

Heat Islands

Environmental Policy Commission (EPC) presentation
to the Waterfront Commission

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Outline

- Overview of the Environmental Policy Commission
- Definition of Heat Islands
- Relevance to Alexandria & the Waterfront
- Actions to Mitigate Heat Islands
- Ways WC and EPC can collaborate to advance action

About the Environmental Policy Commission

Key Priorities:

- Decarbonize Buildings
- Decarbonize Transportation
- Advance Resilience
- Environmental Justice



“Advise and make recommendations to the city council and, where appropriate, to the planning commission and the city manager. These recommendations shall relate to: the climate crisis and its effects, clean air, land use, noise pollution and abatement, pesticides, herbicides and contaminants, solid waste, water quality and supply, other topics relating to conservation and protection of environmental conditions in the City of Alexandria, and such other matters as from time to time may be referred to the commission by the city council.”

<https://www.alexandriava.gov/EPC>

Heat Islands

Heat islands occur when a developed area experiences higher temperature than nearby rural areas, or when areas experience hotter temperatures within a city.



Learn About Heat Island Effects

Learn about heat islands, and impacts to people and places.

[Learn About Impacts](#)



Heat Reduction Solutions

Learn how to implement cooling strategies including trees, green roofs, and cool roofs.

[Identify Heat Reduction Solutions](#)



Community Efforts

Explore how communities are working to address heat islands.

[Explore Community Efforts](#)



Guide to Reducing Heat Islands

Find chapters detailing heat island causes, impacts, and cooling strategies.

[Read the Guide](#)



Outreach Materials

Find materials to increase awareness and share information about heat islands.

[Access Outreach Materials](#)



Frequent Questions and Resources

Explore resources related to heat islands.

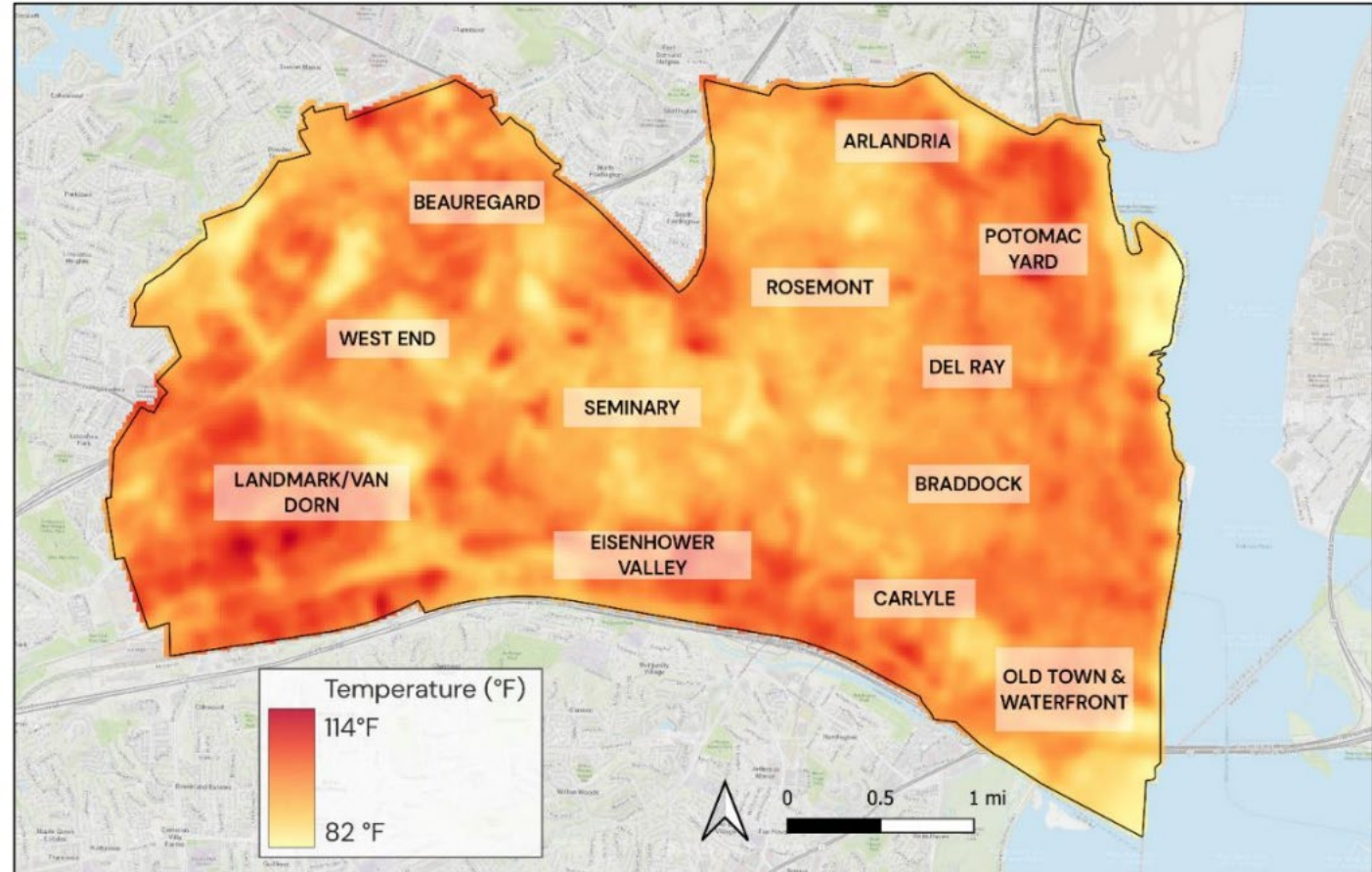
[Find Answers and Resources](#)

<https://www.epa.gov/heatislands>

Relevance to Alexandria

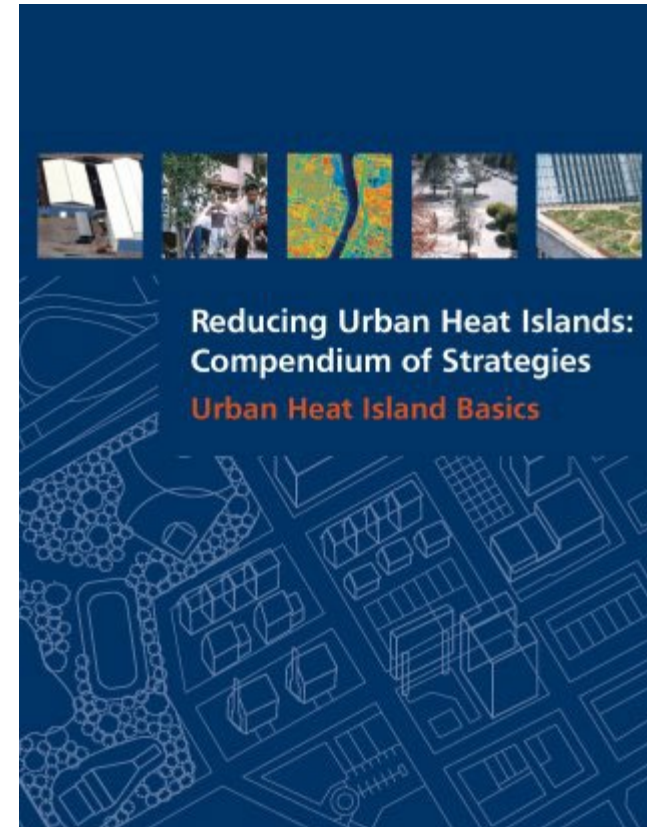
- The top 2 physical climate risks that Alexandria faces are flooding and extreme heat
- Unchecked, climate-driven flooding and extreme heat will damage the City's infrastructure and economy and lay harm to Alexandria's wellbeing
- Costs and damages associated with flooding and heat stunt the local economy by decreasing real estate value and deterring tourists and investors. These events also put lives at risk of danger from flash floods and heat stroke.

Figure ES-2. Relative summer land surface temperatures in Alexandria



EPA Solutions to Mitigate Heat Islands

- 1 Increase trees and vegetation
- 2 Create green roofs
- 3 Install cool roofs
- 4 Use cool pavement
- 5 Adapt to heat
- 6 Follow smart growth principles



Alexandria's Efforts to Mitigate Heat Islands

The City has launched several programs that attempt to provide cooling measures and mitigation programs to combat mortality and injury related heat incidences:

- **Cooling Centers:** The City has focused its attention on emergency response efforts by providing cooling centers in recreation centers, libraries, and schools across the City
- **Tree Canopy and Open Space:**
 - The City proposed several key recommendations in the 2009 Urban Forestry Master Plan, to increase tree canopy through improved maintenance of existing trees and a thorough assessment of available land for new tree plantings. These include the planting of 400 additional trees/year adjacent to school grounds and public spaces, the development of master landscaping, planting, maintenance plans for all public properties, and providing and promoting incentives to plant trees and implement projects to preserve and enhance the tree canopy on institutional and semi-public sites, such as hospitals and faith-based establishments.
 - City Council unanimously adopted the updated EAP2040 in 2019, which includes short, medium, and long-term goals for open space and land use objectives relating to preserving existing and increasing new tree canopy by maintaining a ratio of 7.3 acres of publicly available accessible open space per 1,000 residents with ~40% total tree canopy cover across the City. The City also maintains a street tree planting program in the public right-of-way.
 - By 2028, the City should seek to create publicly accessible open space opportunities in unconventional spaces, such as public alleys, conservation easements, public rights-of-way, parking lots, and through the careful assessment of new developments and vacant lots.
- **Annual Roadway Maintenance:** When resurfacing roads, the City could consider using materials that are less likely to buckle or soften due to extreme heat or choose materials that are more reflective to reduce the urban heat island effect. For example: The City can improve this initiative by targeting road replacement in particularly hot areas of the City where vulnerable communities live.

ECCAP Measures to Address Extreme Heat

*Particularly
Relevant to
Waterfront & Heat
Island Effect*



Extreme Heat (H)
H-1: Heat reduction
H-1.A: Establish cool roof and pavement programs
H-1.B: Expand waste heat reduction programs
H-1.C: Expand and incentivize urban greening
H-2: Heat management
H-2.A: Expand heat relief programs for vulnerable residents
H-2.B: Expand cooling centers for residents
H-2.C: Address personal exposure to heat
H-3: Heat coordination
H-3.A: Establish a heat preparedness program
H-3.B: Develop an extreme heat incident response plan
H-3.C: Coordinate regionally

Opportunities for WC & EPC to Collaborate on Heat Islands

- Ask the City for an update on efforts to address heat islands
- Consider a joint-letter to City Council encouraging increased attention and action
- Bring in a guest speaker to educate the Community on addressing heat islands
- Write joint op-eds to local newspapers about heat islands
- Champion particular solutions to the City
- Other?