

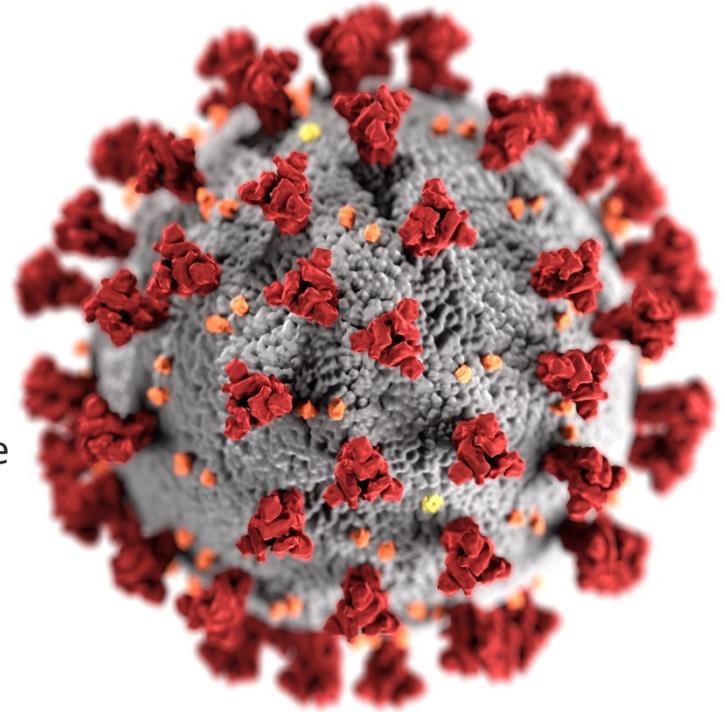
# Preventing heat-related adverse outcomes during the COVID-19 pandemic

**Shubhayu Saha, PhD**  
**Climate and Health Program**  
**National Center for Environmental Health**  
**Centers for Disease Control and Prevention**

International Association for National Public Health Institute

Heat waves and COVID-19

12 May, 2021

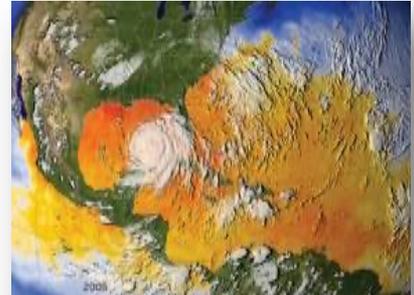


[cdc.gov/coronavirus](https://cdc.gov/coronavirus)

# CDC's Climate and Health Program

CDC's Climate and Health Program is the national leader in empowering communities to protect human health from a changing climate

- **Serve as a resource** for federal, state, local, territory, and Tribal health agencies
- **Prepare public health practitioners** to address the health effects of climate change
- **Provide tools, guides, and processes** to help assess vulnerability to possible health effects
- **Serve as a leader** in planning for public health effects of climate change



# Assessing health risks from extreme heat exposure

- Disseminate location-specific exposure information
- Translate epidemiologic risk assessment to calibrate early heat health warning
- Share real-time information through linked environmental and health surveillance

STEP 1: CONTENT ?

Climate Change

Historical Extreme Heat Days and Events

Dates of extreme heat days

STEP 2: GEOGRAPHY TYPE ?

Single County (No Maps)

STEP 3: GEOGRAPHY ?

- Alabama
  - Autauga
  - Baldwin
  - Barbour
  - Bibb
  - Blount
  - Bullock
  - Butler
  - Calhoun
  - Chambers
  - Cherokee
  - Chilton
  - Choctaw

SELECT DATA

X ?

Share Download Map Bar Chart

HEAT & HEAT-RELATED ILLNESS | HISTORICAL TEMPERATURE & HEAT INDEX | DATES OF EXTREME HEAT DAYS

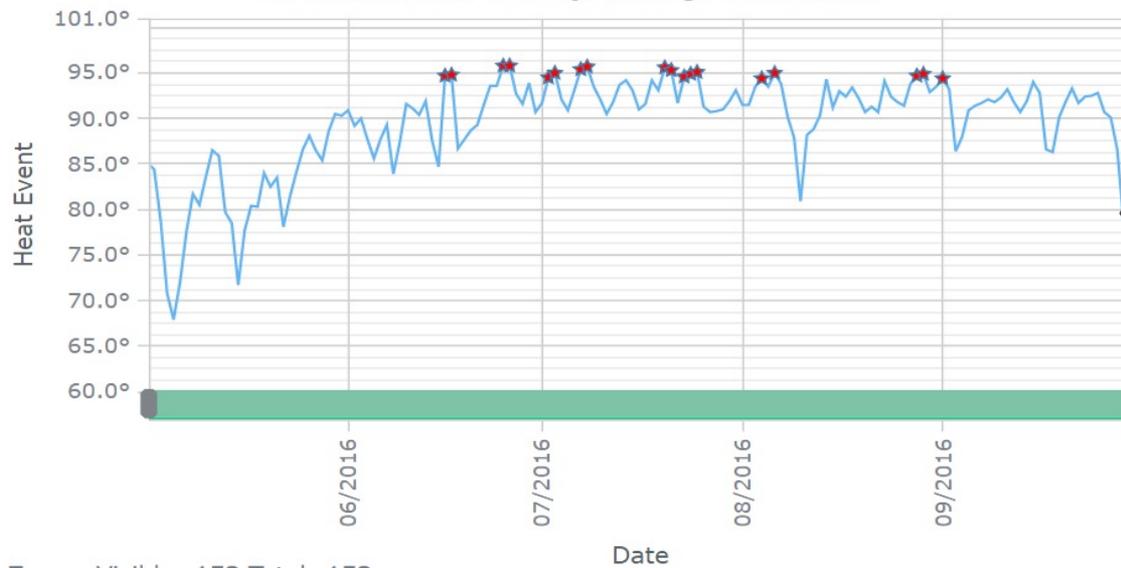
2016

Relative Threshold: 90th Perc

ABOUT DATA

Map Table Legend Settings

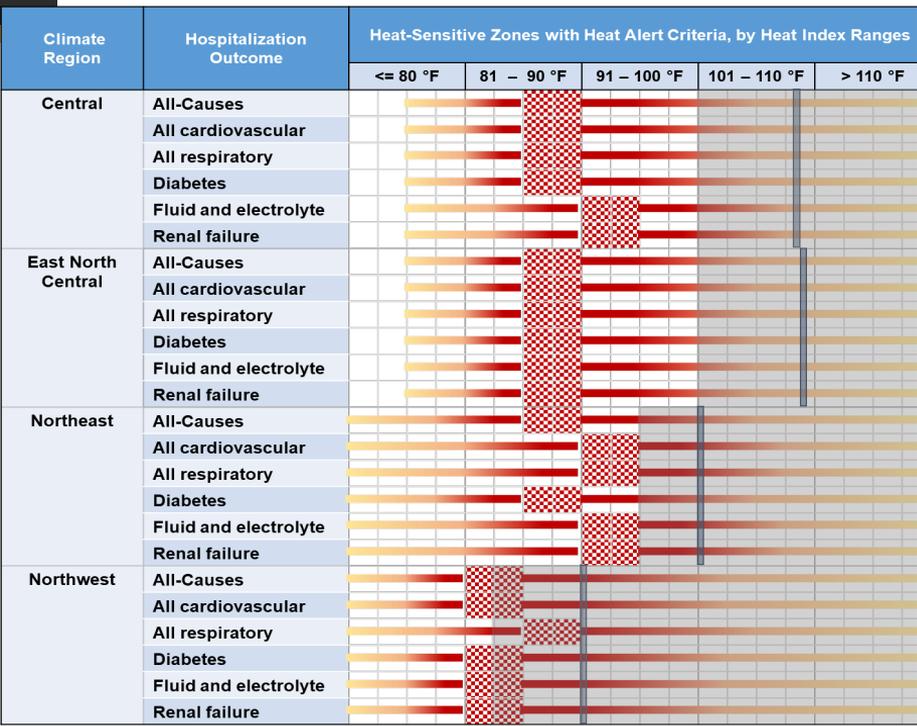
State: Alabama County: Autauga Year: 2016



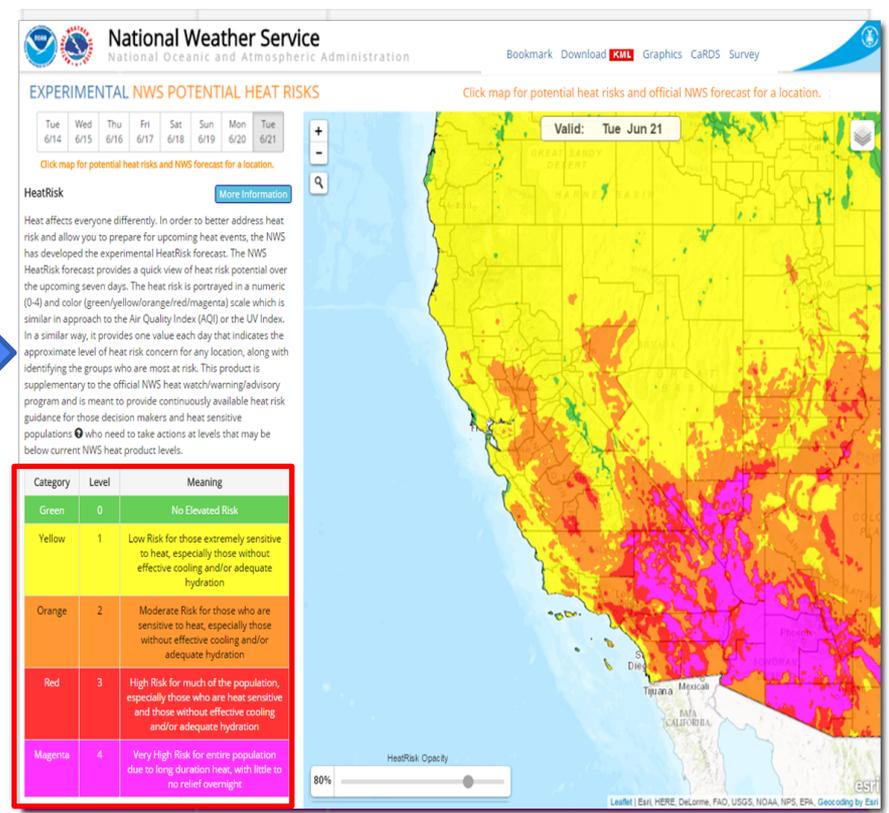
# CDC National Environmental Health Tracking Portal

<https://www.cdc.gov/nceh/trackin g/default.htm>

# Translating Findings from Heat-Health Risk Assessments



- Heat-sensitive zone
- Heat index ranges at which positively significant peak heat-attributable health risk / burden are observed
- Heat index ranges used for issuing alerts
- Median heat alert criteria



# Linking Real-time Heat Illness Information with Temperature

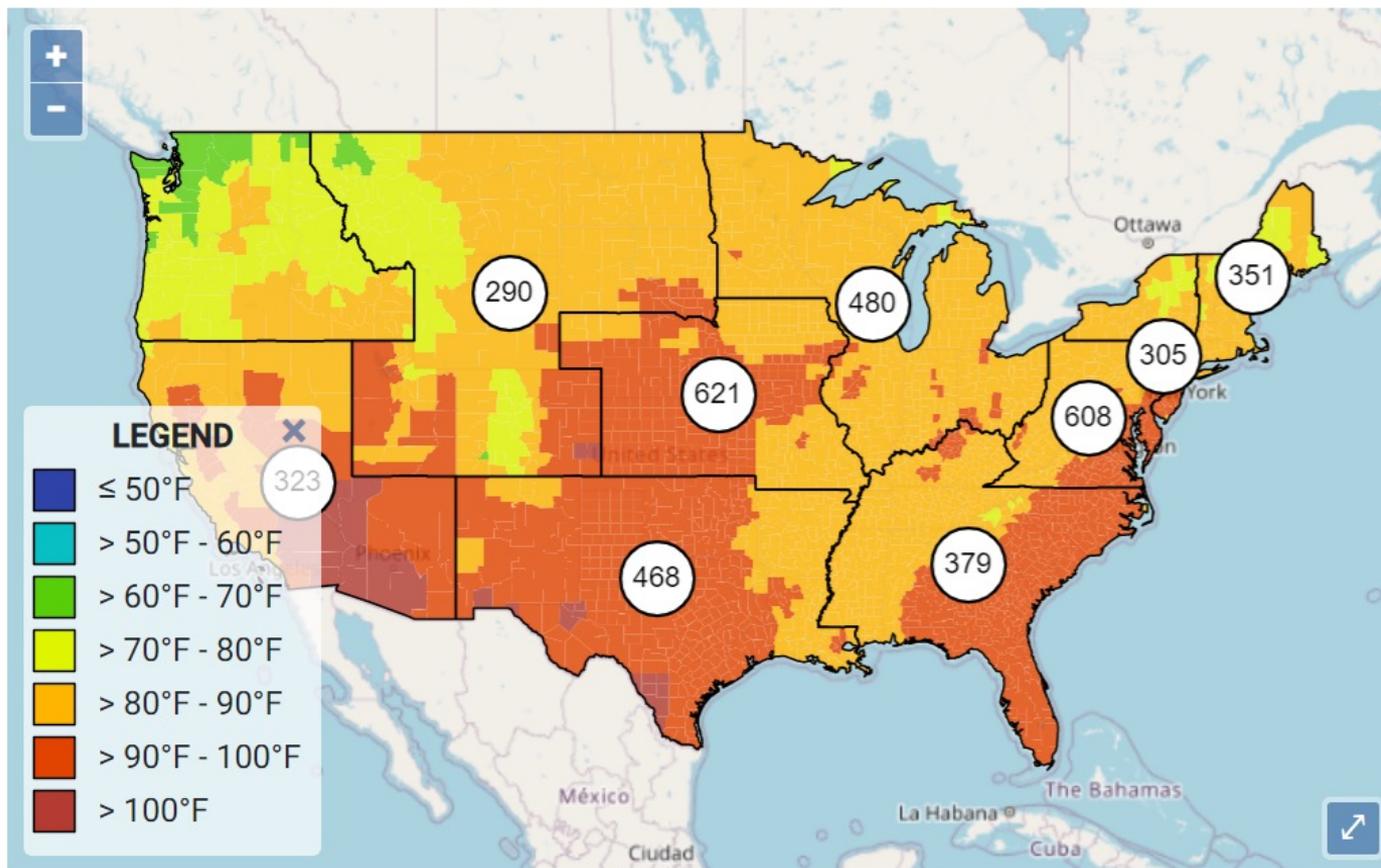
Historical

Current

Heat-Related Illness

Monthly Forecast

Future Projections



Year

2019

Week

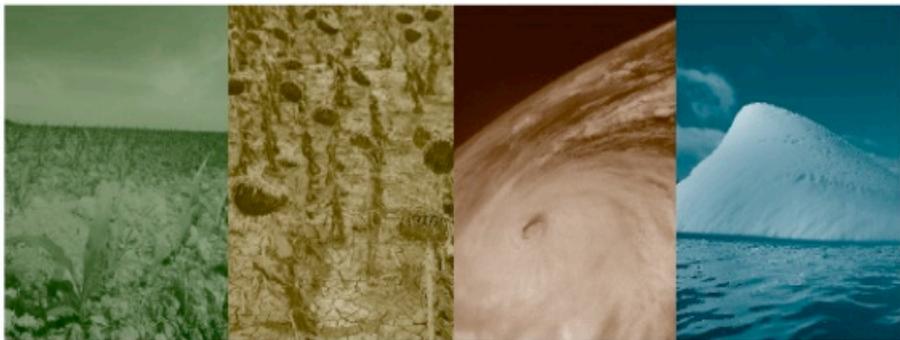
07/14/2019 - 07/20/2019

The map above shows the rate of emergency department visits for heat-related illnesses by regions per 100,000 (as defined by the Department of Health and Human Services) for the week of July 14-20, 2019. This information is extracted from the CDC National Syndromic Surveillance Platform.

The map also shows county-level average maximum temperatures for the same week obtained from the National Center for Environmental Information

# Cooling shelter guidance during COVID-19

## The Use of Cooling Centers to Prevent Heat-Related Illness: Summary of Evidence and Strategies for Implementation



### Climate and Health Technical Report Series

Climate and Health Program,  
Centers for Disease Control and Prevention

<https://www.cdc.gov/climateandhealth/docs/UseOfCoolingCenters.pdf>

CDC Centers for Disease Control and Prevention  
CDC 24/7: Saving Lives, Protecting People™

Search COVID-19

### COVID-19

WEAR A MASK STAY 6 FEET APART AVOID CROWDS GET A VACCINE

Home Your Health Vaccines Cases & Data Work & School Healthcare Workers Health Depts Science More

#### Health Departments

- Key Resources
- Contact Tracing +
- Infection Control
- Testing
- Reinfection +
- Surveillance & Data Analytics +
- Laboratory Capacity
- Community Mitigation** -
  - Overview of Testing for SARS-CoV-2
  - Community Mitigation Resources
  - Investigating Cases in Homeless Shelters
  - Travel-Associated Exposures
  - Community-Related Exposures
  - State Vets & Animal Health Officials +
  - Environmental Health Practitioners** -
    - Sprayers Safety Precautions

#### COVID-19 and Cooling Centers

Interim guidance to reduce the risk of introducing and transmitting SARS COV-2 (the agent responsible for causing COVID-19 disease) in cooling centers.

Updated Apr. 11, 2020 Print

**Who this guidance is for:** Federal, state, local, and tribal jurisdictions in the United States considering opening or operating cooling centers during the COVID-19 pandemic.

**Purpose:** This document provides interim guidance to reduce the risk of introducing and transmitting SARS COV-2 (the agent responsible for causing COVID-19 disease) in cooling centers. It should be used in conjunction with existing cooling center operation and management plans, procedures, guidance, resources, and systems.

This interim guidance is based on what is currently known about the transmission and severity of coronavirus disease 2019 (COVID-19).

#### Overview

Extreme heat is a major public health concern in the United States. Exposure to extreme heat can cause a variety of health problems, including heat stroke and death. Cooling centers (a cool site or air-conditioned facility designed to provide relief and protection during extreme heat) are used by many communities to protect health during heat events. However, the use of cooling centers can result in congregating of groups of at-risk people, such as older adults or those with respiratory diseases, and potentially provide a route for the transmission of the SARS COV-2 virus and subsequent development of COVID-19 disease among both visitors and staff.

#### Considerations and Potential Intervention Strategies

##### Utility Assistance

Consider implementing or expanding programs that provide utility assistance, such as the low-income home energy assistance program (LIHEAP) or similar methods that provide financial assistance for home air conditioner use. A temporary ban on utility shut-offs during heat waves would allow people to continue using home air conditioning. This strategy could lower the number of people utilizing cooling centers.

<https://www.cdc.gov/coronavirus/2019-ncov/php/cooling-center.html>

# Compound disasters, evacuation shelter during COVID-19

CDC Centers for Disease Control and Prevention  
CDC 24/7: Saving Lives, Protecting People™

Search COVID-19



Dangerous heat wave to hit California over weekend as wildfires still

## COVID-19



WEAR A MASK



STAY 6 FEET APART



AVOID CROWDS



GET A VACCINE

ENVIRONMENT

## Dangerous heat wave to hit California over weekend as wildfires still

PUBLISHED FRI, SEP 4 2020 10:57 AM EDT



Your Health

Vaccines

Cases & Data

Work & School

Healthcare Workers

Health Depts

Science

More

Health Departments

Key Resources

Contact Tracing +

Infection Control

Testing

Reinfection +

Surveillance & Data Analytics +

Laboratory Capacity

Community Mitigation -

Overview of Testing for SARS-CoV-2

Community Mitigation Resources

Investigating Cases in Homeless Shelters

## CDC's Interim Guidance for General Population Disaster Shelters During the COVID-19 Pandemic

Updated Oct. 8, 2020 [Print](#)

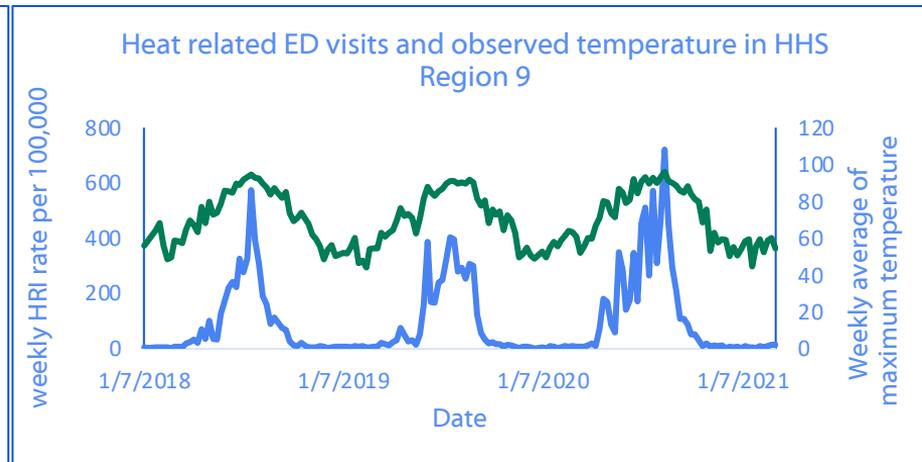
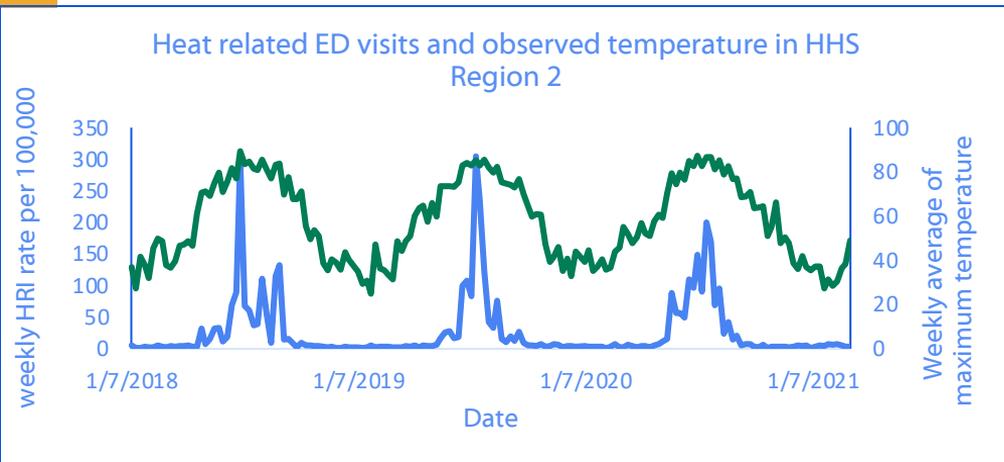
This interim guidance is based on current information about the transmission and severity of coronavirus disease 2019 (COVID-19). The U.S. Centers for Disease Control and Prevention (CDC) will update this guidance as needed and as additional information becomes available. Please check the [CDC COVID-19 website](#) periodically for updated guidance. Because conditions vary from community to community, disaster shelter managers should look to their state and local health officials for information specific to their location.

### Key points

- Alternatives to opening disaster shelters, such as sheltering in place, should be considered during the COVID-19 pandemic.
- Hotels/dormitories and small shelters (fewer than 50 residents) should be prioritized over larger shelters. Large congregate shelters should be a last resort.
- Officials should demobilize large congregate shelters as soon as possible after the emergency phase and relocate residents to hotels/dormitories or small shelters for better social distancing.
- Shelter managers should maintain contact with state and local public health agencies and emergency management for updates on local COVID-19 information.
- Shelter health staff should monitor residents daily for [symptoms of COVID-19](#) and other illness, including

<https://www.cdc.gov/disasters/hurricanes/covid-19/public-disaster-shelter-during-covid.html>

# Heat related emergency department visits from syndromic surveillance and ambient temperature, 2018-2020



*Temperature distribution [mean (st. dev)]*

**2018:** 59°F (19) ; **2019:** 59°F (19) ; **2020:** 61°F (17)

Heat related ED visit rate per 100,000 [mean (st. dev)]

**2018:** 27 (51) ; **2019:** 28 (57) ; **2020:** 29 (47)

*Temperature distribution [mean (st. dev)]*

**2018:** 72°F (14) ; **2019:** 70°F (15) ; **2020:** 72°F (15)

Heat related ED visit rate per 100,000 [mean (st. dev)]

**2018:** 89 (126) ; **2019:** 93 (126) ; **2020:** 134 (179)

<https://ephtracking.cdc.gov/Applications/heatTracker/>

# Global Heat Health Information Network (GHHIN)



GLOBAL HEAT HEALTH  
INFORMATION NETWORK



## PLANNING CHECKLIST

### MANAGING HEAT RISK DURING THE COVID-19 PANDEMIC

This checklist is for local and national authorities coordinating heatwave preparedness and response measures.

It provides a list of measures to consider when adapting heatwave plans and interventions in the context of the COVID-19 outbreak.



#### VULNERABLE GROUPS AND SOCIAL SERVICES

The people who are most vulnerable to hot weather and COVID-19 include older people (over age 65); those with pre-existing medical conditions such as heart disease, respiratory illness or diabetes; those taking certain medications; those who are overweight and obese; those who are marginalized and isolated, including those experiencing homelessness; pregnant women and people wearing personal protective equipment (PPE) in places that are not temperature controlled.

People infected with, or recovering from, COVID-19 are presumed more vulnerable to heat stress, including outdoor workers returning to the workplace.

Vulnerable populations may be in more precarious social and economic conditions due to COVID-19, including from lost wages, increased isolation, and strains or gaps in social networks. This can increase vulnerability to heat risk by limiting healthcare access, transport options, food security and utility access.

- Identify your high risk communities by reviewing where local heat islands occur, and where this may overlap with high incidence or risk of COVID-19.

<https://ghhin.org/heat-and-covid-19/>

# Conclusion

- Opening of cooling shelters will continue to be an important strategy to prevent heat-related adverse health outcomes in the summer of 2021
- Syndromic surveillance-based heat-related emergency department information during heatwaves will inform local public health action
- Real-time information linking environmental and health surveillance will be shared through the CDC heat and health tracker

# Shubhayu Saha, PhD

[ssaha@cdc.gov](mailto:ssaha@cdc.gov)

- For more information on the climate and health program,
- Website: [www.cdc.gov/climateandhealth/](http://www.cdc.gov/climateandhealth/)

For more information, contact CDC  
1-800-CDC-INFO (232-4636)  
TTY: 1-888-232-6348 [www.cdc.gov](http://www.cdc.gov)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

