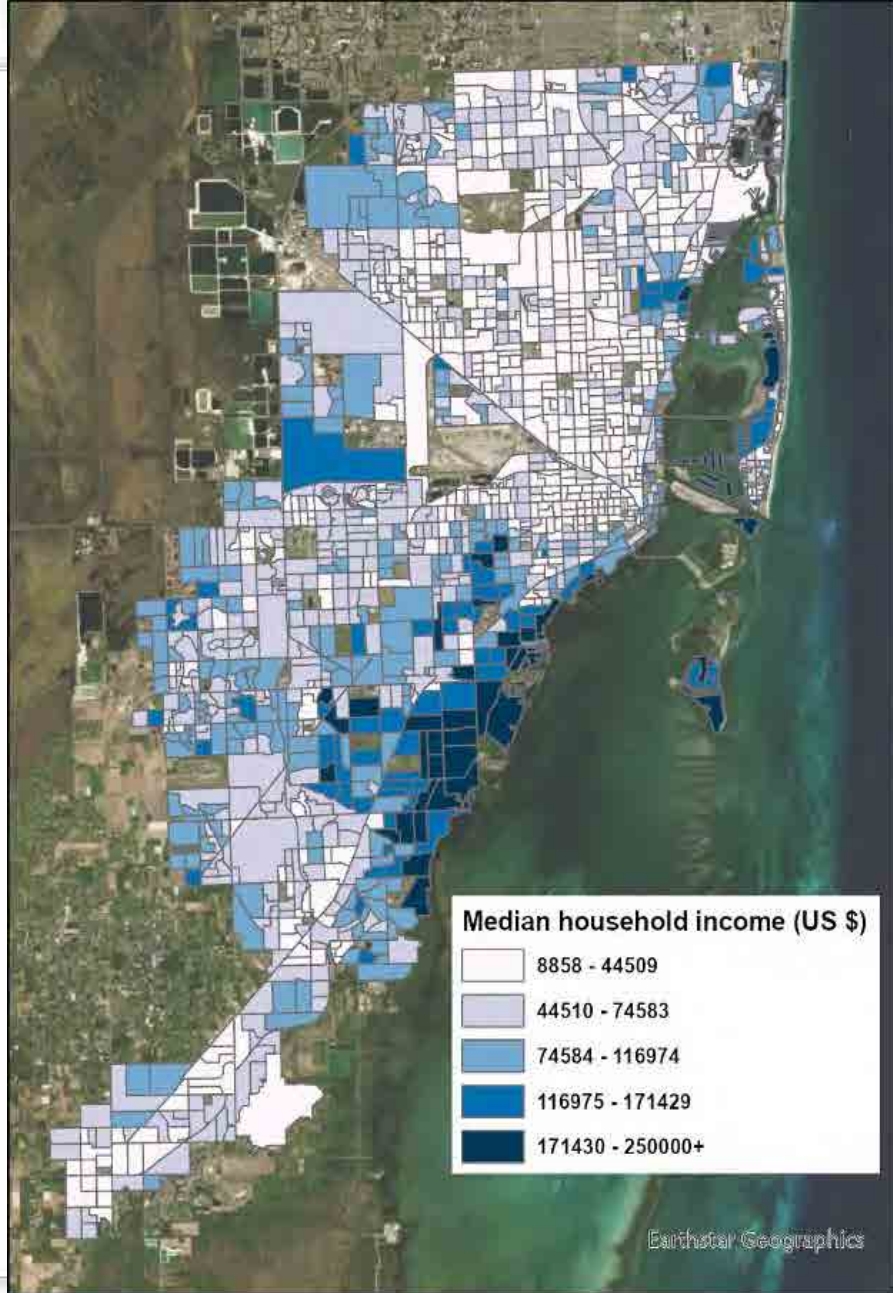


RICHMOND

Redlined  
neighborhoods

# How Decades of Racist Housing Policy Left Neighborhoods Sweltering

[nytimes.com](https://www.nytimes.com)

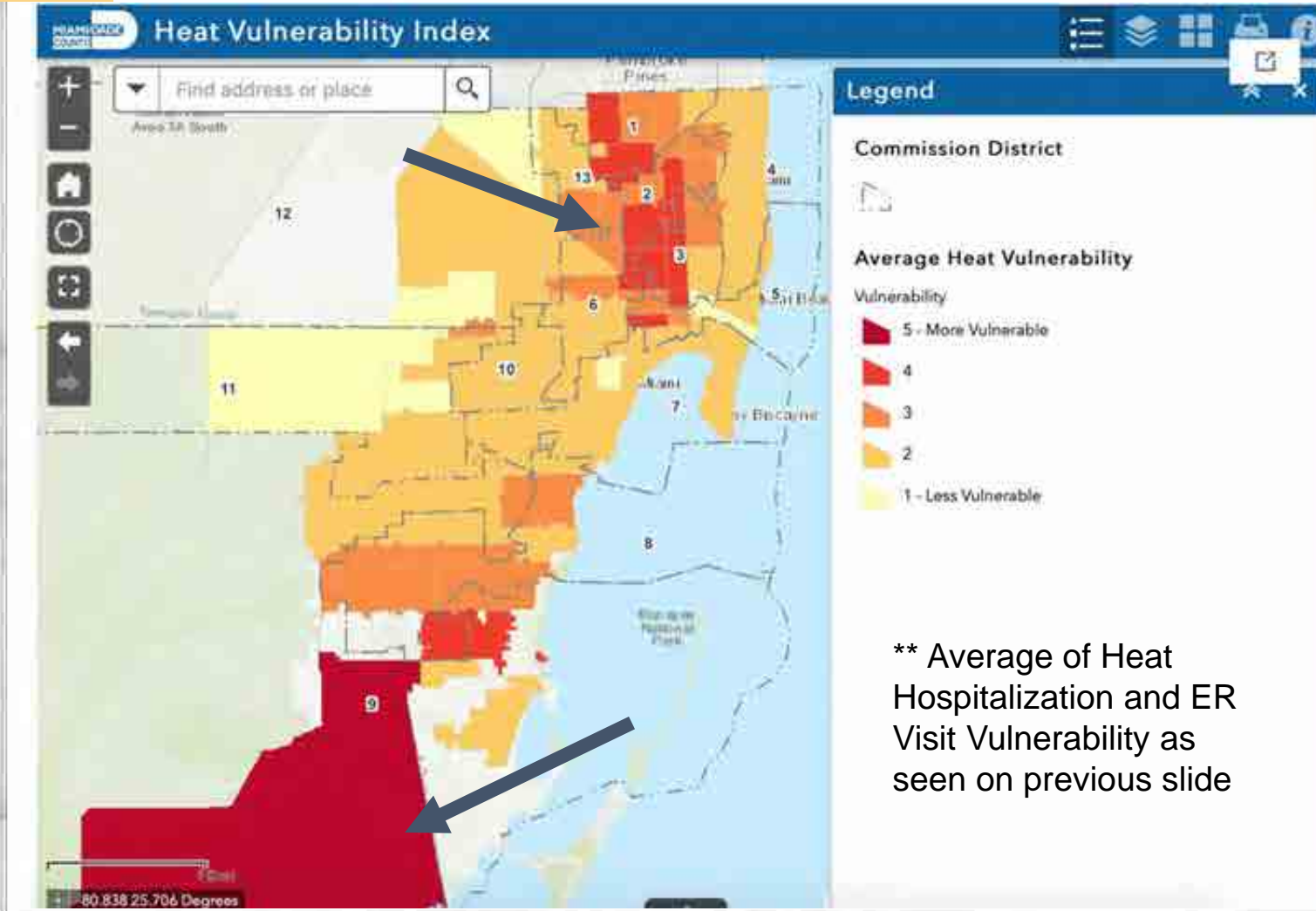


Helping Florida Clinicians for Climate Action  
College of Medicine

FLORIDA INTERNATIONAL UNIVERSITY



# ArcGIS StoryMap: Vulnerability



- Interact with the Heat Vulnerability Index web mapping application to identify vulnerable zip codes in Miami-Dade
- Homestead, Florida City, Hialeah, Miami, Opa-Locka, and Miami Gardens

# US Census 2020

- Pop. Increased by 7.35%- slowest increase ever recorded- 331.4 Million
- Decline in non Hispanic white population – Hispanic grew 34%, Blacks-declined, Mixed Race- increased; STILL white majority- 235.4 million (71%)
- Population shifted to cities.
- POC undercounted

# **Inequity in consumption of goods and services adds to racial–ethnic disparities in air pollution exposure**

**Christopher W. Tessum, Joshua S. Apte, Andrew L. Goodkind, Nicholas Z. Muller, Kimberley A. Mullins, David A. Paoella, Stephen Polasky, Nathaniel P. Springer, Sumil K. Thakrar, Julian D. Marshall, and Jason D. Hill**

## Abstract

Fine particulate matter (PM<sub>2.5</sub>) air pollution exposure is the largest environmental health risk factor in the United States. Here, we link PM<sub>2.5</sub> exposure to the human activities responsible for PM<sub>2.5</sub> pollution. We use these results to explore “pollution inequity”: the difference between the environmental health damage caused by a racial–ethnic group and the damage that group experiences. We show that, in the United States, PM<sub>2.5</sub> exposure is disproportionately caused by consumption of goods and services mainly by the non-Hispanic white majority, but disproportionately inhaled by black and Hispanic minorities. On average, non-Hispanic whites experience a “pollution advantage”: They experience ~17% less air pollution exposure than is caused by their consumption. Blacks and Hispanics on average bear a “pollution burden” of 56% and 63% excess exposure, respectively, relative to the exposure caused by their consumption. The total disparity is caused as much by how much people consume as by how much pollution they breathe. Differences in the types of goods and services consumed by each group are less important. PM<sub>2.5</sub> exposures declined ~50% during 2002–2015 for all three racial–ethnic groups, but pollution inequity has remained high.

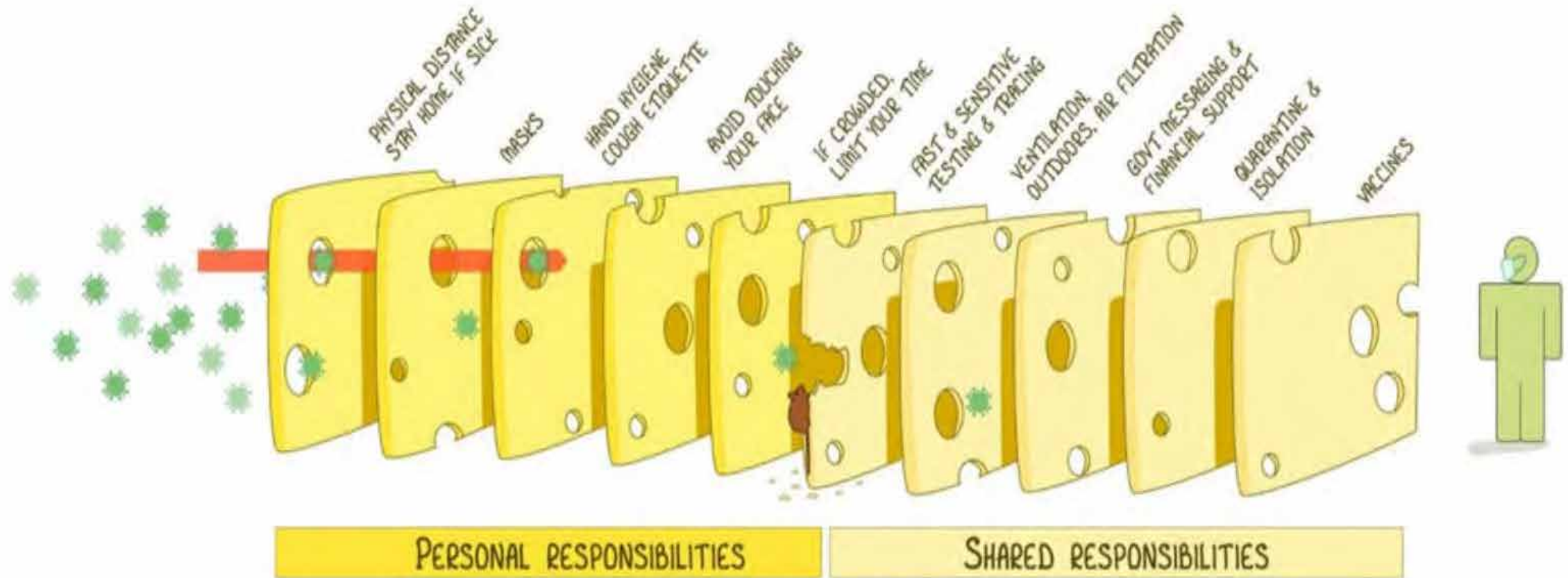
Proceedings of the National Academy of Science of the U.S. <https://doi.org/10.1073/pnas.1818859116>



United Nations”  
Intergovernmental Panel  
on Climate Change

- Efforts that **improve liveability** while also **reducing greenhouse gas emissions** are “more **urgent** than previously thought”. Actions that **prioritize equity and justice**, including **tackling gender or income inequalities**, have **better overall outcomes**”.

# The Swiss Cheese Respiratory Virus Pandemic Defense: Recognizing that No Single Intervention is Perfect at Preventing Spread

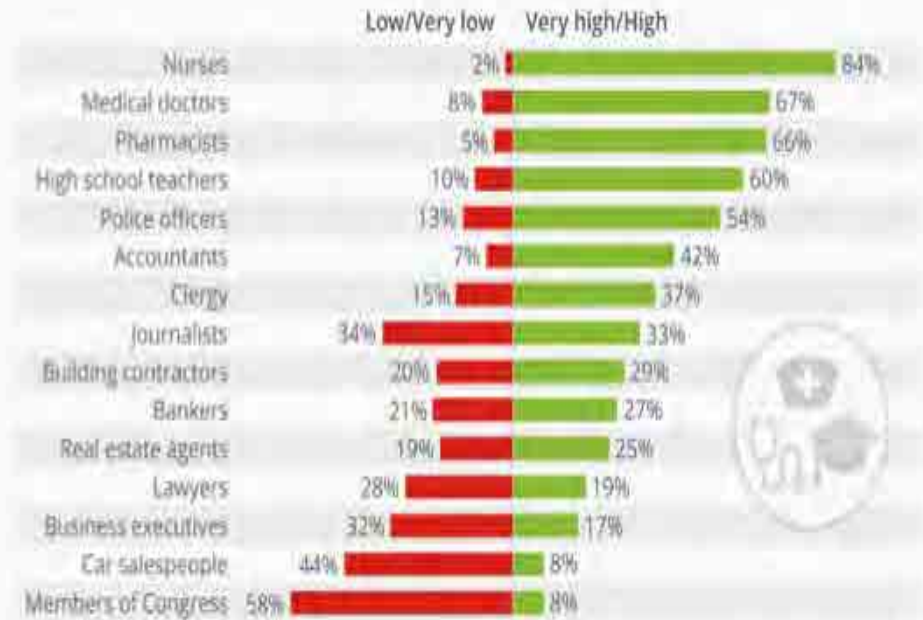


EACH INTERVENTION (LAYER) HAS IMPERFECTIONS (HOLES).  
MULTIPLE LAYERS IMPROVE SUCCESS.

# Health Professionals are the best messengers!!

## America's Most & Least Trusted Professions

Rating of selected U.S. professions in terms of honesty and ethical standards in 2018



© 2018 Statista  
Source: Gallup

statista

# Health Sector

22 million health sector workers

- 3.8 million nurses
- 1 million doctors
- Over 300K pharmacists



# Actions You Can Take To Advocate for Climate Solutions

1. **Engage**- Learn more about climate change. Participate in programs like Michael Hawken's **Project Drawdown**
2. **Educate** - about climate change with your family, friends, colleagues, community, legislature- **EVERYONE**
3. **Advocate**- **Join** an organization advocating for solutions to climate change, **VOTE**
  - Florida Clinicians for Climate Action (FCCA) [www.FloridaClinicians.org](http://www.FloridaClinicians.org)
  - Alliance of Nurses for Healthy Environments (ANHE) <https://envirn.org/>
  - <https://medsocietiesforclimatehealth.org/>



# Climate & Heat Health Task Force

## Goals reached:

- World's First Chief Heat Officer
- Created community workshops.
- Urban Heat Research Working Group.
- Clinician education programs

## The Task Force included

- County appointed policy makers,
- Volunteer scientific experts
- Volunteer healthcare professionals
- Two community members (ensure community voices are heard and lifted up)

<https://miamifoundation.org/extremeheat/>

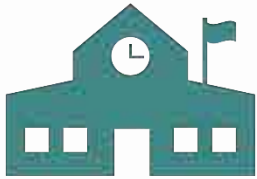


# Medical-Legal Partnership

## Letter Templates & Instructions

### Protecting Climate-Vulnerable Patients

A patient does not have to be a recipient of social security disability benefits or meet Social Security's definition of disabled to request a reasonable accommodation.



**REASONABLE ACCOMMODATIONS IN  
EDUCATION**



**REASONABLE ACCOMMODATIONS IN  
EMPLOYMENT**



**REASONABLE ACCOMMODATIONS IN  
HOUSING**





# Extreme Heat Action Plan

- **Goal 1: Inform, Prepare and Protect People**
- **Goal 2: Cool our Homes and Emergency Facilities**
- **Goal 3: Cool our Neighborhoods**



# Florida Clinicians for Climate Action's Education Strategy

Free CME Climate Change and Health Webinars with Baptist Health System

On-site Clinician and Patient Education in high (heat) vulnerability communities' health centers and hospitals.

Quarterly "Lunch and Learn" webinars for all Florida Clinicians (non-CMEs)

Community Practicums for Medical Students

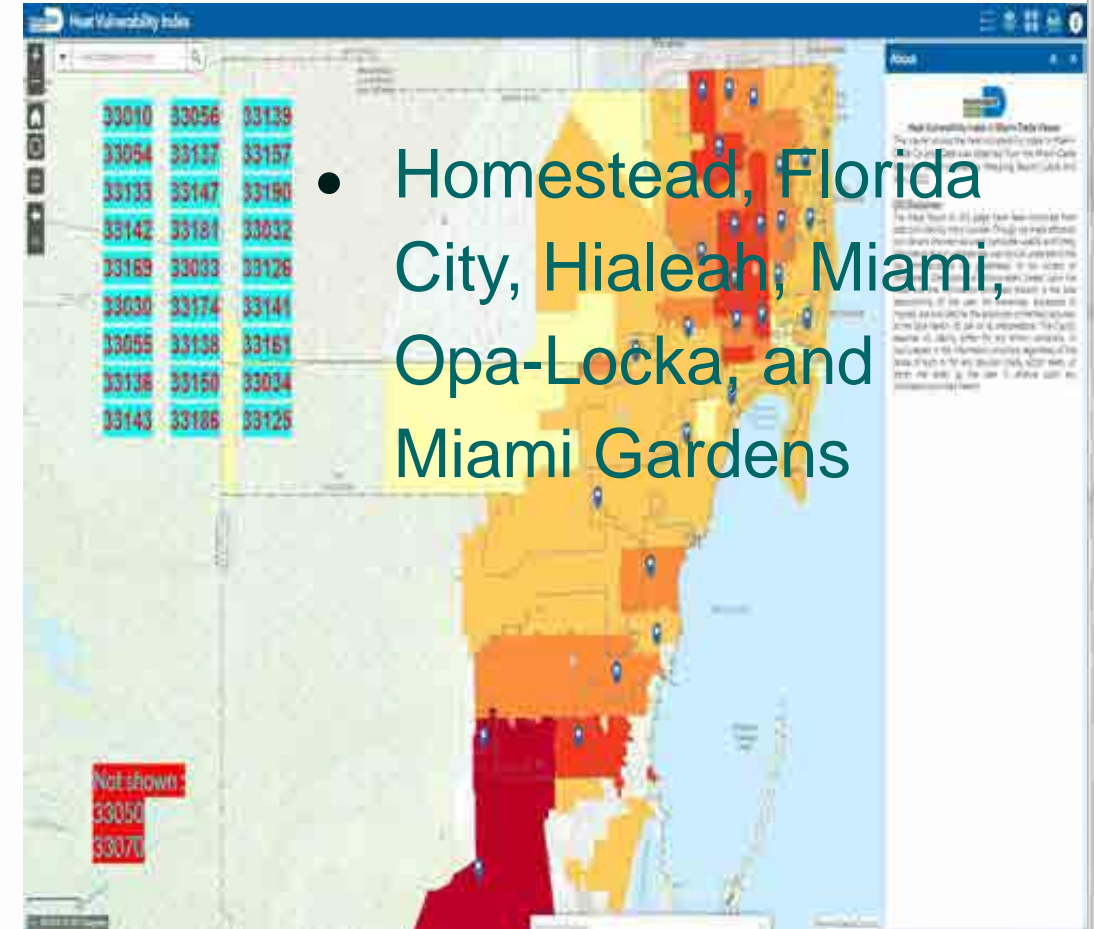
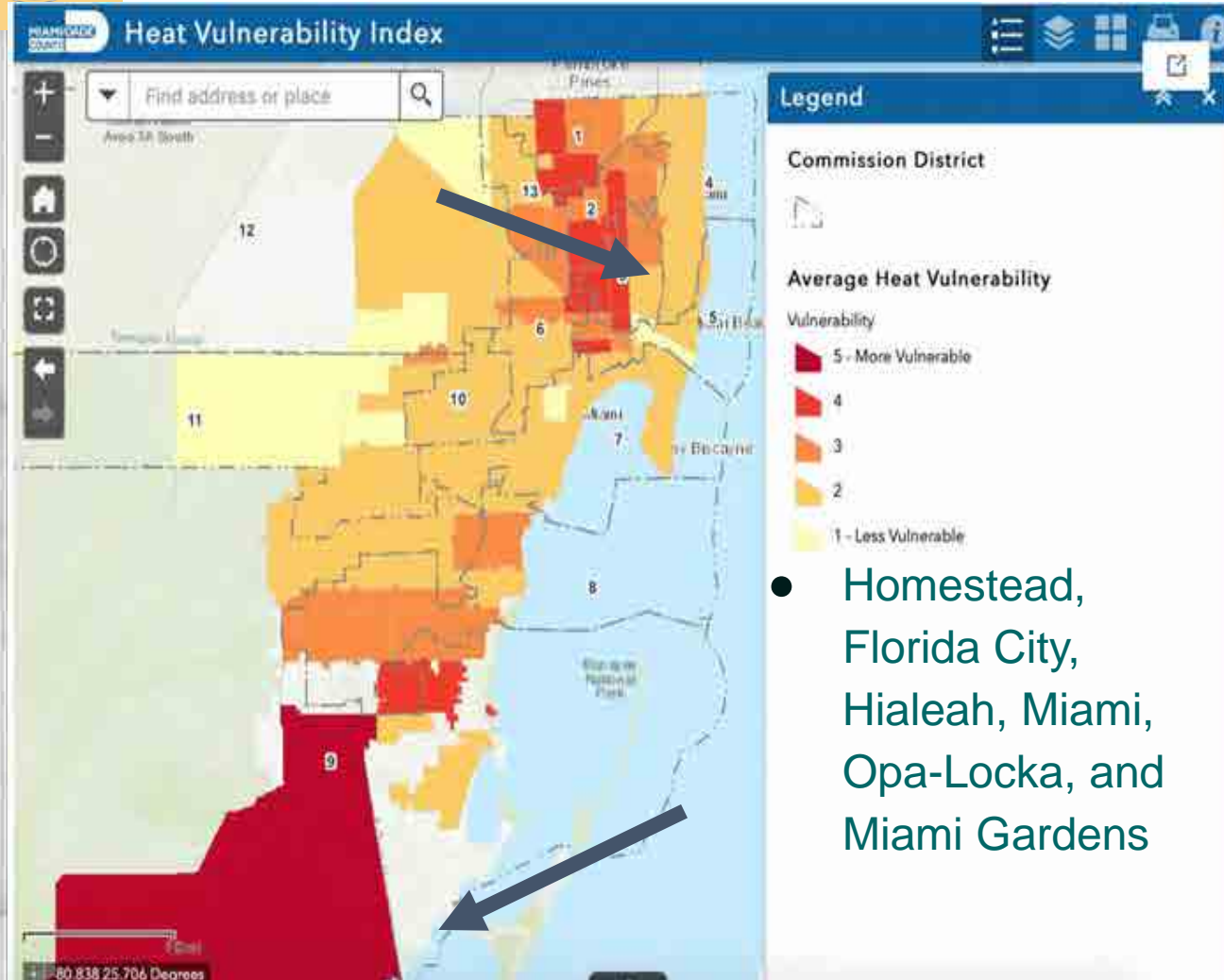
Climate and Health Training Program to develop community educators (16+ y/o volunteers)

Social Media Presence





# ArcGIS Story Map: Vulnerability



## Contacting Hospitals & Clinics

66	Steward Family Hospital	Coral Gables Hospital	Main	2	33134	305-445-8461	3100 Douglas Rd Coral Gat Primary Care
67	Jackson Health System	Jackson Memorial Hospital	Main	4	33136	305-585-1111	1611 NW 12th Ave, Miami, I Emergency, Brit
68	Jackson Health System	Jackson Health Behavioral Hospital	Satellite	4	33136	305-355-7000	1695 NW 9th Ave, Miami, FI Behavioral and
69*	University of Miami. <b>Team Meetir</b>	University of Miami Hospital And Clinic	Satellite	4	33136	305-325-5511	1400 NW 12th Ave, Miami, Medical, Surgic
70*	University of Miami <b>Team Meetir</b>	University of Miami Hospital	Main	3	33125	305-243-4000	1295 NW 14th St, Miami, FL Medical, Surgic
71	Wellpath .. 11/22/22 Carol spoke	South Florida Evaluation and Treatm	Main		33084	786-349-6000	18680 SW 376th St, Homex Behavioral and
72	La Colonia Medical Center	La colonia Medical Center Homestead	Satellite	3	33032	305-889-3121	27435 S Dixie Hwy, Naranja, F Primary Care, Ca
73	La Colonia Medical Center	La colonia Medical Center Little Hava	Satellite	3	33125	00) 305-889-3121 prefe	2001 NW 7th St, Miami, FL Primary Care, C



## Heat Stress and Heat Illness Prevention Series: Malaria in Florida

September 27, 2023 | 6:00 p.m. - 7:00 p.m. EST

An estimated 34 heat-related deaths occurred annually in Miami-Dade County from 2015 to 2019 and 6,804 emergency room visits in the state of Florida were attributed to heat-related illness in 2019. The risk of heat related illness persists due to a warming climate. Scientific evidence indicates that patient health is already impacted by increased days of extreme heat. Join presenters from the Miami-Dade Heat Task Force and Florida Clinicians for Climate Action as they address how to identify signs and symptoms of heat stress and heat illness and explore cost-effective strategies to treat and prevent heat illness in our patients.

[Enroll today at BaptistHealth.net/CME](https://www.baptisthealth.net/CME)

Faculty

Disclosure



Miami-Dade County  
Florida Clinicians for Climate Action



**HEAT HEALTH EDUCATION!**  
FOR CLINICIANS AND COMMUNITY

**STAYING SAFE IN  
HOT WEATHER**



**LEARN TO RECOGNIZE HEAT ILLNESS!**

- Stay Cool
- Drink Water - Stay Hydrated
- Dress in Lightweight, Light-Colored Clothing

**BAPTIST HEALTH HOMESTEAD HOSPITAL**  
Outside the Carambola Cafe  
October 18th & 20th  
11 am - 1 pm

# Project CHOT Volunteer Training Program

- Four training sessions
  - Mandatory virtual –one hour climate change and health
  - Self-directed- Three – virtual webinars –heat physiology, MDC specific data
  - Introduction to ecoAmerica training programs



# Phase II: Distribute educational brochures in English, Spanish & Creole and survey cards to fifty medical offices and conduct surveys.

**PROTECTING YOUR COMMUNITY**

**SURVIVING EXTREME HEAT**

**BEING SAFE DURING EXTREME HEAT EMERGENCIES**

- Take precautions if the temperature is expected to rise to 90°F or higher or if there are heat advisories or heat emergencies.
- Stay hydrated. Drink plenty of water. Do not drink alcohol or caffeine.
- Wear hats and light-colored, loose-fitting clothing.
- Avoid strenuous activities during the hottest part of the day.
- Check on your neighbors, especially the elderly, young children, and those with chronic health conditions.

**MY FLORIDA CARE**

**BEAT THE HEAT**

**Checklist for Heat-Related Illness**

**Recognize The Signs Of Heat Illness - What To Look For**

**HEAT EXHAUSTION**      **HEAT STROKE**

**Heatstroke - What To Do**

**HEAT STROKE**

**HEAT STRESS Overview**

Understanding heat stress can help you to stay safe while working in hot environments.

**Things you need to know:**

- Heat exposure can cause a range of effects on your body, from irritating rashes to heat stroke, which is often fatal.
- Heat exposure can cause confusion and poor judgment - use the buddy system to monitor coworkers for heat illness.
- Drinking enough water is critical to preventing heat illness. Stay hydrated.
- Cooling is the treatment for all heat illness.

**Types of Heat Illness**

**Heat rash/"prickly heat"**

- Red cluster of pimples or small blisters, usually on neck, upper chest, groin, under breasts, and in elbow creases

**Heat cramps**

- Muscle cramps, pain, or spasms in the abdomen, arms, or legs

**Heat syncope (fainting)**

- Fainting, dizziness, or light-headedness, after prolonged standing or suddenly rising from a sitting or lying position

**Heat exhaustion**

- Headache
- Nausea
- Dizziness, weakness
- Irritability
- Thirst
- Heavy sweating
- Elevated body temperature, decreased urine output

**Heat stroke**

- Confusion, altered mental status, slurred speech, loss of consciousness
- Hot, dry skin or profuse sweating
- Seizures
- Very high body temperature
- Fatal if treatment is delayed

**Factors that increase Heat Illness Risk**

- High humidity
- Lack of wind or breeze to cool the body
- Dehydration
- Lack of acclimatization
- Age over 60 years
- Protective gear, including non-breathable or minimally breathable clothing, respirators, and chemical-resistant apparel
- History of heat illness
- History of recent illness unrelated to heat (especially involving vomiting or diarrhea)
- Certain health conditions

Severe  
Less Severe

**FCCA HEAT EFFECTIVENESS ICD-10 CODES**

Category	Code	Title	Description	Illness	Non-illness
Heat	930-131	Effects of Heat and Light	Includes heatstroke and sunstroke	X	
	930-230	Exposure to Forces of Nature	Excessive exposure to natural heat and classified as external cause of morbidity	X	
	930-238	External Causes of Morbidity	Drowning and submersion in natural water, undetermined intent		X
	X14.00XA	Inhalation of Hot Air and Gases	Initial Encounter	X	
	X14.00XD	Inhalation of Hot Air and Gases	Subsequent Encounter	X	
	X14.00XS	Inhalation of Hot Air and Gases	Sequelae	X	
	T87.70XA	Heat Edema	Initial Encounter	X	
	T87.70XA	Heat Edema	Subsequent Encounter	X	
	T87.70XS	Heat Edema	Sequelae	X	
	L88.2	Urticaria Due to Cold and Heat	Variable	X	
	X18	Contact With Hot Heating Appliances, Radiators and Pipes	Initial Encounter	X	
	X18	Contact With Hot Heating Appliances, Radiators and Pipes	Subsequent Encounter	X	

**Staying Safe in Hot Weather**

**Watch for these signs of hyperthermia:**

- Dizziness
- Muscle cramps
- Nausea and weakness
- Rapid pulse
- Fainting in your knees and feet

**Tips to prevent hot-weather illness:**

- Drink liquids
- Limit caffeine and alcohol
- Wear light-colored, loose fitting clothes
- If it's too hot, try exercising indoors

Learn more about staying safe in hot weather at [www.nia.nih.gov/hot-weather-safety](http://www.nia.nih.gov/hot-weather-safety)

**Survey Card**

Medical Office Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_

Survey Date: \_\_\_\_\_

Surveyed By: \_\_\_\_\_

Surveyed For: \_\_\_\_\_

## Medical Student Heat Education Practicum

1. Started in August 2023
2. 77 students oriented from 3 orientations sessions
3. 12 students completed the C-HOT training and attended our 7 events .



# RESULTS

- ● 12 webinars on Baptist Health System Continuing education platform; four, on- demand and five virtual.
- ● 407 CME attendees
- ●. Four Federally Qualified Health Centers – Providers Meetings and onsite patient education sessions
- Free Clinic providers and staff education sessions.
- Largest safety net hospital – Grand Rounds and onsite patient education.
- IRB approved research ongoing Goal-250 responses. Current -60.

# Mental Health

## 1. Puerto Rico Se Levanta (“Puerto Rico Rises”): From Denial and Passivity to Action and Hope

Carissa Cabán-Alemán, MD

August 2, 2019

Climate Change, Disaster Psychiatry

<https://www.psychiatrictimes.com/climate-change/puerto-rico-se-levanta-puerto-rico-rises-denial-and-passivity-action-and-hope>

## Affects of Hurricane Ian in Port Charlotte Florida



# PATIENTS' MESSAGES

CANCELLED APPT | BENDETOWICZ, DANIEL

Perform Eligibility Check

Message | Rx | Labs/DI | Notes | Addendum | Log History | Virtual Visit

Message Complaints Browse Check Spelling

PT CANCELLED APPT FOR 11/07/2022 AT 9:30AM AS SHE HAS MOVED BACK UP NORTH DUE TO LOSING HER HOME HERE.

Action Taken Messenger Time Stamp Action Taken Check Spelling

BENDETOWICZ,DANIEL 10/7/2022 9:16:59 AM > NOTIFIED.

# Jorge -Thank You



**Physicians, Nurses, and other Health Professionals,**

“**Mitigating climate change presents unrivaled opportunities  
for improving public health** – Ian Roberts, Clinical Medicine 2009.

Health Professionals are key to the solution.  
**Please join us!**



**FCCA**

Florida Clinicians for Climate Action

Learn more at  
[www.FloridaClinicians.org](http://www.FloridaClinicians.org)  
Free to Join



**Please follow us on Instagram @flclinicians  
Please follow us on Facebook @Florida  
Clinicians for Climate Action**

**Follow me on IG and Tik Tok : @drcherylholder**

Thank You

[www.floridaclinicians.org](http://www.floridaclinicians.org)