



**BREAKING GROUND 2021**

## ***Keeping Vulnerable Populations Cool in Extreme Heat***

Moderated by: The Honorable Valerie Arkoosh, MD, MPH, Chair, Montgomery County Commissioners

Panelists:

Mr. Adam Beam, AICP, Senior Research Analyst, DVRPC

Ms. Alexandra Skula, Community Preparedness Manager, Philadelphia Department of Public Health

Mr. Jon Leshner, Principal Environmental Planner, Montgomery County Planning Commission

Mr. Saleem Chapman, Chief Resilience Officer, Philadelphia Office of Sustainability

# For Today's Webinar . . .



## Chat Box:

- Say hello! What organization are you with?
- Have any tech problems? Can't hear the speaker? Let us know in the chat box.

## Question & Answer Box:

- Type questions at any time and they will be addressed at the end of the presentations.

## Webinar Recording:

- Posted to [www.dvrpc.org/breakingground](http://www.dvrpc.org/breakingground) in a few days.
- Approved for 1.5 AICP credits. Log into APA to add the credits.

# Who is DVRPC?



- Federally-designated MPO for the nine-county Philadelphia region in PA and NJ.
- 2 states, 9 counties, 351 municipalities, 5.8 million people, and 3 million jobs
- Created in 1965 to plan for “orderly growth and development through our long-range plan, *Connections 2045*.”
- Transportation, land use, environment, and economic development, all through the lens of equity.
- Plans, funding programs, educational forums, and regional convening for decision-makers.

# About Breaking Ground



- Highlights local projects and strategies that implement the region's long-range plan, *Connections 2045*.
- Focuses on ensuring an equitable regional recovery around redevelopment, transportation, climate change impacts, retail, and access to necessary infrastructure, such as broadband.

# Join us for another webinar! Next up...



## Diversifying Downtown Retail

June 7, 1:00 pm

## Ensuring Equitable and Engaging Virtual Meetings

June 9, 10:00 am

## Ensuring Equitable Broadband Access

June 14, 2:00 pm

View full schedule and register at [www.dvrpc.org/BreakingGround](http://www.dvrpc.org/BreakingGround)

# Municipal Management of Extreme Heat

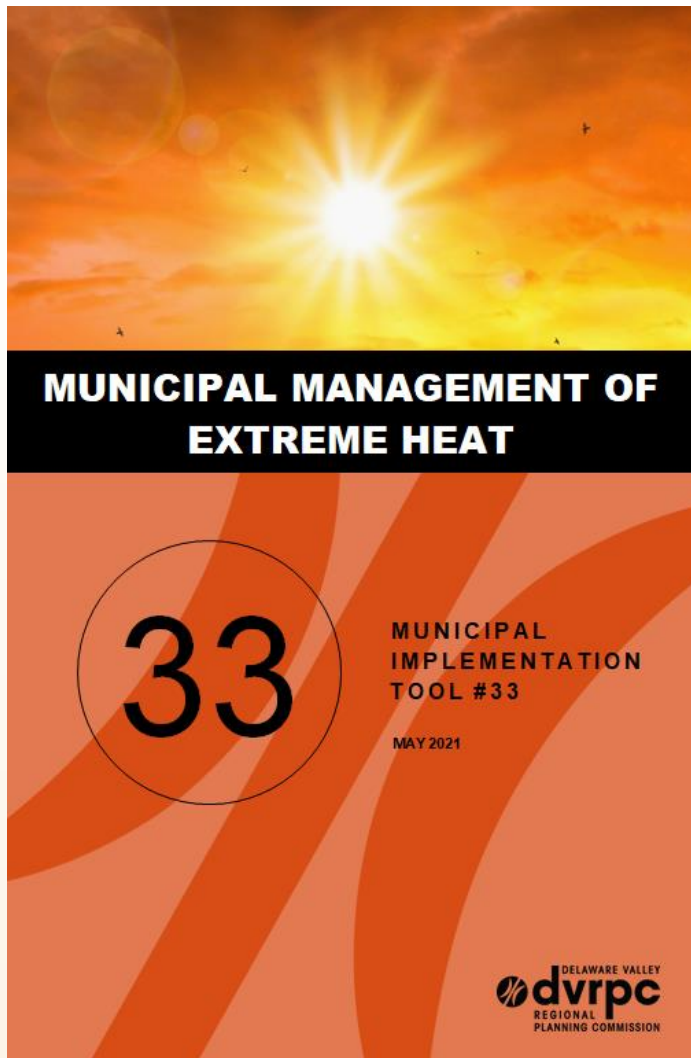


**Adam Beam, AICP**  
*Senior Research Analyst  
Office of Energy and  
Climate Change Initiatives*

June 1, 2021  
Breaking Ground: Keeping Vulnerable Populations Cool  
in Extreme Heat



# *Municipal Management of Extreme Heat*



- An overview of extreme heat: what it is and why it happens.
- Expected impacts of extreme heat on populations and infrastructure.
- Recommendations for mitigating the urban heat island effect to reduce local temperatures.
- Recommendations for preparing for and responding to extreme heat events.

# What is Extreme Heat?

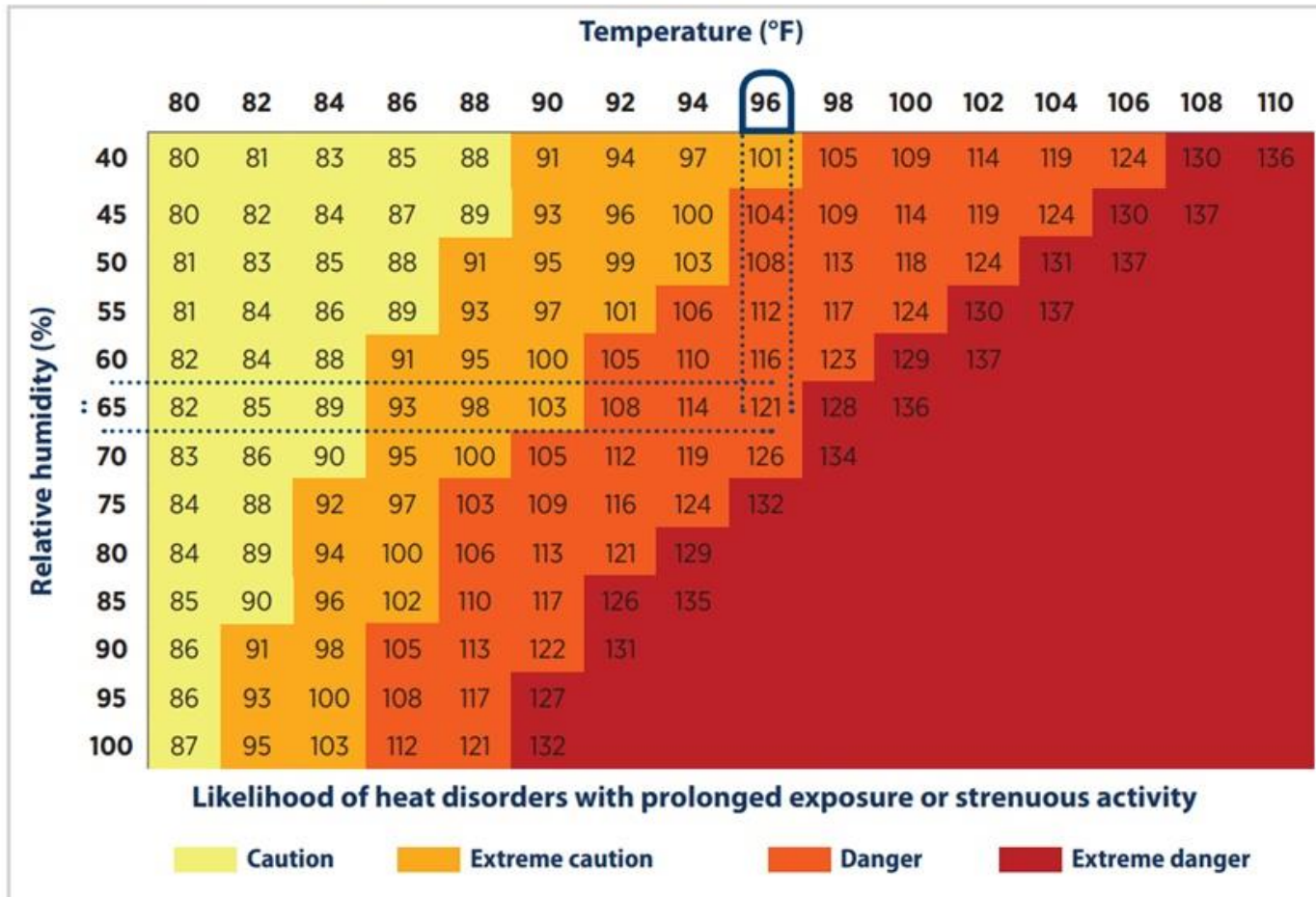
CDC - weather that is much hotter and/or more humid than average for a particular time and place





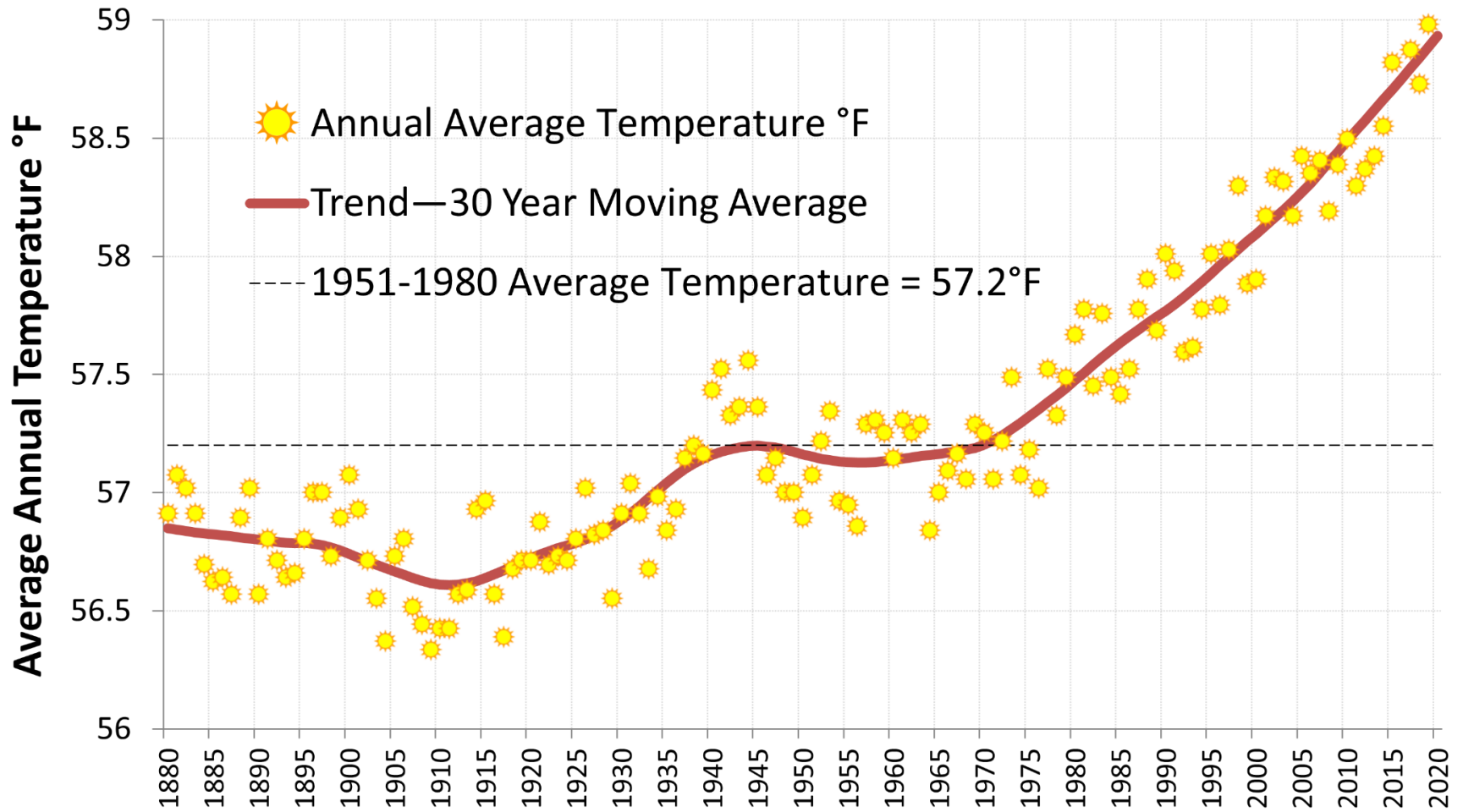
# What is Extreme Heat?

## NOAA's National Weather Service Heat Index

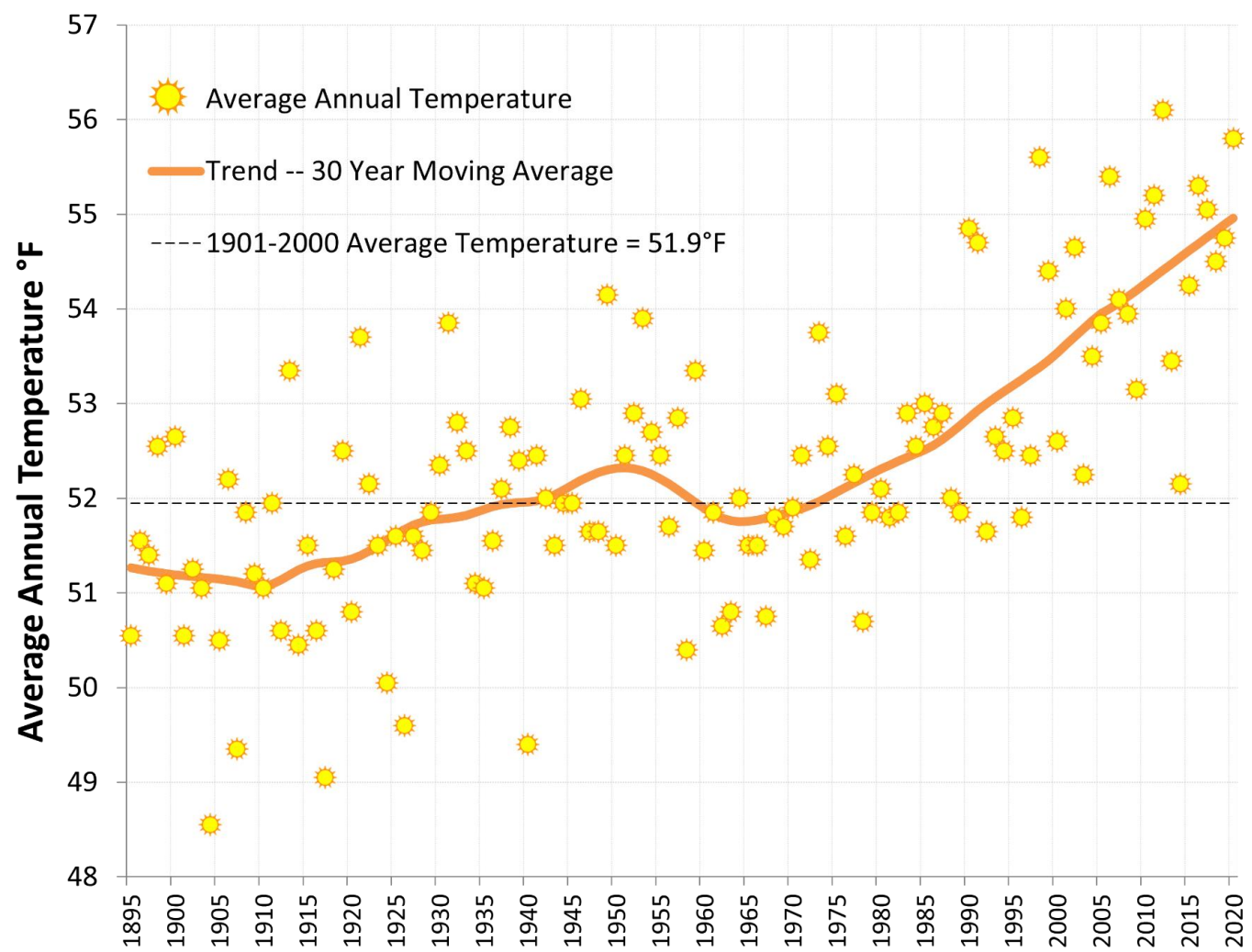


This chart shows that as the temperature (horizontal axis) and relative humidity (vertical axis) each increase, they combine to create a heat index (colored values) that feels hotter than the actual temperature. For example, when the temperature is 96°F, with 65 percent humidity, it actually feels like 121°F (indicated by the blue lines in the chart above). Source: NOAA National Weather Service, 2016!

# Climate Change and Extreme Heat



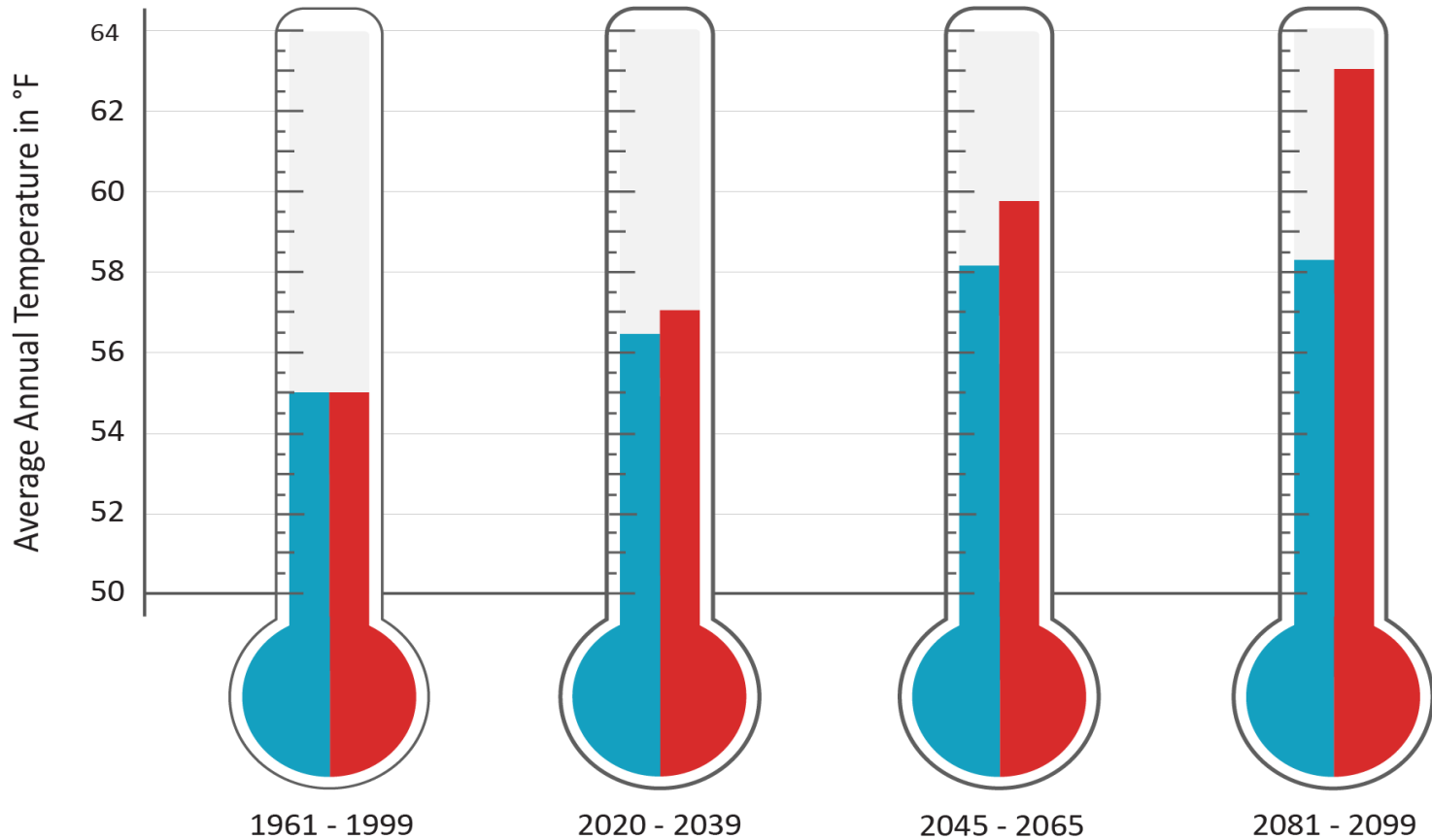
# Climate Change and Extreme Heat



# Climate Change and Extreme Heat

Average Annual Temperature in °F -- Historic and Projected  
DVRPC Region

Optimistic | Pessimistic

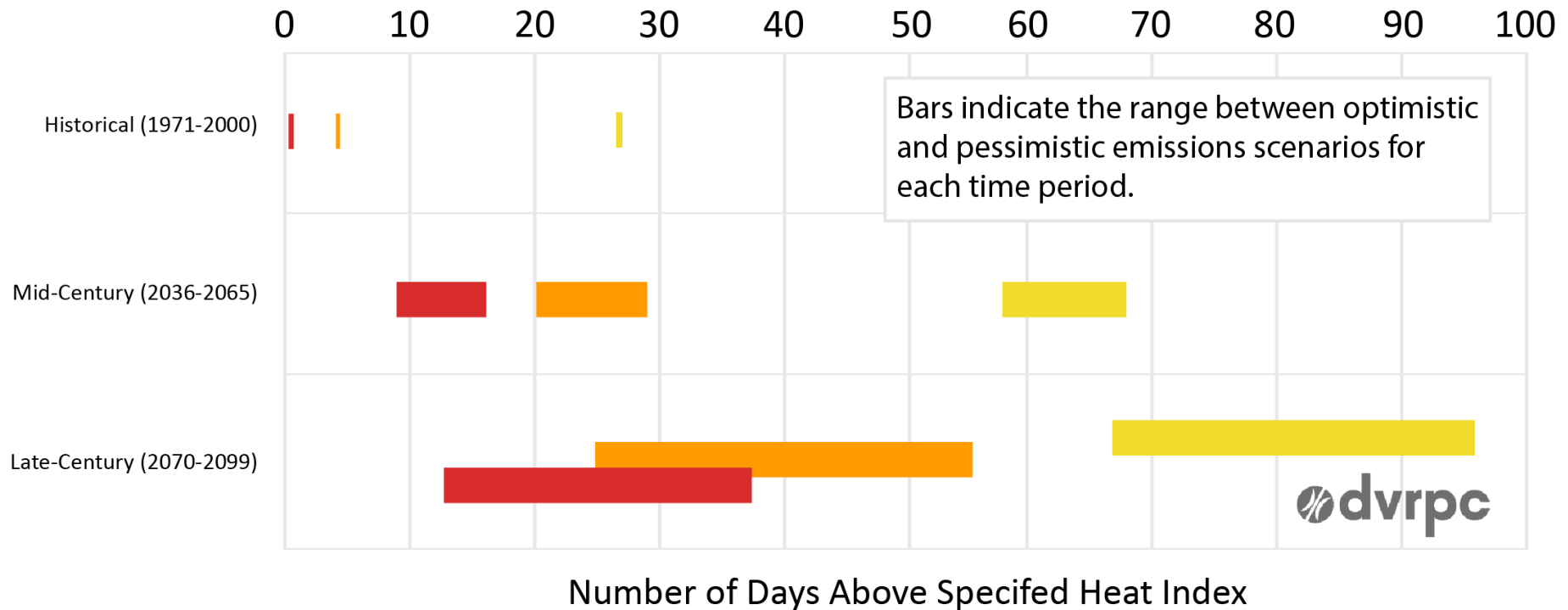


Source: DVRPC chart using data provided by ICF.

# Climate Change and Extreme Heat

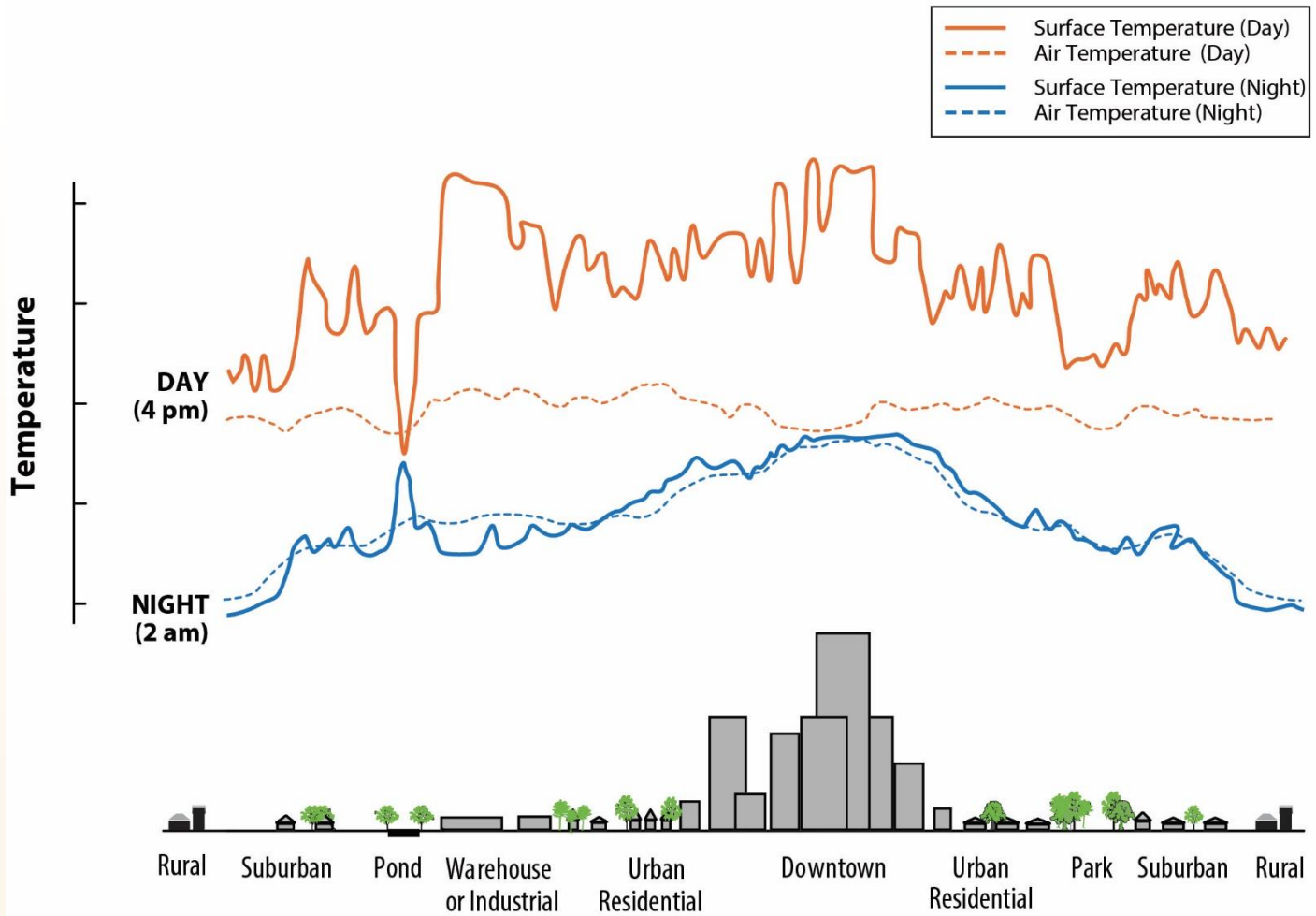
## Days per Year Above Specified Heat Index - Historic & Projected

Days over 90°F Days over 100°F Days over 105°F



Source: DVRPC chart using data provided by Union of Concerned Scientists *Killer Heat* report.

# Heat Island Effect



# Heat Island Effect – Vegetation Loss



# Heat Island Effect – Urban Materials



Image courtesy of [ucsdnews.ucsd.edu](http://ucsdnews.ucsd.edu)



# Heat Island Effect – Urban Geometry



# Heat Island Effect – Waste Heat

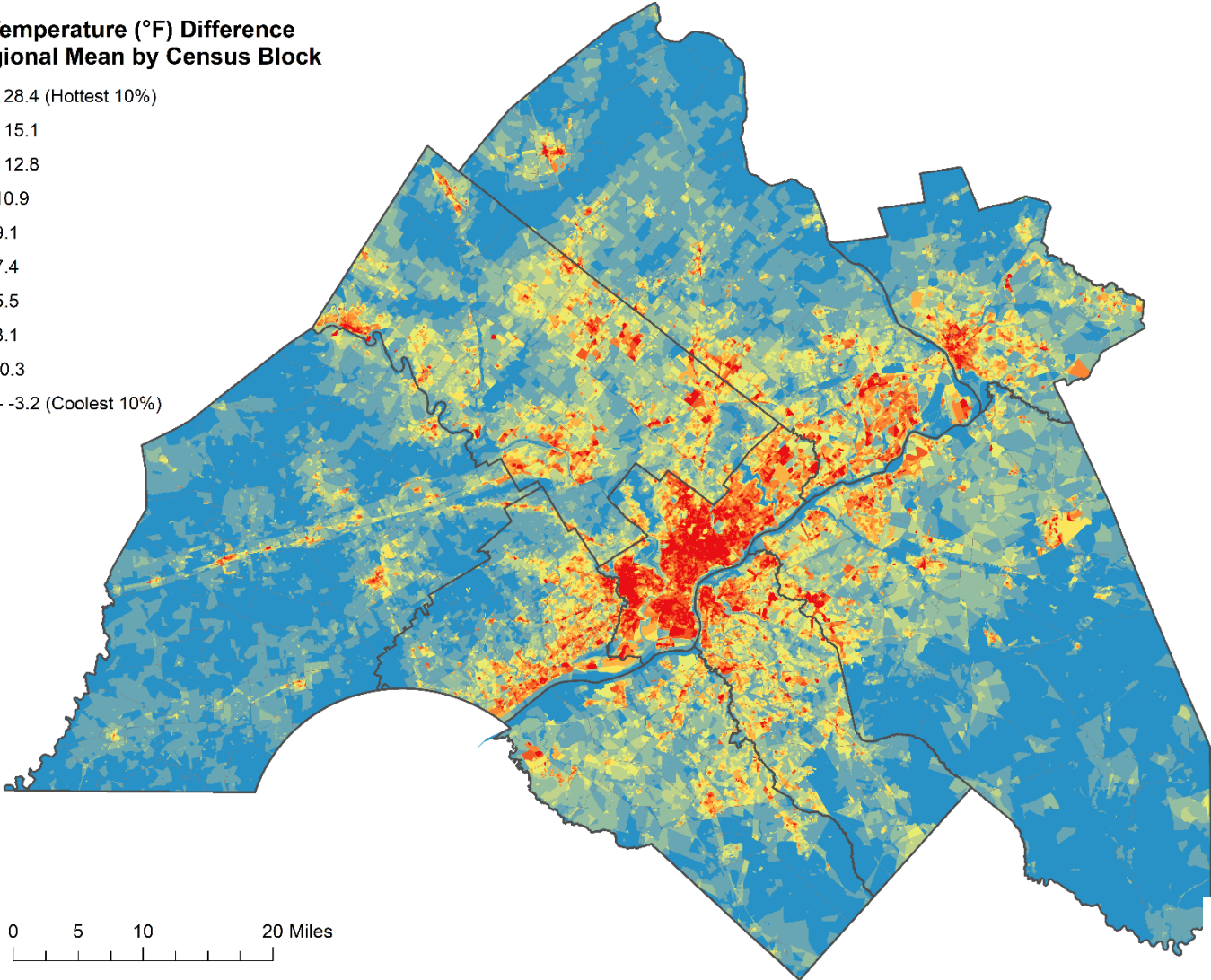


# Heat Islands – DVRPC Region

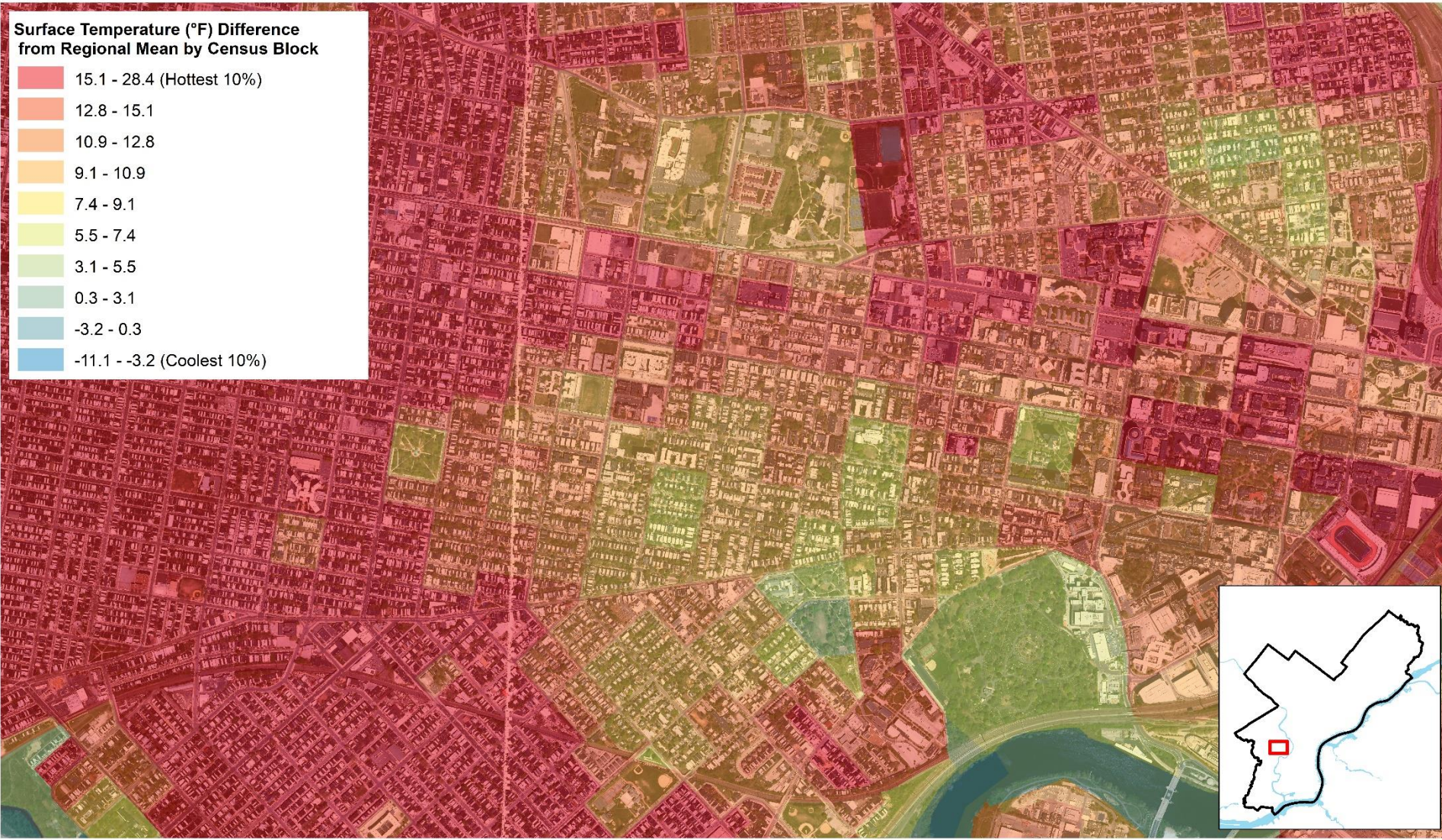
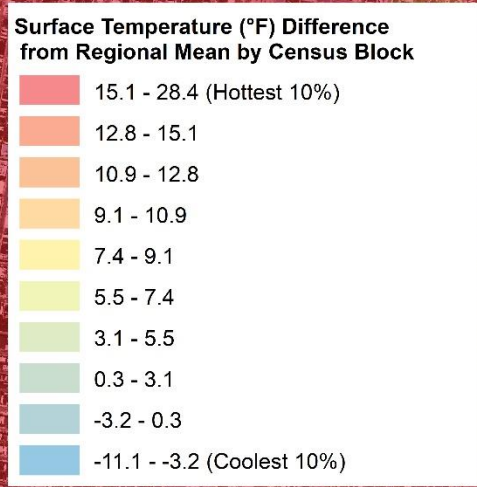


Surface Temperature (°F) Difference from Regional Mean by Census Block

- 15.1 - 28.4 (Hottest 10%)
- 12.8 - 15.1
- 10.9 - 12.8
- 9.1 - 10.9
- 7.4 - 9.1
- 5.5 - 7.4
- 3.1 - 5.5
- 0.3 - 3.1
- 3.2 - 0.3
- 11.1 - -3.2 (Coolest 10%)



# Heat Islands – West Philadelphia



# Impacts of Extreme Heat

- Heat-health Risks

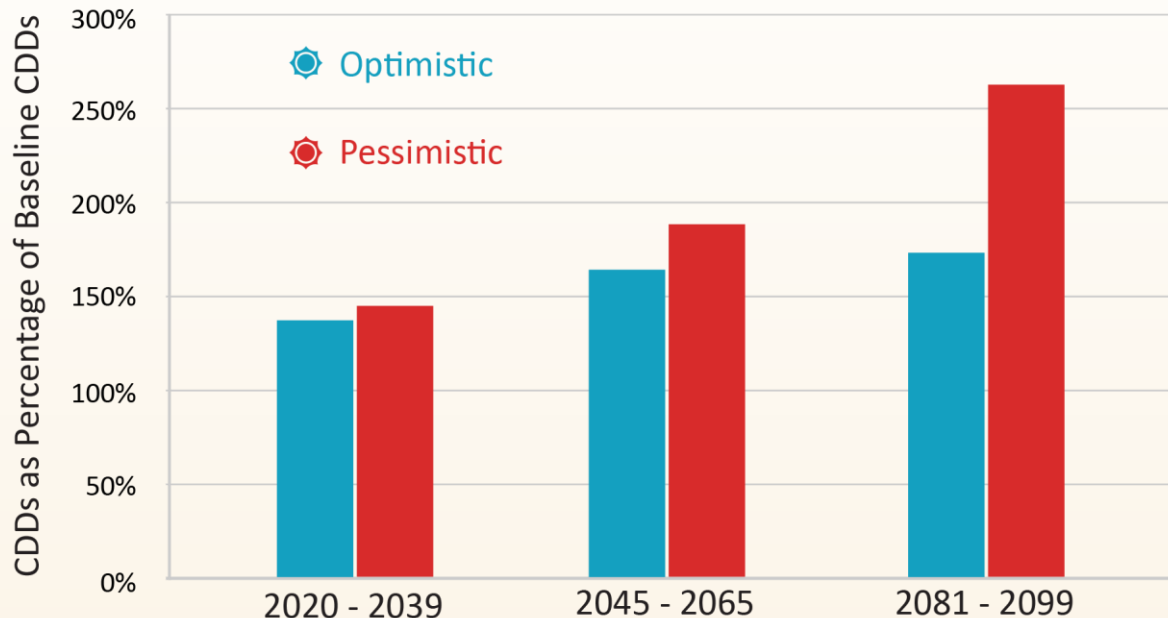
Heat Index	Possible Heat Disorders
90°F	Sun stroke, heat cramps, and heat exhaustion are possible for certain risk groups.
100°F	Heat stress or illnesses are possible, especially for elderly adults, children, and others sensitive to heat.
105°F	Even healthy adults are at risk of heat-related illness with prolonged exposure.
130°F	Heat stroke is highly likely with continued exposure.

- Air Quality Degradation
- Exacerbation of Inequality
  - Low-income neighborhoods
  - Racial and ethnic minority neighborhoods

# Impacts of Extreme Heat

- Transportation Infrastructure
- Utility Infrastructure

Projected Change in Cooling Degree Days  
From 1961 - 1999 Baseline -- DVRPC Region



Source: DVRPC chart using data provided by ICF.

# Municipal Actions

- Identify hot spots and vulnerable populations
- Mitigate Heat Islands
- Prepare for and Adapt to Heat Events

# Hot Spots and Vulnerable Populations

- Those most vulnerable to heat
  - Elderly
  - Children
  - Low-income residents
  - Socially isolated
  - Racial and ethnic minorities
  - Limited English Proficiency
  - Foreign Born populations
  - Underlying medical conditions

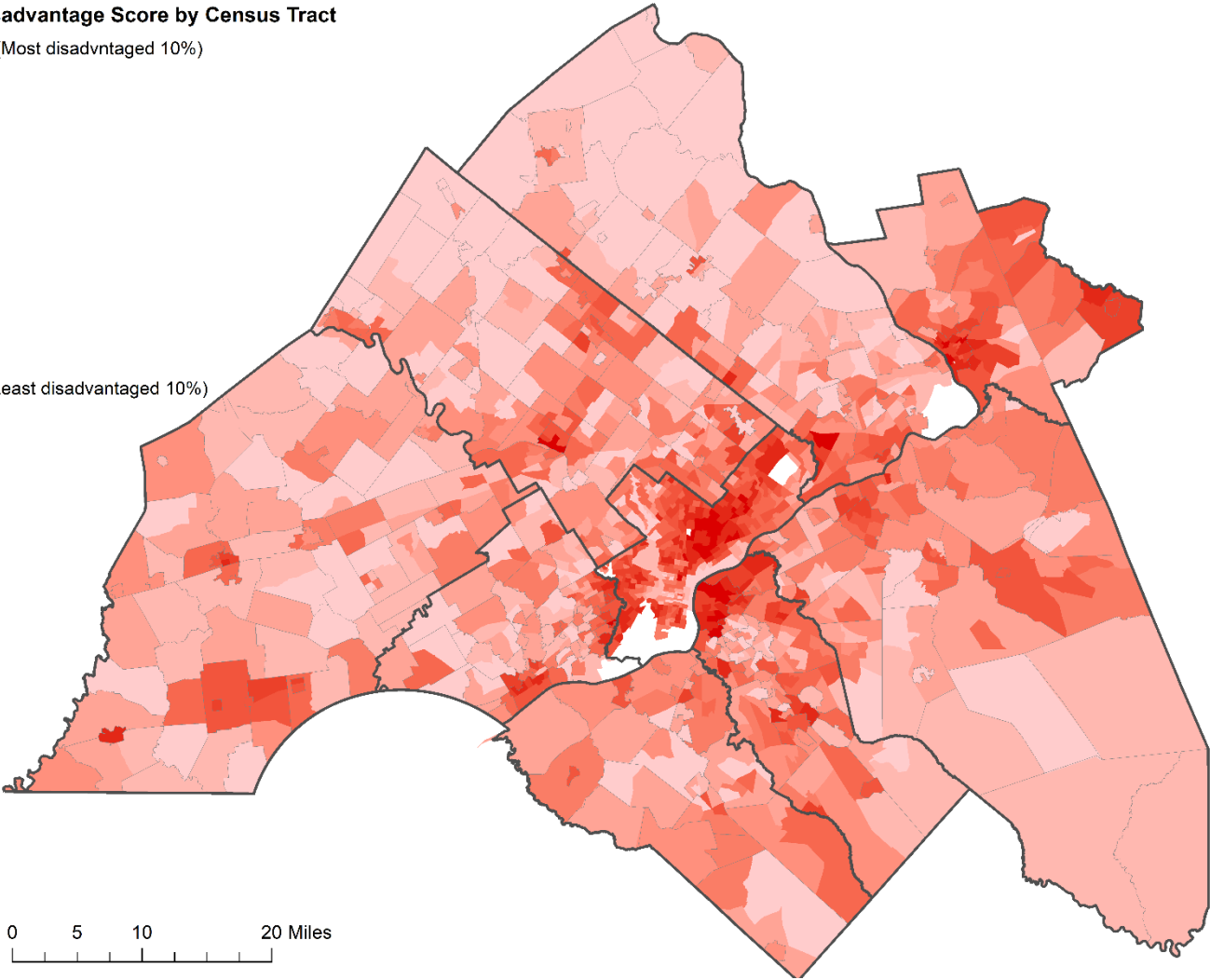


# DVRPC's Indicators of Potential Disadvantage



Potential Disadvantage Score by Census Tract

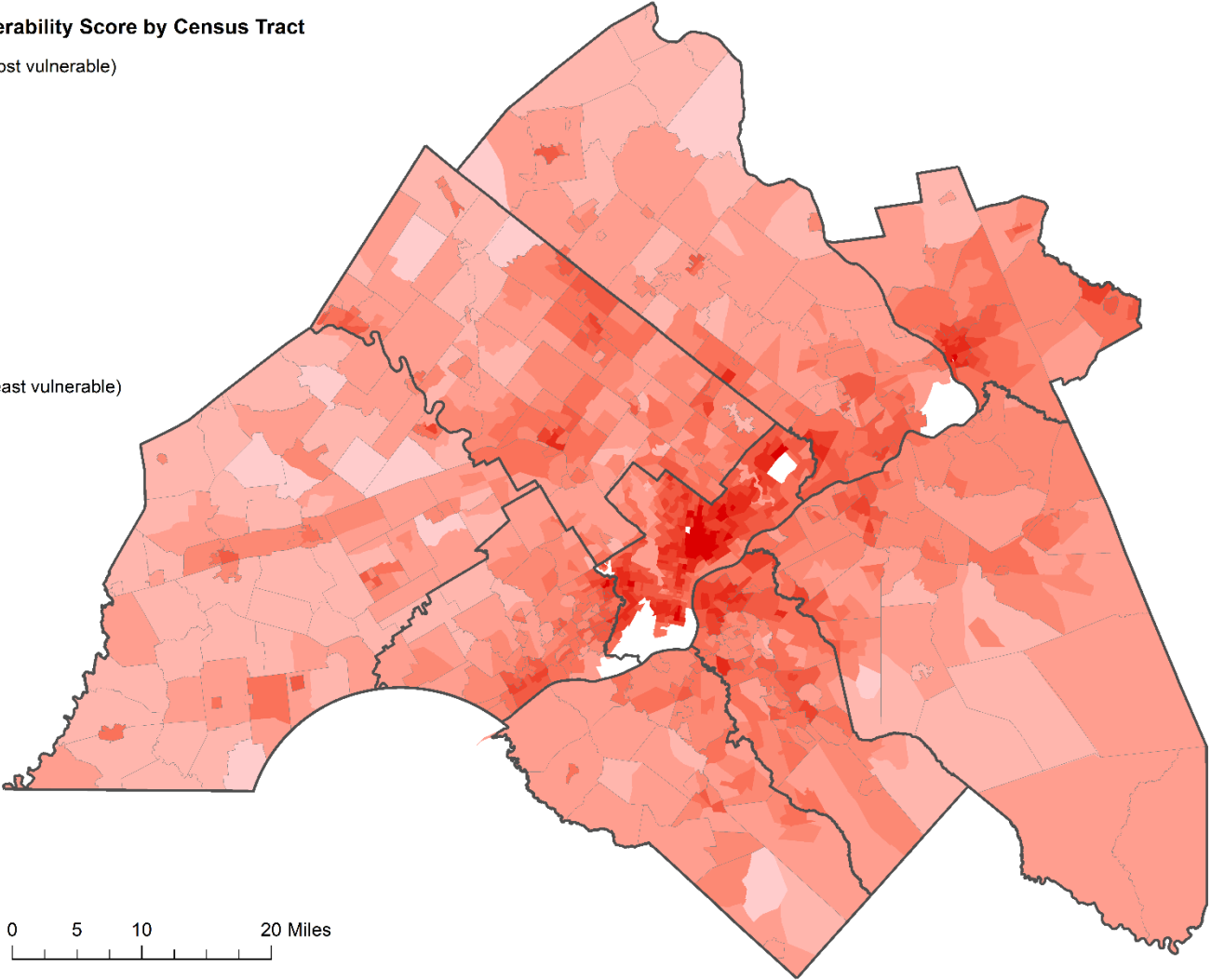
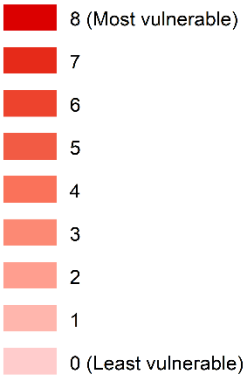
- 27 - 31 (Most disadvantaged 10%)
- 24 - 26
- 22 - 23
- 20 - 21
- 18 - 19
- 17
- 16
- 15
- 14
- 8 - 13 (Least disadvantaged 10%)



# Heat Vulnerability Index



Heat Vulnerability Score by Census Tract



# Mitigation Measures – Trees/Vegetation

- Provide shade, stormwater management
- Improve air quality, sequester CO<sub>2</sub>



# Mitigation Measures – Cool Roofs

- Reflective roofing material or coating, often white
- Reduce energy costs in the summer



# Mitigation Measures – Green Roofs

- Vegetative layer on roof top
- Improve insulation, stormwater management
- Reduce air pollution and sequester CO<sub>2</sub>



# Mitigation Measures – Cool Pavements

- More reflective
- Decreases formation of ground-level ozone
- Can be combined with permeable pavements to mitigate stormwater and increase safety

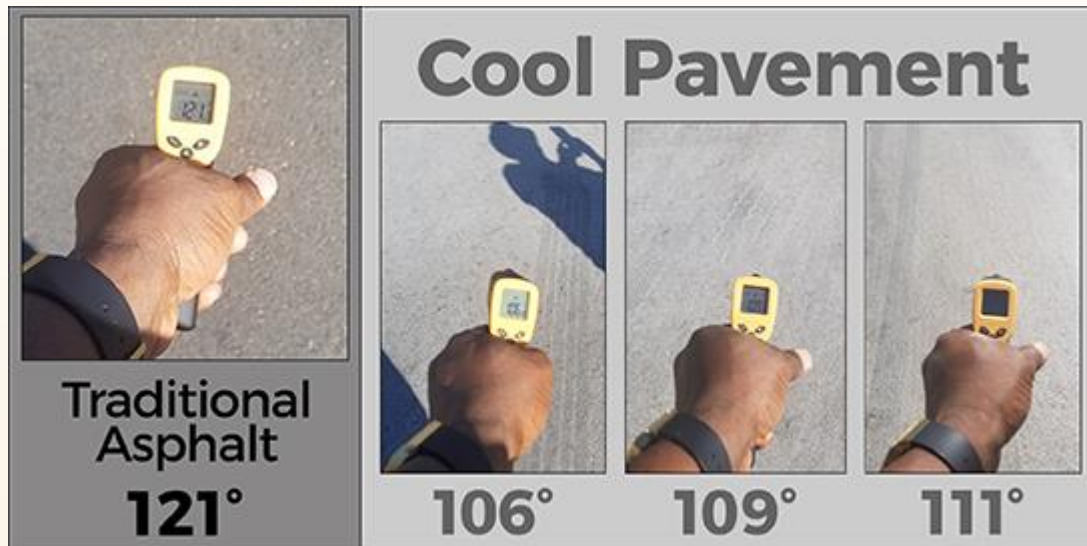


Image courtesy of phoenix.gov

# Mitigation Measures – Cooling Public Spaces

- Bus shelters
- Shade structures
- Pools/spray grounds



# Prepare and Adapt

- Forecast, Monitor, Notify
  - Typically done through county public health offices
- Education and Awareness
  - Inform prior to first heat wave of season
  - First heatwave is the deadliest
- Responses to Heat Waves
  - Check water and electrical infrastructure
  - Resident buddy programs
  - Cooling centers
  - Outdoor cooling sites



# Thank You!



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For more information please visit,  
<http://www.dvrpc.org/EnergyClimate>



# Extreme Heat and Health in Philadelphia

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ALEXANDRA SKULA, MPH

COMMUNITY PREPAREDNESS MANAGER

PHILADELPHIA DEPARTMENT OF PUBLIC HEALTH

JUNE 1, 2021

# Background

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- Extreme heat events are public health emergencies
- Climate change will increase both average annual temperature and the number, duration and intensity of extreme heat events in Philadelphia



# Impacts of Extreme Heat

Heat-related illness

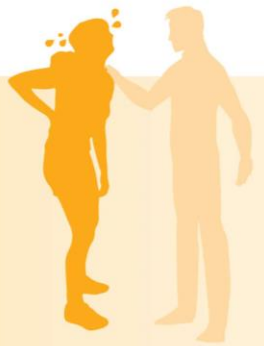
Heat-related mortality

Disease exacerbations

## SYMPTOMS

### HEAT CRAMPS

- Heavy sweating
- Painful muscle cramps or spasms



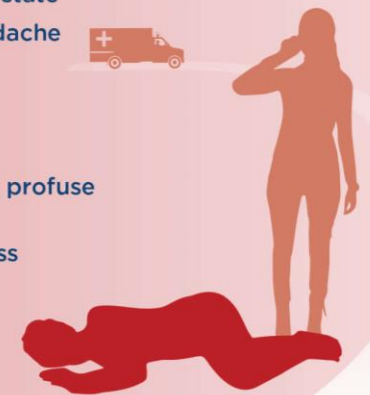
### HEAT EXHAUSTION

- Heavy sweating
- Weakness
- Fatigue
- Headache
- Dizziness
- Nausea or vomiting
- Fainting
- Irritability
- Thirst
- Decreased urine output



### HEAT STROKE

- Very high body temperature
- Altered mental state
- Throbbing headache
- Confusion
- Nausea
- Dizziness
- Hot, dry skin or profuse sweating
- Unconsciousness



<b>RISK FACTOR</b>	<b>GROUP</b>
<b>Exposure</b>	People who work outside
	People experiencing homelessness
	Athletes
	People without A/C
<b>Social factors</b>	People who live alone
	People who are homebound
<b>Biological factors</b>	Older adults
	Infants and young children
	Pregnant women
	People with some chronic medical conditions

# Philadelphia Heat Response

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# Heat Response Actions

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## Heat Caution:

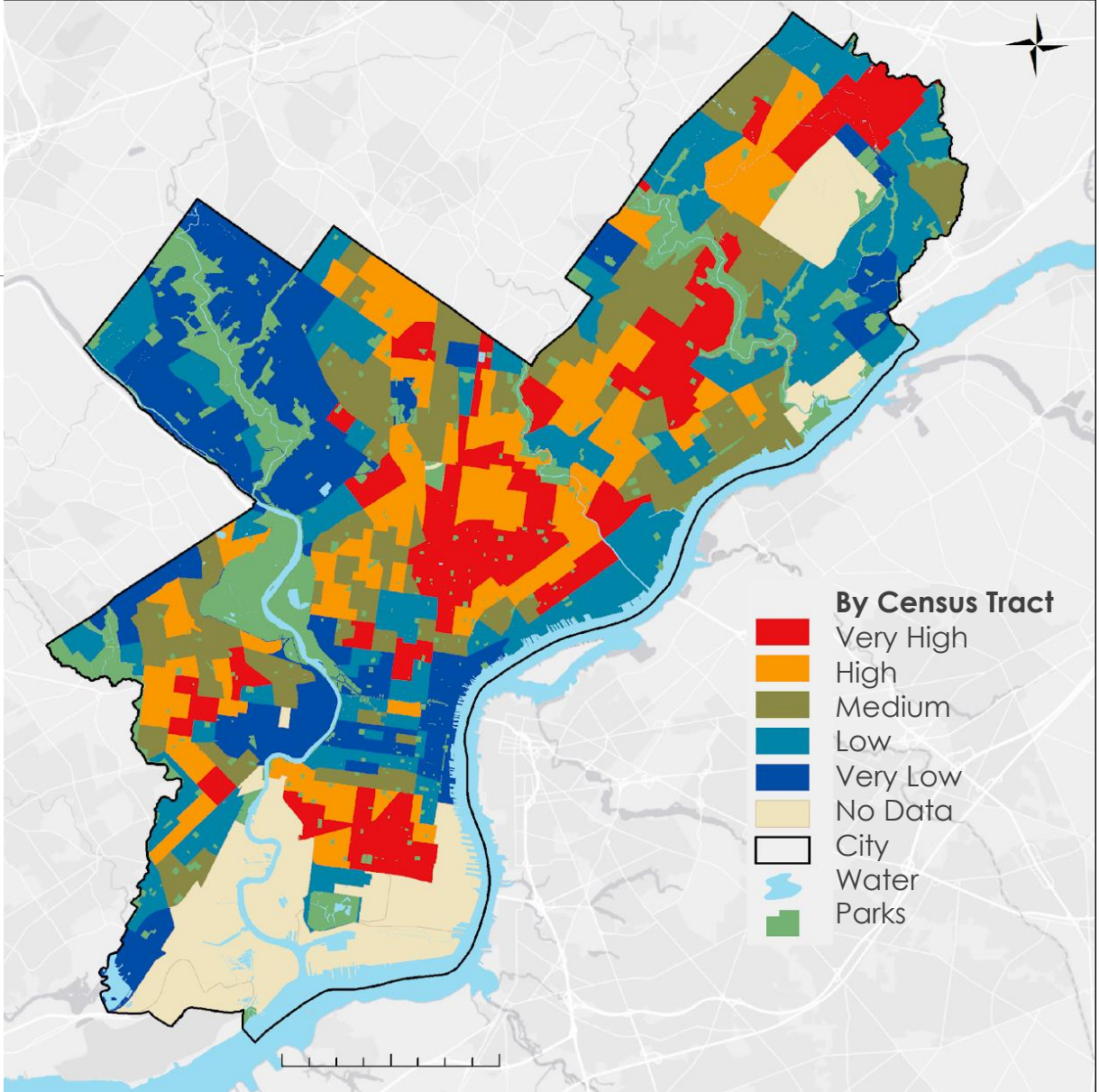
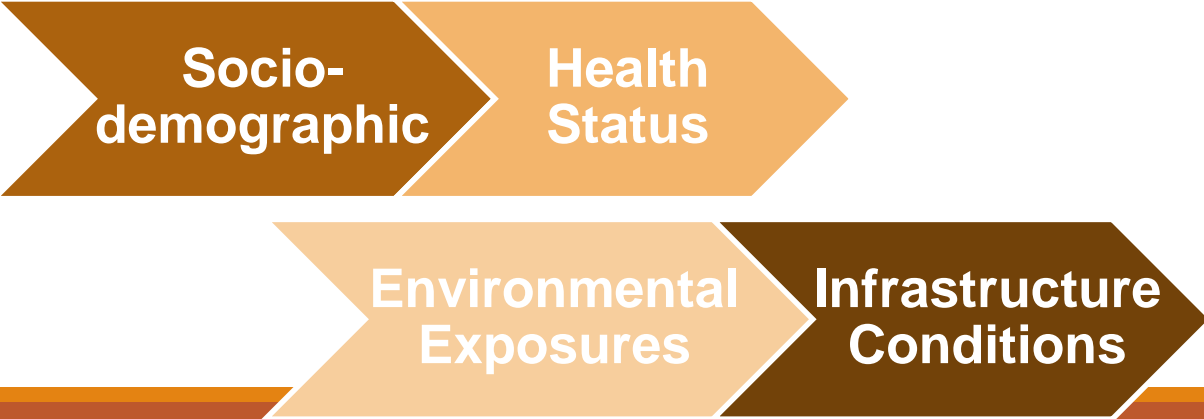
- Notification to heat response agencies
- Public information geared toward at-risk populations
- Outreach to people who are homeless and Code Red Activation

## Heat Health Emergency:

- Notification to heat response agencies
- Activation of PCA's Heatline and health mobile teams
- Activation of cooling centers
- Nursing and personal care home notifications/inspections
- Outreach to people who are homeless and Code Red Activation
- Tracking and analysis of health outcomes
- Suspension of utility shut-offs for residential non-payment

# Philadelphia Heat Vulnerability Index

A **Heat Vulnerability Index** summarizes the most important factors associated with the adverse health effects of extreme heat events to help identify areas that are more at risk.





# Heat Response and COVID-19

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***Make it safer for people to stay inside their homes***

- 1. PCA Heatline***
- 2. PDPH Mobile Teams***
- 3. Utility assistance***
- 4. Outreach***
- 5. AC/fan provisions***

***Provide safe cooling options for those who are unable to safely stay inside their homes***

- 1. Safe cooling center protocols***
- 2. Revised heat response levels***
- 3. Cooling bus implementation***

# Stay Cool During COVID-19

Many Philly residents who could get very sick from COVID-19 are also at higher risk of heat-related illnesses, like heat stroke. These include older adults and people with chronic conditions. **Learn more about how to stay healthy this summer.**



## Keep Your Home Cool

Air conditioning is the best way to stay cool and prevent heat-related illness when it's very hot outside.

### If you don't have A/C:

- Open windows at night to let in cool air.
- Close blinds or curtains during the day to limit sunlight.
- Limit use of your stove/oven.



## Keep Yourself Cool

- Drink plenty of water and avoid caffeine and alcohol.
- Stay in the shade as much as possible when outside on a hot day.
- Avoid intense physical activity.
- Wear light, loose fitting clothing.
- Take cool showers or baths.



## Stay Informed

- Check the weather in your area.
- Text **READYPhila** to **888-777** to receive alerts about:
  - Heat advisories, COVID-19 updates, and severe storms.
- Phone call and email alerts also available.



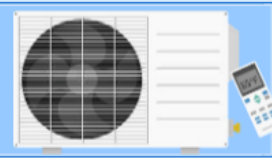
## Stay Safe

**You can catch COVID no matter how sunny or hot the weather is!**

- Stay home if you can, and stay at least 6 feet away from anyone you don't live with.
- Wash hands often with soap and water.
- Wear a breathable mask when in public.
  - Choose a lightweight material, like cotton.
  - Change your mask if it gets damp.



## Summer Utility Assistance



Philly residents are staying home to keep our communities safe from COVID-19. This might mean a greater need for air conditioning and higher utility bills. Check out these resources to get help paying this summer.



### Electric Bill Assistance

#### Low-Income Home Energy Assistance Program (LIHEAP)

- Households may receive up to \$800 for electric bills to help with cooling this summer.
- Visit [compass.state.pa.us](https://compass.state.pa.us) or call 215-560-7226 to apply.
- If you have already received LIHEAP this year, but would like to apply it to your electric bills or apply for more funding, call 215-560-1583.

#### PECO Customer Assistance Program 1-800-774-7040

- Provides assistance to low income customers to help with electric bills.



### Water Bill Assistance

#### Water Revenue Customer Assistance 215-686-6880

Provides assistance to customers who are low-income, seniors, or having a special hardship that makes it difficult to pay water bills.

### Assistance for Seniors

#### Philadelphia Corporation for Aging (PCA) 215-765-9040

Provides assistance to low-income seniors. Call their Helpline with questions about staying safe in the heat, grab and go meals, or other assistance.



### Neighborhood Energy Centers

Learn about conserving energy, applying for bill payment assistance, and energy counseling by **calling a Neighborhood Energy Center (NEC)** near you.

- ACHIEVEability | 59 N. 60th St. | (215) 748-8800
- Center in the Park | 5818 Germantown Ave | 215-848-7722 ext. 219
- Congreso de Latinos Unidos | 216 W. Somerset St. | (215) 763-8870
- Diversified Community Services | 1920 S. 20th St. | [dcsphila.org/](https://dcsphila.org/)
- Germantown Crisis Ministry | 35 W. Chelton Ave. | (215) 843-2340
- Greater Phila. Asian Social Service | 4943 N. 5th St. | (215) 456-1662
- HACE | 4907 Frankford Ave. | (215) 437-7867
- Hunting Park NAC | 3760 N. Delhi St. | (215) 225-5560
- Mt. Vernon Manor CDC/NAC | 631 N. 39th St. | (215) 475-9492
- New Kensington CDC | 2771 Ruth St., Suite 1 | (215) 427-0350
- Nicetown CDC | 4300 Germantown Ave. | (215) 329-1827
- Southwest CDC | 6328 Paschall Ave. | (215) 729-0800
- Strawberry Mansion NAC | 2829 W. Diamond St. | (215) 235-7505
- United Communities SE Phila. | 2029 S. 8th St. | (215) 468-1645
- We Never Say Never | 4427 Lancaster Ave. | (215) 452-0440

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Thank you!  
Questions?

Alexandra Skula, MPH  
Community Preparedness Manager  
Division of Disease Control  
Philadelphia Department of Public Health  
[alexandra.skula@phila.gov](mailto:alexandra.skula@phila.gov)  
215-685-6841



# Extreme Heat Session DVRPC Breaking Ground Montgomery County Planning Commission



**JON LESHER, LEED GREEN ASSOCIATE  
PRINCIPAL ENVIRONMENTAL PLANNER  
6.1.21**

# County Planning Commission role



- **From our website:**

The services we provide include professional planning assistance to our municipalities, municipal training, program management, project and plan development, informative publications, and other products. Our services to the general public include demographic information, aerial photography, maps, and publications. Our focus is to serve our citizens by planning well-designed communities with revitalized downtowns, housing choices, efficient transportation systems, scenic open spaces, trails, vibrant employment centers, preserved farmland, and community facilities.

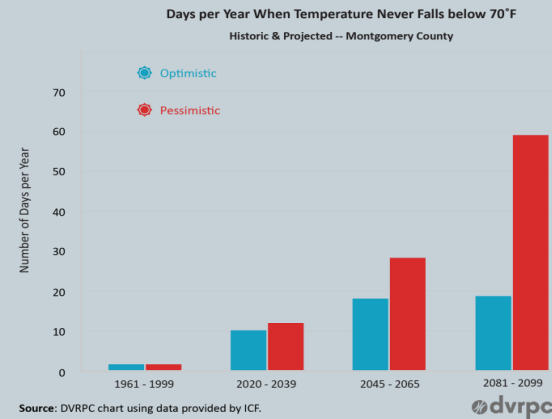
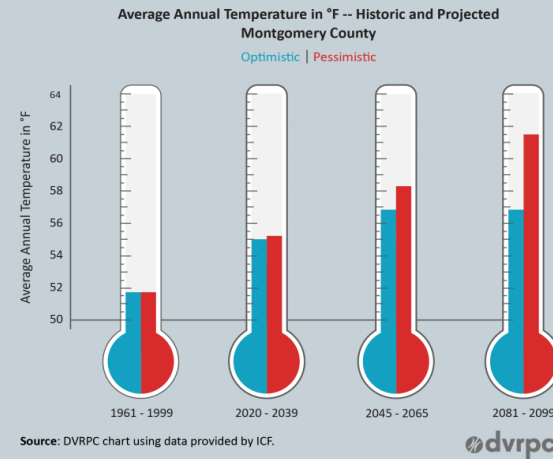
- **So, we:**

- Work with municipalities, organizations, and citizens
- Planning is all about land use. We think about where things should go (architects and engineers worry about how they should be built)
- We do things like:
  - ✦ Write ordinances (regulations concerning building and land use)
  - ✦ Write plans (give a community a vision for future land use or how their government could work)
  - ✦ Inform (write publications, give presentations, use our website and social media as a tool)

# Climate change impacts



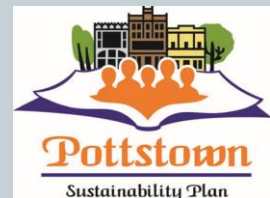
- It's going to get wetter
- It's getting hotter, so expect
  - Increased average heat
  - More continuous days of high heat
  - Hotter evening temperatures



# Sustainability and climate change planning



- **Extreme heat-associated planning**
  - County adopted Greenprint in 2007
  - MontCo 2040: A Shared Vision is the adopted Comprehensive Plan for Montgomery County
    - ✦ Support a modern, resilient, green, and energy-efficient infrastructure network
      - ...adapt to changing energy and communication needs and assist municipalities adjusting to these changes
  - County has partnered with three municipalities to author adopted sustainability plans
  - Currently working with a municipality on a GHG Emission Reduction Plan
- **Need to make climate change and extreme heat a focus of these plans**



# Ordinances and regulation



- Most of our ordinance work has focused on stormwater, tree canopies, and renewable energy
- Produced regulatory guidance materials concerning multi-modal transportation, energy, stormwater, agriculture, etc.



- How do we make extreme heat a more focal aspect of our work?

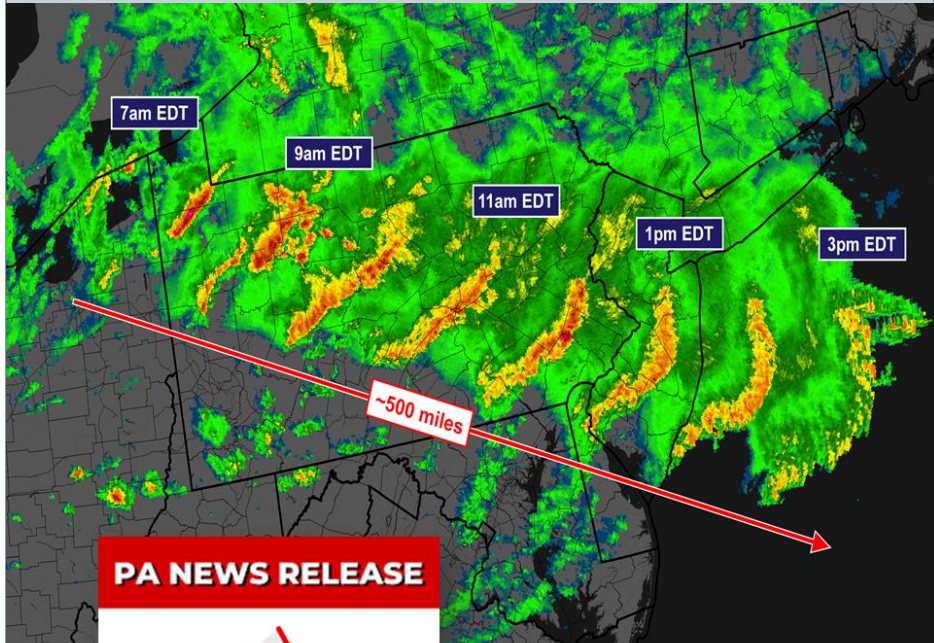


# Bringing stakeholders together



- Supporting our municipalities, EACs, and other stakeholders
- Montgomery County municipal managers have formed the Resiliency Partnership
  - The Montgomery County Regional Resiliency Partnership is a collaborative effort to make communities throughout the region more adaptive and resilient to climate change and take mitigation measures to prevent further impacts.
- Received a grant from DEP to partner with ICLEI and draft a Regional Climate Action Plan for the county

# Hazard Mitigation Plan



**PA NEWS RELEASE**



**PEMA: Gov. Wolf's  
Disaster Declaration  
Vital for Commonwealth  
Response**

Learn more → [pema.pa.gov](http://pema.pa.gov)

- Disaster Mitigation Act passed in 2000
- Integration with State Plan
- Plans are *action oriented*
- Municipal participation and adoption
- Plans linked to future funding
- Plans must be updated each 5 years

# Hazard Mitigation Plan



**BUILD A PLANNING TEAM**  
**SURVEY**  
**REVIEW & IDENTIFY HAZARDS**

ACTIVITIES	2021 MARCH	2021 JUNE	2021 SEPT	2021 DEC	2022 MARCH	2022 JUNE	2022 SEPT	2022 DEC	2023 MARCH	
Build the Planning Team + Begin Regular Planning Team/Steering Committee Mtgs	[Active]									
Public Outreach + Participation		[Active]								
Update Community Profile		[Active]								
Profile Hazards + Access Vulnerabilities		[Active]								
Complete Risk Assessment				[Active]						
Complete Capability Assessment					[Active]					

Floods	Hurricanes	Tornado/ Wind	Landslide	Extreme Temperature	Wildfire	Urban Fire /Explosion	Civil Disturbance	Pandemic/ Infectious Disease	Hazardous Materials	Gas/Liquid Pipelines
Dam Failure	Winter Storm	Coastal Erosion	Subsidence	Drought	Lightning Strike	Cyber- Terrorism	Utility Interruption	Opioid Addiction	Nuclear Incidents	Conventional Oil/Gas Wells
Levee Failure	Hailstorms	Invasive Species	Earthquake	Building Collapse	Radon Exposure	Terrorism	Transport. Accidents	Food/Feed Contamin.	Coal Mining	Unconvent'l Wells

# Montgomery County Climate Change Vulnerability Assessment



- We aim to map easy-to-understand climate change factors in a single-interface
- An online mapping and educational tool
- We hope to bring attention to geographic areas where impacts are expected to be the greatest and therefore may require target interventions
- Using free, trusted sources of information



HEAT RISK INDEX



FLOOD RISK INDEX

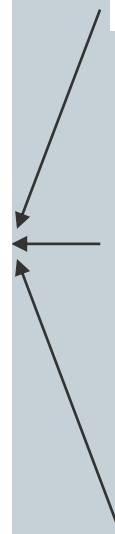
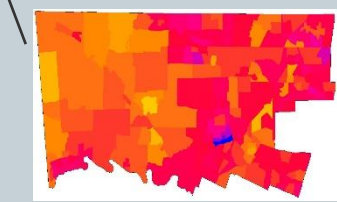
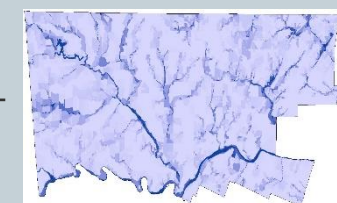
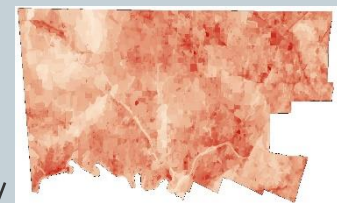
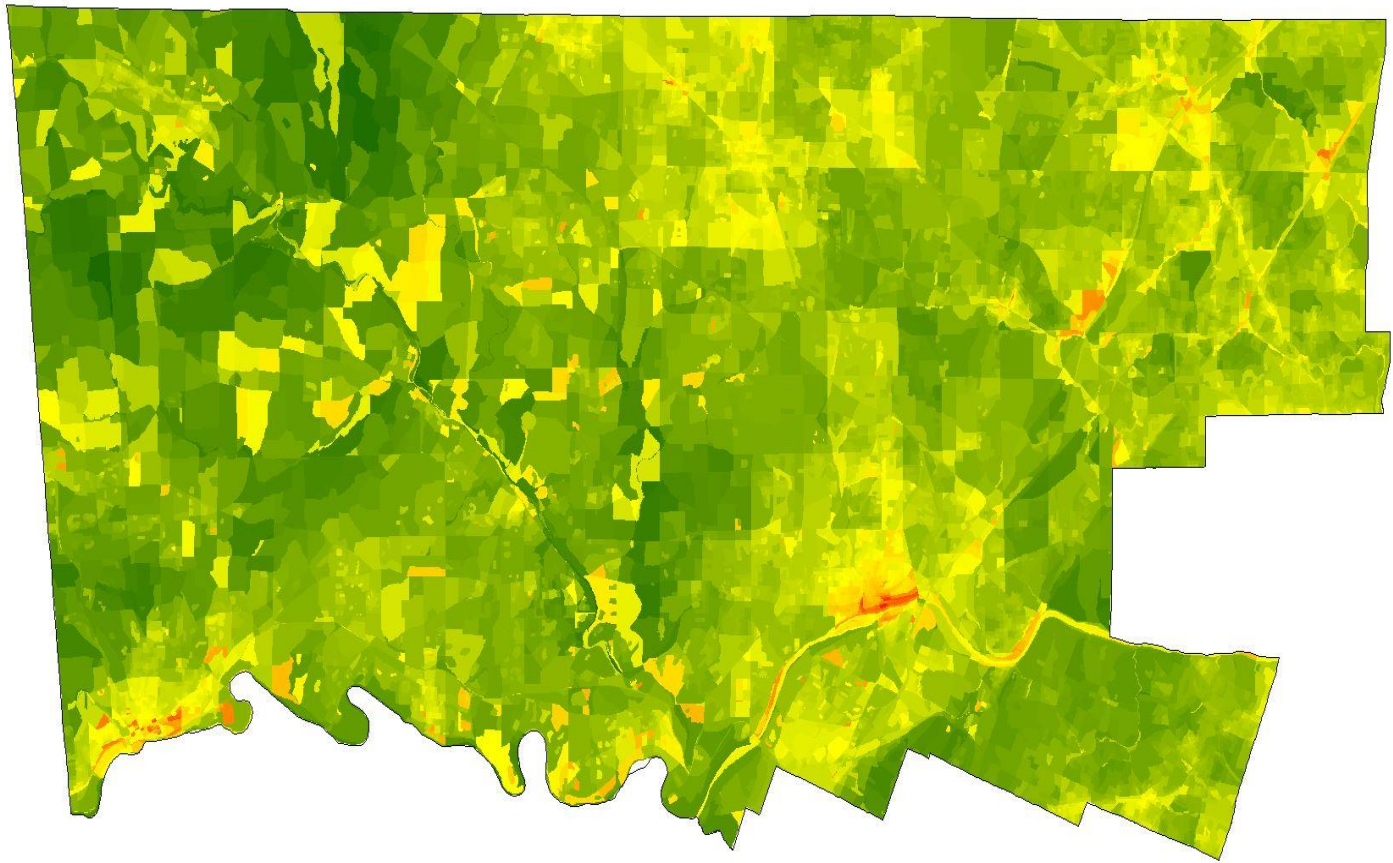


INDICATORS OF POTENTIAL  
DISADVANTAGE INDEX

Exposure

Sensitivity

# Montgomery County Climate Change Vulnerability Assessment



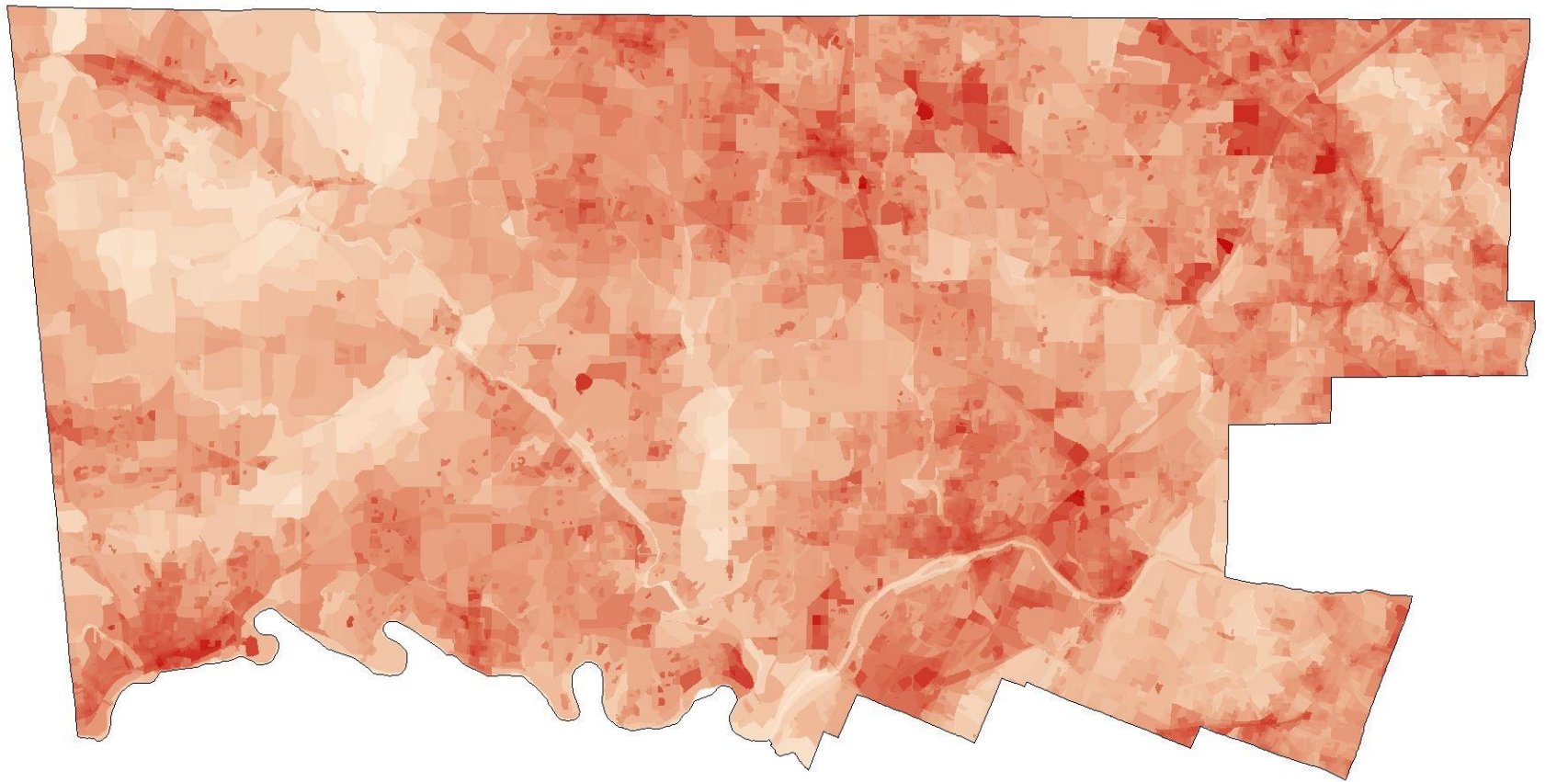
Potential Risk



Low Value

High Value

# Heat risk index



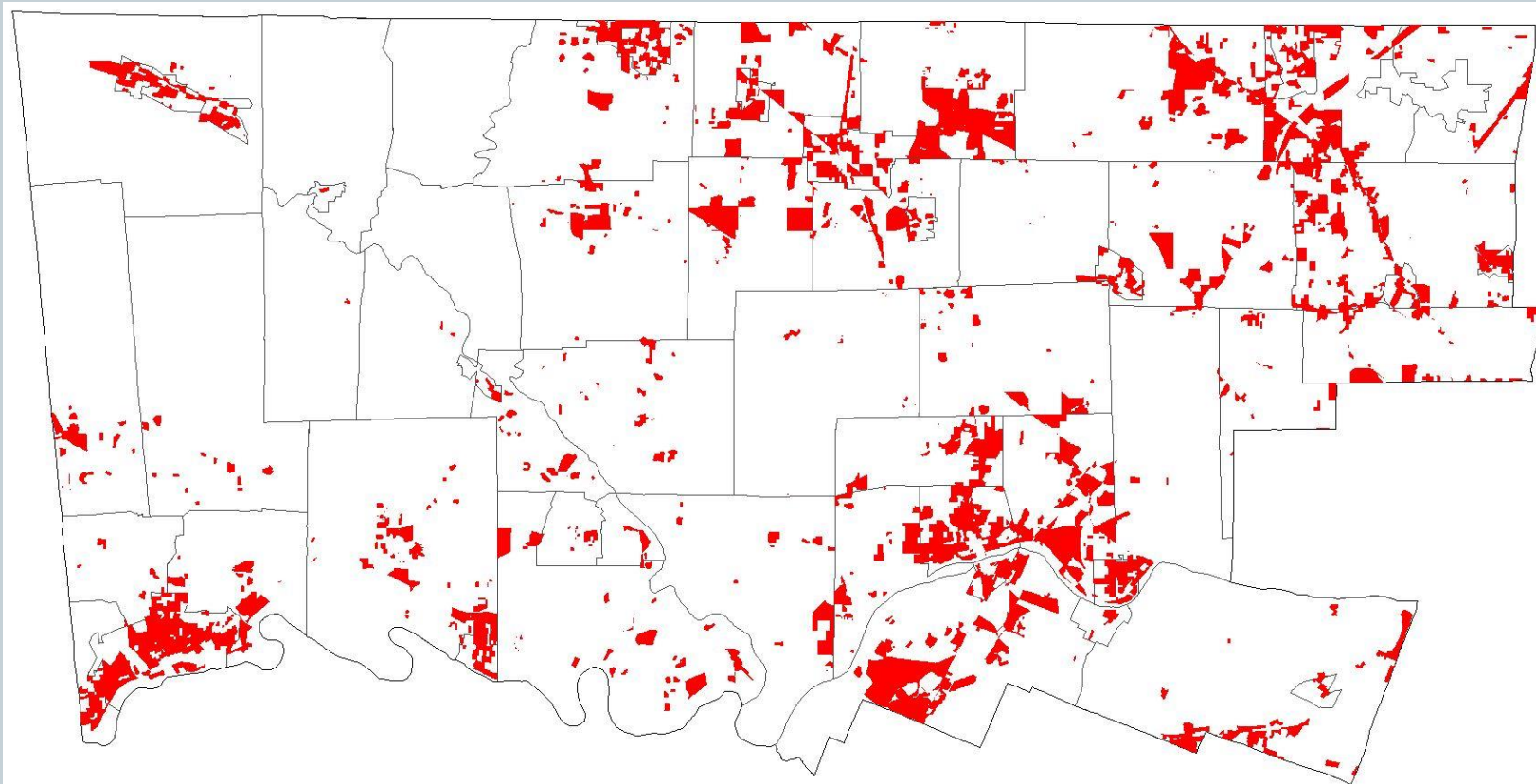
Potential Risk



Low Value

High Value

# Highest heat risk areas



Potential  
Risk Well  
Above  
Average  
(More Than  
0.5 Stds  
Above The  
Mean)

# DVRPC IPD & climate-sensitive IPD population groups



## • DVRPC IPD

- Youth
- Older adults
- Female
- Ethnic minority
- Racial minority
- Foreign born
- Limited English proficiency
- Disabled
- Low-income

## • Climate-sensitive IPD

- Low EDU achievement
- No health insurance
- No air conditioning
- Carless
- No communication device or service
- Weather dependent work
- Weather dependent transportation
- Mortgage or home debt
- Mobile home resident
- Single parent household

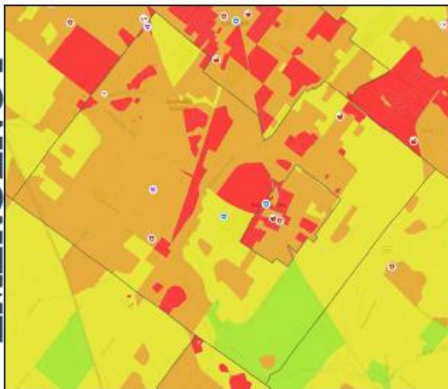


# A closer examination



## HEAT VULNERABILITY OVERLAID WITH CRITICAL SERVICES

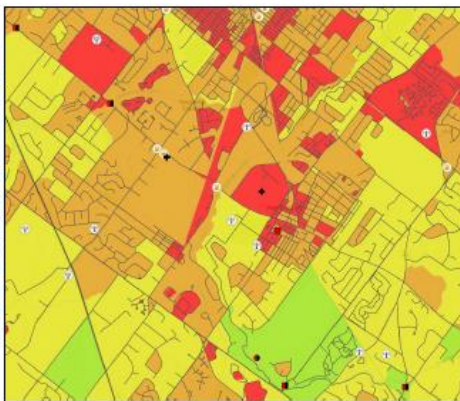
EMERGENCY



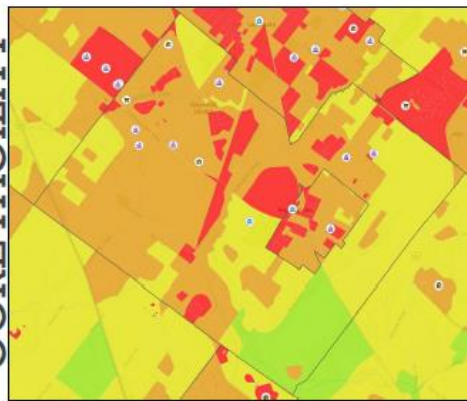
TRANSIT



INFRASTRUCTURE



CORE FACILITY

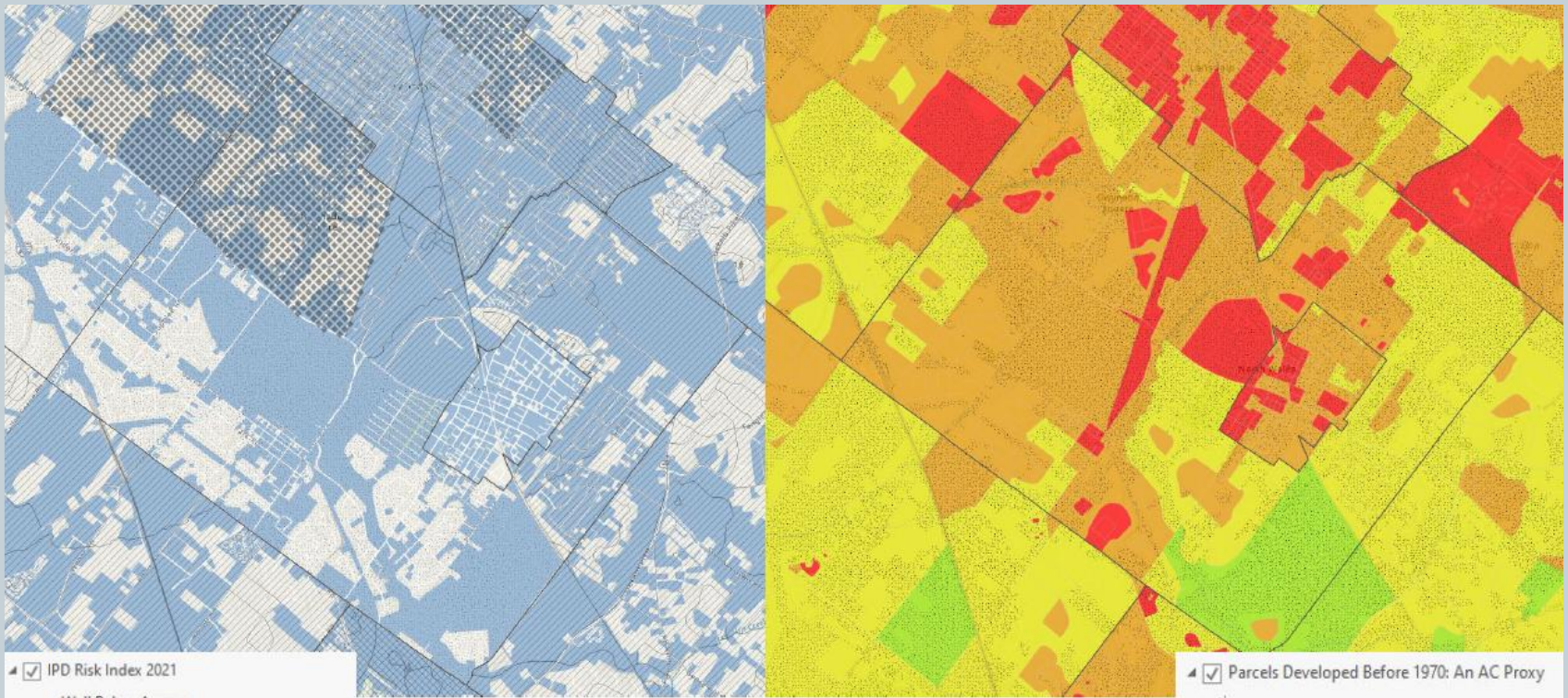


Heat Risk Index 2021  
 Well Below Average  
 Below Average  
 Average  
 Above Average

- Schools
- Municipal Buildings
- Assisted Living Facilities
- Grocery Stores
- Prisons
- Sewage Treatment Plant
- Water Supply Plant
- Cell Towers
- Power Plants
- Gas Station
- Streets
- Montgomery County EMS Stations
- Montgomery County Police Stations
- Montgomery County Fire Stations
- Montgomery County Hospitals
- Urgent Care Facilities
- Pharmacies
- Montgomery County Regional Rail Stations
- Regional Rail Lines
- Freight Lines
- Fall 2020 Routes
- Bus Routes
- Montgomery County Bridges



# A closer examination



- IPD Risk Index 2021
  - Well Below Average
  - Below Average
  - Average
  - Above Average
  - Well Above Average
- Parcels Developed Before 1970: An AC Proxy

**Central air for homes wasn't widely available until the 1970s. That means homes built before that weren't necessarily made to accommodate it.**

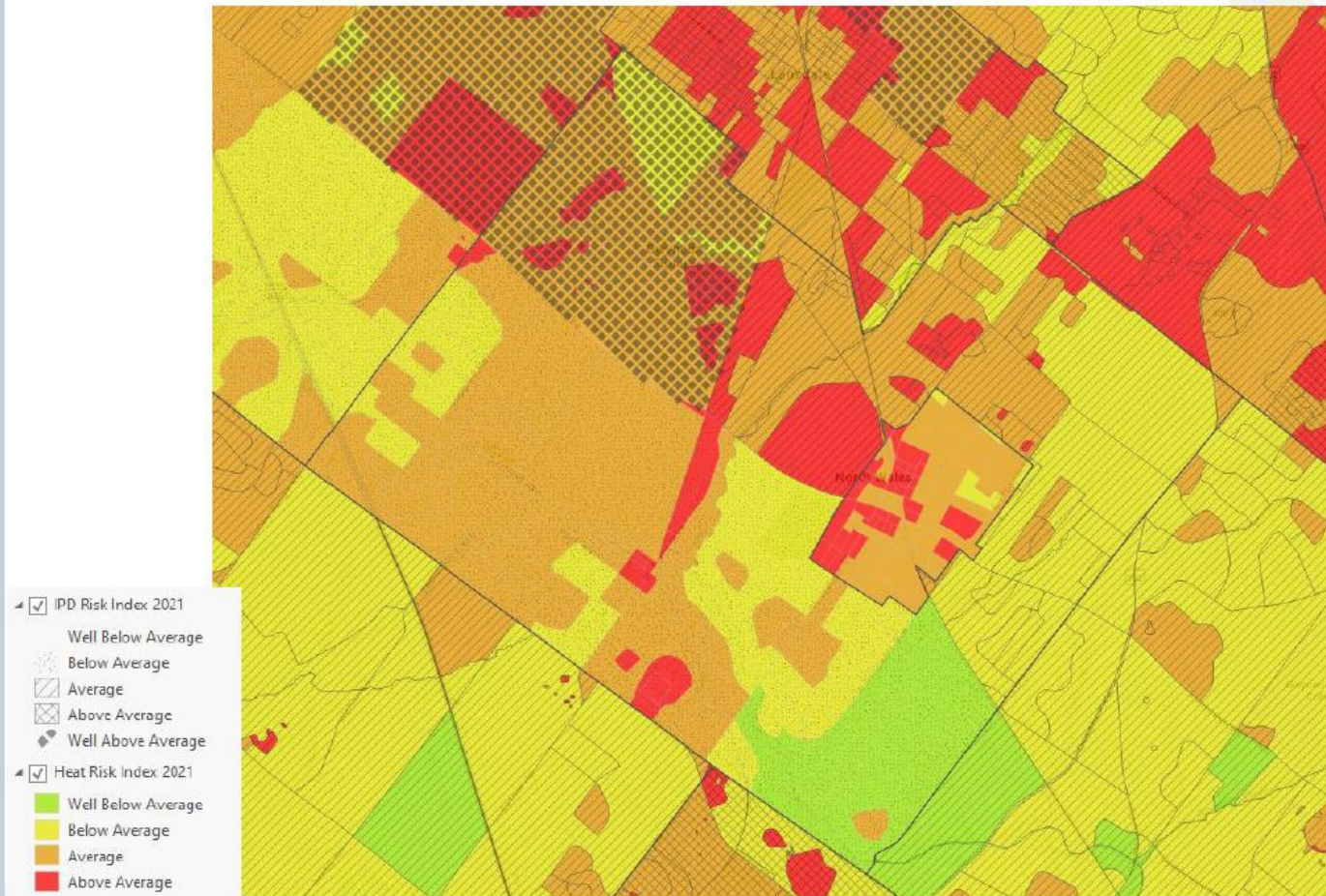
- Heat Risk Index 2021
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- Parcels Developed Before 1970: An AC Proxy



# A closer examination



## HEAT VULNERABILITY OVERLAID WITH SOCIOECONOMIC VULNERABILITY



We're available to help



...and looking for help from others

Jon Leshner, LEED Green Associate

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A photograph of two young children, a boy and a girl, both smiling and holding large, colorful paper fans. The boy is on the left, wearing a light blue t-shirt, and the girl is on the right, wearing a patterned dress. The background is slightly blurred, showing what appears to be an outdoor setting with a car and a person in the distance. The entire image has a light blue tint.

# Beat the Heat Hunting Park

A COMMUNITY HEAT  
RELIEF PLAN

**BEAT THE HEAT**  
HUNTING PARK  
**VENTAEL CALOR**

## Beat the Heat Hunting Park:

A Case Study in  
Equitable, Community-  
Driven Climate Resilience  
Planning

DVRPC Breaking Ground Series  
June 1, 2021

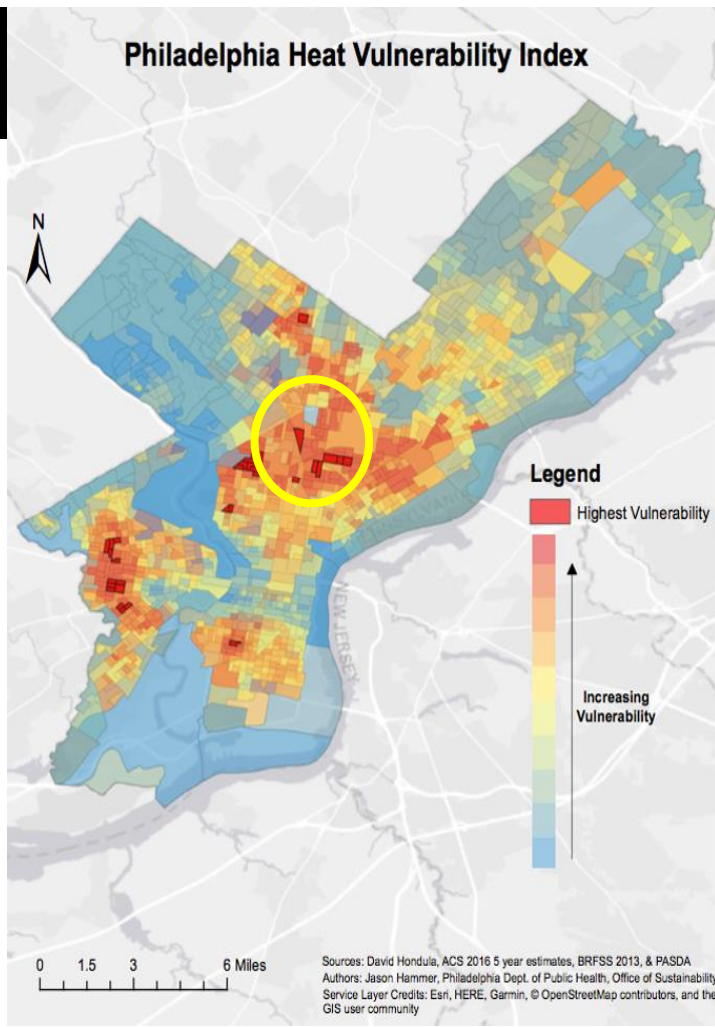
# CLIMATE CHANGE & SOCIAL VULNERABILITY

Climate change is a multiplier of existing risks and opportunities, from neighborhood instability and aging infrastructure to economic development and population growth.



# HEAT INEQUALITIES

Not all neighborhoods experience heat equally in Philadelphia.



# HUNTING PARK NEIGHBORHOOD AT A GLANCE

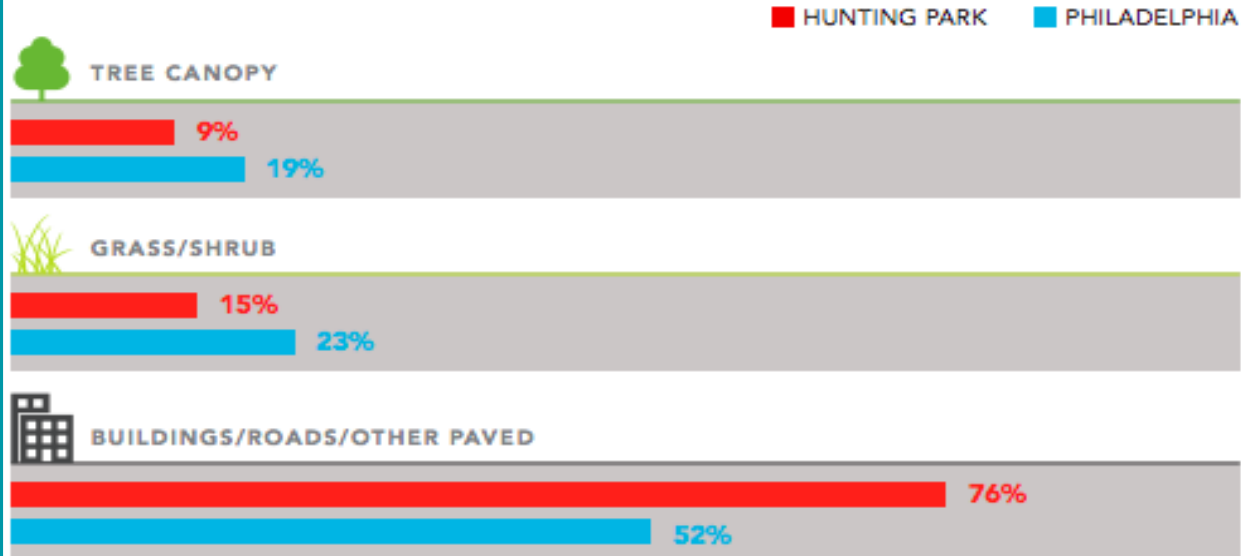
- Culturally diverse population
- Bilingual - 47% Spanish speaking
- Young - 39% of the population under the age of 18
- Environmental justice activism - prevention of toxic industry expansion, revitalization of an 87-acre park, more than 800 trees planted
- Significant presence of industry, an aging housing stock, dark roof tops, lack of trees and green space





# WHY IS HUNTING PARK SO HOT?

FIG. 7 LAND COVER IN HUNTING PARK AND PHILADELPHIA (APPROXIMATE PERCENTAGE OF LAND COVER)



SOURCE: Philadelphia City Planning Commission, GIS Land Cover dataset, 2008

# GUIDING PRINCIPALS



**Voicing Needs:** How are you creating space for all participants to express their needs? How are different communication and learning styles acknowledged and encouraged?



**Acknowledging Community History & Identity:** In the process of understanding the changes that community members would like to see, how are you also respecting the existing neighborhood history, identity, and strengths?



**Shifting Power:** How does power show-up in the spaces that you hold? How are you acknowledging your own privilege and power as an individual—based on your organizational position as well as your social identities—and working to shift this power so that community members and people with marginalized identities are able to lead? How are those with marginalized identities within the community already showing up and how are you backing their leadership?



**Storytelling as Data:** Are their places and opportunities for people to share their stories and experiences and are these stories valued as data?



**Relationship Building:** How does the planning process strengthen connections, relationships, and trust? This is especially important in community climate planning, because during climate emergencies it is the relationships immediately around folks that will be the most important in terms of how quickly they are able to organize and respond.

# BEAT THE HEAT HP

## COMMUNITY ENGAGEMENT

**GOAL 1: UNDERSTAND** how HP residents experience heat in the summer, and what resources could help them to stay cool in their homes and neighborhoods

**GOAL 2: INFORM** residents about the urban heat island effect, its impact on community health, and how to stay healthy and safe in the heat

**GOAL 3: WORK TOGETHER** with HP residents to create a Hunting Park Heat Plan with neighborhood specific recommendations and implementation partners



# BEAT THE HEAT TEAM 30 PARTNERS, 5 AMBASSADORS



# BEAT THE HEAT RESOURCE TABLE

20 EVENTS

Developed a mobile Beat the Heat station that included heat-related resources and information, the heat survey, hand-fan making, and giveaways, and brought the station to 20 community events and locations



# HP HEAT SURVEY

530 RESPONSES

Beat the Heat ambassadors administered a neighborhood heat survey through block clean-ups, community events, and mailings



# HP HEAT DESIGN WORKSHOP

40 PARTICIPANTS

Collaborated with residents to identify and map where they would like to see specific cooling interventions



# ENVIRO WELLNESS FAIR

100 PARTICIPANTS + 70 TREES

Coordinated an environmental wellness fair and yard tree give away in partnership with the Sierra Club, McClure Elementary, Esperanza, and TreePhilly





# HP FAITH LEADERS

## BUILDING A HEAT-RELIEF NETWORK

Organized meetings of faith leaders and community organizations to map existing neighborhood cooling assets and resources that could be incorporated into a neighborhood heat relief network



## WHAT WE HEARD

## EXPERIENCE OF HEAT

- When the temperature is high, 76% of respondents prefer to stay at home rather than go out
- Most respondents (77%) reported always or sometimes feeling too hot inside their homes during high heat days

## WHAT WE HEARD

## ACCESS TO COOLING

- 61% of respondents reported always using A/C when it is very hot outside.
- Still, 76% of respondents noted that better access to A/C and Fans would help them stay cool in their homes.
- For the respondents who do not always use A/C, 40% reported the cost of electricity as a reason

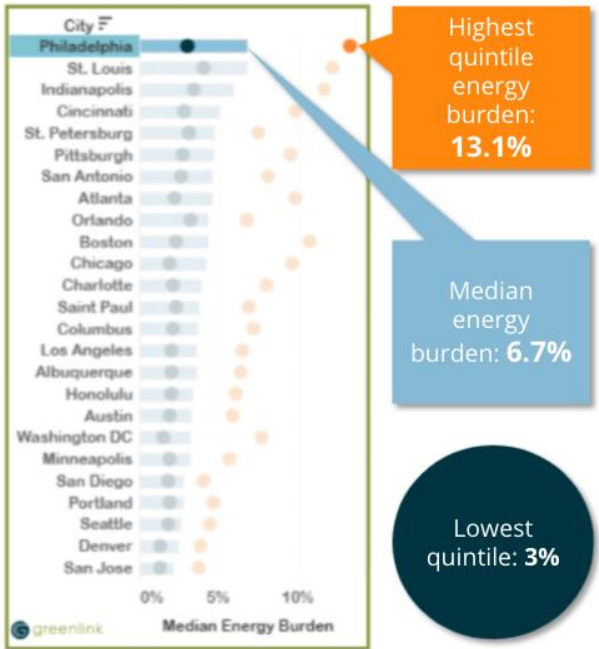
# ENERGY BURDEN & HEAT RESILIENCE

## Energy Burden:

The percentage of household income that goes toward utility energy bills

### Philadelphia is one of the most energy burdened cities in the U.S.:

- Philadelphia's median energy burden is 86% higher than the national average
- 233,000 households have a high energy burden (>6%)
- 111,000 households have a severe energy burden (>10%)



THE CITY OF PHILADELPHIA  
— OFFICE OF —  
**SUSTAINABILITY**

**GREENWORKS**  
PHILADELPHIA

