

Hot To Go-Go: Cooling Centers in DC

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1. Background
2. Research Question
3. Data Sources & Variables
4. Results
5. Policy Recommendations
6. Areas for Future Research

Background

- **Problem**

- Rising temperatures in DC
 - Temps have risen at nearly a degree per decade
 - Number of heat emergency days expected to triple by 2050

- **Solution**

- Cities use cooling centers to address extreme heat
- “Keep Cool DC”: 2022 heat adaptation strategy
 - 137 cooling centers **but are all accessible?**

Do existing cooling centers in Washington DC equitably meet the needs of its residents?

Can the city protect subgroup populations that are disproportionately affected by extreme heat?

(i.e. low-income citizens, seniors, people with preexisting conditions)

Data and variables

All datasets are from the DC Government Open Data portal

Demographic

- American Community Survey (ACS) 5-Year Demographic Characteristics by Census Tract (2024)
- ACS 5-Year Social Characteristics DC Census Tract (2024)
- ACS 5-Year Economic Characteristics DC Ward (2024)

Environmental

- Heat Sensitivity Exposure Index (2022)
- Developed by consulting firm Cadmus for DC Dept of Energy

Geographical

- Election Wards – District of Columbia (2022)
- Cooling Centers – District of Columbia (2024)

Cooling Centers in DC Dashboard

Plot Layers

Select Social Plot:

- ☒ People of Color
- ☐ Elderly Population
- ☐ Low Income
- ☐ Population with Disabilities
- ☐ Asthma

Select Environmental Plot:

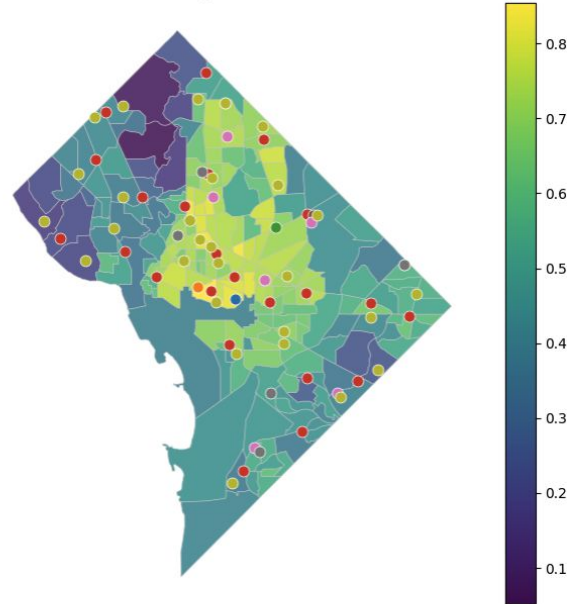
- ☒ Heat Exposure Index
- ☐ Heat Sensitivity Index
- ☐ Tree Cover

Select type of center (multiple allowed):

- ☒ Low-Barrier Shelters
- ☒ Day Centers
- ☒ Youth/Young Adult Providers
- ☒ Public Libraries
- ☒ Recreation and Community Centers
- ☒ Senior Wellness Centers
- ☒ Indoor Pools
- ☒ Spray Parks

Environmental Factors

Heat Exposure Index

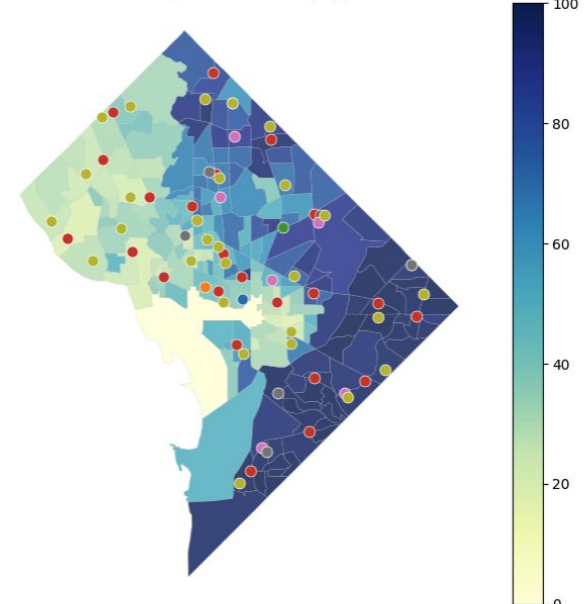


Cooling Center Types

- Low-Barrier Shelters
- Day Centers
- Youth/Young Adult Providers
- Public Libraries
- Recreation and Community Centers
- Senior Wellness Centers
- Indoor Pools
- Spray Parks

Social Factors

People of Color (%)



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Lots of consequences from extreme heat but we were particularly interested in how public cooling centers address:

1. Adverse Health Impacts
2. Infrastructure
3. Vulnerable Populations

- **Adverse Health Impacts**

- Extreme heat can cause adverse health outcomes within particular populations
 - How can cooling centers be a form of “preventative health care” (i.e. providing water or education concerning health impacts)?

- **Infrastructure**

- Wards with greater POC and low-income populations have less investment
 - What kinds of new infrastructure can be established (i.e. covered bus shelters or private property) that increases cooling accessibility?

- **Vulnerable Populations**

- Some populations (i.e. elderly, POC, low-income) will be hit harder than others by extreme heat
 - Do they have enough cooling centers that are tailored to their needs (i.e. low-barrier shelters for homeless population)?

- **Cooling Center Utilization**
 - Not all cooling centers are accessible or utilized. Why?
 - Explore transportation data, private properties nearby (i.e. movie theaters, malls etc), differences in hours of operation
- **Cooling Center Visitor Data**
 - Analyze attendance data to determine whether specialized centers are used as intended or should be scaled in size or number to serve all attendees
- **Cooling Center Operations**
 - Evaluate whether cooling centers are functional and prepared to serve as places of refuge when temperatures soar

Thank You!