
EGG HARBOR CITY URBAN HEAT ISLAND ASSESSMENT & MITIGATION PLAN

Prepared for
Egg Harbor City
by
DelAtlantic Soil Conservation District

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Background

Egg Harbor City was first planned by German investors from Philadelphia, PA. Chartered in 1856 and incorporated in 1858, the city was intended to be a commerce center for the remote farms in the area. While originally it was to be a port along the Mullica River, development focus quickly shifted to the southern portion of the city to capitalize on the benefits of the nearby Camden & Atlantic Railroad¹. Today, Egg Harbor City, proud of its unique history, continues to function as a commerce center and recreation hub, while continuing to grow to meet the needs of its citizens.

The city, centrally located in Atlantic County, is within the New Jersey Pinelands National Reserve. It has a land area of 10.9 square miles, and according to the 2020 Decennial Census, has a population of over 4,390 residents. This equates to a city population density of about 403 people per square mile. According to the 2023 American Community Survey, there are 1,655 total households within the city. About 8% of residents live in poverty. Racial breakdown from the 2020 Decennial Census includes: white 2172, Hispanic or Latino 1223, black or African American 974, Asian 117, American Indian and Alaska Native 23, Native Hawaiian and other Pacific Islander 1, two or more races 503, and some other race 606². The 2018-2022 Social Vulnerability Index (SVI) for Egg Harbor City is high at a total SVI score of 0.89, indicating that individuals and communities within the city may struggle with adequately preparing for, responding to, and rebounding from environmental hazards, such as extreme heat events³. The themes that account for the total SVI are as follows: Socioeconomic 0.85, Minority/Language 0.81, Household Composition/Disability 0.77, and Housing/Transportation 0.77.⁴ This data is relevant in assessing the impacts of urban heat islands on Egg Harbor City and its residents.

There are areas within Egg Harbor City that experience above-average temperatures, particularly in the warmer summer months, due to urban heat islands. Heat islands are developed areas, oftentimes within cities, that experience higher temperatures than the surrounding rural areas⁵. Factors responsible for the extreme temperatures of heat islands include a lack of vegetation and natural landscape, city infrastructure that absorbs higher levels of solar radiation, human activity that generates excess heat, city layout, geography, and weather.

Heat islands can have serious impacts on residents. Direct impacts include heat-related illness and death, which disproportionately affect vulnerable populations such as young children, older adults, low-income populations, people with chronic illness, outside workers, unhoused people, and more. When temperatures rise to extreme levels, electricity demand to power air conditioning systems increases, resulting in higher electricity expenses and an increased risk of brownouts or blackouts.

¹ <https://www.eggharborcity.org/history>

² https://data.census.gov/profile/Egg_Harbor_City_city,_Atlantic_County,_New_Jersey?g=060XX00US3400120350

³ <https://www.vulnerabilitymap.org/Resources#what-is-social>; <https://www.vulnerabilitymap.org/Mapping-Tools/Social-Vulnerability/Map-View-Zip?zipCode=08215>

⁴ <https://sjtcnj.maps.arcgis.com/apps/instant/media/index.html?appid=e26e8a1b82304bbf976af1baed5f991a>

⁵ <https://www.epa.gov/heatislands>

Consequently, utility companies may use fossil fuel power plants to meet the high electricity demand, which increases greenhouse gas emissions and generates pollutants that threaten human well-being. Water quality may also become compromised with high temperatures, as temperature surges from heated stormwater runoff can kill aquatic life and disrupt ecosystem service processes⁶.

This heat island assessment identifies and characterizes urban heat islands within Egg Harbor City, which will direct mitigation strategies. Mitigating the severity of heat island effects will improve public health and comfort in the city.

Methodology

An interactive map was created with GIS software, overlaying the data layers of interest for a more comprehensive assessment. The data of interest that was imported into the interactive map includes NJDEP Bureau of GIS's (NJDEP BGIS) Urban Heat Islands and Land Surface Temperatures in New Jersey Summer 2022, NJDEP BGIS's Overburdened Communities under the New Jersey Environmental Justice Law 2025, United States Forest Service's (USDA USFS) Tree Canopy Cover Percentage 2023, and Davey Tree Resource's Street Tree Inventory of Egg Harbor City completed in 2025 and provided by the city. This data was imported over ESRI's 2025 World Imagery raster base layer. All map layouts and analyses included in this assessment were generated using this constructed interactive map tool.

Results

Based on the NJDEP Land Surface Temperature data collected in Summer 2022, the most developed areas of Egg Harbor City show significantly higher land surface temperatures (113-127°F) than the surrounding, more suburban areas (97-107°F), and the dense forested areas just northeast of the central city (81-97°F)(Figure 1). According to historic weather data, the highest daily "average high air temperature" at the Atlantic City International Airport during Summer 2022 was 86°F⁷. These readings confirm the existence of heat islands within the city, especially in the urban downtown area.

Identifying Hot Spots in Egg Harbor City

The areas within Egg Harbor City that exhibit higher temperatures were earlier defined as heat islands, and for the sake of both the report's assessment and precision during mitigation, specific site locations within each heat island will be referred to as hot spots. Heat islands are shown in dark red coloration on Sustainable Jersey's thermal New Jersey Heat Island Map and as a spectrum of orange and red coloration in Figure 1, which indicates priority targets for heat island mitigation measures.

This assessment characterizes the most prominent hot spots in Egg Harbor City. Hot spots were determined as areas within Egg Harbor City that reached the highest temperatures during Summer

⁶ <https://www.epa.gov/heatislands/what-are-heat-islands>

⁷ <https://weatherspark.com/s/147157/1/Average-Summer-Weather-at-Atlantic-City-International-Airport-New-Jersey-United-States#Figures-Temperature>

2022, which are shown in the figures below as orange (113°F -119°F) and orange-red (119°F -127°F) coloration (NJDEP BGIS). Three main heat islands were identified by clustering the hot spots by location within the city, as shown in Figure 2. The hot spots are labeled on the specific heat island maps below, as well as on the Tree Canopy Cover map (Figure 3) and the Overburdened Communities map (Figure 4). The numbered heat islands and corresponding letter-labeled hot spots are listed below. While this list aims to focus on the most prominent hot spots, additional hot spots may be observed within the municipality and be targeted for mitigation using Sustainable Jersey’s New Jersey Heat Island Map.

Egg Harbor City Heat Islands and Corresponding Hot Spots

1. Heat Island 1: Egg Harbor City Center
 - a. Philadelphia Ave
 - b. Harbor Plaza Shopping Area
2. Heat Island 2: Egg Harbor City Urban/Rural Transition Area
 - a. Buddy Davis Yachts
 - b. NJ American Water Utility Treatment Plant
 - c. Charles L. Spragg Elementary School
 - d. Egg Harbor City Community School
 - e. Egg Harbor Maintenance Garage & Philadelphia Village Apartments
3. Heat Island 3: North Egg Harbor Redevelopment Area
 - a. Cedar Creek High School
 - b. Neighborhood at Cedar Creek

The Egg Harbor City hot spots listed above are also characterized using tree canopy (Figure 3), social vulnerability (Figure 4), and street tree inventory (Figure 5) maps. This comprehensive data provides insight into potential mitigation strategies (particularly using shade trees to reduce heat) and the heat island impacts on residents, which can inform project prioritization. Site visits to each hot spot may provide additional context regarding site conditions and mitigation opportunities. Mitigation implementation may be prioritized for socially vulnerable groups that are disproportionately affected by extreme heat and systemic inequities.

The following pages present maps displaying the heat islands and corresponding hot spots, canopy cover, social vulnerability index, and tree inventory data.

These maps are for planning purposes only. These maps are not boundary surveys. Data has been compiled from various sources and is credited below.

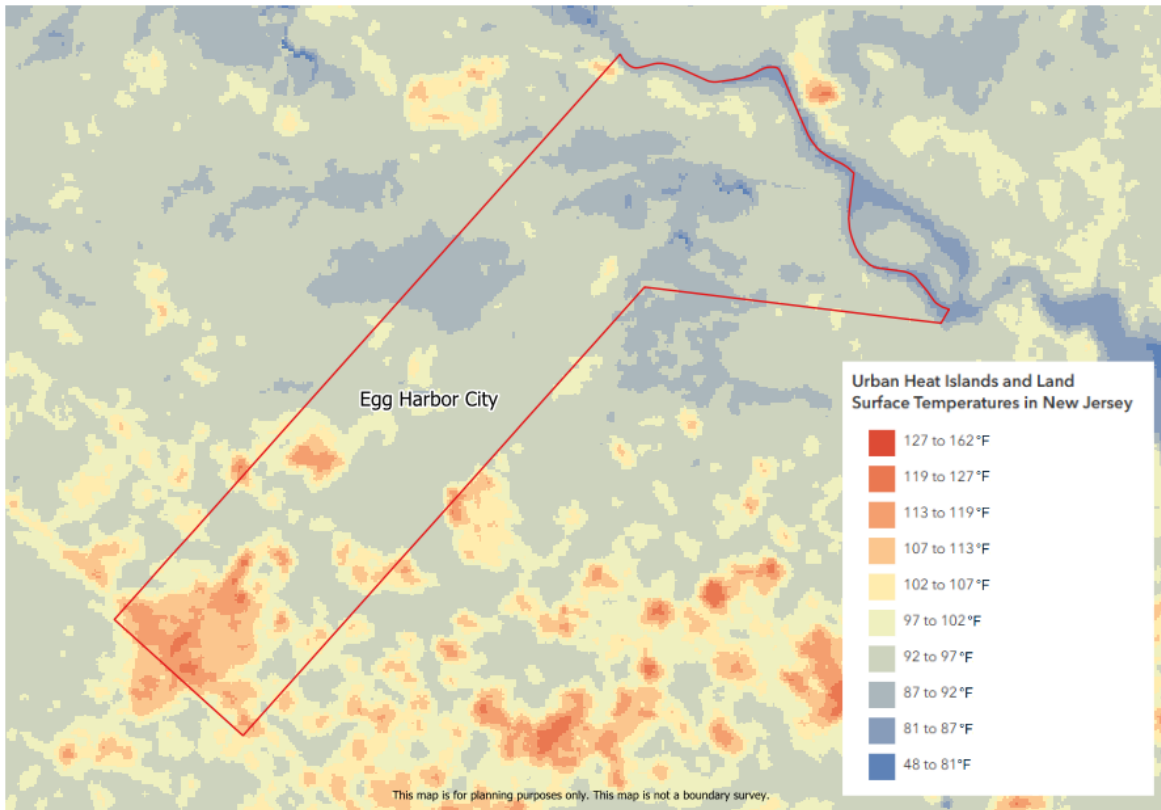


Figure 1. Surface temperature in °F (Summer 2022) of Egg Harbor City and the surrounding area (Source: NJDEP BGIS). The warmest temperatures, shown as areas of orange-red and orange, exist mainly in the southern portion of Egg Harbor City, per the city boundary outlined in red. These high temperatures indicate the location of heat islands and their corresponding hot spots.

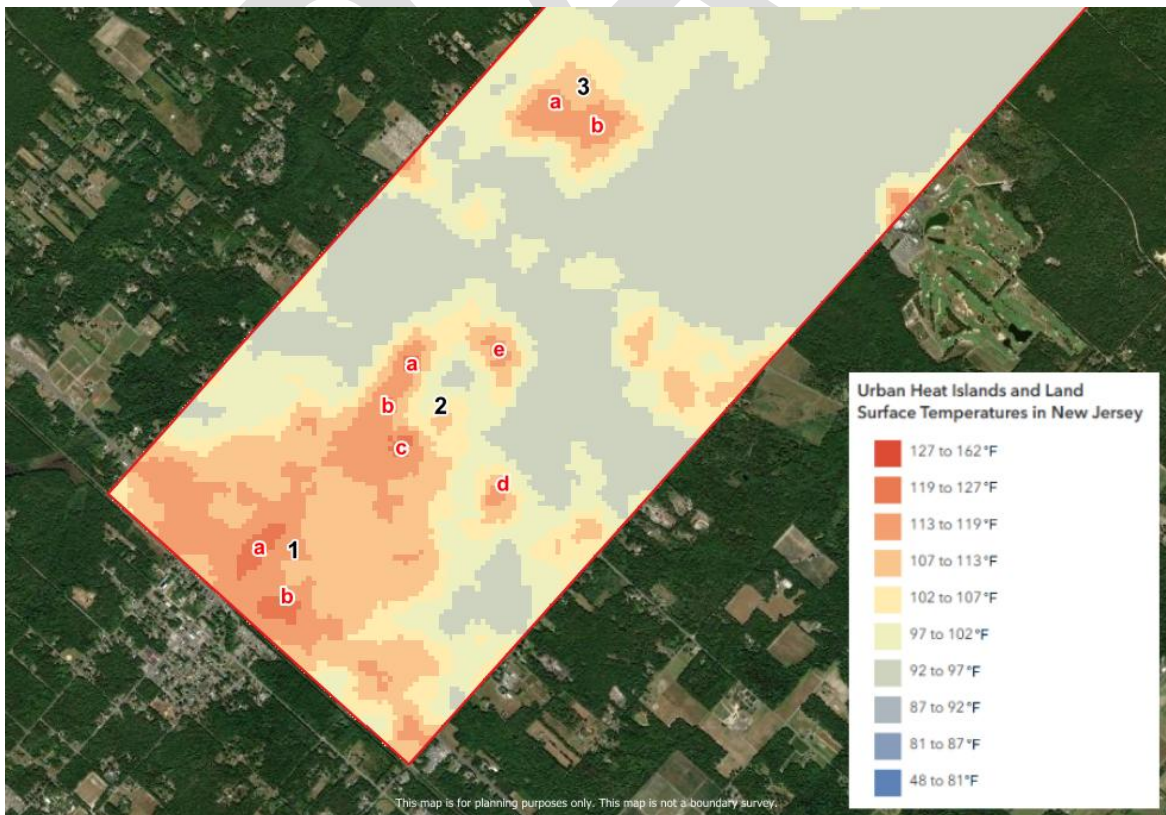


Figure 2. Surface temperature in °F (Summer 2022) and heat island locations of Egg Harbor City, indicated by numbers “1” through “3”, as well as corresponding clustered hot spots within each heat island, indicated by red letters “a” up to “e” (Source: NJDEP BGIS). Defined hot spot locations within a heat island allow for higher precision for mitigation management practices.

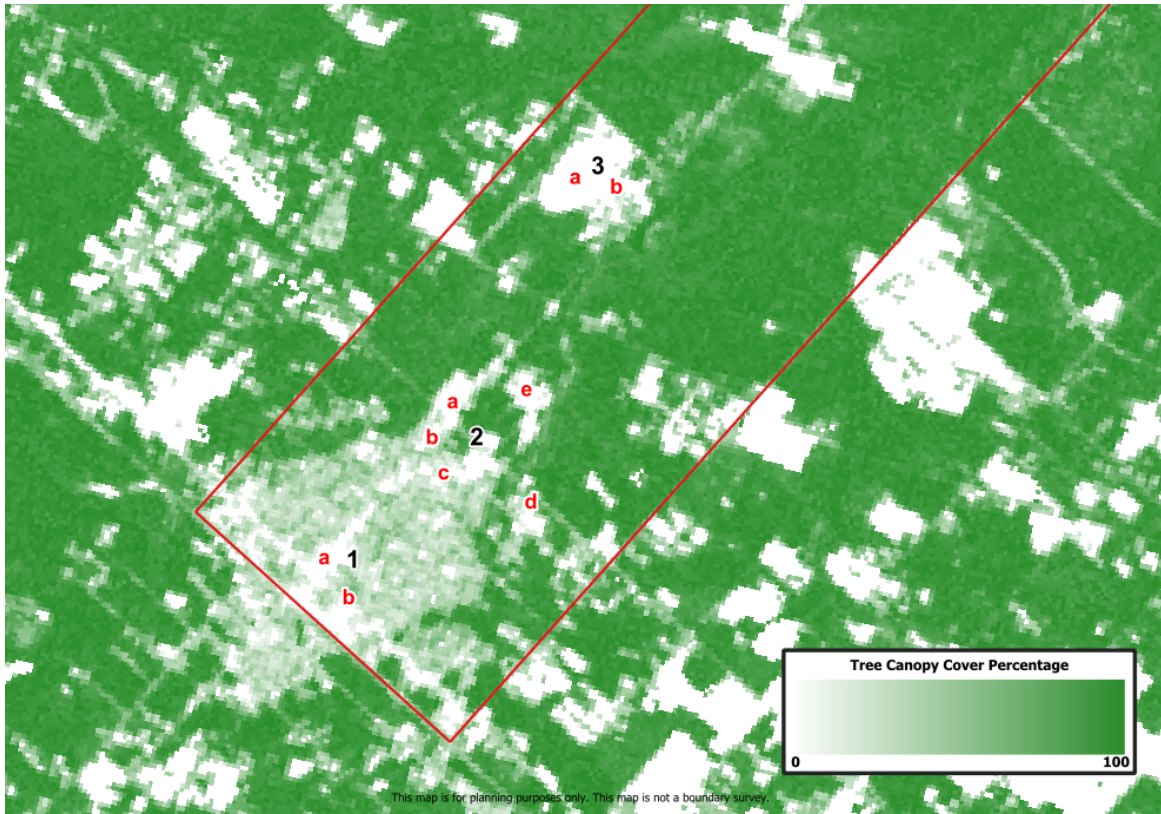


Figure 3. Tree canopy cover percentage from 0-100% (2023) in Egg Harbor City (Source: USDA USFS). All defined hot spots are in areas with little to no tree canopy cover, as indicated by the white color. In areas with less vegetation, temperatures tend to be higher due to the heat island effect.

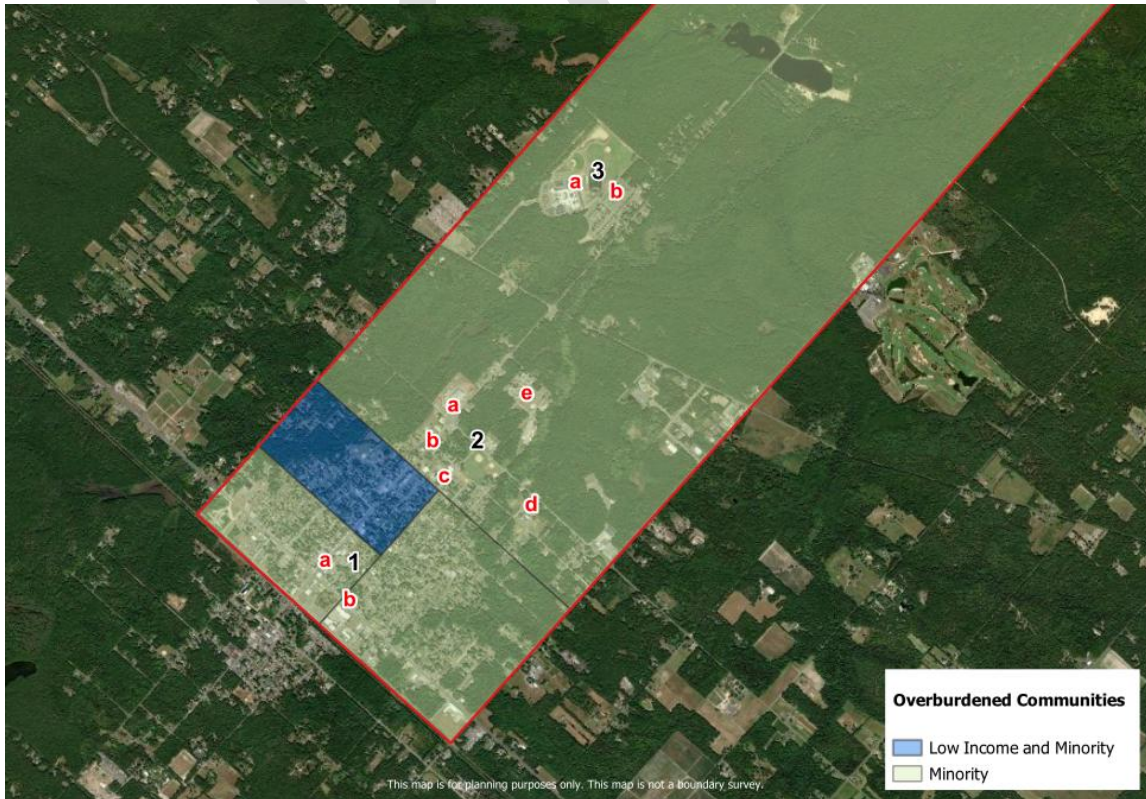


Figure 4. Overburdened communities (2025) of Egg Harbor City in relation to each heat island and its corresponding hot spots. All defined hot spots are located in census group blocks where at least 40% of the residents identify as a minority or member of a State recognized tribal community (Source: NJDEP BGIS; Imagery Basemap 2025 - Esri). Targeted heat island mitigation in overburdened communities can strengthen the health and resilience to environmental hazards of residents living in those areas.

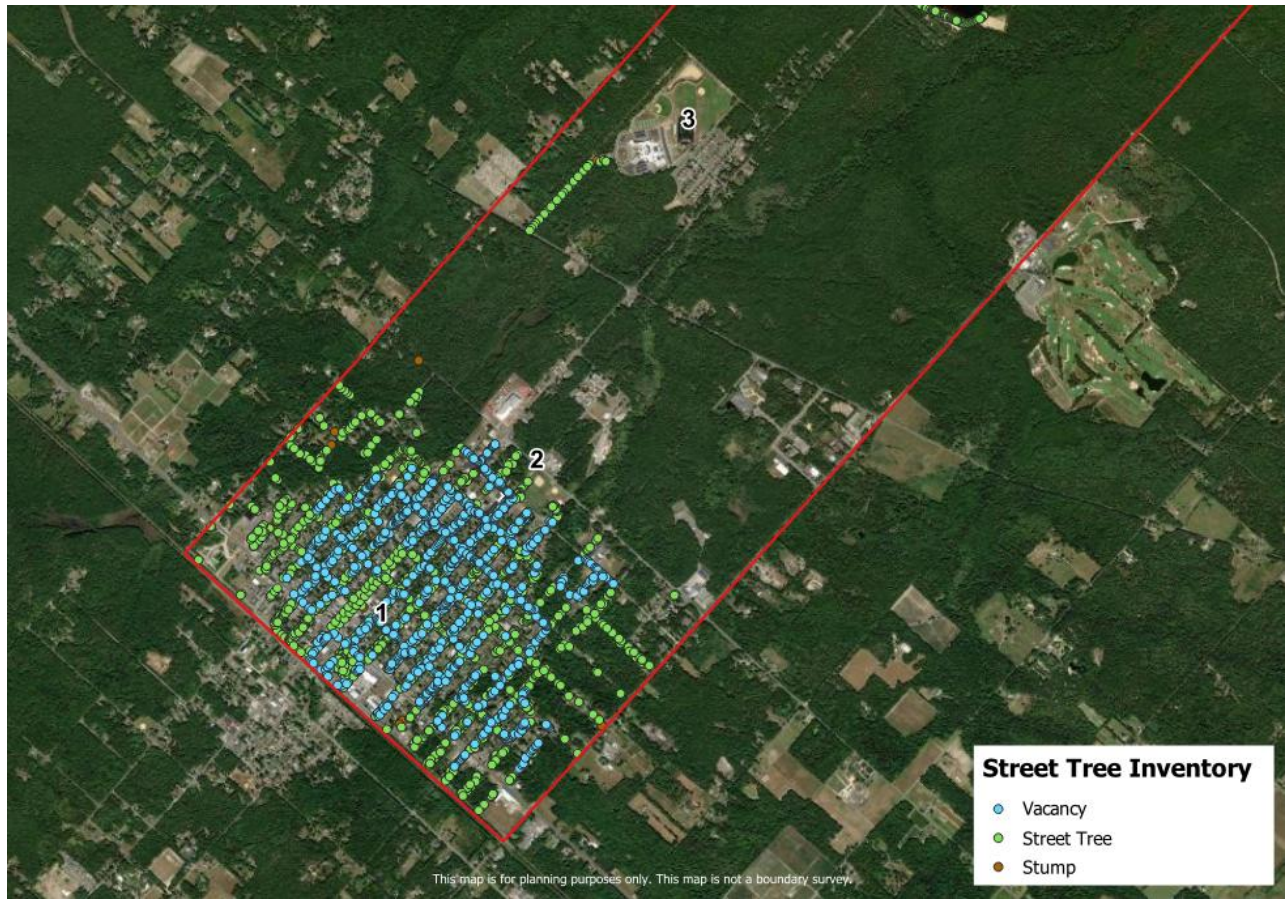
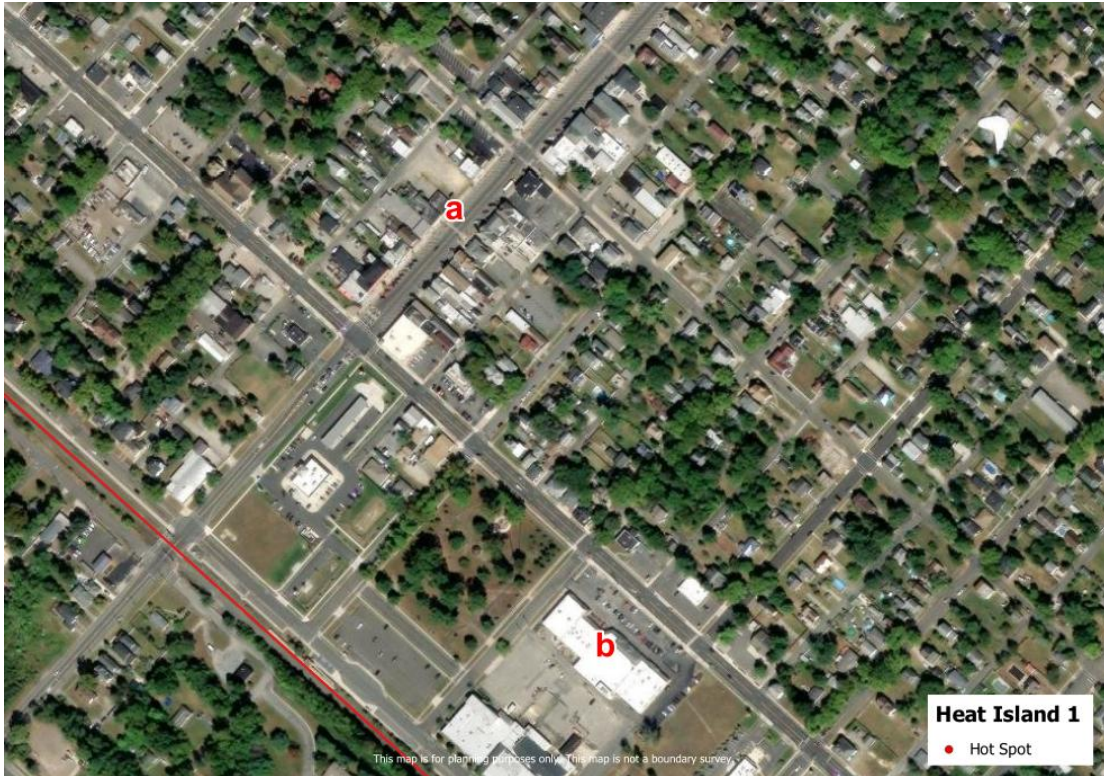
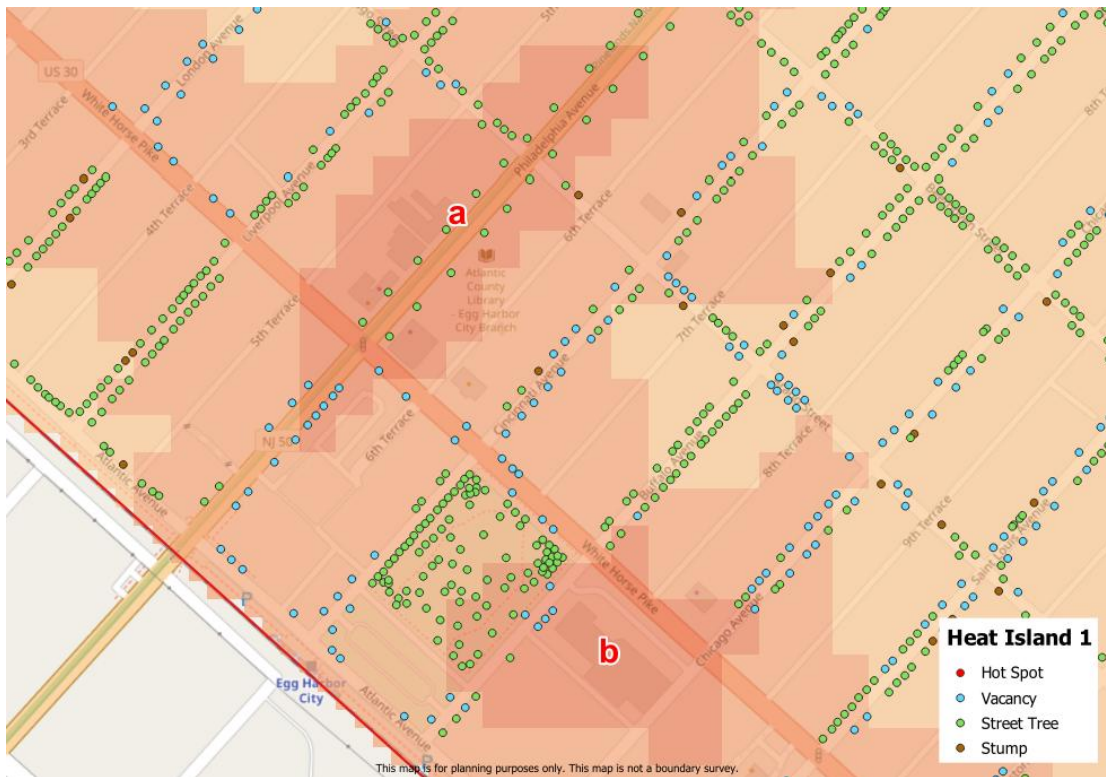


Figure 5. Street tree inventory (2025) of Egg Harbor City, showing the locations of street tree vacancies, living street trees, and stumps (Source: Davey Resource Group, TreeKeeper; Courtesy of Egg Harbor City). Within the defined heat islands are groups of vacancies that may be targeted for street tree planting that will reduce the heat island effect in Egg Harbor City.

1. **Heat Island 1: Egg Harbor City Center** – Both (1a) Philadelphia Avenue and (1b) Harbor Plaza Shopping Area (800-814 White Horse Pk) show large areas of asphalt and concrete in the form of sidewalk, open roads, and parking lots. Notably, hot spot 1a contains a strip of buildings on both sides of the road, many of which have a dark roof.

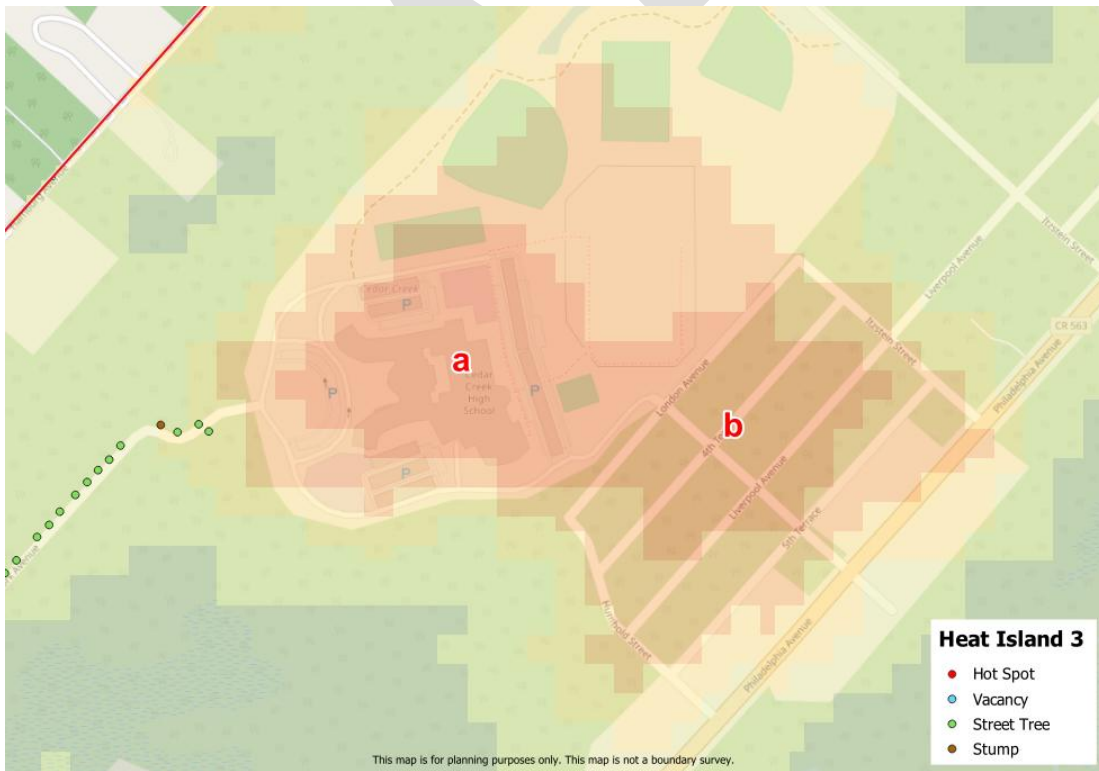




2. **Heat Island 2: EHC Urban/Rural Transition Area** – This cluster of hot spots includes (2a) Buddy Davis Yachts (801 Philadelphia Ave), (2b) NJ American Water Utility Treatment Plant (717 Philadelphia Ave), (2c) Charles L. Spragg Elementary School (601 Buffalo Ave), (2d) Egg Harbor City Community School (730 Havana Ave), and (2e) Egg Harbor Maintenance Garage (1001 S Chicago Ave) & Philadelphia Village Apartments (1000-58 Cincinnati Ave). These hot spots show open areas with little tree canopy and large areas of asphalt.



- Heat Island 3: North Egg Harbor Redevelopment Area** – This heat island includes (3a) Cedar Creek High School (1701 New York Ave) and the adjacent (3b) Neighborhood at Cedar Creek. Within this heat island are many built structures, including buildings, large parking lots with solar panels, paved athletic courts, and a synthetic turf field that is newly installed as of 2024, postdating the Summer 2022 land surface temperature data. There is also little tree canopy in the developed area.



Overview of Hot Spot Types

Below are the descriptions of hot spot types found in Egg Harbor City. The numbered hot spot location(s) are organized by each defined type. Some locations may exhibit multiple hot spot types:

Areas with Little Tree Canopy / Vegetation Cover – The most common hot spots observed in Egg Harbor City are areas that lack tree canopy and vegetation cover. Plants provide a natural cooling effect in two ways: by casting shade, which directly lowers surface temperature, and by undergoing evapotranspiration, where plants use heat from the air to evaporate water from their leaves⁸. Therefore, areas without adequate vegetation and the resulting natural cooling effect will be more hazardous during high-temperature events than those areas with greater canopy cover.

Hot Spots

- 1a. Philadelphia Ave
- 1b. Harbor Plaza Shopping Area
- 2a. Buddy Davis Yachts
- 2b. NJ American Water Utility Treatment Plant
- 2c. Charles L. Spragg Elementary School
- 2d. Egg Harbor City Community School
- 2e. Egg Harbor Maintenance Garage & Philadelphia Village Apartments
- 3a. Cedar Creek High School
- 3b. Neighborhood at Cedar Creek

Parking Lots / Large Areas of Asphalt – The next most common hot spots observed in Egg Harbor City are locations with large areas of paved surface, usually in the form of parking lots. These paved surfaces readily absorb heat during the day and slowly emit that same heat into the night, increasing ambient temperature and heating stormwater runoff when it rains⁹. In areas where there is high foot traffic or where residents, particularly vulnerable populations, live or work, this direct and potentially daily interaction with hot paved surfaces can be especially hazardous.

Hot Spots

- 1a. Philadelphia Ave
- 1b. Harbor Plaza Shopping Area
- 2a. Buddy Davis Yachts
- 2b. NJ American Water Utility Treatment Plant
- 2c. Charles L. Spragg Elementary School
- 2d. Egg Harbor City Community School
- 2e. Egg Harbor Maintenance Garage & Philadelphia Village Apartments

⁸ <https://www.epa.gov/heatislands/benefits-trees-and-vegetation>

⁹ <https://www.epa.gov/heatislands/using-cool-pavements-reduce-heat-islands>

3a. Cedar Creek High School

Dark Roofs – Although not as numerous in Egg Harbor City as other hot spot types, dark roofs are another contributor to the heat island effect in the city. Dark colored roofs, ranging from gray to black, absorb more solar radiation, thus generating excessive heat in the surrounding area and increasing heat flow into the building. This results in higher energy and money costs to cool the inside of the building during warm weather and reduces the comfort and safety of those occupying buildings without air conditioning¹⁰.

Hot Spots

1a. Philadelphia Ave

2c. Charles L. Spragg Elementary School

2d. Egg Harbor City Community School

Synthetic Turf Fields – Although synthetic turf fields are durable, low-maintenance, and more cost-effective than natural turf fields, disadvantages include synthetic turf's high heat absorption and inability to cool through evapotranspiration. These unfavorable characteristics of synthetic turf result in a higher surface temperature that is often significantly greater than the ambient temperature¹¹. And while synthetic turf can dissipate heat quickly during the night, the increased heat that is generated by synthetic turf during hot days can be both uncomfortable and potentially dangerous¹².

Hot Spots

3a. Cedar Creek High School

¹⁰ <https://www.energy.gov/energysaver/cool-roofs>

¹¹ <https://plantscience.psu.edu/research/centers/ssrc/research/infill/temperature-and-color>

¹² <https://dep.nj.gov/wp-content/uploads/dsr/synthetic-turf-memorandum-june2022.pdf>

Below is an overview of the Egg Harbor City hot spot inventory, which summarizes the assessment above:

Table 1. Egg Harbor City Hot Spot Inventory

Hot Spot #	Color	Address	Type	Tree Canopy Coverage% (0-100%)*	Overall SVI Score (0.0-1.0)**
1a	Orange-red	Philadelphia Ave	Main street (Little canopy, Paved area, Dark roof)	< 1%	0.89
1b	Orange-red	800-814 White Horse Pk	Shopping plaza (Little canopy, Paved area)	< 1%	0.89
2a	Orange-red	801 Philadelphia Ave	Private business (Little canopy, Paved area)	< 1%	0.89
2b	Orange-red	717 Philadelphia Ave	Private water treatment plant (Little canopy, Paved area)	< 1%	0.89
2c	Orange-red	601 Buffalo Ave	Public elementary school (Little canopy, Paved area, Dark roof)	< 1%	0.89
2d	Orange	730 Havana Ave	Public School (Little canopy, Paved area, Dark roof)	< 1%	0.89
2e	Orange	1001 S Chicago Ave / 1000-58 Cincinnati Ave	Municipal building / Apartment complex (Little canopy, Paved area)	< 1%	0.89
3a	Orange	1701 New York Ave	Public high school (Little canopy, Paved area, Synthetic turf field)	< 1%	0.89
3b	Orange	Humboldt St - Itzstein St	Neighborhood (Little canopy)	< 1%	0.89

* Tree canopy coverage was determined using the 2021 "USA NLCD Tree Canopy Cover" layer on the Sustainable Jersey Heat Map¹³

**SVI was determined using the "CDC Social Vulnerability Index 2018-Overall SVI (Tracts)" layer on the Sustainable Jersey Heat Map

¹³<https://sjtcnj.maps.arcgis.com/apps/instant/media/index.html?appid=e26e8a1b82304bbf976af1baed5f991a>

Data References

Davey Tree Resources (2025). TreeKeeper Street Tree Inventory, Egg Harbor City, NJ:

<https://eggharborcitynj.treekeepersoftware.com/index.cfm?deviceWidth=1920>

ESRI (Updated Apr 11, 2025). World Imagery:

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NJDEP BGIS (Updated Mar 10, 2025). Overburdened Communities under the New Jersey Environmental Justice Law (Current):

<https://njdep.maps.arcgis.com/home/item.html?id=fc6f290a805345e29d64659ab5b7bfbe>

NJDEP BGIS (Updated May 5, 2023). Urban Heat Islands and Land Surface Temperatures in New Jersey Summer 2022:<https://www.arcgis.com/home/item.html?id=27d0f981fc8340fc904e5fb91804d85a>

USDA USFS (Released 2025). NLCD TCC CONUS Raster 2023:

<https://data.fs.usda.gov/geodata/rastergateway/treecanopycover/#table1>

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Mitigation Action Plan

Disclaimer: *The information provided in this plan is for planning purposes only, and based upon knowledge and information provided by other sources, including NJDEP, USEPA, and Sustainable Jersey, among others. Before implementation, it is recommended to consult with a professional engineer qualified to address the specific issue to be addressed, where applicable.*

This report highlights key cooling strategies and actions that may be implemented in Egg Harbor City (EHC) based on the characteristics of each of its hot spots. An important factor to consider before choosing the most effective mitigation strategy for each hot spot is whether they are privately owned or publicly owned. This is relevant because the method for implementation of these strategies differs between the two, as the city can often directly manage its own property. However, many hot spots contain a mixture of private and public property. For example, a private business may be surrounded by a public right-of-way (ROW). Categorizing them by their primary ownership can simplify the prioritization of mitigation actions taken by the city. Outlined below, EHC's hot spots are categorized by their primary ownership type, and considerations and strategies are outlined for both types.

Privately Owned Properties

Many of the hot spots identified in EHC have large areas of privately owned or leased property. The hot spots with primarily private ownership include the Harbor Plaza Shopping area (1b), Buddy Davis Yachts (2a), the NJ American Water Utility Treatment Plant (2b), Philadelphia Village Apartments (2e), and the Neighborhood at Cedar Creek (3b). Although EHC itself is limited in its management actions on private property, effective methods for implementing mitigation strategies on private property exist. For example, EHC may consider implementing an outreach initiative that emphasizes the impact of hot spots on residents' properties and their community. By educating residents and outlining potential solutions for them, EHC increases the likelihood that hot spots on private property are addressed. EHC can also develop a funding or incentive program that encourages private landowners or businesses to implement mitigation strategies on their property. With available funding, the city may choose to provide financial support to projects on private property through partnerships with private entities. Lastly, the city may be able to amend or expand its policy to influence future development projects to incorporate heat island mitigation actions.

Publicly Owned Properties

While every identified hot spot in this report contains public property to some degree, only some are primarily public property. These hot spots include Main Street (1a), Charles L. Spragg Elementary School (2c), Egg Harbor City Community School (2d), and Cedar Creek High School (3a). Implementing heat island mitigation strategies on public property is generally more straightforward, as these strategies may be tied to goals and objectives in EHC's guiding documents, including their master plan

and community forestry management plan. It is important to note, however, that while the city may be able to easily address tree plantings in its ROWs, addressing hot spots on public school property will require collaboration with the EHC Public School District. Viable strategies for heat island mitigation on public property include increasing vegetation cover and green infrastructure, converting existing roofs into cool or green roofs, or installing cool pavements, all of which are explained below.

Cooling Strategies and Actions

Listed below are cooling strategies and corresponding actions for each hot spot type.

- 1. Plant street trees** (Hot spot type addressed: Areas with little tree canopy or vegetation cover; Parking lots and large areas of asphalt) – Shade trees cool urban environments by creating shade and undergoing evapotranspiration. Capitalizing on opportunities to plant street trees in areas of EHC that lack canopy cover would produce many benefits for the community. These benefits include reduced energy use through direct shading (leading to reduced greenhouse gas emissions), air pollutant removal through dry deposition, carbon storage and sequestration, enhanced stormwater management and water quality, improved physical and mental human health, and much more. Important factors to consider, however, include the cost to plant, maintain, and eventually remove street trees. For this reason, also consider the characteristics of the planting area, such as potential utility conflicts and site conditions. Doing so ensures the planting of “the right tree in the right place”, which can alleviate long-term management costs. Trees should also only be planted in accordance with the EHC Master Plan and Pinelands Comprehensive Management Plan. Lastly, in large open areas, trees should be planted in a cluster to create a dense canopy, whereas along streets, trees should be planted evenly to maximize space and shading benefits.

Actions

- Pursue grant opportunities for addressing tree planting vacancies identified in the latest CFMP, prioritizing those located in hot spots. When funds are available, advertise opportunities for collaboration to both public and private partners to encourage tree planting within hot spots.
 - Promote public outreach events that emphasize heat island impacts and tree planting initiatives. Provide residents with educational materials and trees when able, to encourage tree planting on their property, especially those within hot spots.
- 2. Expand cooling infrastructure** (Hot spot type addressed: Areas with little tree canopy or vegetation cover; Parking lots and large areas of asphalt) – Cooling infrastructure is usually implemented in the form of green infrastructure, which mimics natural systems in developed areas. Examples of green infrastructure include street trees, vegetated roofs, rain gardens,

bioswales, and planter boxes. By capturing rainwater and reducing runoff, green infrastructure provides environmental, economic, and social benefits to communities, including the reduction of the heat island effect. Before installing green infrastructure, consider site suitability, cost of long-term maintenance, and regulatory compliance.

Cooling infrastructure can also be in the form of dedicated cooling centers and shade structures for public spaces, which deliver benefits such as reducing energy demand and protecting vulnerable populations. The city should consider methods for maximizing the resiliency and accessibility of these systems before implementation.

Actions

- Pursue grant opportunities for implementing cooling infrastructure in and around high-traffic public areas. In high-priority hot spot areas not municipally owned, like school playgrounds and apartment courtyards, collaborate with public and private partners to install cooling infrastructure.

- 3. Install cool pavements** (Hot spot type addressed: Parking lots and large areas of asphalt) – areas with large amounts of dark asphalt, like parking lots and blacktops, easily absorb and retain solar radiation. Cool pavements, which refer to reflective and permeable pavements, are an alternative to traditional impervious concrete and asphalt. According to USEPA, this technology is evolving as a heat island mitigation strategy with potential benefits that include better nighttime visibility, improved comfort, reduced stormwater runoff, and enhanced safety with increased traction during rainfall. Due to the varying methods and materials for implementing cool pavements, it is important to consider the factors that may influence suitability for a particular site. Factors to consider include cost, convection, thermal conductivity, heat capacity, thickness, and site conditions, like traffic intensity and frequency.

Actions

- Use shade-producing strategies to reduce the heating of pavements in EHC, ultimately decreasing the heat they emit and increasing their longevity.
- Consider retrofitting traditional pavement with cool pavement materials in suitable areas within hot spots. This may be done in the form of a pilot cool pavement project that prioritizes a paved area slated for refurbishment.

- 4. Convert dark roofs to cool or green roofs** (Hot spot type addressed: Dark roof) – dark roofs, especially when grouped, contribute greatly to the heat island effect. Cool roofs, which are constructed of highly reflective and emissive materials, remain about 50-60 °F cooler in extreme heat events, thus transferring significantly less heat to the building itself and the surrounding area. By keeping buildings cooler, cool roofs reduce energy consumption, resulting in reduced

air pollution and greenhouse gas emissions. They also improve human health and comfort, which is especially important for buildings without air conditioning. For low-sloped roofs, which constitute a majority of commercial, industrial, office, retail, warehouse, and multi-family buildings, two cool roof strategies exist: cool roof coating and single-ply membranes. Cool roof coating is often used for roofs in need of moderate repair, while single-ply membranes are often used for roofs in need of extensive repairs, ultimately providing flexibility for installation. While the costs of these materials vary, a cost-benefit analysis can outline net benefits for the city.

Green roofs are another way to address dark roofs, which involves adding a vegetative layer onto rooftops. Green roofs combine the benefits of both green infrastructure and cool roofs, with the added benefit of providing additional planting space in an urban setting. There are extensive green roofs, which are rugged, lightweight green roofs that need little long-term maintenance, and intensive green roofs, which require greater initial investment but provide greater benefits by being able to accommodate larger, heavier vegetation, like trees. Green roofs vary in cost, incur maintenance costs, and require thorough planning, but often, the benefits justify the costs. The city may consider adding green roofs selectively, prioritizing dark roofs and public buildings where residents may appreciate the aesthetic value.

Actions

- Consider implementing policy that limits the installation of dark roofs in future development projects in EHC.
- Conduct a cost-benefit analysis for installing cool or green roofs over dark roofs present on municipally owned buildings. While there may be no eligible buildings included in the most prominent hot spots covered in this report, there are likely additional hot spots located throughout the municipality that may include an eligible municipal building(s).
- Communicate with businesses and building owners with dark roofs to gauge interest in implementing cool or green roofs. Provide them with educational materials that emphasize how dark roofs contribute to the heat island effect. Collaboration also provides the opportunity for a demonstration project.

- 5. Consider methods to address synthetic turf fields** (Hot spot types addressed: Synthetic turf fields) – EHC currently has one hot spot that contains a synthetic turf field, which was recently installed at Cedar Creek High School. While synthetic turf fields are durable, low-maintenance, and cost-effective, they can absorb and emit high temperatures during hot weather. To maximize the benefits of the synthetic turf field and mitigate the effects of increased temperature, EHC, in partnership with the Greater Egg Harbor Regional High School District, may consider implementing cooling strategies such as planting trees nearby or installing cooling infrastructure that provides shade or water access for athletes and spectators.

Actions

- Collaborate with the Egg Harbor City Public School District to discuss opportunities for tree planting or cool infrastructure installation around the synthetic turf field.
- Develop an outreach strategy for extreme heat safety to ensure that students know how to stay safe during heat wave events. This outreach framework may also be expanded to a municipal scale.

Recommendations

Table 2. Egg Harbor City Cooling Strategies Action Table

Hot Spot #	Name & Type	*Ownership	Recommended Action	Responsible Parties	Estimated Timeline
1a	Main Street (Little canopy, Paved area, Dark roof)	Public / Private	<ul style="list-style-type: none"> • Plant a diverse mix of street trees on Philadelphia Ave. • Encourage businesses to install shade structures • Encourage private businesses to convert their dark roofs • Consider suitability for cool pavements 	City of Egg Harbor / Main Street / Neighborhood Preservation Program (NPP)	<p>2 yrs: Tree planting in public ROW</p> <p>3 yrs: Awning installation</p> <p>5-10 yrs: Cool roof and cool pavement installation</p>
1b	Harbor Plaza Shopping Area (Little canopy, Paved area)	Private / Public (Owner has preexisting interest in revitalizing plaza)	<ul style="list-style-type: none"> • Encourage cool pavement installation for parking lot • Plant trees on public planting strip and encourage planting on property open space 	Property Owner / City of Egg Harbor	<p>2 yrs: Tree planting on public ROW and private property</p> <p>2-3 yrs: Replace parking lot pavement with cool pavement</p>
2a	Private Business, Buddy Davis Yachts (Little canopy, Paved area)	Private / Public	<ul style="list-style-type: none"> • Encourage tree planting on business property, targeting paved lots (tree islands) 	Property Owner / City of Egg Harbor	<p>2 yrs: Tree planting on public ROW; Outreach with property owner</p>

			<ul style="list-style-type: none"> Plant trees in public area along Duerer St. 		
2b	NJ American Water Utility Treatment Plant (Little canopy, Paved area)	Private / Public	<ul style="list-style-type: none"> Encourage tree planting in open areas of private property Plant trees in CFMP-indicated vacancies on Diesterweg St. and Philadelphia Ave. 	Property Owner / City of Egg Harbor	3 yrs: Tree planting on public ROW
2c	Spragg Elementary School (Little canopy, Paved area, Dark roof)	Public	<ul style="list-style-type: none"> Plant trees in CFMP-indicated vacancies on Buffalo Ave. Propose collaboration to plant trees around paved areas on school property Pursue funding for shade structure installation at school playgrounds and nearby recreational areas Encourage cool roof installation on the remaining rooftop 	Egg Harbor City Public School District / City of Egg Harbor	<p>1 yr: Pilot shade structure installation at Key Rec. Fields</p> <p>2 yrs: Tree planting on public ROW</p> <p>3-5 yrs: Shade structure and/or green infrastructure installation on school property</p> <p>5-10 yrs: Expand cool roof</p>
2d	Egg Harbor City Community School (Little canopy, Paved area, Dark roof)	Public	<ul style="list-style-type: none"> Plant trees in CFMP-indicated vacancies on Diesterweg St. Establish an annual Arbor Day celebration with tree planting initiatives on school property 	Egg Harbor City Public School District / City of Egg Harbor	<p>2 yrs: Establish annual Arbor Day program</p> <p>3 yrs: Tree planting on public ROW</p>
2e	Philadelphia Village Apartments / Egg Harbor Maintenance Garage (Little canopy, Paved area)	Private / Public	<ul style="list-style-type: none"> Encourage shade structure installation and/or tree planting in apartment courtyard and playground 	Property Owner / City of Egg Harbor City	3-5 yrs: Recreational development with vegetation installation

			<ul style="list-style-type: none"> • Vegetate recreational development as it occurs on municipal lots 		5 yrs: Shade structure and/or green infrastructure installation on apartment complex property
3a	Cedar Creek High School (Little canopy, Paved area, Synthetic turf field)	Public	<ul style="list-style-type: none"> • Propose collaboration for tree planting on school property, targeting open areas, areas surrounding recreational fields (including turf field), and paved areas • Enforce minimal tree removal and revegetation efforts in redevelopment projects that occur nearby 	Greater Egg Harbor Regional High School District / City of Egg Harbor	<p>3 yrs: Tree planting initiatives on school property</p> <p>5-10 yrs: Strategic development of nearby area that retains tree canopy</p>
3b	Neighborhood at Cedar Creek (Little canopy)	Private / Public	<ul style="list-style-type: none"> • Encourage property owners to plant trees on their property through public outreach, including Arbor Day events where residents can learn planting techniques and acquire free trees 	Property Owners / City of Egg Harbor	2 yrs: Promote ongoing public outreach for tree planting

*Each hot spot is labeled with its ownership type. In the case that there are two ownership types listed, the first is the primary ownership type, while the second is the secondary ownership type. Although each hot spot should be evaluated individually, EHC’s prioritization should consider ownership type in mitigation strategy planning.

Community Engagement & Special Considerations

(DRAFT - UPDATE THIS) EHC recognizes that the impacts of heat islands do not affect all residents equally, and that some populations are more vulnerable to these hazards than others. To obtain a better understanding of local concerns, community needs, and mitigation strategy logistics, EHC held an open meeting that included municipal staff and elected officials, partner organizations, and the general public. The goal of the discussion was to identify effective, meaningful mitigation strategies for addressing hot spots that affect vulnerable populations. With input from these various stakeholders, EHC is able to prioritize mitigation actions that have the greatest potential to enhance public health.

(This meeting also includes professionals that EHC has access to such as engineer etc to discuss implications of each mitigation strategy) (UPDATE for accuracy after meeting on 5/26. Include feedback for each hotspot if necessary)

Monitoring Progress

SustainableEHC will be responsible for monitoring the progress of heat island mitigation-related projects. To track progress, SustainableEHC will keep a record of trees that are planted and removed in hot spots, which will be done in partnership with the city's arborist, who currently maintains all public tree management data. This will include the species and number of trees, which is in accordance with EHC's Community Forestry Management Plan (CFMP). SustainableEHC will also monitor the progress of all other mitigation projects, tracking funding, communication, and implementation. It is recommended that, following implementation of these projects, EHC continues to monitor their success. This may look like addressing and optimizing potential challenges that arise and regularly comparing previous heat island temperature data with the state's updated data as it becomes available. Checkpoints that can double as goals for EHC, in addition to the tracking of tree plantings, may include recording the number of cool and green roofs in hot spots, the number of shade and cooling structures installed, the area of added cool pavements, and even the amount of time spent on heat island education outreach.

References

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