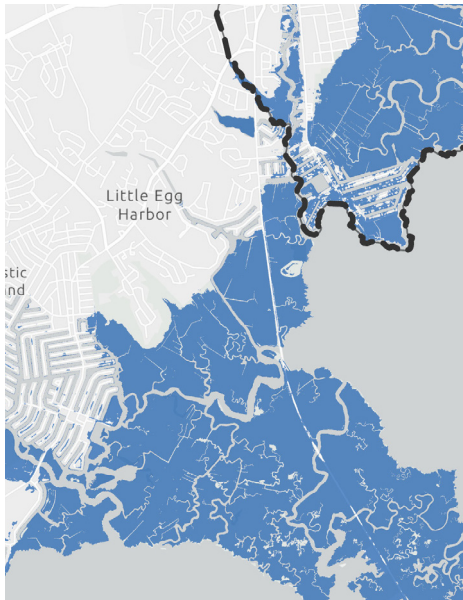
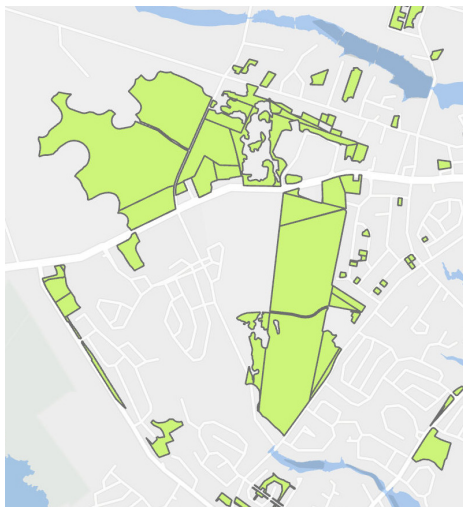
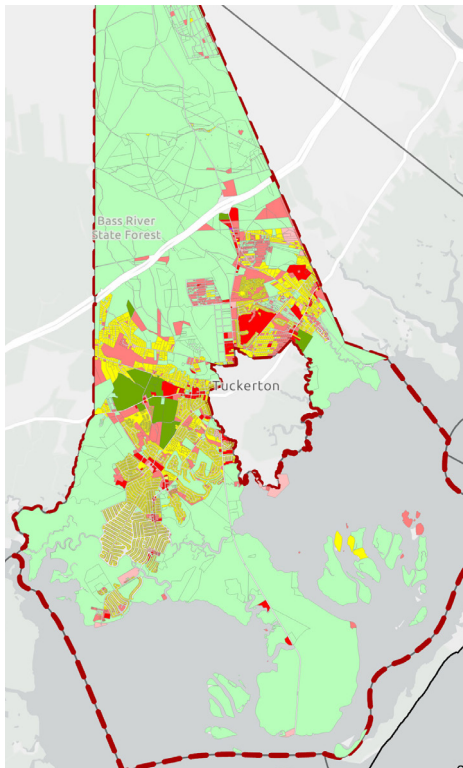




September 2026

Climate Change- Related Hazard Vulnerability Assessment

Little Egg Harbor Township

This Climate Change-Related Hazard Vulnerability Assessment (CCRHVA) was prepared by the NJ Climate Change Resource Center in collaboration with Little Egg Harbor Township and was funded by the New Jersey Department of Environmental Protection through the American Rescue Plan Act. This analysis was conducted in the summer and fall of 2025 and relies upon the best available data and local plans at that time. The version of CCRHVA adopted by the Township may be different than this document based on updated data and local plans, which may occur through their local master plan update process.

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I. Introduction

The New Jersey Municipal Land Use Law (MLUL) requires municipalities to include a Climate Change-Related Hazard Vulnerability Assessment (CCRHVA) in the land use element of the municipal master plan. The New Jersey Climate Change Resource Center (NJCCRC) at Rutgers University, with funding from the New Jersey Department of Environmental Protection (NJDEP), developed this CCRHVA in coordination with Little Egg Harbor Township (henceforth, the “Township”) in accordance with the requirements of the MLUL, including the following components:

- Analysis of current and future threats to, and vulnerabilities of, the municipality associated with climate change-related natural hazards, including, but not limited to increased temperatures, drought, flooding, hurricanes, and sea-level rise (Section III);
- A build-out analysis of future residential, commercial, industrial, and other development in the municipality, and an assessment of the threats and vulnerabilities related to that development (Section IV);
- Identification of critical facilities, utilities, roadways, and other infrastructure that is necessary for evacuation purposes and for sustaining quality of life during a natural disaster, to be maintained at all times in an operational state (Section V);
- Analysis of the potential impact of natural hazards on relevant components and elements of the master plan (Section VI);
- A specific policy statement on the consistency, coordination, and integration of the climate change-related hazard vulnerability assessment with any existing or proposed natural hazard mitigation plan, floodplain management plan, comprehensive emergency management plan, emergency response plan, post-disaster recovery plan, or capital improvement plan (Section VII).

Little Egg Harbor Township is in Ocean County, New Jersey. It is bordered by Stafford Township and Eagleswood Township to the north and Bass River Township (Burlington County) to the west. It shares water boundaries with Long Beach Township and Beach Haven Borough to the southeast and Galloway Township (Atlantic County) to the south. The Borough of Tuckerton forms an enclave on the southeastern side of the Township. The Township spans 73.4 square miles and has a residential population of 21,285.¹

The Township has extensive natural land and over 35% of its area is water. This includes significant land area managed by federal and state entities including the Pinelands National Reserve in the north, Barnegat Bay, Great Bay, and the Great Bay Boulevard Wildlife Management Area in the south, and the Edwin B. Forsythe National Wildlife Refuge in the southwest. Approximately 10% of the land is residential and 4% is commercial, with development concentrated in the southern part

¹ U.S. Census Bureau. 2024. [American Community Survey Five Year Estimates](#).

of the Township around the US Route 9 corridor. The Garden State Parkway runs through the center of the Township. Additional details about the Township, including a land use map, are included in Appendix A.

This CCRHVA expands on a vulnerability assessment included in the Township's 2017 *Sustainable & Resilient Coastal Communities: A Comprehensive Coastal Hazard Mitigation Strategy*² completed as part of the NJDEP's Resilient Coastal Communities initiative. The 2017 report is discussed in detail in Section VI and relevant findings are integrated throughout the CCRHVA.

² New Jersey Future, BRS, and Princeton Hydro. (2017). [Sustainable & Resilient Coastal Communities: A Comprehensive Coastal Hazard Mitigation Strategy](#).

II. Methodology

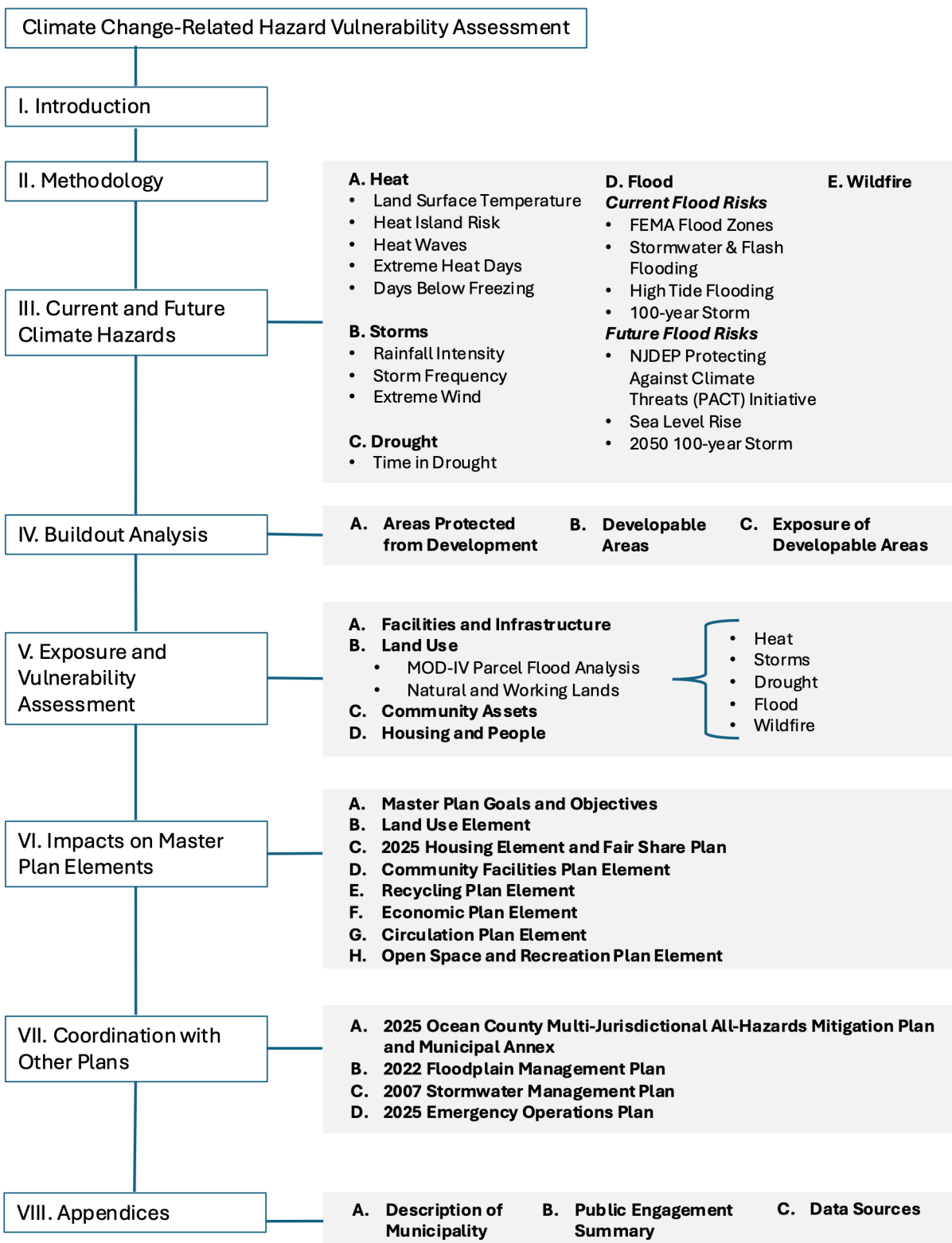
In accordance with the requirements of the MLUL, this assessment relies upon “the most recent natural hazard projections and best available science” provided by the NJDEP. This assessment was conducted in the summer and fall of 2025 and relies upon the best available data at that time. Publicly available datasets and data made available through various tools were utilized to analyze local climate change-related hazards and potential impacts to the Township at the three planning horizons below. The hazard projections align with a moderate greenhouse gas emissions scenario representing a future with a reduction in fossil fuel use consistent with today’s global policies. It should be noted that the projected changes would be slightly greater under a higher greenhouse gas emissions scenario (i.e., representing a future with continued growth of fossil fuel use).

- Present day to assess current impacts and align with the shorter-term planning needs of the ten-year Master Plan Reexamination Report (MPRR) cycle.
- Mid-century to assess future impacts and align with longer-term community planning needs and visioning.
- Late-century to assess long-term planning needs and align with the NJDEP Protecting Against Climate Threats (PACT) initiatives including the Inland Flood Protection rule and Resilient Environments and Landscapes (REAL) coastal flood rule. These rules are detailed in Section III.D.

The results of the web-based assessment were presented to the Township’s municipal staff and residents to obtain feedback and confirm results. These stakeholders also provided input on hazards for which web-based data was not available, including stormwater and flash flooding. Details on public engagement are included in Appendix B.

This document is organized into eight sections, depicted in Figure II-1. Together these sections address each required component set forth by the MLUL.

Figure II-1. CCRHVA document structure



III. Current and Future Climate Hazards

The New Jersey Municipal Land Use Law (MLUL) requires a CCRHVA to include an “analysis of current and future threats to, and vulnerabilities of, the municipality associated with climate change-related natural hazards, including, but not limited to increased temperatures, drought, flooding, hurricanes, and sea-level rise.” This section addresses that requirement and includes analysis of the additional hazards of extreme precipitation, wind, and wildfire.

Local stakeholders were asked via an online survey to rank their level of personal concern for the Township from the hazards of heat, drought, flooding, extreme precipitation, wind, and wildfire. Most respondents indicated that flooding was their greatest concern for the Township, followed by wildfire, wind, and heat. Drought and extreme precipitation were of less concern. Local stakeholders were also asked to report how frequently they are personally affected by each hazard. Respondents indicated being most frequently affected by wind in the Township, followed by heat and flooding. Less frequent impacts were reported from extreme precipitation, drought, and wildfire (see Appendix B for details).

A. Heat

Average annual temperatures in New Jersey have risen by about 4 °F since 1900. By 2100, the annual average temperature is projected to increase an additional 3.7–6.2 °F.³ Increased temperatures can have adverse impacts on public health, infrastructure, and plants (see Section V). Areas with higher population density, more impervious surfaces, and less natural landscapes are disproportionately affected by heat. Over half of the local stakeholders who responded to the survey (54%) indicated being personally affected by heat in the Township “many times” or “a few times” each year (Appendix B).

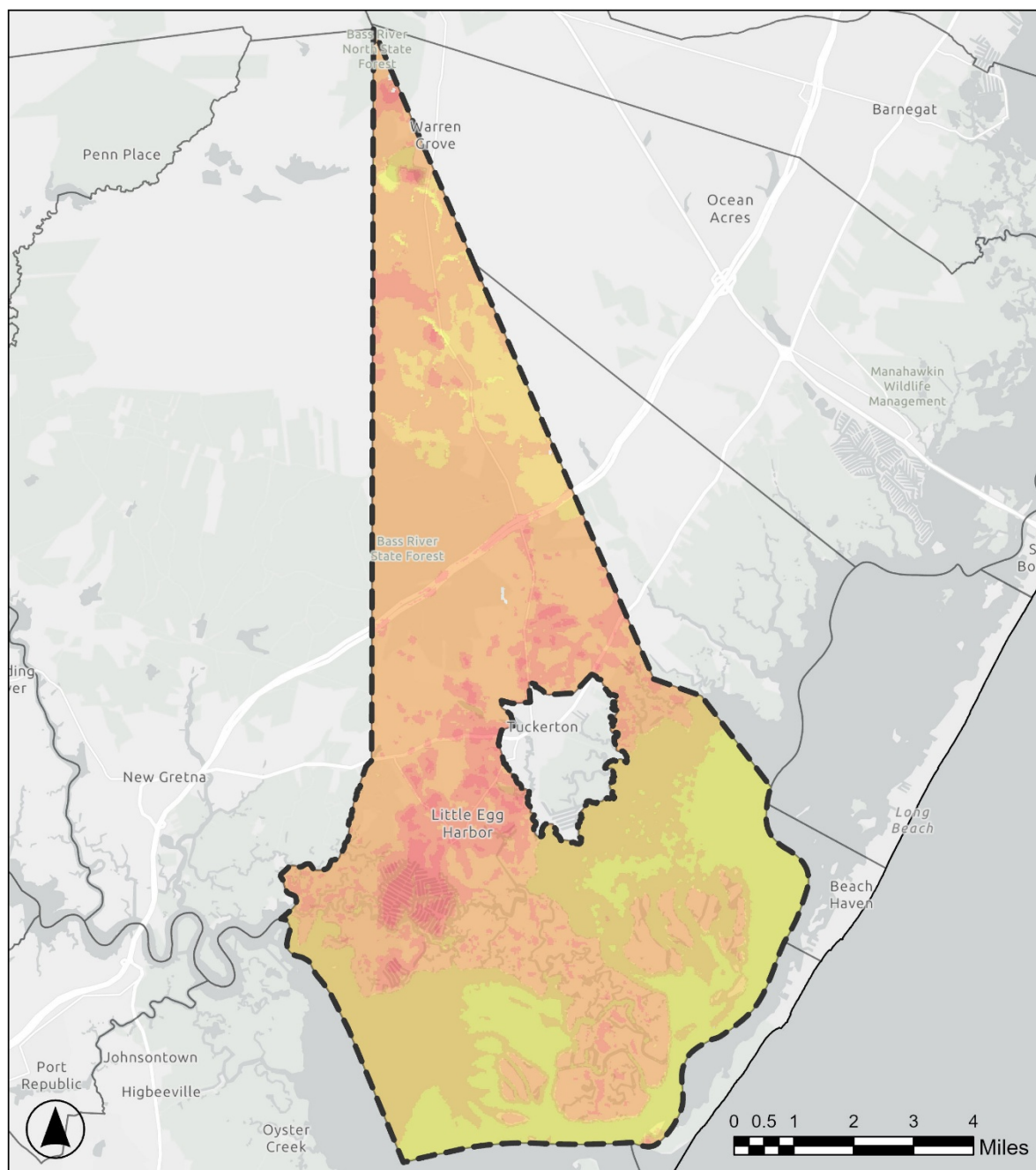
Land Surface Temperature

Map III-1 depicts the land surface temperature (temperature of the ground) in the Township in the summer of 2022. This data was collected by satellites at 100-square-foot resolution. Impervious surfaces and structures such as buildings and roads absorb more solar radiation, increasing land surface temperature and emitting more heat than natural surfaces such as trees and water.

Land surface temperatures are highest in the residential and commercial areas in the southern part of the Township. Areas around US Route 9, Center Street, and within the Mystic Island neighborhood reach surface temperatures over 110 °F. Forested and tidal marsh areas are comparatively cooler, ranging between 80–100 °F.

³ Davies, K., Shope, J., Broccoli, A., Gerbush, M., Kaplan, M., Robinson, D., Nikolopoulos, E., Araujo, D., Kopp, R., Herb, J. & Spector, A. 2025. [State of the Climate: New Jersey 2024](#). Rutgers, The State University of New Jersey, New Brunswick, NJ. DOI: 10.7282/00000539.

Map III-1. Land surface temperature (°F) – Summer 2022



LEGEND

Land Surface Temperature	
 Below 80° F	 90° F - 100° F
 80° F - 90° F	 100° F - 110° F
	 Over 110° F

(Sources: NJDEP and NJ Climate Change Resource Center)

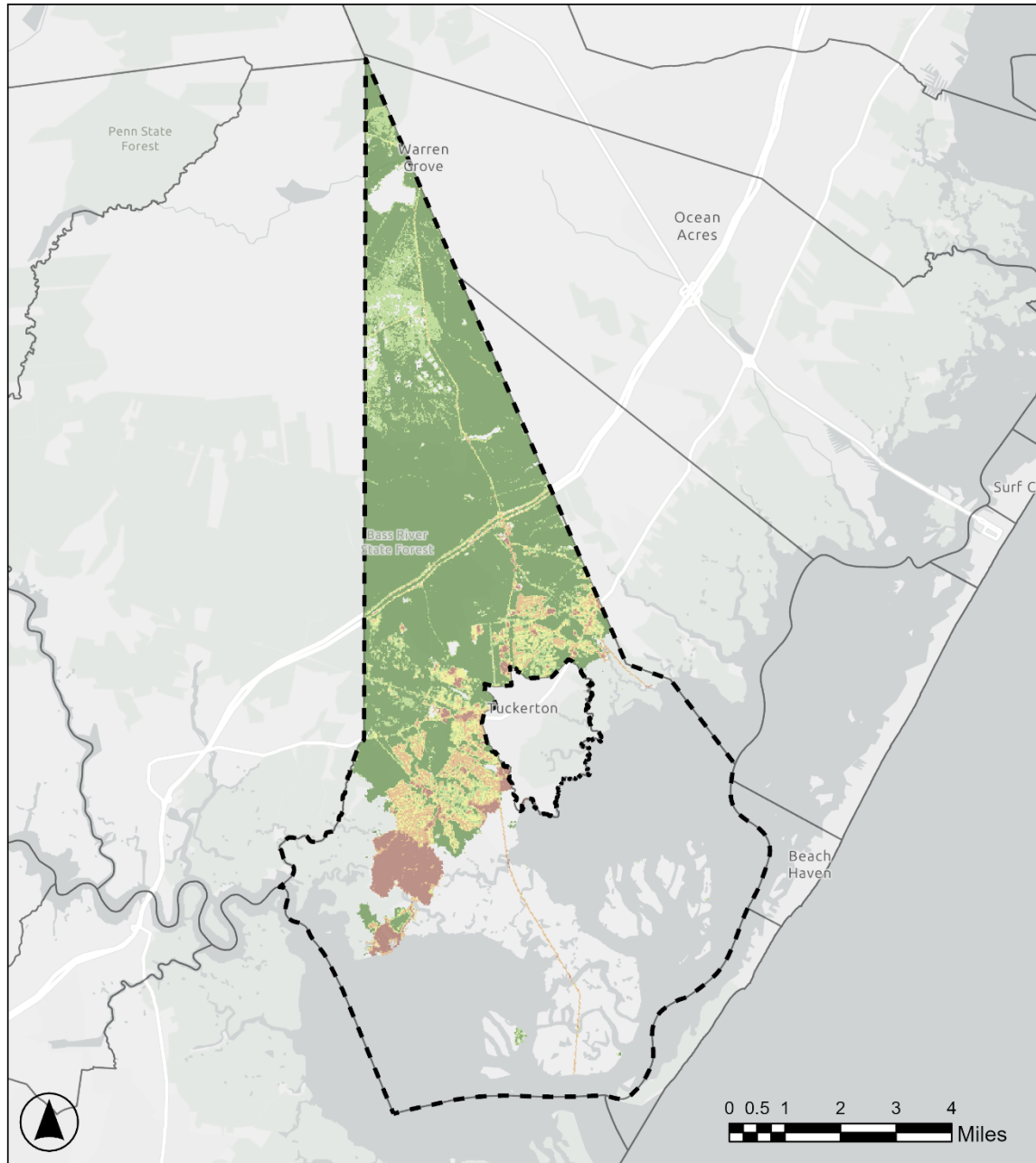
Heat Island Risk

While land surface temperature provides a granular depiction of potential heat impacts in the municipality, analysis of heat island risk offers a broader understanding of how heat can impact communities. A heat island is an area that is significantly warmer than the surrounding region. Areas with more impervious surface than tree canopy are at risk of the heat island effect. Heat islands can increase daytime temperatures, reduce nighttime cooling, and cause more air pollution. Land use and zoning ordinances can mitigate heat island effects by setting standards for tree cover, vegetation, and impervious surface.

Map III-2 depicts the ratio between tree canopy and impervious surface cover for each Census Block Group in the Township. For each Census Block Group, the analysis provides a ratio value from negative one (100% impervious cover) to positive one (100% canopy cover). This range of potential values is split evenly into five groups in the map below, ranging from “higher canopy cover” to “higher impervious cover.”

The northern part of the Township consists primarily of forested land and is not at risk of heat island effect. Some developed areas in the southern part of the Township have more impervious cover than tree canopy; however, their proximity to tidal marsh and open water helps mitigate the risk of heat island effects. Although tidal marsh areas in the southern part of the Township are depicted with a high ratio of impervious surface cover due to limited tree canopy, these areas have minimal heat island risk.

Map III-2. Heat island risk



LEGEND

Ratio Between Canopy Cover and Impervious Surface

Higher Tree Canopy Cover

Moderately Higher Tree Canopy Cover

Equivalent Impervious/Canopy Cover

Moderately Higher Impervious Cover

Higher Impervious Cover

(Source: NJ Climate Change Resource Center)

Note: Areas with no data have no tree canopy cover or impervious surface.

Heat Waves

A heat wave is a period of unusually hot weather. Typically, heat waves are warmer than the historical averages for the area and much warmer than the temperatures before and after the heat wave event. Heat waves have a direct impact on human health, the local environment, and the economy (see Section V). Climate change is projected to drive longer and more frequent heat waves in New Jersey.⁴

Table III-1 provides a measure of change in future heat wave number and duration compared to a historical period of 1981–2010 at the county level. The threshold for a heat wave in Ocean County is three days with the average daily temperature meeting or exceeding 80.7 °F. This threshold is the 95th percentile of 30 years (1981–2010) of daily average temperature during the warm season (May 1 to September 30). Average temperature is a synthesis of the daily maximum and minimum temperatures. Daily maximums emphasize the highest heat conditions a person may be exposed to, but daily minimums have been shown to be more important for heat stress and illness when elevated for an extended period.

Table III-1. Heat waves in Ocean County

	Baseline 1981-2010	Moderate Emissions	
		Mid-century 2036-2065	Late-century 2070-2099
Average annual number of heat waves	1	3.6	4.6
Average days of heat wave duration	3.3	7.7	9.8
Maximum days of heat wave duration	6.7	14.1	16.4

(Source: NJ Climate Change Resource Center)

The data for Ocean County indicates that the average number of heat waves annually may increase from about one annually to 3–5 per year by the end of the century. The average length of heat waves is projected to increase from about three days to seven to ten days duration by the end of the century. The typical maximum duration of heat waves may increase from around seven days to 14 to 16 days by the end of the century.

⁴ Davies, K., Shope, J., Broccoli, A., Gerbush, M., Kaplan, M., Robinson, D., Nikolopoulos, E., Araujo, D., Kopp, R., Herb, J. & Spector, A. 2025. [State of the Climate: New Jersey 2024](#). Rutgers, The State University of New Jersey, New Brunswick, NJ. DOI: 10.7282/00000539.

Extreme Heat Days

Table III-2 provides a measure of change in future extreme heat days compared to a historical period of 1981–2010 at the municipal level. July is historically the hottest month in New Jersey. Higher maximum temperatures exceed thresholds of comfort, increasing the occurrence of heat-related illnesses, energy demand, and harmful impacts on plants and animals.

Table III-2. Extreme heat days

	Baseline 1981-2010	Moderate Emissions		
		Change from Baseline		
		2030	2060	2090
Days greater than 95°F	0 to 4	+ 2 to 4	+ 4 to 10	+ 6 to 14
Average daily high temp. in July (°F)	80 to 85	+ 2	+ 3 to 4	+ 4 to 5

(Source: NJ Climate Change Resource Center)

The Township experienced an average of zero to four days above 95 °F annually from 1981–2010. By 2030, this may increase by two to four days annually and may increase by six to 14 days by the end of the century. The Township experienced an average daily high temperature of 80–85 °F in July from 1981–2010. By 2030, the average daily high in July may increase by 2 °F and may increase by 4–5 °F by the end of the century.

Days Below Freezing

Table III-3 provides a measure of change in the future annual number of days below 32 °F compared to a historical period of 1981–2010 at the municipal level. Fewer very cold days mean fewer “code blue” situations, but potential impacts to agriculture, infrastructure, and disease vectors (e.g. mosquitoes and ticks).

Table III-3. Days below freezing

	Baseline 1981-2010	Moderate Emissions	
		Mid-century 2050-2070	Late-century 2080-2090
Average number of days below freezing	92	73	67

(Source: NJ Climate Change Resource Center)

The Township experienced an average of 92 days below 32 °F annually from 1981–2010. By the middle of the century, this may decrease to an average of 73 days below freezing each year. By the late century, the average number of days below freezing may decrease to 67 days annually.

B. Storms

Storms in New Jersey can bring heavy precipitation, flooding, and strong winds. Extreme events are those where conditions substantially exceed what is considered normal for a location. The NJCCRC's *State of the Climate: New Jersey 2024* reports that the frequency and intensity of extreme precipitation in New Jersey is expected to increase with climate change. The total annual rainfall within the state has increased by ~7% since the early 1900s, with the most intense events generating more rainfall compared to historical episodes. An increase in total annual rainfall of about 3–13% may occur by the end of the century with moderate greenhouse gas emissions; additionally, extreme 24-hour rainfall is projected to increase by about 5–15%. Heavy rainfall can cause flooding and increase the likelihood of waterborne disease outbreaks. Heavy wind associated with storms can damage structures and vegetation.

Rainfall Intensity

More intense rainfall means more rain within a given timespan, which can overwhelm stormwater infrastructure and cause flash flooding. The Township has experienced increased rain intensity in recent years, with microbursts⁵ of up to two inches of rain in two hours. See Map III-5 in the Flood section below for current stormwater flooding locations reported by local stakeholders.

Table III-4 provides a measure of change in rainfall over a 24-hour period for various annual storm probability events compared to a historical period of 1981–2010 at the municipal level. A storm with a lower percent chance of occurring represents a greater intensity of rainfall (although it occurs less frequently).

Table III-4. Rainfall (in inches) over 24 hours by annual storm probability

	Baseline 1981-2010	Moderate Emissions	
		Mid-century 2036-2065	Late-century 2070-2099
50% chance storm	3.46	3.67	3.77
20% chance storm	4.51	4.78	4.91
10% chance storm	5.41	5.73	5.89
4% chance storm	6.77	7.25	7.32
2% chance storm	7.98	8.54	8.62
1% chance storm	9.34	10.00	10.00

(Source: NJ Climate Change Resource Center)

⁵ NOAA National Weather Service (NWS). [What is a Microburst?](#)

The baseline amount of rainfall in a 24-hour period in the Township ranges from 3.46 inches (50% chance storm) to 9.34 inches (1% chance storm) for the period between 1981–2010. Throughout the century, this may increase by approximately one-quarter of an inch (50% chance storm in the mid-century) to two-thirds of an inch (1% storm in the mid-to-late-century).

Storm Frequency

More frequent rainfall means that a given storm will occur more frequently in the future than it has historically. Table III-5 provides a measure of change in the frequency of the 10% chance (10-year) and 1% chance (100-year) storms compared to a historical period⁶ of 1950-2000 at the municipal level.

Table III-5. Increase in annual probability for the 10% and 1% chance storm

	Historical 1950-2000	Moderate emissions	
		Mid-century 2020-2069	Late-century 2050-2099
10% chance storm	11.6%	14.19%	15.17%
1% chance storm	1.0%	1.45%	1.49%

(Source: NJ Climate Change Resource Center)

The frequency of extreme rainfall events in the Township is projected to increase slightly throughout the century. The probability of the 10% chance (ten-year) storm may increase to a 14% chance annually by the mid-century and an approximately 15% chance by the late century. The probability of the 1% chance (100-year) storm may increase to a 1.45% chance annually by the mid-century and a 1.49% chance by the late century.

Extreme Wind

Extreme wind can be a standalone hazard but often occurs as a secondary effect of other severe weather events, such as thunderstorms and northeasters. Wind hazards in the Township were assessed using historic data on the occurrence of wind events and tornadoes.^{7,8} Wind events have been recorded on 283 days in Ocean County since 1950, including several in the Township. These include events designated by the National Oceanic and Atmospheric Administration (NOAA) as “High Wind” (speeds of 40 mph or greater lasting for one hour or longer, or winds of 58 mph or greater for any duration), “Strong Wind” (gusts between 39 and 57 mph), and “Thunderstorm Wind” (speeds equal to or greater than 40 mph in association with a thunderstorm). Since 1950, 17

⁶ NOAA NWS. Precipitation Frequency Data Server. 2025. [Atlas 14 precipitation frequency estimates](#).

⁷ Rutgers New Jersey Agricultural Experiment Station. 2025. [Tornadoes in New Jersey: 1950 to Present](#).

⁸ NOAA National Centers for Environmental Information (NCEI). 2025. [Storm Events Database](#).

tornadoes ranging in magnitude from F0–F3⁹ have been documented in Ocean County. One of these (EF-0) occurred in the Township during Tropical Storm Elsa in July 2021, causing downed trees and minor damage to several structures along Harbortown Road. Due to its coastal location, the Township has heightened exposure to extreme wind relative to inland communities. Some local stakeholders reported a perceived increase in extreme wind events in recent years, with 41% of survey respondents indicating that they are affected by wind “many times each year” (Appendix B).

C. Drought

The NJCCRC’s *State of the Climate: New Jersey 2024* reports that New Jersey is projected to receive more of its rainfall from extreme precipitation events, with longer and drier periods between these events, resulting in more short-term drought conditions. Drought can have impacts across many sectors including public health, water supply management, agriculture, and the environment. Drought also increases the risk of wildfire (see Section III.E), especially in combination with high temperatures (Section III.A).¹⁰

Time in Drought

Table III-6 provides a measure of change in the percent time spent in drought conditions annually for Ocean County, compared to a historical period from 1981 to 2014. Droughts occur when evapotranspiration exceeds rainfall over a period of time that is considered abnormal for the region. Severe drought is when this imbalance becomes even more extreme due to heat or long periods without rainfall. These projections were developed based on modeled changes in precipitation and temperature, and do not account for variables such as soil moisture or reservoir levels.

Table III-6. Annual* percent time in drought in Ocean County

	Historical 1981-2014	Moderate emissions	
		Mid-century 2041-2070	Late-century 2071-2100
Drought	15.1%	+ 3.2%	+ 6.0%
Severe Drought	0%	+ 3.3%	+ 4.8%

(Source: Forthcoming dataset by Shope, J., Nikolopoulos, E., and Araujo, D.S.D.¹¹)

*In the northern hemisphere, the hydrological “water year” is the 12-month period from October 1 to September 30.

⁹ NOAA National Weather Service. 2025. [The Fujita Scale](#).

¹⁰ NJ Office of Emergency Management. 2024. [2024 New Jersey State Hazard Mitigation Plan](#).

¹¹ Shope, J., Nikolopoulos, E., and Araujo, D.S.D. 2025. DRAFT New Jersey Projected Future Drought Dataset Technical Documentation.

Historically, drought conditions have affected Ocean County approximately 15% (one to two months) of the year. Time spent in drought annually may increase by about three percent by mid-century and by six percent by late-century. Ocean County has not historically experienced severe drought conditions, but future severe droughts may occur approximately three to five percent of the year by 2100.

D. Flood

Flooding damages property and infrastructure, disrupts services, and impacts health. Local stakeholders report frequent flood impacts in the Township, with 47% of survey respondents personally affected by flooding “many times” or “a few times” each year (Appendix B). Flooding in tidally influenced areas like the Township is driven by three factors:

- Tidal flooding, caused by twice-daily high tides (also known as “sunny day” or “nuisance” flooding);
- Storm events, bringing heavy precipitation and/or storm surge; and
- Sea-level rise, increasing the overall height of tidally influenced waterbodies, thus increasing the frequency and intensity of tidal and storm flooding.

The Township is subject to both coastal flooding and fluvial flooding (when intense rain events cause rivers and streams to overtop their banks). Although this analysis assesses coastal and fluvial flooding as separate risks in the Township, it is important to note that the compound effects can be especially hazardous. Further modeling beyond the scope of this analysis is needed to assess the compound impacts.

This assessment identifies current and future flood risks in the Township based on the measures listed in Table III-7.

Table III-7. Measures of current and future flood risk

Current flood risk measures	Future flood risk measures
<ul style="list-style-type: none"> • FEMA flood zones <ul style="list-style-type: none"> • High tide flooding • Stormwater flooding • Current storm scenario (100-year storm) 	<ul style="list-style-type: none"> • NJDEP Protecting Against Climate Threats (PACT) initiative • Sea-level rise (SLR) - 2050 and 2100 • Future storm scenario (100-year storm in 2050)

Maps for each of these flood measures are included in this section. Section V includes a simplified set of measures to allow map visualization of a range of potential flood extents that approximately correspond with current and future flood scenarios. Table III-8 lists the simplified list of flood measures included in Section V.

Table III-8. Flood measures and approximate corresponding flood scenarios*

Flood Measure	Approximate corresponding scenario(s)**
2 feet coastal inundation	<ul style="list-style-type: none"> • Current high tide flooding • 2050 sea-level rise permanent inundation
5 feet coastal inundation	<ul style="list-style-type: none"> • Current 100-year storm coastal flood
FEMA 1% Annual Chance flood zone	<ul style="list-style-type: none"> • FEMA 1% Annual Chance flood zone
NJDEP Climate Adjusted Flood Elevation (CAFE)	<ul style="list-style-type: none"> • FEMA 0.2% Annual Chance flood zone in some areas • 2050 100-year storm coastal flood in some areas

*Each flood measure/scenario is defined in its applicable section below.

**Scenarios approximately correspond with each flood measure in some, but not all, areas.

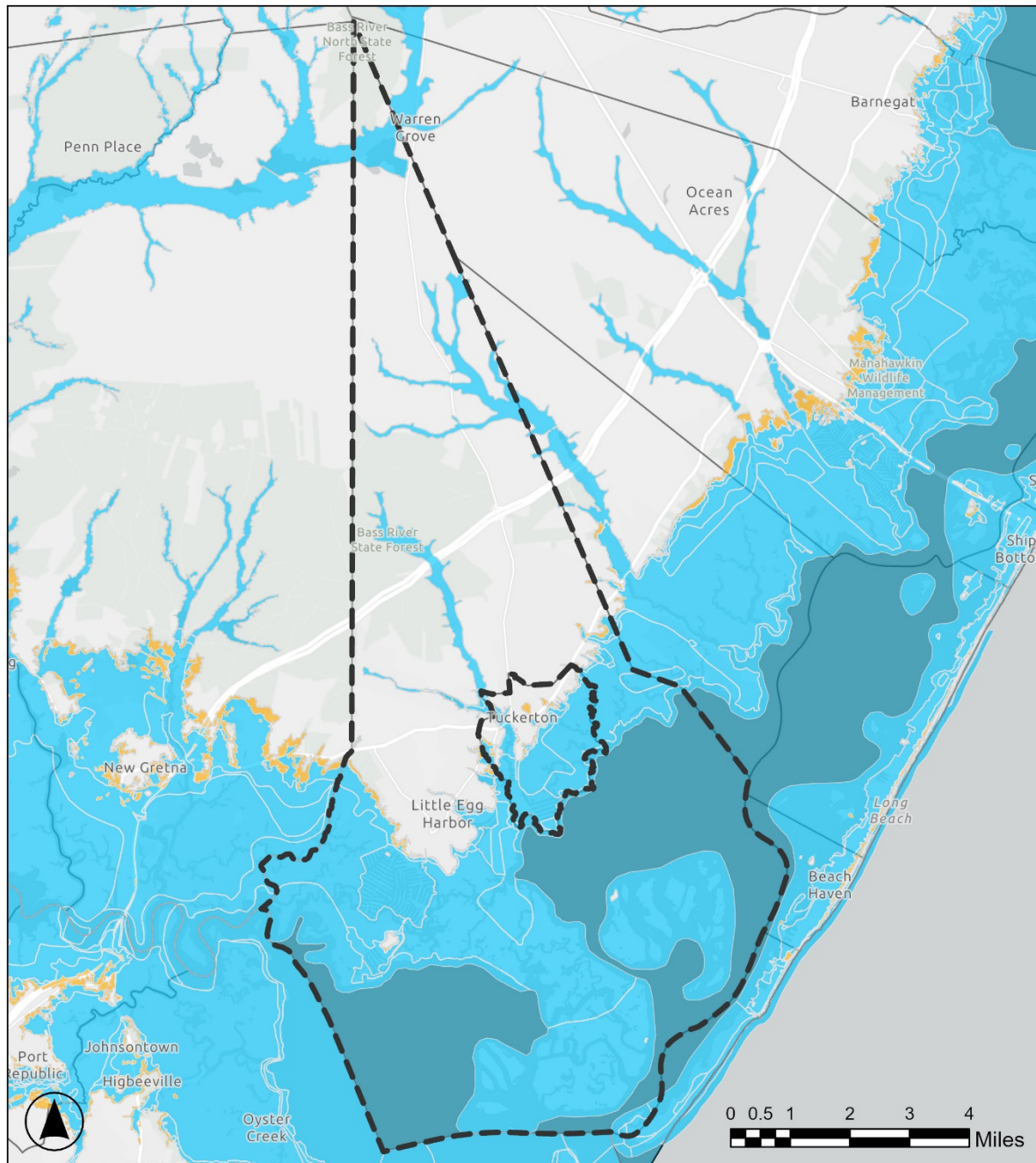
Current Flood Risks

FEMA Flood Zones

The Federal Emergency Management Agency (FEMA) models flood hazards for much of the state. The 1% annual (100-year) flood, also known as the base flood, has a 1% chance of being equaled or exceeded in any given year. The 0.2% annual (500-year) flood has a 0.2% chance of being equaled or exceeded in any given year.

Map III-3 depicts the Township's FEMA flood zones. Lagoon neighborhoods in the southern part of the Township along the marsh/bay are within the FEMA 1% annual chance flood zone and adjacent upland areas are within the FEMA 0.2% annual chance flood zone. Additional areas in the Township within the FEMA flood zone include areas around the Oswego River in the north and various smaller waterways including Mill Branch and Westecunk Creek.

Map III-3. FEMA flood zones



LEGEND

FEMA Flood Zones

1 Pct Annual Chance Flood

0.2 Pct Annual Chance Flood

Area of Minimal Flood Hazard

Open Water

(Sources: FEMA and NJ Climate Change Resource Center)

Tidal and Stormwater Flooding

The Township experiences flooding driven by high tides (i.e. tidal flooding), precipitation (i.e. stormwater flooding), and the compounded impacts of both.

High tide flooding is caused by twice-daily high tides. Although high tide flooding is typically minor, it can disrupt community life and essential services if roadways become impassable. High tide flooding is occurring more frequently as sea level rises. Table III-9 shows the increase in flooding days each decade since 1920 at the Atlantic City ocean tide gauge. Located approximately 12 miles south of the Township, this is the nearest tide gauge collecting flooding days data and is a good approximation of local flood conditions.

Table III-9. Historic flooding days at Atlantic City, NJ

	1920-1929	1930-1939	1940-1949	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2019	2020-2024
Average flooding days per year	0.1	0.7	0.6	0.4	1.2	1.7	1.8	4.9	5.2	10.0	12.7

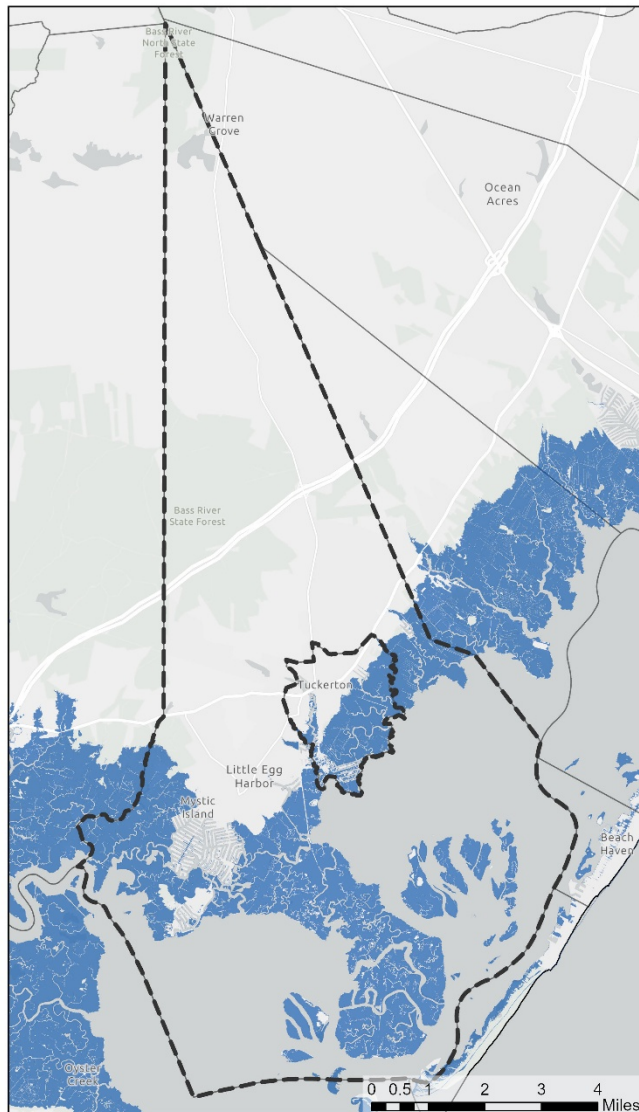
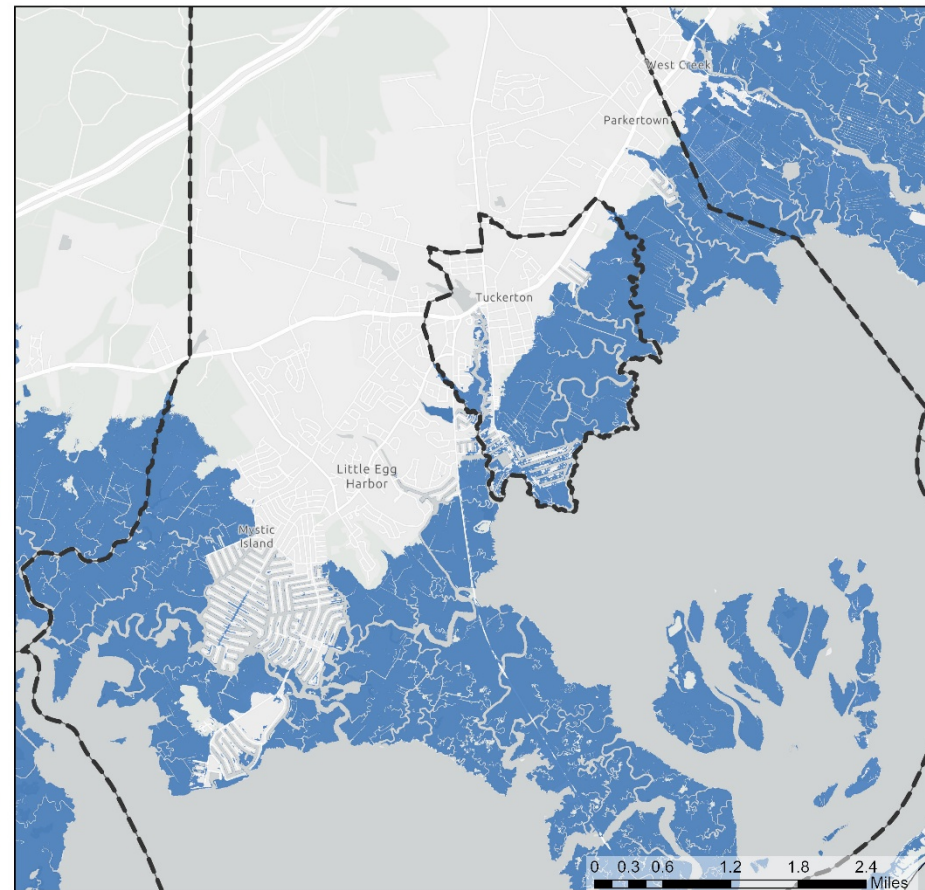
(Source: NOAA Sea Level Calculator – Changes in Flood Frequency)

Flooding can also occur during flash flood events when stormwater infrastructure is overwhelmed by extreme precipitation. The Township has experienced increased rain intensity in recent years, with microbursts of up to two inches of rain in two hours.

Map III-4 depicts areas of the Township that currently experience high tide and/or stormwater flooding. The blue areas indicate the extent of potential tidal inundation at NOAA’s “minor” coastal flood threshold. Minor tidal flooding typically begins around 1.5 to 2 feet above the average high tide and is more disruptive than damaging.¹² Map III-5 indicates areas of observed flooding reported by local stakeholders including municipal staff, residents, and community groups (see Appendix B). Tidal flooding occurs in lagoon neighborhoods in the southern part of the Township, as well as areas along Great Bay Boulevard and Dock Street. Although the Township’s primary flooding issue is tidal, stormwater flooding may also occur in the “problem areas” depicted when heavy precipitation coincides with high tide. To address this, the Township has been working to elevate roads in the most impacted areas. Recent road elevations have helped to mitigate road flooding along Louisiana Drive and Iowa Court in Osborn Island, and a current project is elevating West Susquehanna Drive and East Raritan Drive in Mystic Island. Additionally, the Township is exploring elevation of East Sail Drive, Lake Crystalbrook Drive, Great Bay Boulevard, Daddy Tucker Drive, and Flax Isle Drive.

¹² NOAA. 2018. [Patterns and Projections of High Tide Flooding Along the U.S. Coastline Using a Common Impact Threshold](#).

Map III-4. High tide and/or stormwater flooding locations



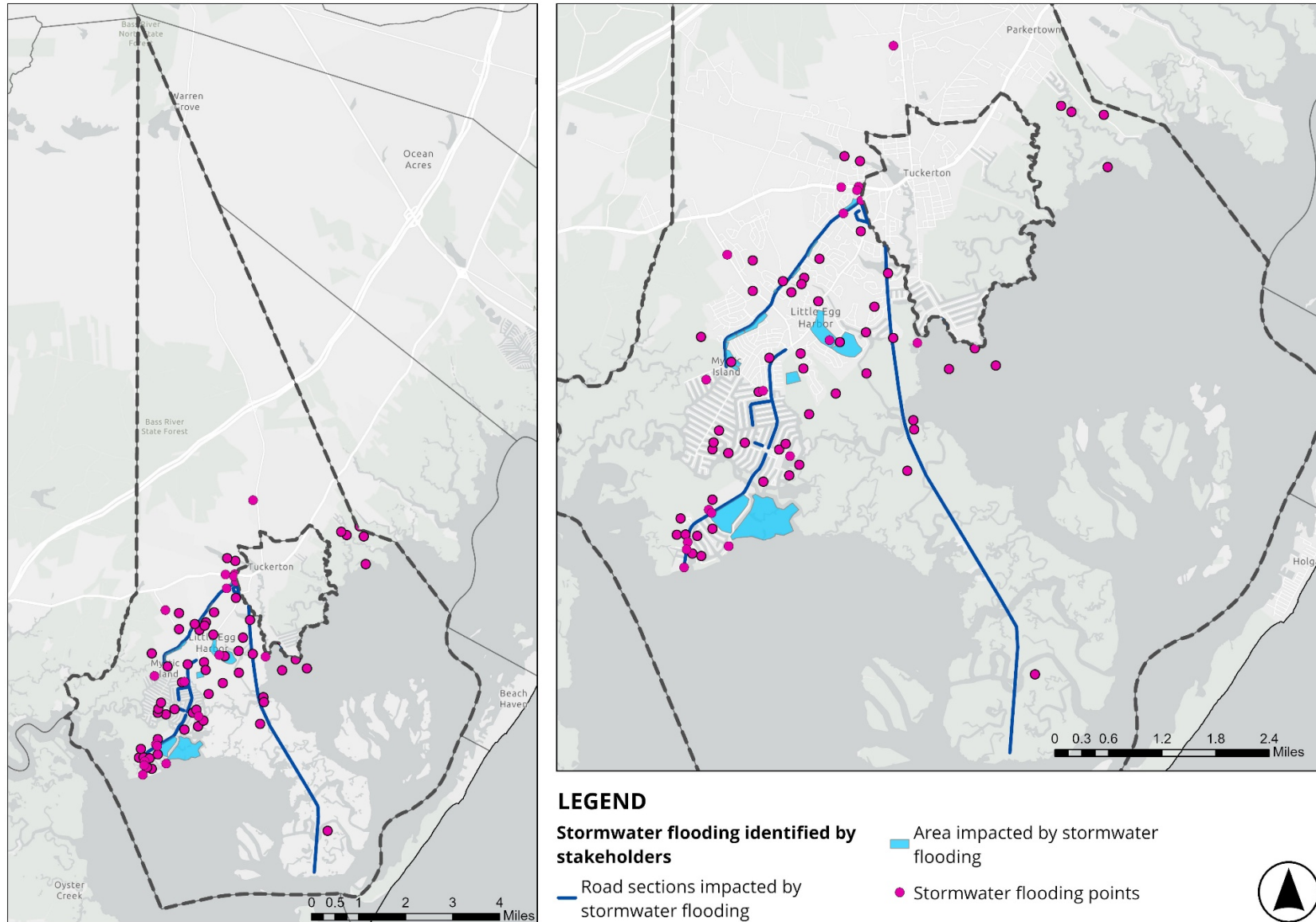
LEGEND

■ Minor High Tide Flooding



(Source: NOAA Sea Level Rise Viewer)

Map III-5. Stormwater Flooding Locations Identified by Stakeholders

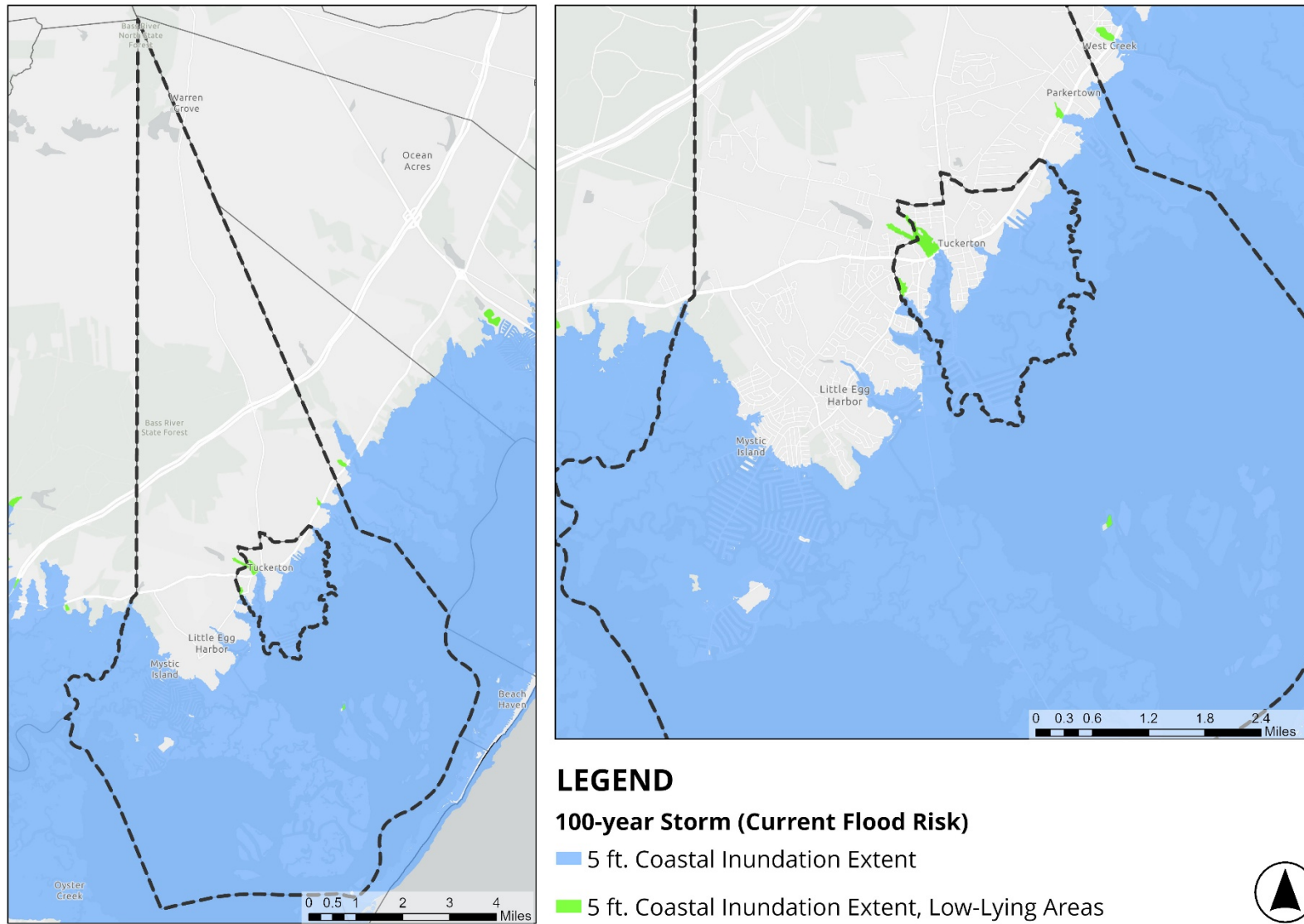


100-Year Storm

The 100-year storm represents the coastal flood event that has a 1% chance of occurring annually according to modeling by NOAA. Today's 100-year storm event is anticipated to cause approximately five feet of coastal inundation in the Township. This coastal inundation level may also be described as feet above Mean Higher High Water (MHHW), a tidal datum representing the average height of the highest tide each day over a 19-year period. Map III-6 depicts areas in the Township that may be flooded during a 100-year storm event based on coastal storm flooding. It does not incorporate flooding due to rainfall, which may cause compounded impacts. The green "low-lying" areas on the map are below the elevation of the flood extent, and therefore have the potential to flood, but are hydrologically disconnected from the rest of the flooded area.

As depicted on the map, a 100-year storm event is expected to cause coastal inundation of residential areas in the southern part of the Township. Inundation extends inland of the waterfront neighborhoods, including potential flooding approaching Radio Road (south of Tuckerton) and along Brook Street to US Route 9 (north of Tuckerton). The extent of this inundation approximates what was experienced during Hurricane Sandy in 2012, with the Sandy storm surge extent being slightly greater.

Map III-6. Potential inundation from 100-year storm



(Source: NJ Climate Change Resource Center)

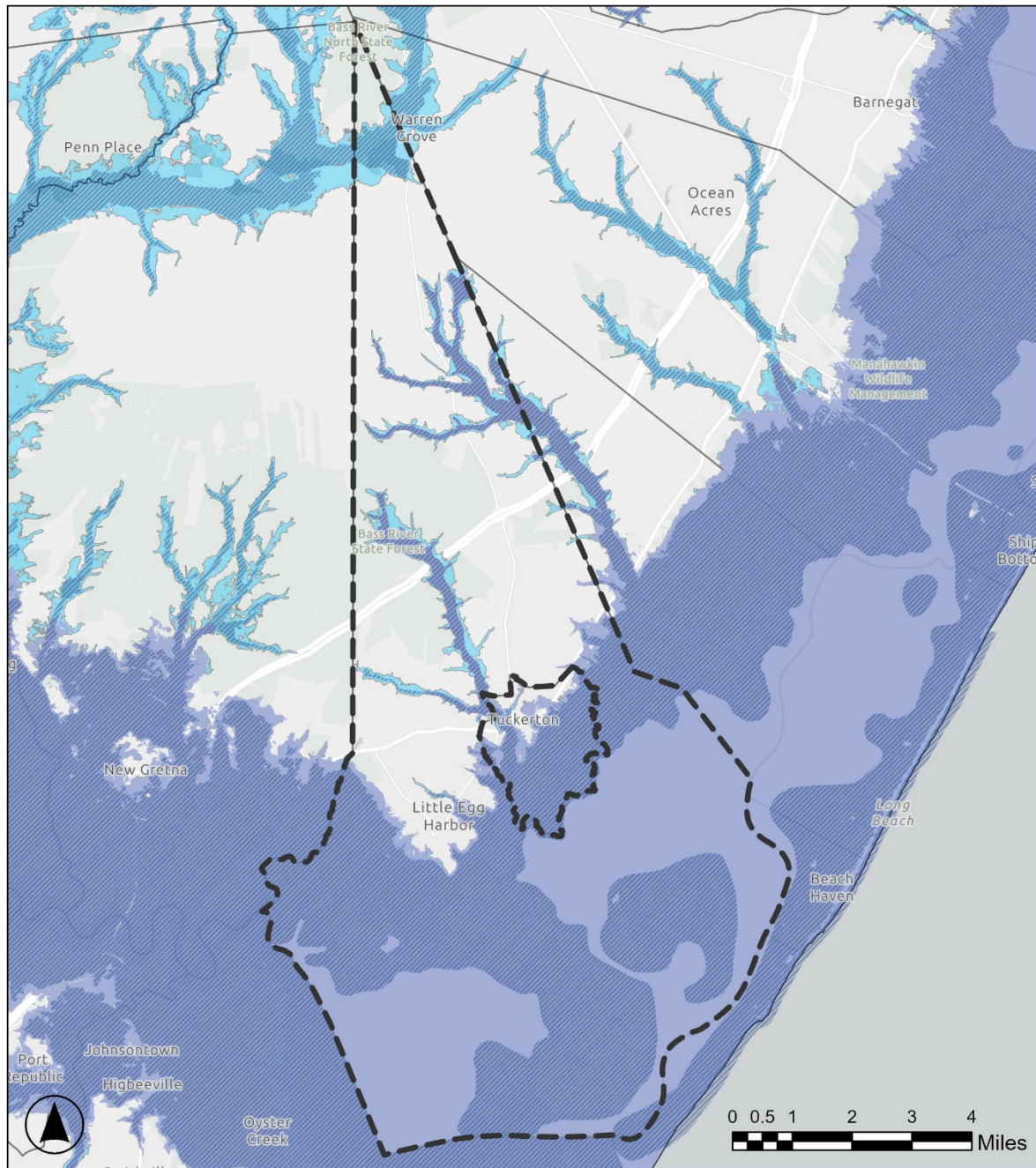
Future Flood Risks

NJDEP Protecting Against Climate Threats (PACT) Initiative

In 2020, NJDEP began a regulatory reform effort called Protecting Against Climate Threats (PACT) to make the state's natural and built environments more resilient to the impacts of climate change. Under this initiative, NJDEP passed two new rules to regulate development and redevelopment in areas of current and future flood risk in both fluvial and tidal areas. Adopted in July 2023, the Inland Flood Protection Rule established a new Design Flood Elevation (DFE) for specific types of new construction and redevelopment in inland/fluvial areas at risk of flooding. The new DFE is three feet above the elevation of the FEMA 1% Annual Chance Flood or, where NJDEP flood mapping is available, two feet above NJDEP's flood hazard area DFE if that is higher. Adopted in January 2026, the Resilient Environments and Landscapes (REAL) coastal flood rule adjusts Coastal Flood Hazard Areas to account for rising sea-level by establishing a new Climate-Adjusted Flood Elevation (CAFE) equal to the FEMA 1% Annual Chance Flood's Base Flood Elevation plus four feet to account for projected sea-level rise by 2100. On June 1, 2026, the NJDEP paused the implementation of the REAL rules by one year to consider additional public comment. Most coastal municipalities have both tidal areas subject to CAFE and fluvial areas subject to the Inland Flood Protection Rule.

Map III-7 depicts the approximate extent of each rule in the Township. Most of the current and future flood risk areas appear to be subject to the coastal flood rule (i.e., CAFE), shown in dark blue. Some upriver areas appear to be subject to the Inland Flood Protection Rule, shown in light blue. This information can support local efforts to safeguard community facilities, infrastructure, and assets. However, it should be noted that the map is for planning purposes only and a site-specific survey is needed for flood impact analyses, permitting, or other legal or regulatory purposes.

Map III-7. Areas potentially subject to the NJ PACT regulatory reforms



LEGEND

Flood Scenarios

-  FEMA 1% Annual Chance Flood Zone
-  Approx. extent of REAL Climate Adjusted Flood Elevation
-  FEMA 1% Annual Chance Flood Plus 3 Feet (Inland Design Flood Elevation)

(Sources: NJ Climate Change Resource Center and NJDEP)

Sea-Level Rise

The NJCCRC's *State of the Climate: New Jersey 2024* reports that sea level has been increasing in New Jersey at a rate of 2.2 inches per decade since 1980 due to global sea-level rise and land subsidence. Global sea-level rise is caused primarily by the added water from melting land-based ice and the expansion of seawater as it warms. Land subsidence, or sinking, is caused primarily by "glacial isostatic adjustment" (the ongoing response of the earth's crust to the melting of the great ice sheets after the last ice age) and compaction of sediments due to natural processes and groundwater withdrawal.

Heightened sea levels drive a greater likelihood of flooding during coastal storms or high tides and can salinate freshwater ecosystems, resulting in impacts to aquatic communities, fresh groundwater, and water quality.¹³ Based on *New Jersey's Rising Seas and Changing Coastal Storms: Report of the 2025 Science and Technical Advisory Panel*, under an intermediate greenhouse gas emissions scenario (approximately consistent with current global policies) and excluding potential rapid ice sheet loss, sea-level is projected to increase 0.9 to 1.7 feet by 2050 and 2.2 to 3.8 feet by 2100. Including potential rapid ice-sheet loss processes could extend these ranges to 1.9 feet in 2050 and 4.5 feet in 2100.¹⁴

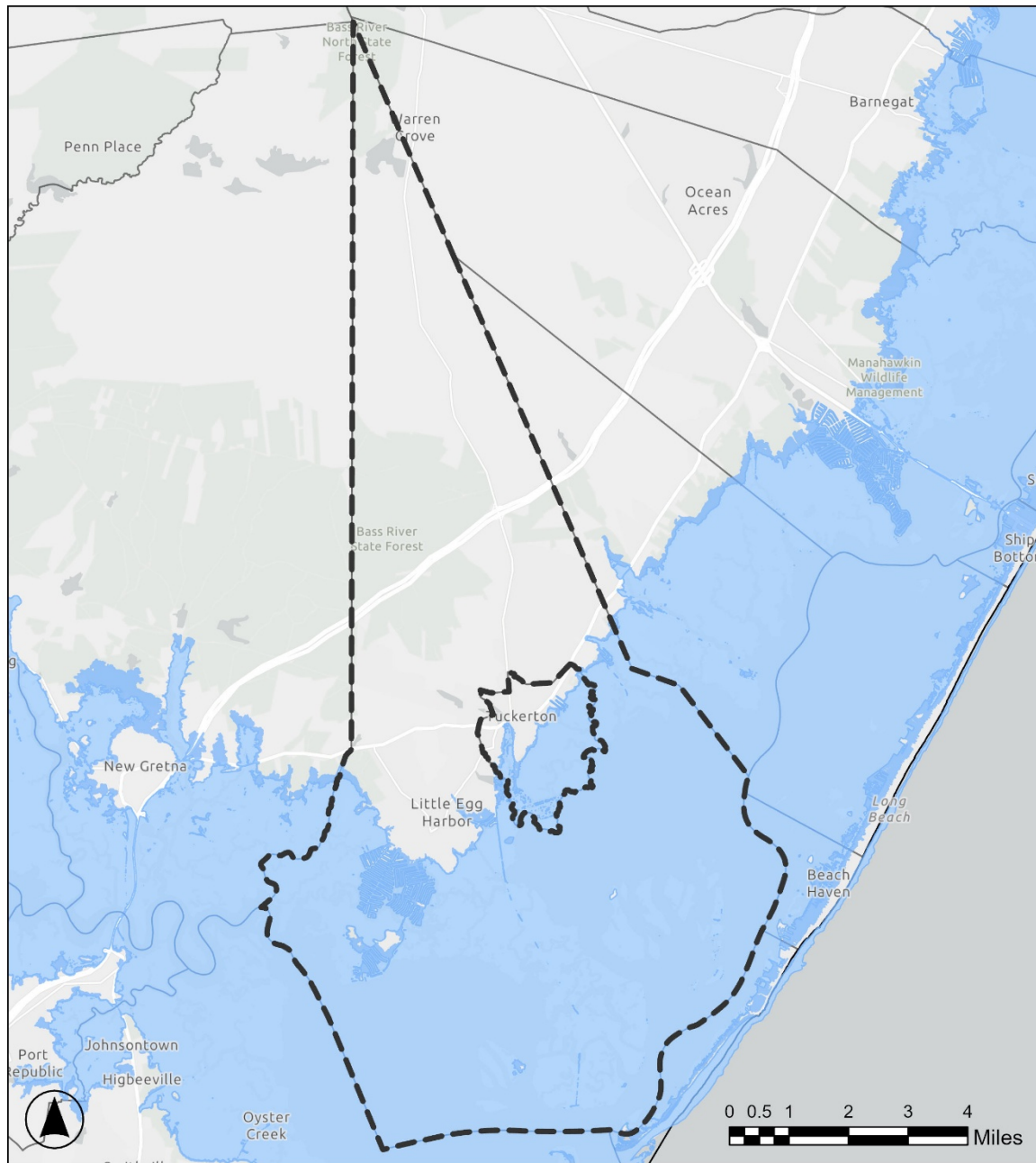
For planning purposes, statewide guidance recommends relying on conservative estimates of two feet of sea-level rise by 2050 and four feet of sea-level rise by 2100. Map III-8 depicts the potential extent of this projected permanent inundation in the Township. Despite the gradual nature of sea-level rise, permanent inundation means that these areas may be impacted by each daily high tide by the end of the century.

Under the 2050 scenario, with two feet of coastal inundation, daily flooding is expected in lagoon neighborhoods in the southern part of the Township and along Great Bay Boulevard and Dock Street. This daily inundation could result in loss of access to these residential areas and impacts to housing stock (see Section V.D). Additionally, tidal wetlands are fully inundated, which could result in wetland loss and/or migration (see Section V.B.). Under the 2100 scenario, with four feet of coastal inundation, flooding extends inland of the lagoon neighborhoods, including potential inundation approaching Radio Road (south of Tuckerton) and along Brook Street to US Route 9 (north of Tuckerton).

¹³ NJDEP. 2025. [New Jersey Scientific Report on Climate Change](#). (Eds. B. Wiley, K. Raper, J. Bonventre, R. Hill, L.A. Lester, N.A. Procopio). Trenton, NJ. 275 pp.

¹⁴ Kopp, R. E., A. Broccoli, G. Carleton, S. Dangendorf, R. DeConto, R. Frederiks, A.J. Garner, E. GroverKopeck, L. Haaf, B. Hamlington, N. Lin, J. Lorenzo-Trueba, J. Miller, D. Robinson, G. Vecchi, T. Wahl, J. Walker, J.M. Barr, J. Shope, D.K. Apoznanski, P. Kumar, L. Marxen, A. Spector, K. O'Neill, L. Auermuller, and M. Kaplan. [New Jersey's Rising Seas and Changing Coastal Storms: Report of the 2025 Science and Technical Advisory Panel](#). Rutgers, The State University of New Jersey. Prepared for the New Jersey Department of Environmental Protection. Trenton, New Jersey.

Map III-8. Projected permanent inundation from future sea-level rise in 2050 and 2100



LEGEND

Projected Sea Level Rise 2050

2 ft. Coastal Inundation Extent

4 ft. Coastal Inundation Extent

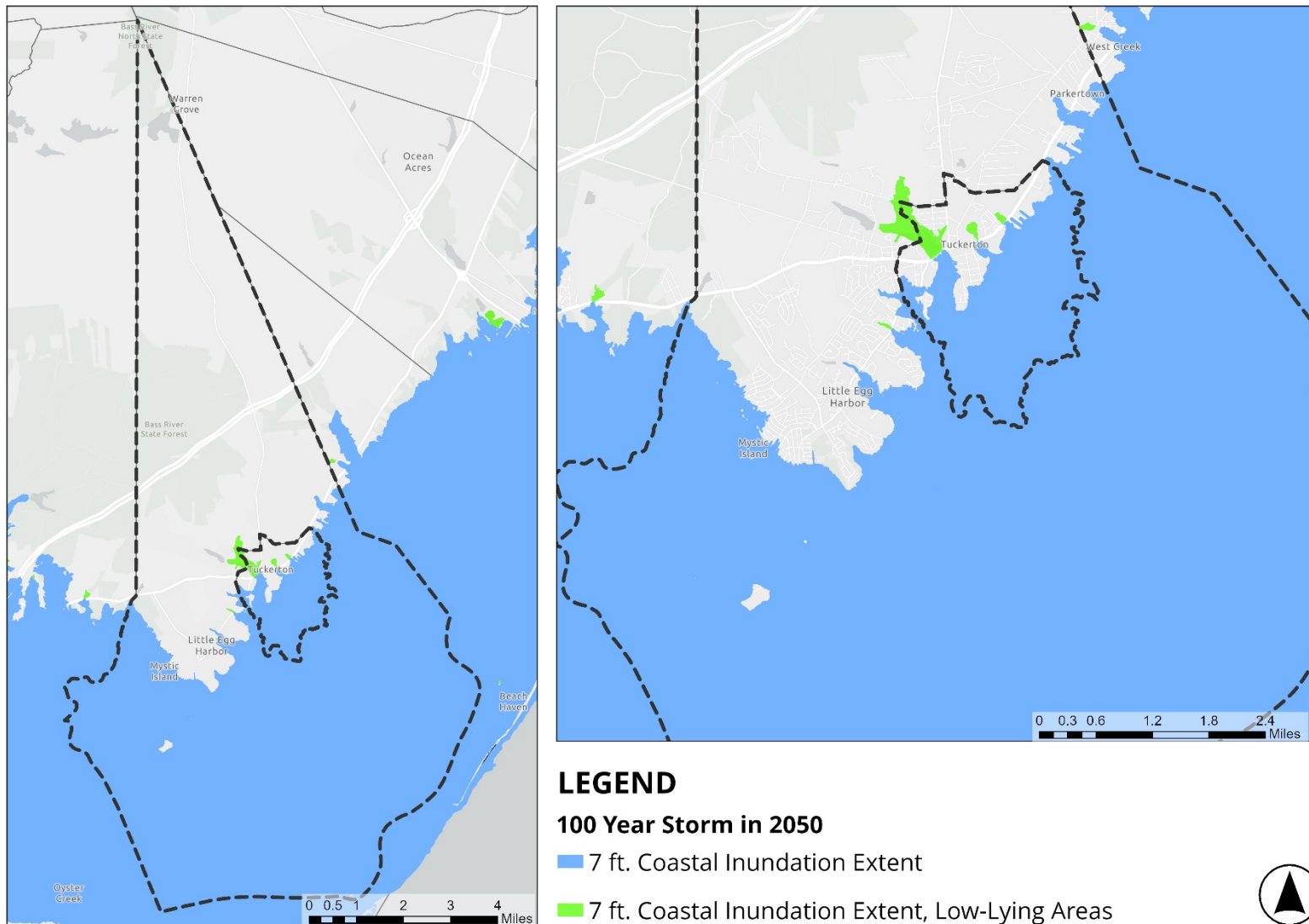
(Source: NJ Climate Change Resource Center)

2050 100-Year Storm

While sea-level rise inundation represents a permanent condition, additional analysis of the 100-year storm compounded with sea-level rise helps to understand a future temporary, extreme event. Map III-9 depicts the extent of potential inundation in the Township from a 100-year (1% chance) coastal storm in 2050, including two feet of projected sea-level rise, resulting in approximately seven feet of coastal inundation. The flood extent does not incorporate flooding due to rainfall, which may cause compounded impacts. The green “low-lying” areas on the map are below the elevation of the flood extent, and therefore have the potential to flood, but are hydrologically disconnected from the rest of the flooded area.

In 2050, projected inundation from a 100-year storm event would cause significant flood impacts to residential and commercial areas in proximity to all tidal waterways in the southern part of the Township. Inundation may be expected to extend up to and across Radio Road (south of Tuckerton) and across US Route 9 (north of Tuckerton).

Map III-9. Potential inundation from coastal flooding from 100-year storm in 2050



(Source: NJ Climate Change Resource Center)

E. Wildfire

Wildfires are unplanned fires in natural areas including forests or grasslands. The NJCCRC's *State of the Climate: New Jersey 2024* reports that 798 wildfires burned 4,847 acres in New Jersey during the exceptionally dry 2024 fall season. Increasing temperatures are anticipated to cause greater evaporation and drier vegetation, exacerbating conditions contributing to wildfires. Wildfire smoke contains air pollutants that decrease air quality and pose risks to human health.

Wildfire hazards in the Township were assessed using historic wildfire data from the National Interagency Fire Center (NIFC)¹⁵ and NOAA¹⁶ and data on risk to potential structures from the New Jersey Wildfire Risk Assessment Portal.¹⁷ The risk to potential structures dataset integrates modeled wildfire likelihood and intensity with generalized consequences to a structure on every pixel, allowing comparison of wildfire risk in locations with existing or future development.

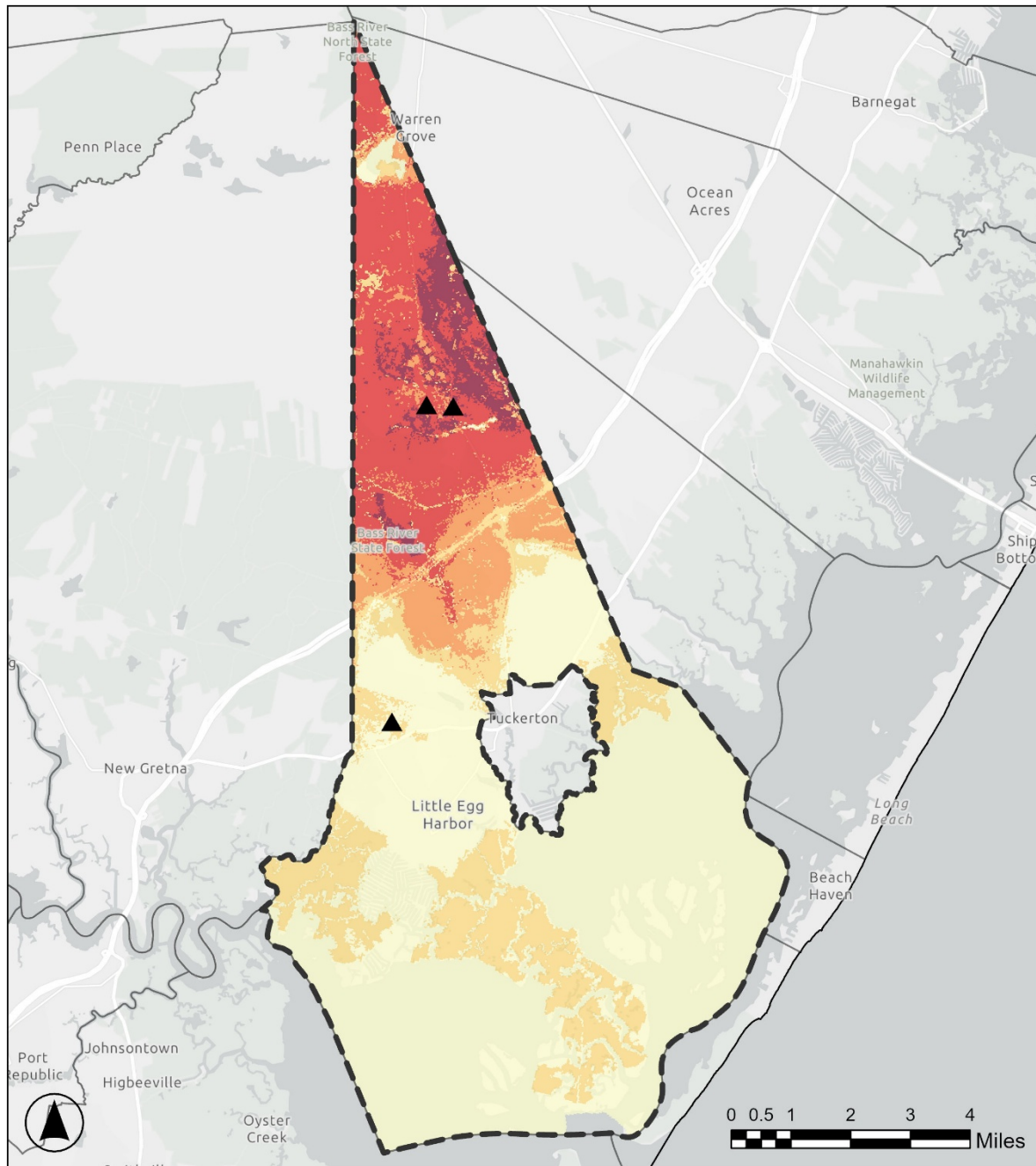
Map III-10 depicts wildfire risk to potential structures and locations of historic wildfire incidents documented by the NIFC in the Township. Fire is a natural part of the Pine Barrens ecosystem, and this is reflected by the high risk to potential structures in the northern part of the Township. The southern part of the Township has relatively low risk of wildfire. Notable wildfire incidents documented within the Township by NIFC and NOAA since 1950 include the Ballanger Fire (617 acres in May 2021), Governors Branch Fire (418 acres in March 2023), and the Log Swamp Fire (1,607 acres in April 2023). Additional historic wildfires have occurred in surrounding municipalities including Bass River, Stafford, and Barnegat Townships and have prompted evacuations within the Township. These include wildfires associated with the Warren Grove Guntery in 2001 (1,600 acres burned) and 2007 (15,500 acres burned).

¹⁵ National Interagency Fire Center. 2025. [NIFC Open Data Site](#).

¹⁶ NOAA National Centers for Environmental Information (NCEI). 2025. [Storm Events Database](#).

¹⁷ NJ Forest Fire Service. 2025. [New Jersey Wildfire Risk Assessment Portal](#).

Map III-10. Wildfire risk to potential structures and select historic wildfires



LEGEND

Wildfire Risk to Potential Structures ▲ Wildfire Incident Locations



(Source: NJ Wildfire Risk Explorer and National Interagency Fire Center)

IV. Buildout Analysis

This section addresses the MLUL requirement that the CCRHVA include a “build out analysis of future residential, commercial, industrial, and other development in the municipality, and an assessment of the threats and vulnerabilities identified above related to that development.”

Certain areas within a municipality are not fit for development, including wetlands, water bodies, and buffers around protected lands or species. This section identifies and analyzes the developable areas within the municipality with respect to the current zoning designations and exposure to current and future climate hazards. This analysis is a high-level planning exercise and should not be substituted for site-specific determinations of developability, which require field survey and professional engineering evaluation. This analysis differs from other applications of buildout analyses, such as those used in determining a municipality’s realistic development potential to comply with affordable housing obligations.

The methodology used in this section includes the following steps:

1. Identifying the developable areas within Little Egg Harbor Township by determining and removing all areas that are protected from development;
2. Analyzing these areas with the current zoning districts and any areas identified by the municipality for redevelopment, then calculating the total potential development for these areas;
3. Analyzing the exposure of developable areas to heat and flooding. Flooding being the primary risk for Little Egg Harbor Township, this section details varying levels of exposure for potential lots and units, from areas that are expected to remain dry to those that may be completely inundated; and
4. Finally, identifying the developable areas and potential development least exposed to flooding.

A. Areas Protected from Development

Areas protected from development were identified based on two broad categories, detailed in Table IV-1 and represented in Map IV-1:

- Non-developable areas are already developed lands (based on land use categories), water features, or wetlands.
- Constrained areas are those with development limitations due to environmental concerns.

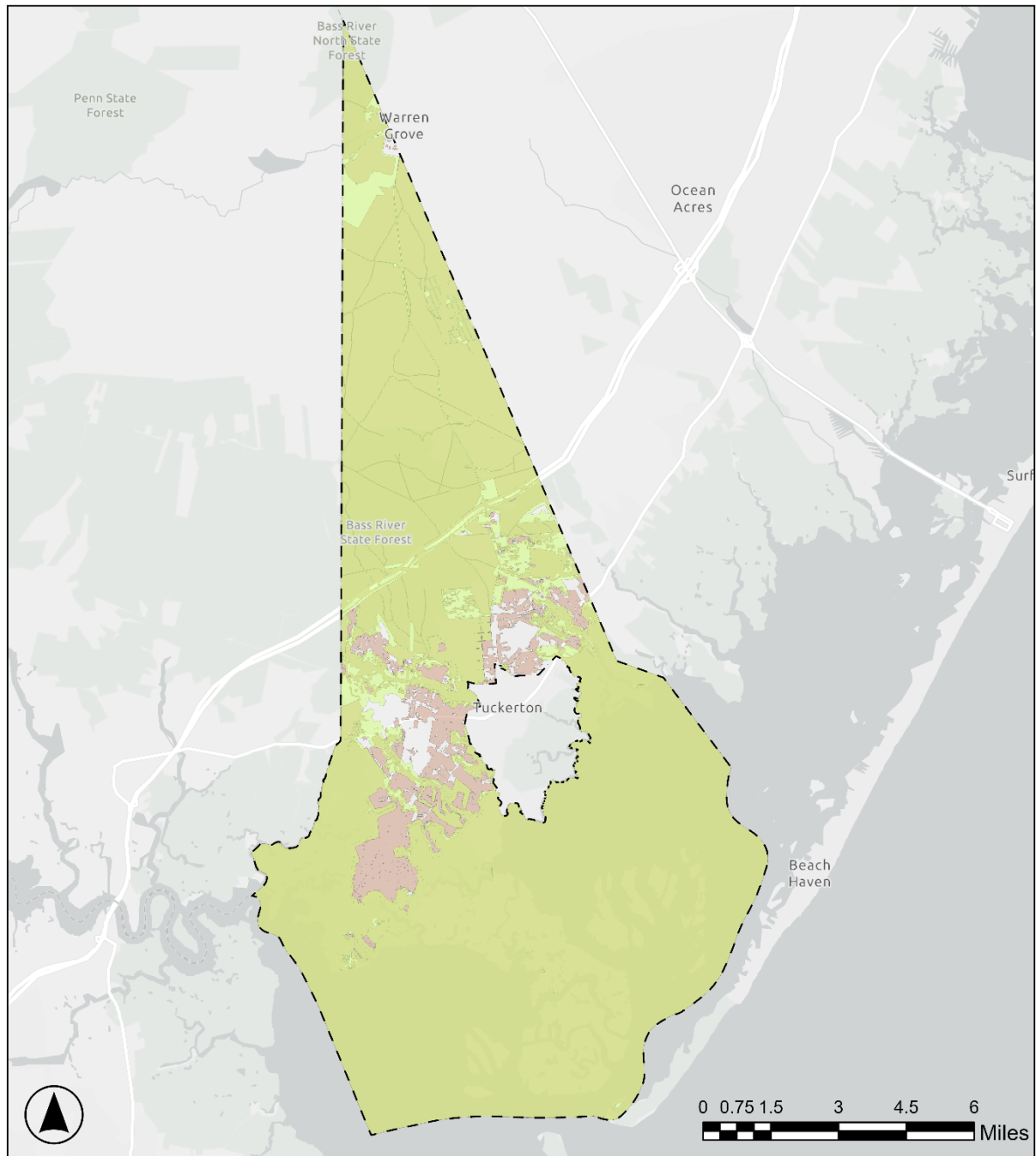
Table IV-1. Areas protected from development

Areas Protected from Development	Land Types	Datasets
Non-Developable Areas	Water, wetlands, transportation, barren land with extractive mining *, non-vacant urban land, publicly owned recreational lands, and open space/conserved land	<ul style="list-style-type: none"> • 2020 Land Use Land Cover Dataset • 2023 Parcel MOD-IV Composite • Protected Areas Database (PAD-US 4.1) • State, Local and Nonprofit Open Space of New Jersey • Preserved Farmland of New Jersey
Constrained Areas	<ul style="list-style-type: none"> • Riparian buffers for inland and coastal waters • Threatened and endangered species habitat • Regional Commissions, where applicable (Pinelands Management area, Highlands Preservation area, Hackensack Meadowlands District) 	<ul style="list-style-type: none"> • Landscape Project v3.4 • Category One (C1) Waters of New Jersey • Preservation and Planning Area • Open Water Protection Area

Note: All land type categories and associated datasets identified in this table should be reviewed on a case-by-case basis to verify the nature, extent, and permanence of development restrictions.

* Barren land with extractive mining was included as a non-developable area due to the highly disruptive nature of these practices to the landscape. It is possible that future conditions after remediation of such sites may revert them to developable land and should be evaluated on a case-by-case basis.

Map IV-1. Areas protected from development



LEGEND

- Constrained
- Not Developable

B. Developable Areas

Developable areas were broadly identified through geographic information system (GIS)-based mapping analysis to exclude the non-developable and constrained areas. The remaining developable areas consist primarily of undeveloped lands that are not subject to regulatory or environmental development restrictions. To further refine the developable areas, Little Egg Harbor Township's zoning ordinance was analyzed.

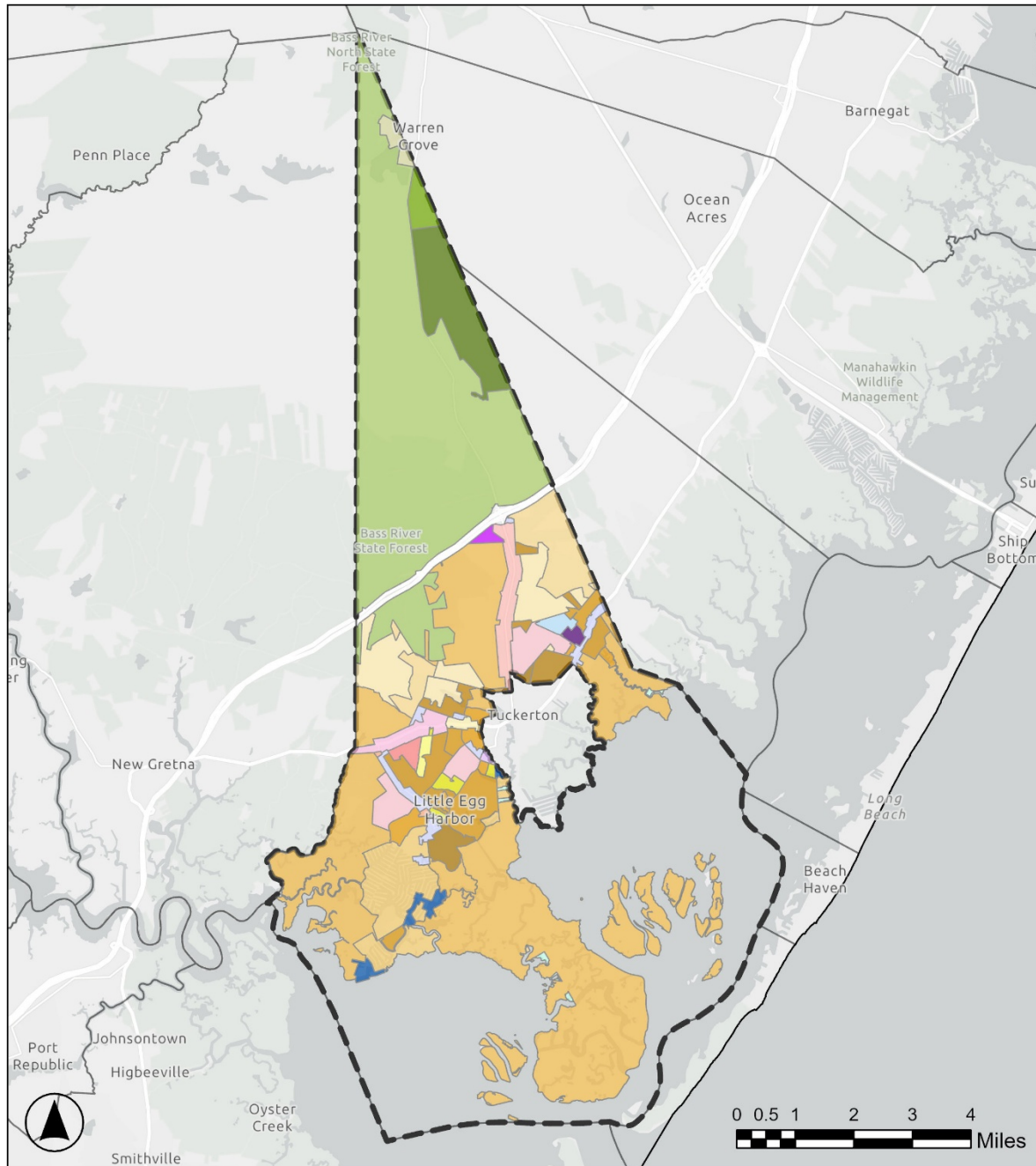
Zoning Analysis

Little Egg Harbor Township is located in southeastern Ocean County, bordered on the south by Little Egg Harbor and Great Bay. The Borough of Tuckerton is located wholly within the southeast of the township. It includes a mix of residential, business, commercial and forest land uses, with over half of its land area consisting of forestland and wetlands (see Appendix A – Map A-2). A significant portion of the township lies within the Pinelands, a 1.1-million-acre area in southern New Jersey subject to the Pinelands Comprehensive Management Plan, which sets regulations on development density and permitted uses. Map IV-2 presents the zoning districts within the Township. The zoning districts within the Township that are not part of the Pinelands District include: Residential (R-1A, R-3A, R-50, R-5A, R-70, R-75, R100, R150, R200, R400, R75A), Planned Residential Development (PRD), Planned Retirement Community (PRC), Multi-Family Residential (MF), Neighborhood Business (NB), General Business (GB), Light Industrial (LI), Senior Citizen/ General Business (SC/GB), Waterfront Development (WFD), Affordable Housing Zone (AHZ), Mixed Use Affordable Housing (MUAH), Forest Area (FA), Forest Area Cluster (FAC), Preservation Areas (PA) and a few others (Listed in Table IV-2).

The decision-making authority within Little Egg Harbor Township's zoning framework depends on whether a property is located within the Pinelands area or outside it. Outside the Pinelands, zoning and development is primarily governed by the township's land use regulations. Zoning and development within the Pinelands are subject to the Pinelands Comprehensive Management Plan and to additional regional review to protect and preserve these areas. Preservation-designated lands constitute a significant portion of Little Egg Harbor Township's total land area, concentrated primarily along the northern portion of the township. The Pinelands Management Area within the township includes the Pinelands Village area and is subject to the Pinelands Commission.

Table IV-2 lists key developmental controls and minimum lot sizes permitted in each zoning district.

Map IV-2. Zoning



LEGEND

Zoning

Residential - R-1A
Residential - R-3A
Residential - R-50
Residential - R-5A
Residential - R-70
Residential - R-75
Residential - R-100

Residential - R150
Residential - R200
Residential - R400
Residential - R75A
Planned Residential Development (PRD)
Planned Retirement Community (PRC)

Multi-Family Residential (MF)
Neighborhood Business (NB)
General Business (GB)
Highway Business (HB)
Marine Commercial (MC)
Light Industrial (LI)

Senior Citizen/ General Business (SC/GB)
Waterfront Development (WFD)
Affordable Housing Zone (AHZ)
Mixed Use Affordable Housing (MUAH)
Cemetery (C)

Gateway Overlay Zone North (GOZN)
Gateway Overlay Zone South (GOZS)
Parker's Run Redevelopment Area (RA)
Scenic Gateway Overlay Zone (SGOZ)
Forest Area (FA)

Forest Area Cluster (FAC)
Light Industrial/ Commercial (LI/C)
Pinelands Village (PV)
Preservation Area (PA)

Table IV-2. Little Egg Harbor Township zoning ordinance

Zoning District	Permitted Uses	Minimum Lot Size
R-1A	Detached single-family residential dwelling units, essential services	43,560 sq ft (1 acre)
R-3A	Same as permitted in the R-5A zone district except for farm and agricultural activities, and private and parochial schools	3 acres
R-50	Detached single-family residential dwelling units, essential services	5,000 sq ft
R-5A	Detached single-family dwellings units	5 acres
R-70	Same as permitted in the R-75 residential zone district.	7,000 sq ft
R-75	Same as permitted in the R-100 residential zone district, except for dog pens.	7,500 sq ft
R100	Detached single-family residential dwelling units, essential services	10,000 sq ft
R-150	Detached single-family residential dwelling units, essential services	15,000 sq ft
R-200	Detached single-family residential dwelling units, essential services	20,000 sq ft
R-400	Detached single-family residential dwelling units, essential services	35,000 sq ft
R75A	Same as permitted in the R-75 residential zone district.	7,500 sq ft
PRD	Multi-family and planned adult community with a minimum of ten (10%) percent of the total units developed as adult housing	100 acres
PRC	Detached single-family, two-family and multi-family dwelling units, attached single-family dwelling, essential services	100 acres
MF	Townhouses, detached single-family dwellings, essential services, senior citizen housing	5 acres
NB	Retail, small-scale commercial	15,000 sq ft
GB	All principal uses permitted in the neighborhood business (NB) zone	22,500 sq ft
HB	Highway-oriented retail or services	43,560 sq ft (1 acre)
MC	Mixed commercial uses	12,000 sq ft
LI	Light industry, fabrication, assembly, or processing of goods and materials or the storage of bulk goods and materials, warehouse and storage of goods.	43,560 sq ft (1 acre)
SC/GB	All permitted uses in the GB zone	87,120 sq ft

Continued on next page

WFD	Marinas, boat sales and showrooms, retail and wholesale sale of boating supplies, restaurants, and other eating establishments, excluding drive-in and fast-food restaurants	Minimum lot size not listed
AHZ	Multifamily housing with inclusionary low- and moderate-income housing units	11 acres
MUAH	Residential and commercial development with affordable housing	80 acres
C	Erection of memorial monuments, less than six (6) feet in height	Minimum lot size not listed
GOZN	Gateway Overlay Zone North	Minimum lot size not listed
GOZS	Gateway Overlay Zone North	Minimum lot size not listed
RA	Low-density residential, agriculture	Minimum lot size not listed
SGOZ	Serve the needs of the traveling public within the township and region	Minimum lot size not listed
FA	Residential dwelling units on lots of 3.2 acres, agriculture, forestry	3.2 acres minimum density standard or 1 ac
FAC	Cluster (reduced lot size) development	3.2 acres minimum density standard or 1 ac
LI/C	Light Industrial/Commercial	Minimum lot size not listed
PV	Residential dwellings, all uses permitted in the forest area zone,	3.2 acres minimum density standard or 1 ac
PA	Residential dwellings on lots of 3.2 acres, forestry, fish and wildlife management	3.2 acres minimum density standard or 1 ac

(Source: Little Egg Harbor Township Land Use Ordinances, Chapter 215, Land Use and Development)

Buildout Analysis

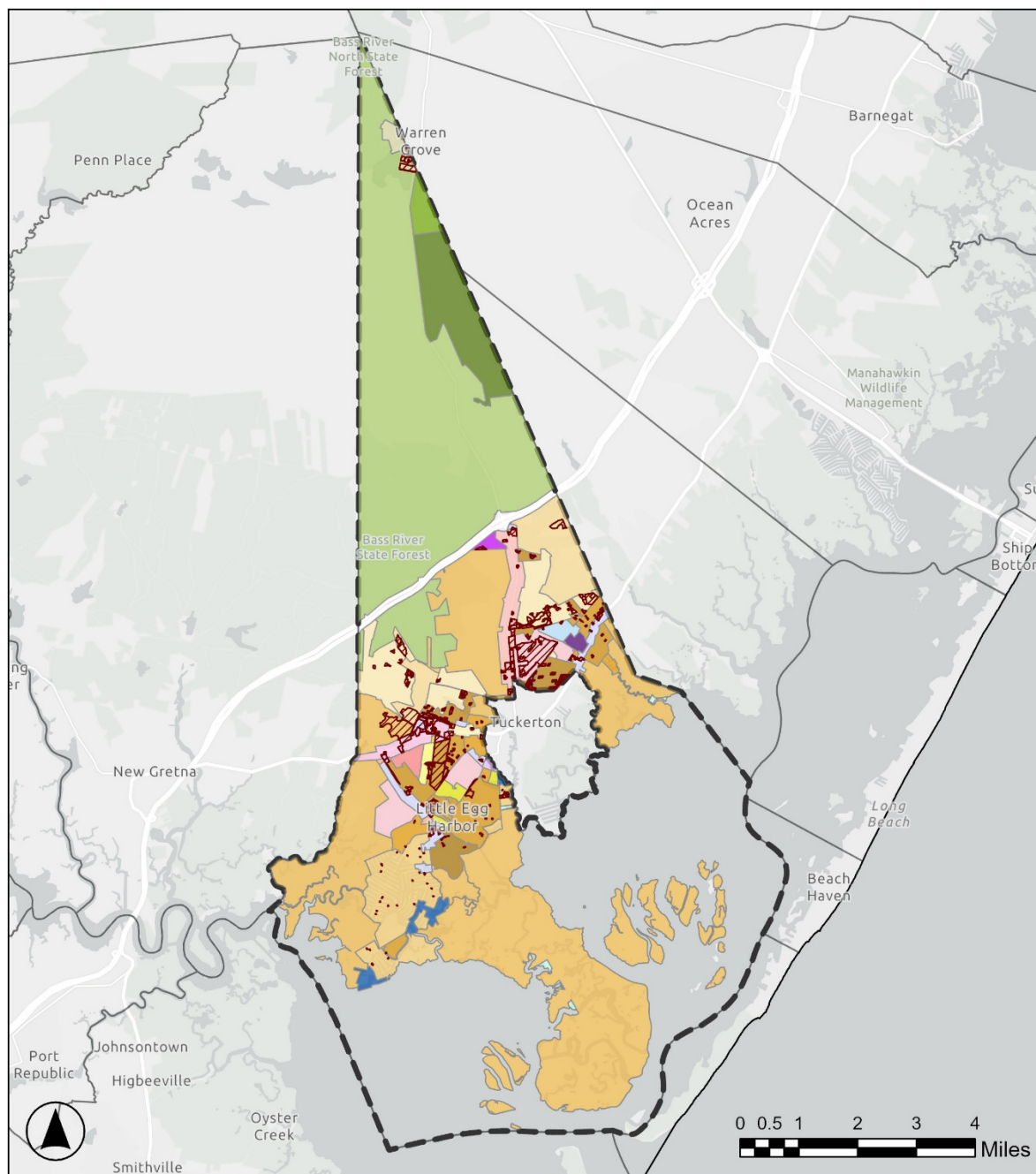
After broadly identifying the developable areas, the GIS-based zoning analysis resolved spatial discrepancies. Large parcels spanning multiple zoning districts were split by the district to ensure compliance with its zoning regulations. Irregular parcels that did not conform to the minimum lot size requirements of the applicable zoning designation were thoroughly reviewed before removing them from the analysis. Minimum lot sizes for each zoning district were used to determine how many potential lots could be developed within Little Egg Harbor Township. Map IV-3 illustrates the developable areas resulting from this analysis along with the zoning districts of Little Egg Harbor Township. The areas vary in shape and size and are not individual tax parcels.

Table IV-3 shows the total available areas for development along with their development potential, calculated by applying an 80% gross-to-net conversion factor to account for roads, stormwater infrastructure, and utility easements. After calculating the net area, the minimum lot size requirement was used to determine number of potential lots. A total of 312 developable areas are identified across all zoning districts. Of these, 190 areas are located within the eleven residential zoning districts (R-1A, R-3A, R-50, R-5A, R-70, R-75, R75A, R100, R150, R200, R400) with a potential for 694 lots. The general business (GB) zoning district contains the greatest number of developable areas (108) with a potential for 544 new lots. Assuming all developable areas are available to be developed to their full potential, the total buildout for Little Egg Harbor Township across the residential, industry, business, and mixed-use zones is estimated at 1,297 potential lots.

Table IV-3. Developable areas and development potential

Zoning District	Number of Developable Areas	Gross Developable Area (Sq. Ft.)	Net Developable Area (Sq. Ft.)	Minimum Lot Size (Sq. Ft.)	Potential Number of Lots
R-1A	28	3,591,548	2,873,238	43,560	66
R-3A	5	3,252,418	2,601,934	130,680	20
R-50	30	208,777	167,022	5,000	33
R-5A	1	3,420,802	2,736,642	217,800	13
R-70	1	7,411	5,929	7,000	1
R-75	13	158,624	126,899	7,500	17
R75A	12	532,741	426,193	7,500	57
R100	37	992,667	794,134	10,000	79
R150	16	6,268,790	5,015,032	15,000	334
R200	22	1,246,515	997,212	20,000	50
R400	25	1,049,384	839,507	35,000	24
PRD	1	6,336,669	5,069,335	4,356,000	1
GB	108	15,299,535	12,239,628	22,500	544
HB	4	937,677	750,142	43,560	17
MC	1	191,902	153,521	12,000	13
LI	2	237,462	189,970	43,560	4
PV	5	1,230,873	984,699	43,560	23
PA	1	62,734	50,188	43,560	1
Total	312	45,026,529	36,021,225	-	1,297

Map IV-3. Developable areas and zoning districts in Little Egg Harbor Township



LEGEND

Developable Areas

Zoning

Residential - R-1A
Residential - R-3A
Residential - R-50
Residential - R-5A
Residential - R-70

Residential - R-75
Residential - R100
Residential - R150
Residential - R200
Residential - R400
Residential - R75A
Planned Residential Development (PRD)

Planned Retirement Community (PRC)
Multi-Family Residential (MF)
Neighborhood Business (NB)
General Business (GB)
Highway Business (HB)

Marine Commercial (MC)
Light Industrial (LI)
Senior Citizen/ General Business (SC/GB)
Waterfront Development (WFD)
Affordable Housing Zone (AHZ)

Mixed Use Affordable Housing (MUAH)
Cemetery (C)
Gateway Overlay Zone North (GOZN)
Gateway Overlay Zone South (GOZS)
Parker's Run Redevelopment Area (RA)

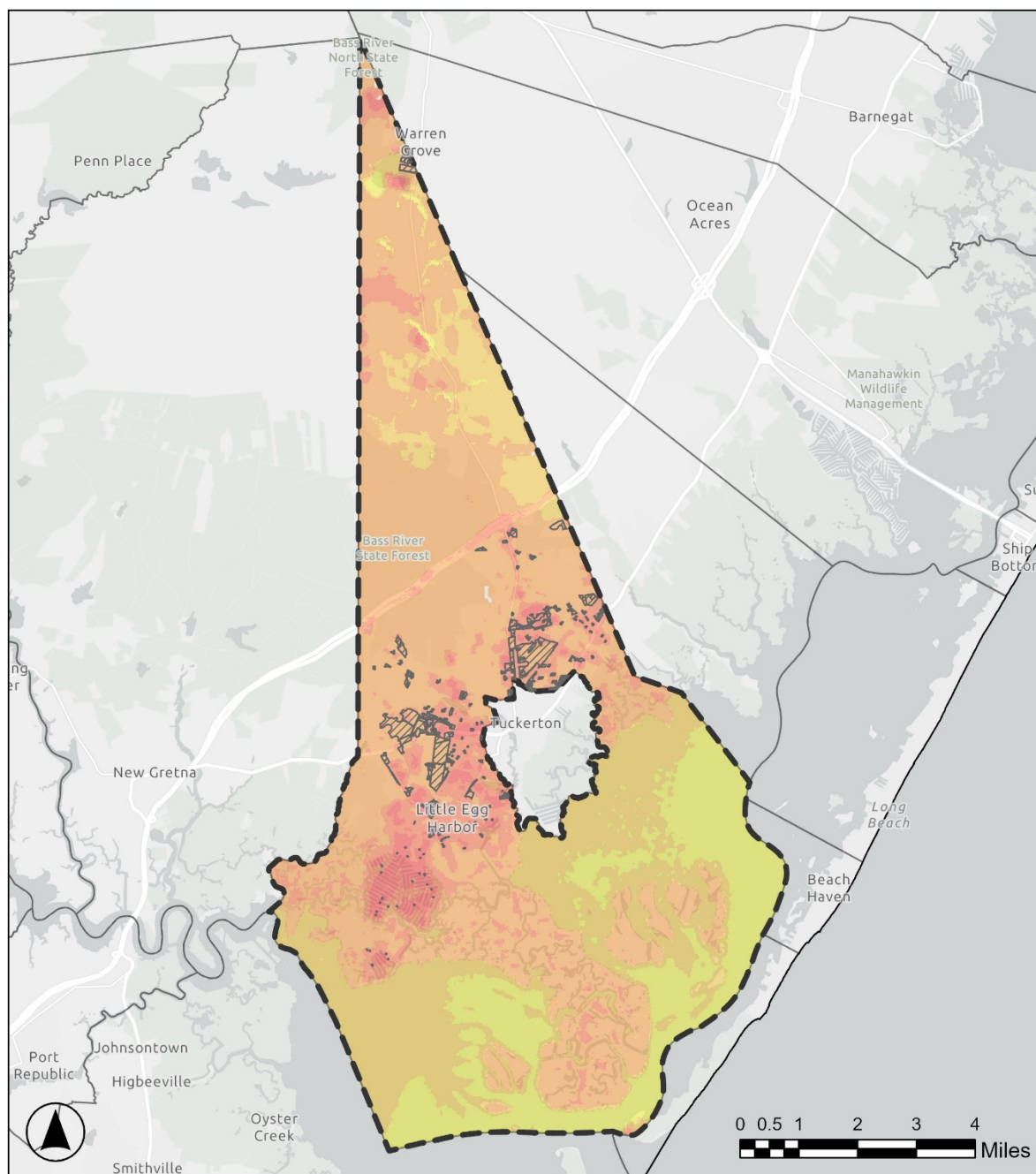
Scenic Gateway Overlay Zone (SGOZ)
Forest Area (FA)
Forest Area Cluster (FAC)
Light Industrial/ Commercial (LI/C)
Pinelands Village (PV)
Preservation Area (PA)

C. Exposure of Developable Areas

Identifying the climate hazard exposure of developable areas is the critical component of this buildout analysis to support decisions about where future development may face significant risk. This exposure analysis identifies how heat and flooding are projected to impact the development potential identified in Table IV-3.

Map IV-4 shows the developable areas with respect to land surface temperature. As detailed in Section III.A, temperature projections indicate heat does not pose a significant threat to Little Egg Harbor. Since impervious cover, including buildings and streets, traps more heat, the Township shows a pattern of higher temperatures in residential, industrial and business zoning districts. Developable areas are scattered over these zones and may require consideration of heat mitigation strategies for new development. Because green spaces help moderate surface and air temperatures through shading and evapotranspiration, opportunities to reduce impervious coverage and to incorporate additional trees, green roofs, permeable paving, and landscaped buffers within these developable parcels should be explored. Such measures would not only help offset projected temperature increases but could also improve stormwater management, reduce building energy demand, and enhance the quality of life for residents in surrounding neighborhoods.

Map IV-4. Developable areas and land surface temperature



LEGEND

Land Surface Temperature

Below 80° F

80° F - 90° F

90° F - 100° F

100° F - 110° F

Over 110° F

 Developable Areas

Maps IV-5 through IV-8 depict the flood exposure of developable areas for each of the four flood measures listed in Table III-8 (two feet coastal inundation, five feet coastal inundation, FEMA 1% annual chance flood zone, and NJDEP Climate Adjusted Flood Elevation (CAFE)). Across all four flood scenarios, a clear pattern emerges in the distribution of developable areas among inundation categories. At 2 feet of coastal inundation, only a few of the developable areas are exposed to flooding, which does not change substantially for the 5 feet coastal and FEMA 1% annual chance flood scenarios. Within the NJDEP Climate Adjusted Flood Elevation, 43 developable areas are exposed to flooding.

Tables IV-4 through IV-7 present the areas impacted by each of these flood measures, respectively. For these flood exposure categories, the number of potential lots exposed is calculated using the 80% gross-to-net conversion factor and minimum lot sizes. At 2 feet of coastal inundation, 291 of 312 developable areas remain not inundated and 21 areas experience only limited inundation (as shown in Map IV-5). As the flood scenario increases to 5 feet, 279 of 312 developable areas remain not inundated and 31 fall into the considerable and completely inundated categories (as shown in Map IV-6). Under the FEMA 1% annual chance flood scenario, 32 of 312 developable areas are completely at flood risk (as shown in Map IV-7). Within the NJDEP Climate Adjusted Flood Elevation, 43 of 312 developable areas are exposed to complete flood risk (as shown in Map IV-8).

Table IV-4. Developable areas with development potential exposed at 2 feet coastal inundation

Zone ID	Total No. of Developable Areas	Not Inundated				1-50% Inundated				51-99% Inundated				100% Inundated			
		No. of Developable Areas	Gross Area	Net Area	Units/Lots	No. of Developable Areas	Gross Area	Net Area	Units/Lots	No. of Developable Areas	Gross Area	Net Area	Units/Lots	No. of Developable Areas	Gross Area	Net Area	Units/Lots
R-1A	28	28	3,591,548	2,873,238	66	-	-	-	-	-	-	-	-	-	-	-	-
R-3A	5	5	3,252,418	2,601,934	20	-	-	-	-	-	-	-	-	-	-	-	-
R-50	30	10	73,998	59,198	12	20	134,779	107,824	22	-	-	-	-	-	-	-	-
R-5A	1	1	3,420,802	2,736,642	13	-	-	-	-	-	-	-	-	-	-	-	-
R-70	1	1	7,411	5,929	1	-	-	-	-	-	-	-	-	-	-	-	-
R-75	13	13	158,624	126,899	17	-	-	-	-	-	-	-	-	-	-	-	-
R75A	12	12	532,741	426,193	57	-	-	-	-	-	-	-	-	-	-	-	-
R100	37	37	992,667	794,134	79	-	-	-	-	-	-	-	-	-	-	-	-
R150	16	16	6,268,790	5,015,032	334	-	-	-	-	-	-	-	-	-	-	-	-
R200	22	22	1,246,515	997,212	50	-	-	-	-	-	-	-	-	-	-	-	-
R400	25	25	1,049,384	839,507	24	-	-	-	-	-	-	-	-	-	-	-	-
PRD	1	1	6,336,669	5,069,335	1	-	-	-	-	-	-	-	-	-	-	-	-
GB	108	108	15,299,535	12,239,628	544	-	-	-	-	-	-	-	-	-	-	-	-
HB	4	4	937,677	750,142	17	-	-	-	-	-	-	-	-	-	-	-	-
MC	1	-	-	-	-	1	191,902	153,521	13	-	-	-	-	-	-	-	-
LI	2	2	237,462	189,970	4	-	-	-	-	-	-	-	-	-	-	-	-
PV	5	5	1,230,873	984,699	23	-	-	-	-	-	-	-	-	-	-	-	-
PA	1	1	62,734	50,188	1	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	312	291	44,699,851	35,759,880	1,263	21	326,681	261,345	34	-	-	-	-	-	-	-	-

Table IV-5. Developable areas with development potential exposed at 5 feet coastal inundation

Zone ID	Total No. of Developable Areas	Not Inundated				1-50% Inundated				51-99% Inundated				100% Inundated			
		No. of Developable Areas	Gross Area	Net Area	Units/Lots	No. of Developable Areas	Gross Area	Net Area	Units/Lots	No. of Developable Areas	Gross Area	Net Area	Units/Lots	No. of Developable Areas	Gross Area	Net Area	Units/Lots
R-1A	28	28	3,591,548	2,873,238	66	-	-	-	-	-	-	-	-	-	-	-	-
R-3A	5	5	3,252,418	2,601,934	20	-	-	-	-	-	-	-	-	-	-	-	-
R-50	30	3	18,416	14,733	3	1	5,141	4,112	1	3	26,612	21,290	4	23	158,608	126,887	25
R-5A	1	1	3,420,802	2,736,642	13	-	-	-	-	-	-	-	-	-	-	-	-
R-70	1	-	-	-	-	-	-	-	-	-	-	-	-	1	7,411	5,929	1
R-75	13	13	158,624	126,899	17	-	-	-	-	-	-	-	-	-	-	-	-
R75A	12	12	532,741	426,193	57	-	-	-	-	-	-	-	-	-	-	-	-
R100	37	33	945,703	756,563	76	1	11,730	9,384	1	-	-	-	-	3	35,234	28,187	3
R150	16	16	6,268,790	5,015,032	334	-	-	-	-	-	-	-	-	-	-	-	-
R200	22	22	1,246,515	997,212	50	-	-	-	-	-	-	-	-	-	-	-	-
R400	25	25	1,049,384	839,507	24	-	-	-	-	-	-	-	-	-	-	-	-
PRD	1	1	6,336,669	5,069,335	1	-	-	-	-	-	-	-	-	-	-	-	-
GB	108	108	15,299,535	12,239,628	544	-	-	-	-	-	-	-	-	-	-	-	-
HB	4	4	937,677	750,142	17	-	-	-	-	-	-	-	-	-	-	-	-
MC	1	-	-	-	-	-	-	-	-	1	191,902	153,521	13	-	-	-	-
LI	2	2	237,462	189,970	4	-	-	-	-	-	-	-	-	-	-	-	-
PV	5	5	1,230,873	984,699	23	-	-	-	-	-	-	-	-	-	-	-	-
PA	1	1	62,734	50,188	1	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	312	279	44,589,894	35,671,915	1,249	2	16,871	13,497	2	4	218,514	174,811	17	27	201,253	161,002	29

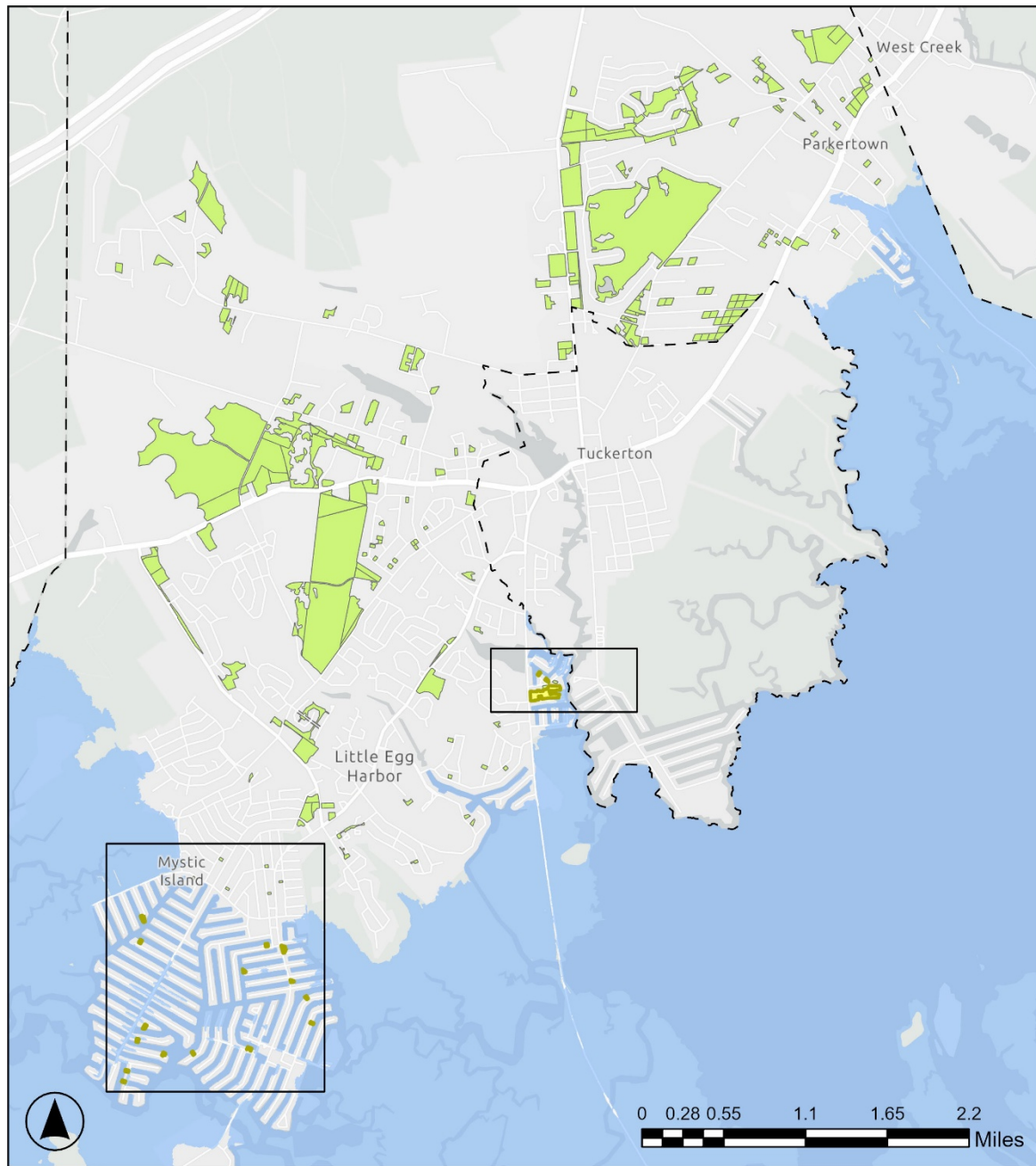
Table IV-6. Developable areas with development potential exposed within FEMA 1% annual chance flood

Zone ID	Total No. of Developable Areas	Not Inundated				1-50% Inundated				51-99% Inundated				100% Inundated			
		No. of Developable Areas	Gross Area	Net Area	Units/Lots	No. of Developable Areas	Gross Area	Net Area	Units/Lots	No. of Developable Areas	Gross Area	Net Area	Units/Lots	No. of Developable Areas	Gross Area	Net Area	Units/Lots
R-1A	28	28	3,591,548	2,873,238	66	-	-	-	-	-	-	-	-	-	-	-	-
R-3A	5	5	3,252,418	2,601,934	20	-	-	-	-	-	-	-	-	-	-	-	-
R-50	30	3	18,416	14,733	3	-	-	-	-	-	-	-	-	27	190,361	152,289	30
R-5A	1	1	3,420,802	2,736,642	13	-	-	-	-	-	-	-	-	-	-	-	-
R-70	1	-	-	-	-	-	-	-	-	-	-	-	-	1	7,411	5,929	1
R-75	13	12	138,258	110,606	15	-	-	-	-	1	20,367	16,293	2	-	-	-	-
R75A	12	12	532,741	426,193	57	-	-	-	-	-	-	-	-	-	-	-	-
R100	37	32	934,365	747,492	75	1	11,338	9,071	1	1	11,730	9,384	1	3	35,234	28,187	3
R150	16	16	6,268,790	5,015,032	334	-	-	-	-	-	-	-	-	-	-	-	-
R200	22	22	1,246,515	997,212	50	-	-	-	-	-	-	-	-	-	-	-	-
R400	25	25	1,049,384	839,507	24	-	-	-	-	-	-	-	-	-	-	-	-
PRD	1	1	6,336,669	5,069,335	1	-	-	-	-	-	-	-	-	-	-	-	-
GB	108	108	15,299,535	12,239,628	544	-	-	-	-	-	-	-	-	-	-	-	-
HB	4	4	937,677	750,142	17	-	-	-	-	-	-	-	-	-	-	-	-
MC	1	-	-	-	-	-	-	-	-	-	-	-	-	1	191,902	153,521	13
LI	2	2	237,462	189,970	4	-	-	-	-	-	-	-	-	-	-	-	-
PV	5	2	276,382	221,106	5	3	954,491	763,593	18	-	-	-	-	-	-	-	-
PA	1	-	-	-	-	1	62,734	50,188	1	-	-	-	-	-	-	-	-
Grand Total	312	273	43,540,963	34,832,771	1,228	5	1,028,564	822,851	20	2	32,097	25,677	3	32	424,908	339,926	47

Table IV-7. Developable areas with development potential exposed within approx. extent of CAFE

Zone ID	Total No. of Developable Areas	Not Inundated				1-50% Inundated				51-99% Inundated				100% Inundated			
		No. of Developable Areas	Gross Area	Net Area	Units/Lots	No. of Developable Areas	Gross Area	Net Area	Units/Lots	No. of Developable Areas	Gross Area	Net Area	Units/Lots	No. of Developable Areas	Gross Area	Net Area	Units/Lots
R-1A	28	26	3,444,388	2,755,510	63	2	147,160	117,728	3	-	-	-	-	-	-	-	-
R-3A	5	5	3,252,418	2,601,934	20	-	-	-	-	-	-	-	-	-	-	-	-
R-50	30	-	-	-	-	2	12,980	10,384	2	-	-	-	-	28	195,797	156,638	31
R-5A	1	1	3,420,802	2,736,642	13	-	-	-	-	-	-	-	-	-	-	-	-
R-70	1	-	-	-	-	-	-	-	-	-	-	-	-	1	7,411	5,929	1
R-75	13	10	107,277	85,821	11	-	-	-	-	-	-	-	-	3	51,348	41,078	5
R75A	12	12	532,741	426,193	57	-	-	-	-	-	-	-	-	-	-	-	-
R100	37	31	919,565	735,652	74	-	-	-	-	2	26,138	20,910	2	4	46,964	37,571	4
R150	16	13	6,203,332	4,962,666	331	-	-	-	-	1	26,806	21,445	1	2	38,652	30,922	2
R200	22	22	1,246,515	997,212	50	-	-	-	-	-	-	-	-	-	-	-	-
R400	25	25	1,049,384	839,507	24	-	-	-	-	-	-	-	-	-	-	-	-
PRD	1	1	6,336,669	5,069,335	1	-	-	-	-	-	-	-	-	-	-	-	-
GB	108	102	14,902,224	11,921,779	530	2	177,964	142,371	6	4	219,347	175,478	8	-	-	-	-
HB	4	4	937,677	750,142	17	-	-	-	-	-	-	-	-	-	-	-	-
MC	1	-	-	-	-	-	-	-	-	-	-	-	-	1	191,902	153,521	13
LI	2	2	237,462	189,970	4	-	-	-	-	-	-	-	-	-	-	-	-
PV	5	-	-	-	-	-	-	-	-	1	711,941	569,553	13	4	518,933	415,146	10
PA	1	-	-	-	-	-	-	-	-	1	62,734	50,188	1	-	-	-	-
Grand Total	312	254	42,590,456	34,072,365	1,195	6	338,103	270,483	11	9	1,046,966	837,573	26	43	1,051,006	840,805	66

Map IV-5. Levels of flood exposure for developable areas with development potential at 2 feet coastal inundation

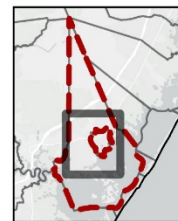


LEGEND

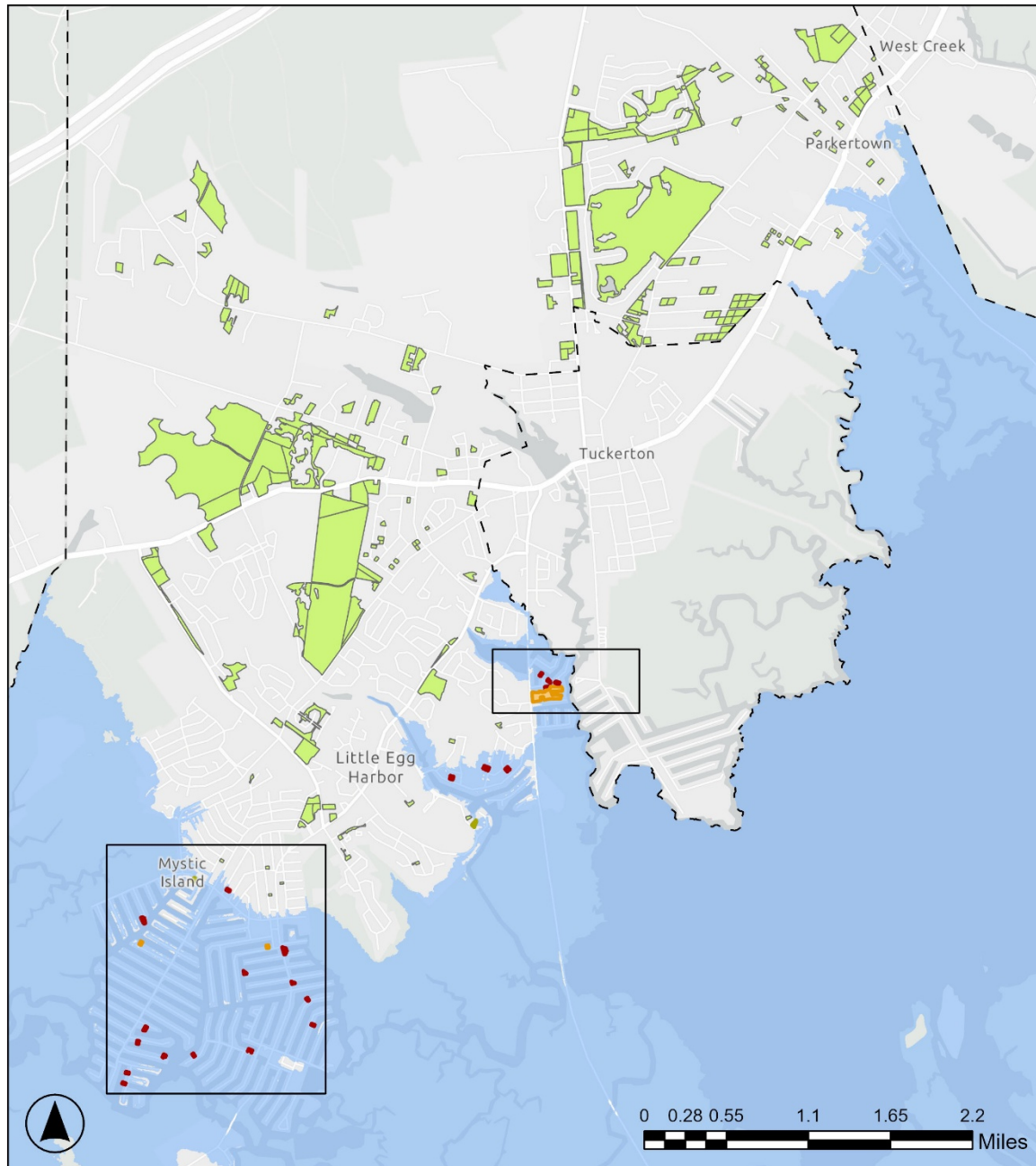
Developable Areas - 2ft Coastal Inundation Extent

- Not Inundated
- Limited Inundation
- Considerable Inundation
- Completely Inundated

■ 2ft Coastal Inundation Extent



Map IV-6. Levels of flood exposure for developable areas with development potential at 5 feet coastal inundation

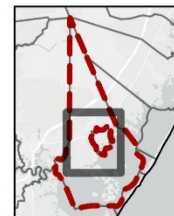


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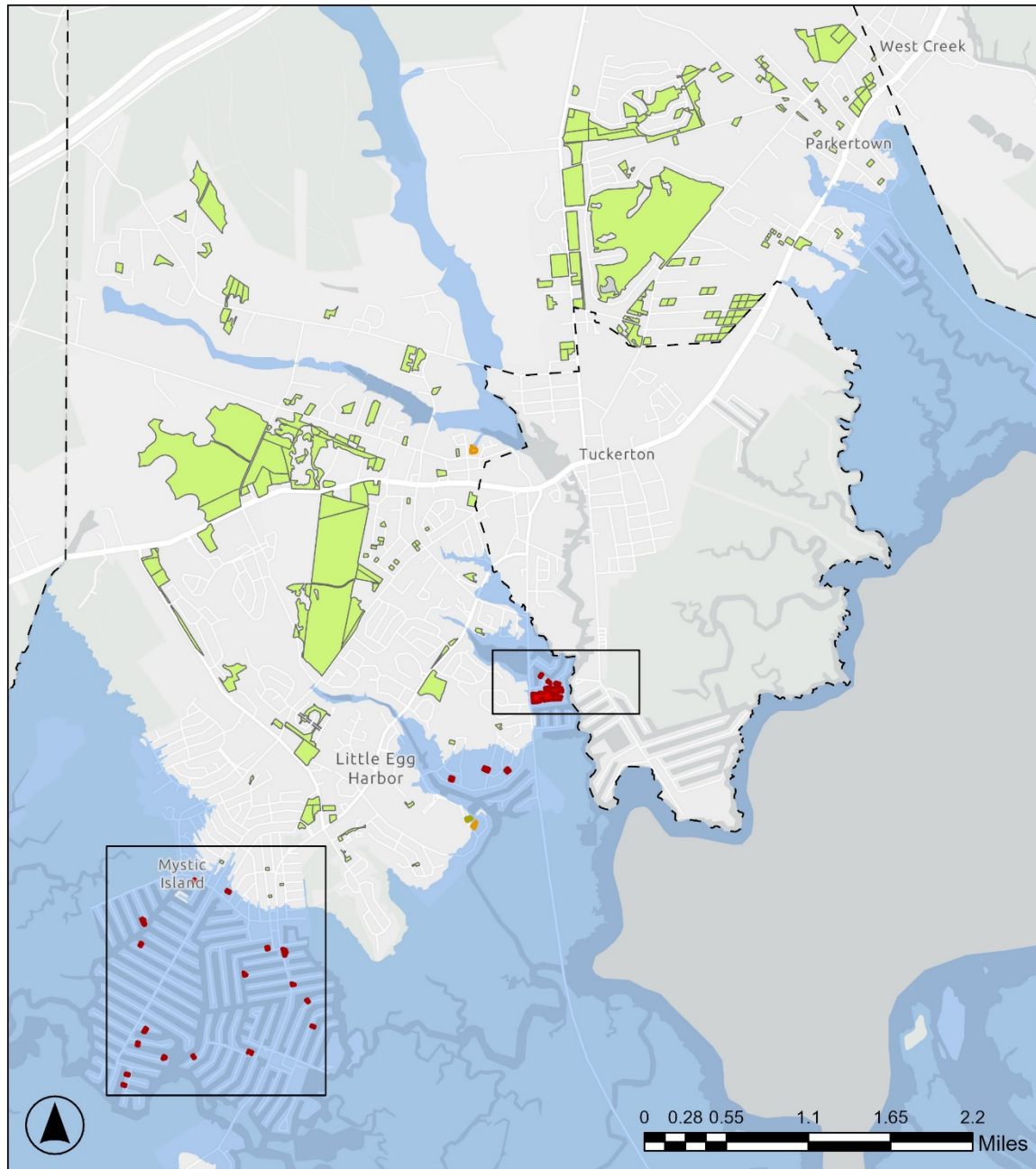
Developable Areas - 5ft Coastal Inundation Extent

- Not Inundated
- Limited Inundation
- Considerable Inundation
- Completely Inundated

5ft Coastal Inundation Extent



Map IV-7. Levels of flood exposure for developable areas with development potential within FEMA 1% Annual Chance Flood

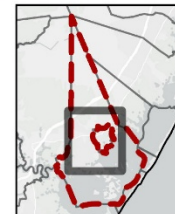


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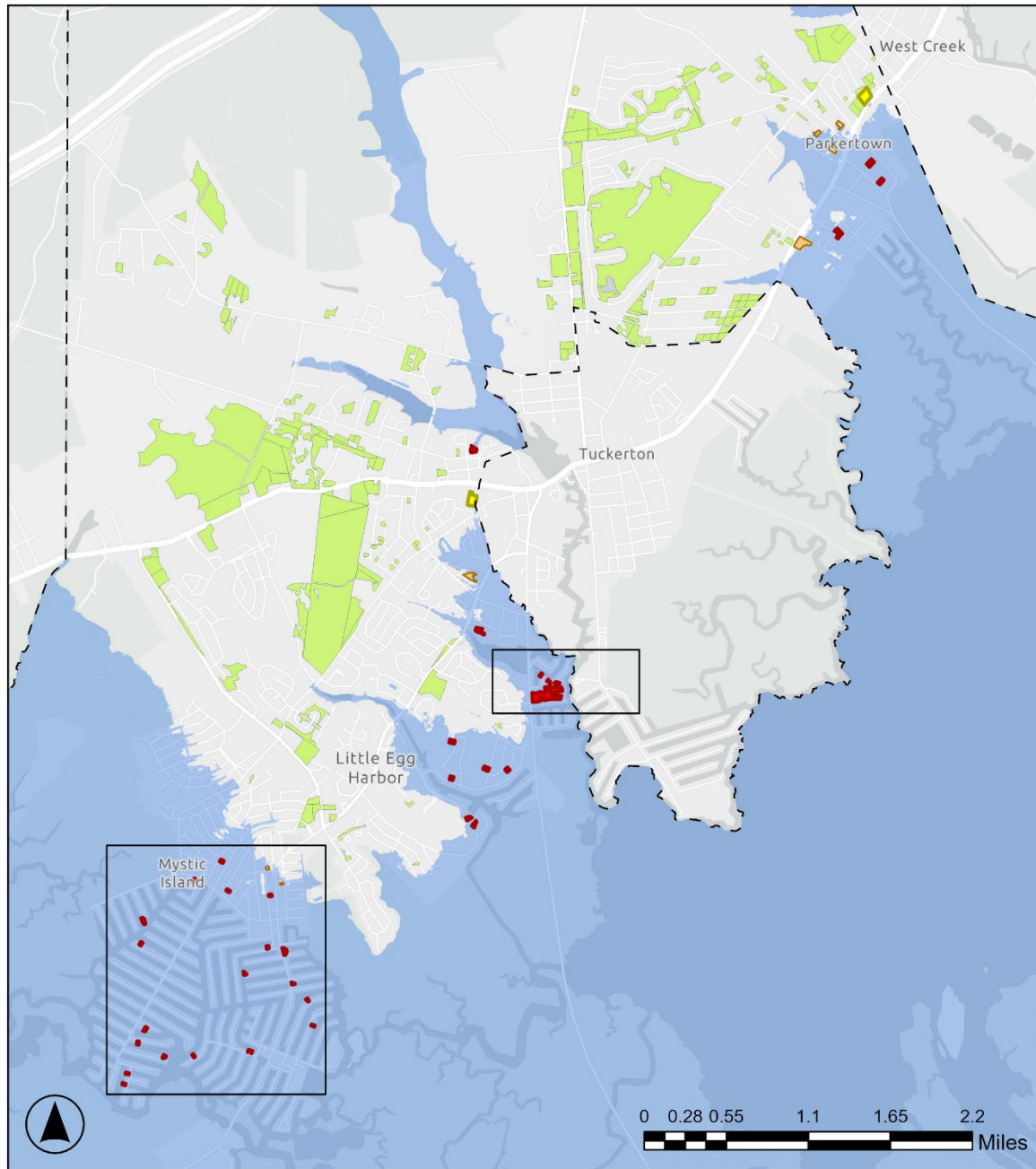
Developable Areas - 1% Annual Chance Flood

- Not Inundated
- Limited Inundation
- Considerable Inundation
- Completely Inundated

1% Annual Chance Flood



Map IV-8. Levels of flood exposure for developable areas with development potential within the approximate extent of CAFE

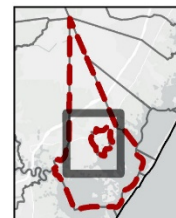


LEGEND

Developable Areas - Approx. extent of REAL Climate Adjusted Flood Elevation

- Not Inundated
- Limited Inundation
- Considerable Inundation
- Completely Inundated

Approx. extent of REAL Climate Adjusted Flood Elevation



V. Exposure and Vulnerability Assessment

New Jersey’s MLUL requires a CCRHVA to identify “critical facilities, utilities, roadways, and other infrastructure that is necessary for evacuation purposes and for sustaining quality of life during a natural disaster, to be maintained at all times in an operational state.” This section addresses and significantly expands upon that requirement, analyzing the climate hazard exposures of additional community facilities, assets, and population groups of importance to local planning. Where applicable, for consistency with Hazard Mitigation Planning, this section is categorized to facilitate alignment with FEMA Community Lifelines.

A. Facilities and Infrastructure

This subsection addresses the MLUL’s requirement for a CCRHVA to identify “critical facilities, utilities, roadways, and other infrastructure that is necessary for evacuation purposes and for sustaining quality of life during a natural disaster.” It includes analysis of the following:

- Critical facilities are essential to maintain quality of life. These include facilities related to education (e.g. schools and childcare centers), safety and security (e.g. law enforcement, fire stations, and emergency operation centers), health and medical care (e.g. hospitals, dialysis centers, VA medical facilities, and nursing homes), government facilities (municipal and county buildings, post offices), and commercial facilities that provide essential shopping and services (e.g. grocery stores, pharmacies, urgent care facilities, and banks).
- Infrastructure and utilities necessary to maintain services. These include facilities related to transportation and evacuation routes (e.g. roads, public transit, aircraft landing facilities, ferry terminals, gas stations, EV charging stations, and rail lines), energy (e.g. power plants), and water systems (e.g. wastewater treatment plants).
- Hazardous facilities and known contaminated sites from which climate hazards may cause releases of hazardous materials.

These facilities, sites, and assets fall within the following FEMA Community Lifelines: Safety and Security; Health and Medical; Food, Water, Shelter; Transportation; Energy; Communications; Water Systems; Hazardous Materials. Climate risks to facilities and infrastructure are related to the asset’s exposure to hazards and its ability to operate during or despite climate-related weather events. Risks also depend upon the ability of responders to provide services to the community from the asset and the ability of residents to access the services they provide.

Heat

Temperature projections indicate that the Township may experience increasing heat throughout the century (see Section III.A). Increasing temperatures have a variety of impacts on facilities and infrastructure. For example, extreme heat acts as a stressor on New Jersey’s energy systems due to

increased demand for electricity for cooling and heating.¹⁸ Heat can impact energy infrastructure, increasing the likelihood of mechanical issues or service disruptions. Atlantic City Electric operates energy infrastructure in the Township, including a substation along Great Bay Boulevard within an area of elevated land surface temperature south of Holly Lake.

Additionally, heat can also impact communications infrastructure, which is critical to the daily functions of municipalities including emergency response and management. Communication infrastructure can be physical or cyber and is vital to the functionality of other infrastructure systems like utilities and transportation. Heat can threaten telecommunications facilities that are already high heat generators with temperature thresholds that may not be designed to endure extreme heat. Intense heat waves can cause overheating of machinery, increase fire risks, and lead to malfunctions in cooling systems. Failure or degradation of equipment catalyzes a slowdown of services across all other facilities and infrastructure. There are several communications towers located in the southern section of the Township, including two cellular towers within areas of elevated land surface temperature along US Route 9 and Radio Road.

Map V-1 depicts transportation infrastructure, critical facilities, and hazardous sites in the Township that may be impacted by increasing temperatures. Land surface temperatures are typically higher in areas with greater impervious surface; thus, most facilities and infrastructure are in areas of relatively high temperatures.

Transportation infrastructure is depicted on the left map panel. High temperatures can warp materials and reduce the reliability of air, land, and maritime systems. This impacts how goods and people move across all travel modes, including roads, railways, public transit, active transportation, water transport, and aviation infrastructure. More specifically, extreme heat could accelerate the degradation of roads, lead to power system failures due to overheating, and increase public safety risks for pedestrians and transit riders in areas with limited shade or tree canopy. Notably, temperatures range from 90 °F to over 110 °F along the NJ Transit bus route. Only some bus stops have a shelter, meaning some riders must wait without sun protection.

Critical services are depicted on the center map panel. The Township's public schools, nursing homes/assisted care, and childcare centers are in areas with elevated temperatures. Although abundant natural areas and lower-density development alleviate extreme heat impacts Township-wide, vulnerable populations (see Section V.D) may be exposed to heat stress. Schools can face operational challenges related to extreme heat, especially if older buildings are not equipped with central air conditioning. Additionally, while heat does not necessarily impact critical facilities themselves, increasing temperatures require greater health and medical services response. This may include planning for increased mobilization to and from health facilities and cooling centers. Although the Township has no formally designated cooling centers, Fire Station 72 at Mystic Island and the library (Section V.C, Map V-10) can accommodate a heat emergency. The Ocean County

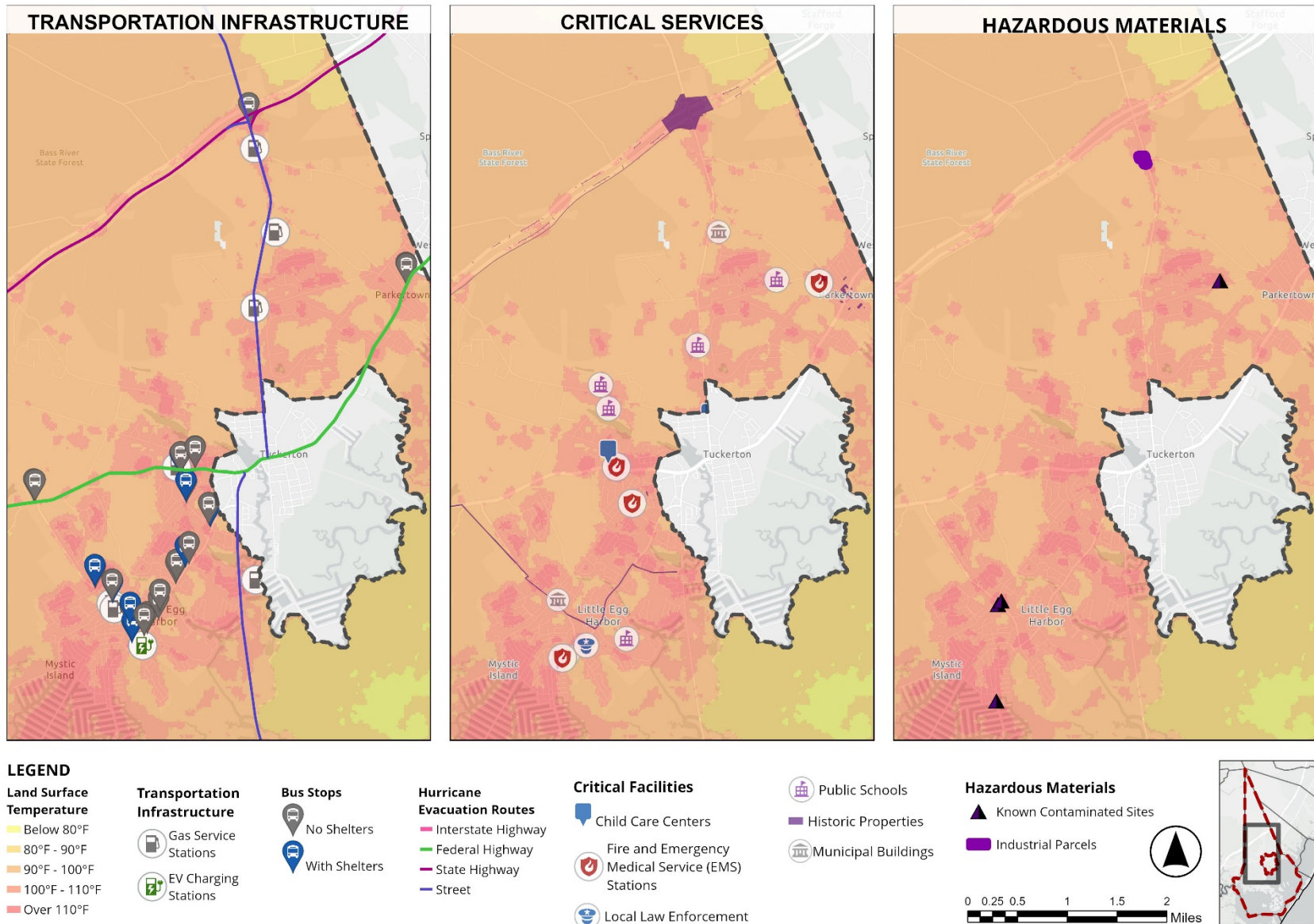
¹⁸ Filión, N.A., Knutsen, M., and Phillips, S. New Jersey Department of Environmental Protection. 2025. [New Jersey Extreme Heat Resilience Action Plan](#).

Office of Emergency Management administers official cooling centers, with the closest being in Barnegat Township.

Industrial and hazardous sites are depicted on the right map panel. Hazardous materials are of concern during extreme heat events since nearly all chemicals are affected by heat. Extreme temperatures can impact the storage and transport of hazardous materials, especially if they are volatile.¹⁹ The Township's four Known Contaminated Sites and two industrial parcels are located in areas of elevated land surface temperatures.

¹⁹ NJ Office of Emergency Management. 2024. [2024 New Jersey State Hazard Mitigation Plan](#).

Map V-1. Land surface temperature and facilities and infrastructure



Storms

As detailed in Section III.B, the frequency and intensity of extreme precipitation events are anticipated to increase throughout the century. Storm-driven extreme precipitation and wind affect the built environment across all sectors. For example, extreme precipitation can directly impact stormwater management and water quality if overloaded water and sewage systems flood, with untreated water posing public health risks. To address this, as noted in the Township annex to the Ocean County Hazard Mitigation Plan (Section VII.A), the Little Egg Harbor Township Municipal Utilities Authority manages stormwater and has recently upgraded their system of emergency generators to maintain service during utility interruptions and storm events.

For transportation, extreme precipitation events have been linked with increased risk of traffic accidents, road inaccessibility and/or closures, inability to use active transportation modes (e.g. biking and walking), pavement buckling, and material erosion on the base of bridges in water due to faster stream flow. Additionally, increased frequency of extreme precipitation leads to faster rates of degradation and can disrupt infrastructure. As noted in the Township Emergency Operations Plan (Section VII.D), the Township inspects bridges for structural damage immediately following hazard events.

Historically, high winds in New Jersey have damaged residential, commercial, and industrial buildings as well as power, communication, transportation, water, and other lifeline systems.²⁰ Extreme winds can cause structural damage to facilities, including the breakage or collapse of compromised components such as building materials like roofs, signage, or windows and outdoor components like fencing or cooling systems. Facilities and infrastructure are also vulnerable to indirect hazards such as falling trees and downed power lines. Transportation, utilities, and communication infrastructure are also vulnerable, as high winds can lead to disruptions in public transit service, create hazardous conditions for road users, interrupt emergency communications, and catalyze water and power outages. Roadways, railways, and bridges can be shut down due to structural compromise or blockage from trees and/or debris. Extreme winds can also contribute to the spread of wildfires and contaminant dispersal.

Drought

As detailed in Section III.C, the Township's time in drought each year is anticipated to increase throughout the century. Facilities and infrastructure that depend on water are those most affected by drought. For example, although no power plants are present in the Township, regional energy production may be affected due to the need for cooling water. Drinking water and water treatment may also be impacted by drought. The Township's drinking water is sourced from seven wells in the Atlantic City 800-foot sand aquifer and one well in the Rio Grande water-bearing zone. Although higher rates of groundwater pumping during drought conditions can impact water quality and exacerbate saltwater intrusion (the movement of saltwater into freshwater aquifers), the 2024 New

²⁰ NJ Office of Emergency Management. 2024. [2024 New Jersey State Hazard Mitigation Plan](#).

Jersey Water Supply Plan notes that this is not a significant risk for the Township.²¹ Increased groundwater pumping during droughts may also increase the risk of land subsidence, particularly in sandy coastal soils, which can damage infrastructure.

Flood

Transportation infrastructure is particularly vulnerable to flooding when roads and railways become impassable, disrupting daily life, emergency and healthcare services, and the food supply chain. Flooded energy and communications infrastructure can impact emergency response coordination and hinder oil, gas, and electricity production. For hazardous sites, flooding can mobilize pollutants and lead to acute and chronic health effects.²² Potential public health impacts from mobilized pollutants include respiratory illnesses from mold exposure and infectious disease spread from microorganism contamination of clean water. The pollution impacts of flooding can continue after flood waters recede. Finally, flooding impacts in water systems can include damaged wells, contaminated aquifers and wells, and backed-up sewage systems that can overflow and discharge sewage into communities and water sources.

Maps V-2 and V-3 depict potential flood exposure of the Township's facilities and infrastructure (including critical facilities, government facilities, transportation infrastructure, hazardous sites, and industrial parcels) for each of the four flood measures listed in Table III-8 (two feet coastal inundation, five feet coastal inundation, FEMA 1% annual chance flood zone, and NJDEP Climate Adjusted Flood Elevation (CAFE)). The analysis of hazardous sites included facilities present within the municipality regulated by any of the following programs:

- Toxic Catastrophe Prevention Act (TCPA)
- Discharge Prevention Containment and Countermeasure (DPCC)
- Known Contaminated Sites
- Community Right to Know
- Solid and Hazardous Waste Facilities
- Combined Sewer Overflow
- Scrap Metal Facilities

Table V-1 summarizes the number of each type of facility and infrastructure exposed at each flood measure. Most of the Township's facilities and infrastructure are not exposed to flooding. Exceptions include the gas station at South Port Marina along Tuckerton Creek and the Known

²¹ Domber, S., Barr K., Snook, I., Hoy, D., Carreno, B., Drabik, J., Walsh, S. NJDEP Division of Water Resources Management. 2024. [2024 New Jersey Water Supply Plan](#).

²² NJ Office of Emergency Management. 2024. [2024 New Jersey State Hazard Mitigation Plan](#).

Contaminated Site (former Texaco service station) at Radio Road and Dyke Place, both of which are impacted at five feet of coastal flooding and are within the FEMA 1% annual chance flood zone. Additionally, one of the Township's three nursing homes/assisted care facilities is within the FEMA 1% annual chance flood zone (Seacrest Rehabilitation and Healthcare Center on Center Street). Looking to future flood risk, the two NJ Transit bus stops at Oak Lane and Radio Road are within the approximate extent of the CAFE mapping developed by NJDEP.

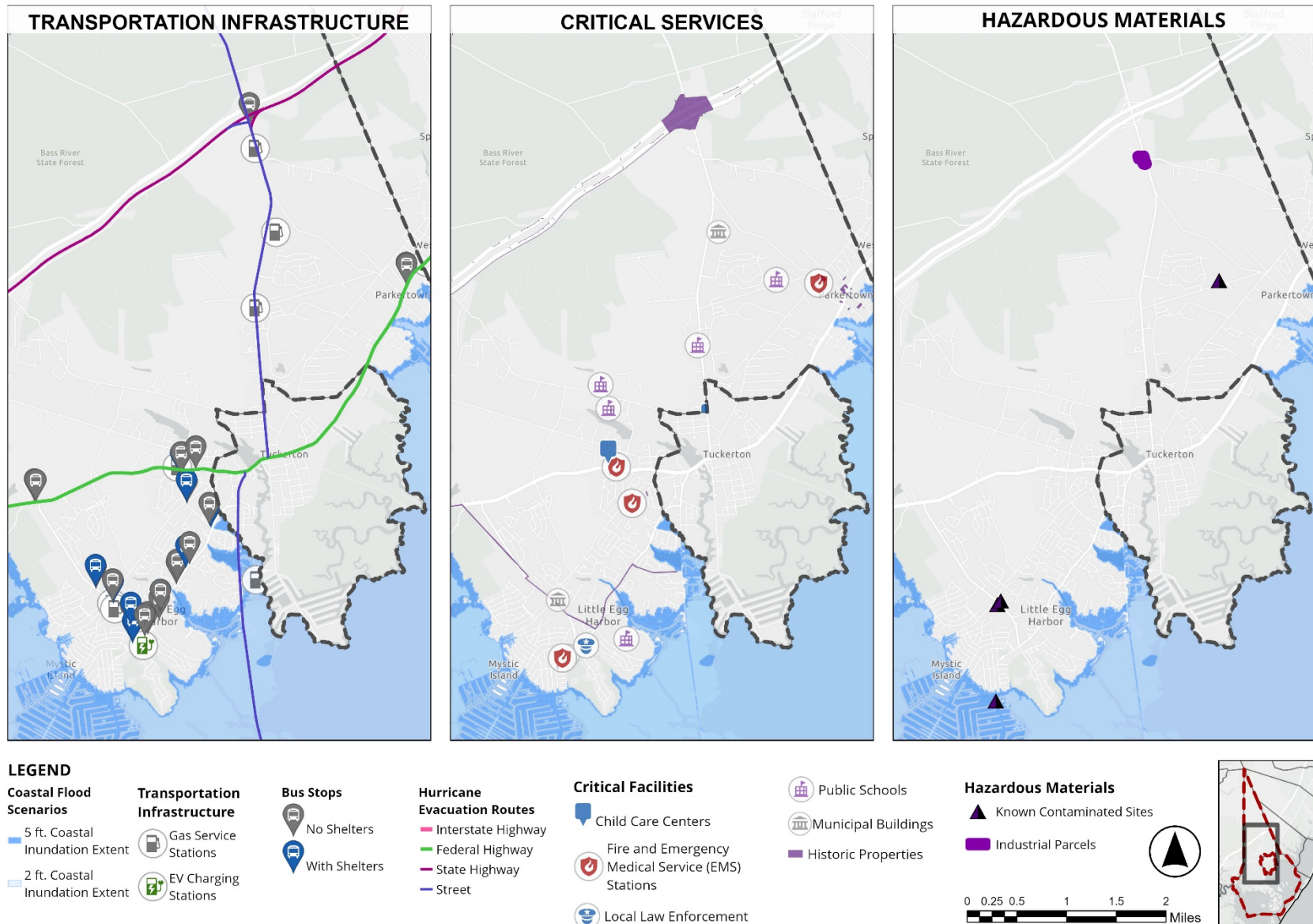
The designated evacuation routes of the Garden State Parkway, County Route 539, and US Route 9 are outside the flood risk area. However, the southern part of Great Bay Boulevard, which is also a designated evacuation route, is impacted by all scenarios (see Map V-4). Pinelands Regional Junior High and High Schools serve as the Township's emergency shelters and are outside the flood risk zone.

To identify commercial facilities that provide essential shopping and services, Homeland Infrastructure Foundation-Level Data (HIFLD) and United States Department of Agriculture (USDA) Supplemental Nutrition Assistance Program (SNAP) Retailers^{23,24} datasets were reviewed. Although these facilities were not mapped for this analysis because their locations frequently change, they include three banks, two grocery stores, and five pharmacies located along US Route 9 and Mathistown Road. All are outside the included flood exposure scenarios. These commercial facilities are important for post-storm continuity of services and are typically analyzed in the Hazard Mitigation Plan (Section VII.A). From a land use perspective, the Township may consider overall impacts to commercial zoning, which is detailed in Section V.C.

²³ US Department of Homeland Security. 2025. [Homeland Infrastructure Foundation-Level Data](#).

²⁴ US Department of Agriculture. 2026. [SNAP Retailer Location data](#).

Map V-2. Facilities and infrastructure exposed at 2 feet and 5 feet coastal inundation



Map V-3. Facilities and infrastructure within FEMA flood zones

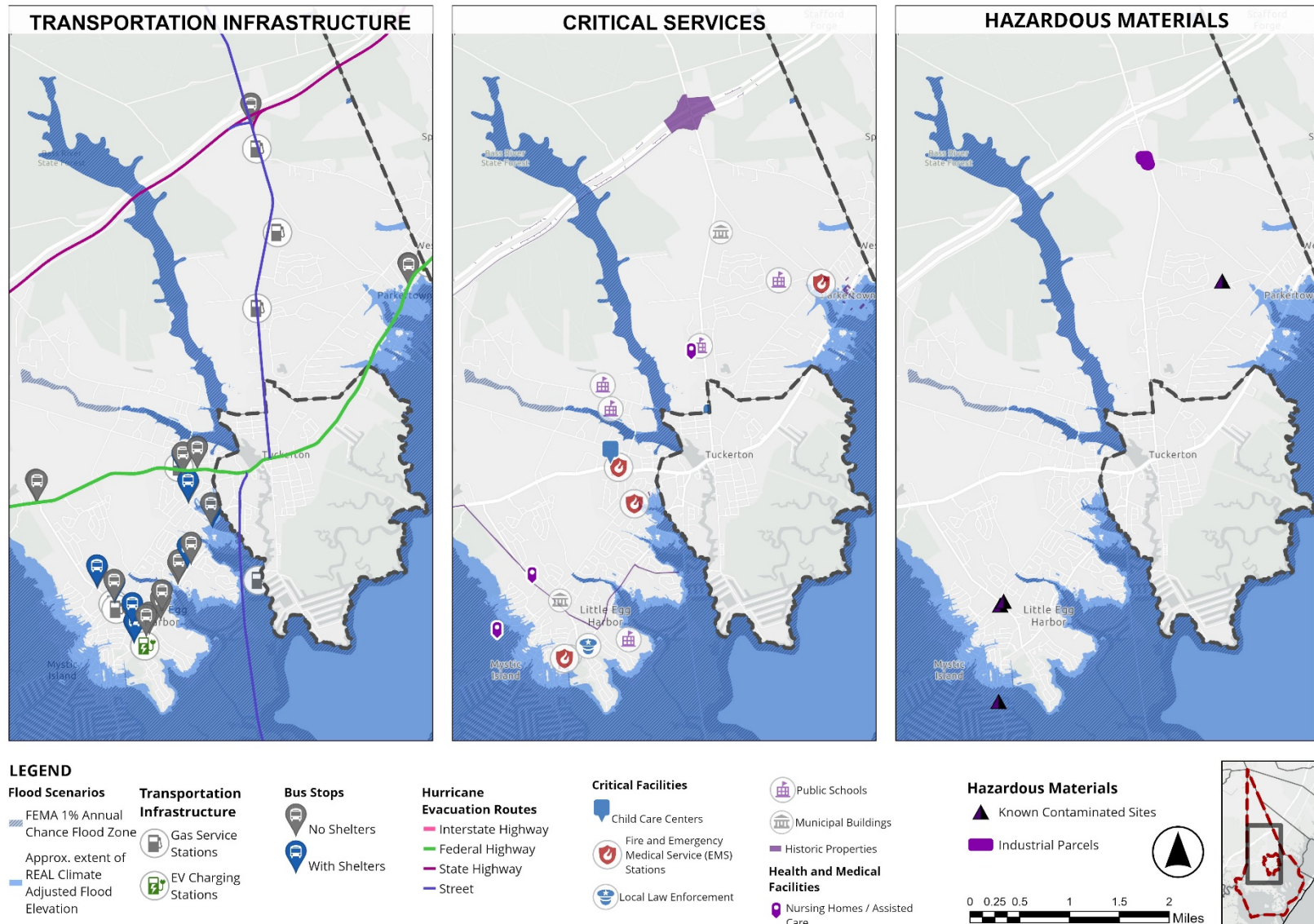


Table V-1. Flood exposure of facilities and infrastructure

	Total #	# Exposed in...			
		2 feet coastal inundation	5 feet coastal inundation	FEMA 1% Annual Chance Flood	Approx. extent of CAFE
Government Facilities					
Municipal buildings	3	0	0	0	0
Post offices	1	0	0	0	0
Safety and Security					
Child care centers	1	0	0	0	0
Fire / EMS stations	4	0	0	0	0
Local law enforcement	1	0	0	0	0
Public schools*	5	0	0	0	0
Health and Medical					
Nursing homes / Assisted care facilities	3	0	0	1	1
Transportation					
Public transit stops	29	0	0	0	2
Gas stations	7	0	1	1	1
EV charging stations	1	0	0	0	0
Hazardous Sites	4	0	1	1	1

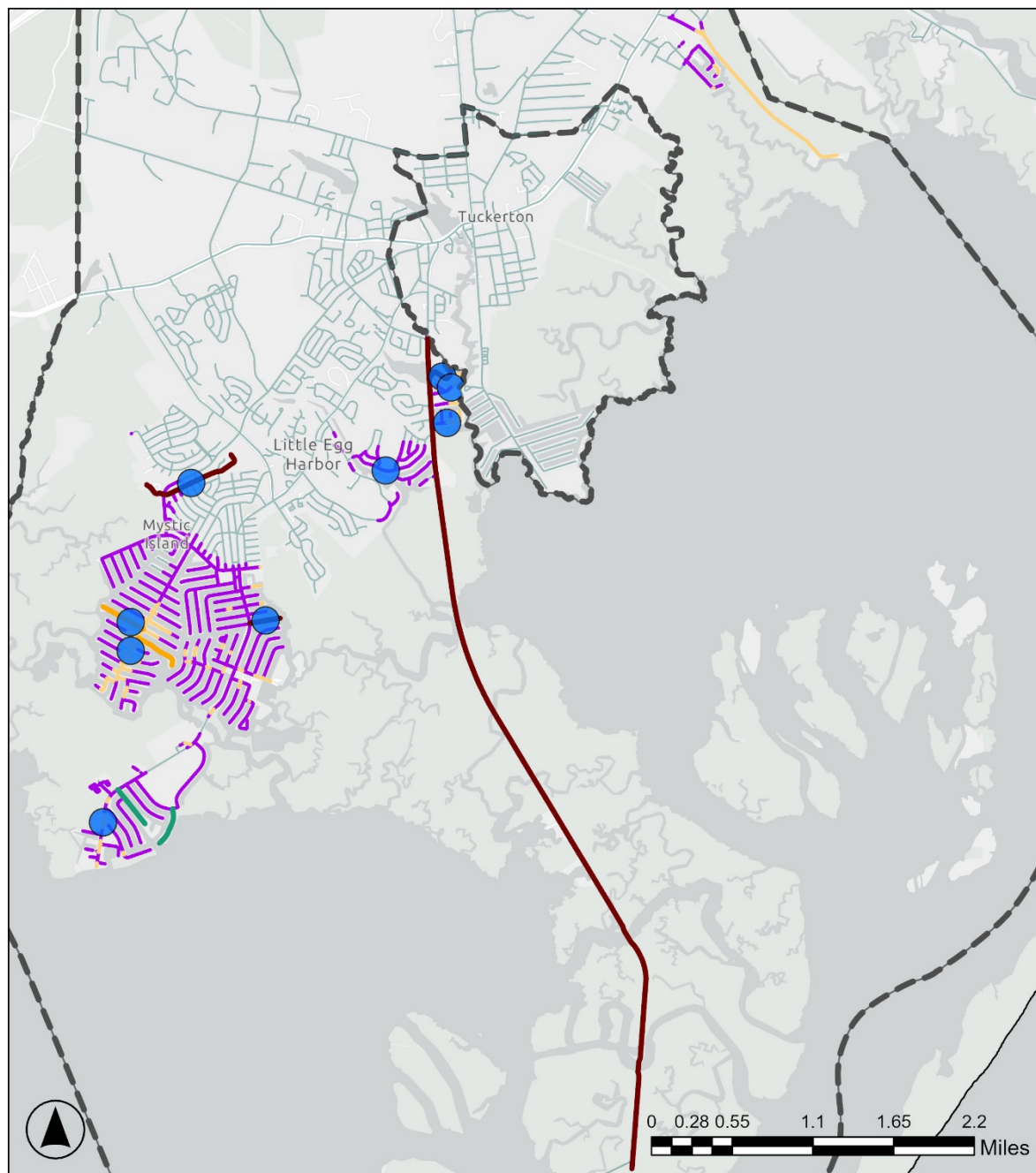
*Although public schools are included in this section as critical facilities, school property parcels (Public School Property-15A and Other School Property-15B) are analyzed with the other public property classes in Section V.C.

In addition to direct flood risk to facilities and infrastructure, it is important to understand potential impacts to access due to flood exposure of surrounding roads and/or evacuation routes. Map V-4 depicts roadways in the Township that are expected to be impacted by scenarios of two and five feet coastal inundation. The tan roads may flood at and beyond two feet coastal inundation. The purple roads may flood at and beyond five feet coastal inundation. It should be noted that this roadway analysis accounts only for coastal (tidal) flooding and does not incorporate the compound effects of fluvial flooding or rainfall, which may cause more significant impacts.

Areas of roadway flood exposure are in Mystic Island and Osborn Island, along Atlantis Boulevard and Great Bay Boulevard, and along and around Dock Street, presenting concerns for evacuations and/or emergency service access during flood events. Municipal stakeholders identified locations where stormwater flooding occurred on Lake Crystalbrook Drive at Center Street, Twin Lakes Boulevard south of Shrewsbury Drive, East Sail Drive, West Susquehanna Drive, Radio Road near Ohio Drive, South Boom Way, Daddy Tucker Drive and Flax Isle Drive (as shown in Map V-4). The Township is elevating some of the most impacted roads in these areas (see Section III.D).

Roadway jurisdictions are shown on Map V-5. The map distinguishes roads by color depending on jurisdiction of the Highway Authority, State, County, Municipal, Private, or other entities. This information can support planning of flood adaptation strategies for roadways by understanding which entity is responsible for road maintenance, improvement, funding, and regulation.

Map V-4. Potential roadway flooding at 2 feet and 5 feet coastal inundation



LEGEND

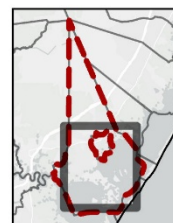
Coastal Inundation of Roadways

- Inundated at 2ft and above
- Inundated at 5ft and above

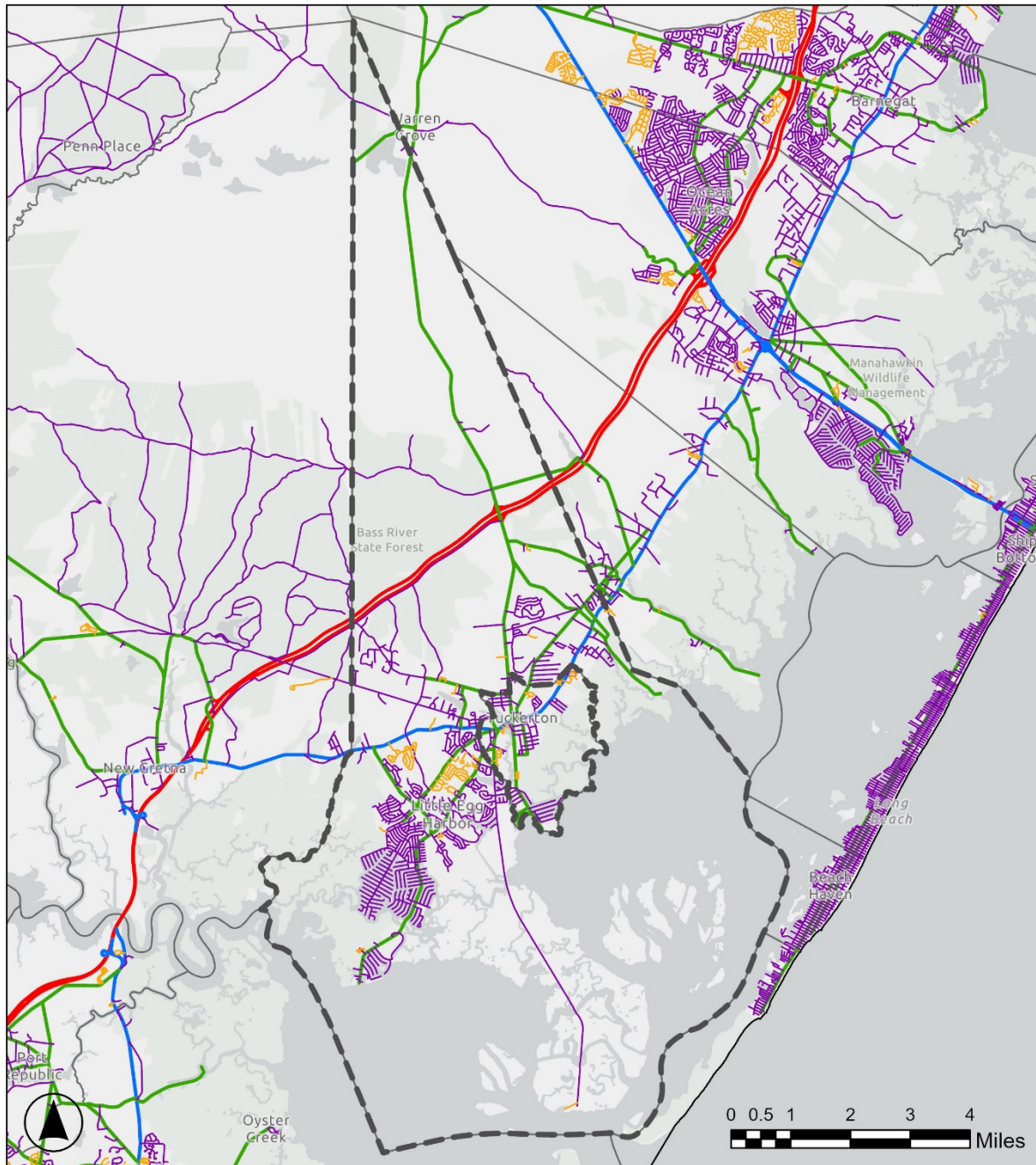
Elevated Roadways

- Complete
- Proposed
- In progress

● Reported Roadway Flood Locations



Map V-5. Roadway jurisdictions



LEGEND

Road Jurisdiction

— County	— Other
— Highway Authority	— Municipal
— State	— Private

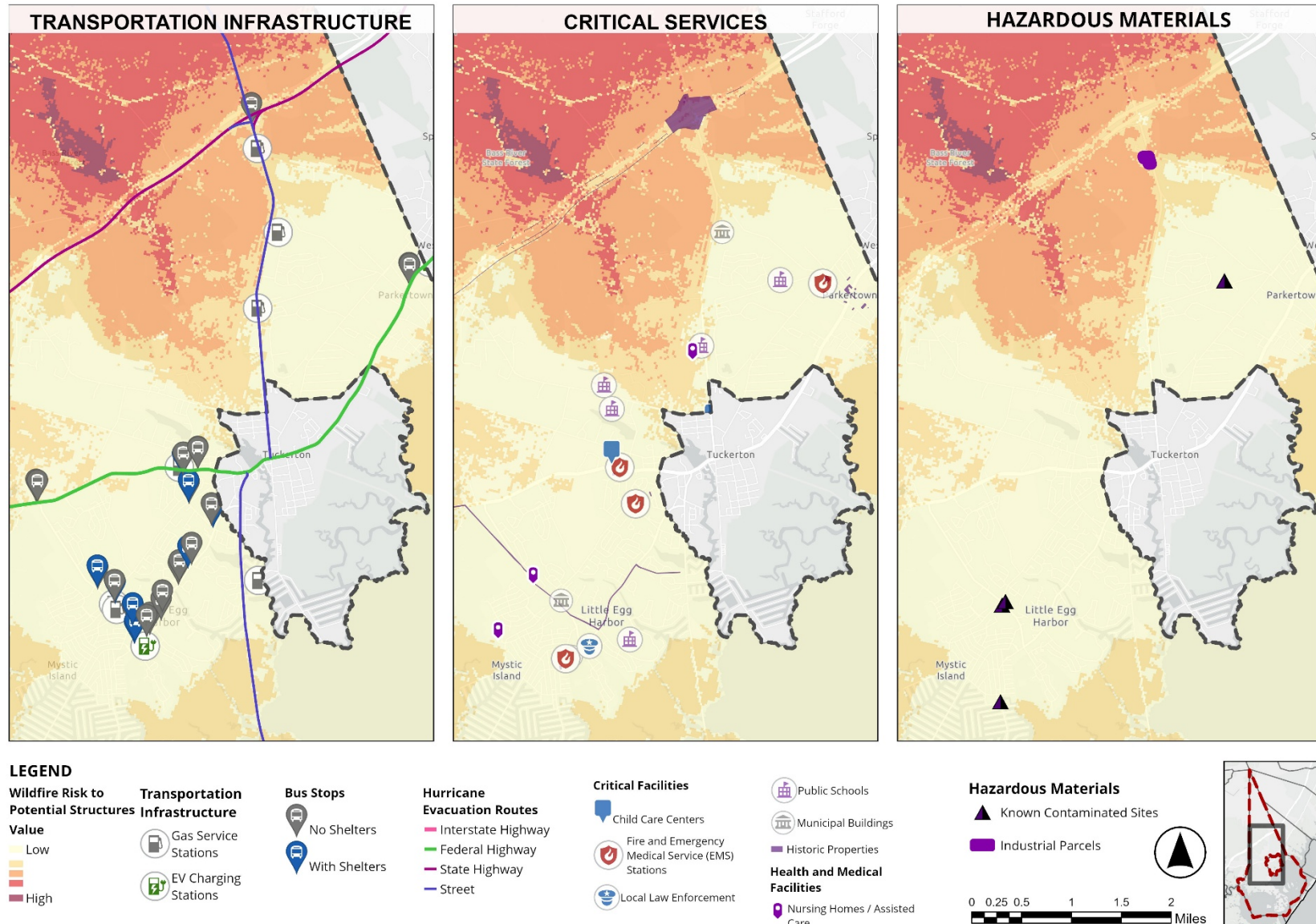
Wildfire

Wildfires can pose significant disruption to transportation, communications, utilities, and hazardous sites. Wildfires can reach temperatures of 2,200 °F in extreme conditions,²⁵ which can melt nearby building materials and infrastructure assets without direct flame contact. Fires can directly damage or structurally compromise powerlines, telecommunications towers, water distribution systems, roads, bridges, and other transportation infrastructure through melting, warping, collapse, or deforming critical components of these systems. Direct fire impact on hazardous sites can release toxins into the air, water, and soil and can alter both hazardous substances and processing facilities. Wildfires can also overwhelm fire departments and other emergency services.

Map V-6 depicts wildfire risk to the Township's facilities and infrastructure. The southern part of the Township where most facilities and infrastructure are located has relatively low wildfire risk. There is higher risk in the area between Nugentown Road and County Route 539. While most of the facilities and infrastructure (e.g. gas stations, public schools) in that vicinity are not directly at risk, they may be impacted by wildfires spreading to structures or damaging infrastructure. The Township's two emergency shelters (Pinelands Regional Junior High and High Schools) are in proximity to this higher risk area and may require additional considerations during a wildfire sheltering event.

²⁵ US Geological Survey. 2024. [How Hot Are Wildfires?](#)

Map V-6. Wildfire risk to facilities and infrastructure



B. Land Use

MOD-IV Parcel Flood Analysis

The Parcels and MOD-IV Composite of New Jersey dataset provides basic information regarding property location, class, and tax value and taxation for each tax parcel in New Jersey.²⁶ This dataset was intersected with flood data to calculate the percentage of each parcel exposed under various flood scenarios. For the purposes of this assessment, a parcel is considered exposed if at least 50% of the land area is inundated or within the FEMA flood zone. Structures are likely to be within the inundation extent on most parcels at this threshold, although exceptions may include large parcels with limited development. Municipal equalized valuation ratios, from the New Jersey Division of Taxation's NJ 2023 Table of Equalized Valuations,²⁷ were applied to reflect assessment values that were closer to true market value. This information is useful when considering costs to repair, rebuild, or relocate after flood losses. It should be noted that this analysis does not account for the first-floor elevation of structures.

This assessment analyzed flood exposure for each property class for each of the four flood measures listed in Table III-8 (two feet coastal inundation, five feet coastal inundation, FEMA 1% annual chance flood zone, and NJDEP Climate Adjusted Flood Elevation (CAFE)). The results are included in each relevant subsection: Industrial property is included in Section V.A – Facilities and Infrastructure; Farm property is included in Section V.B – Natural and Working Lands; Commercial, schools, and other public property is included in Section V.C – Community Assets; Residential and apartments property is included in Section V.D – Housing and People.

As an overview, this section includes an analysis of all parcels in the Township within the FEMA 1% annual chance flood zone, depicted in Map V-7 and detailed in Table V-2. Nearly 40% of the Township's 3,969 residential parcels are within the FEMA 1% annual chance flood zone, with a net equalized value of over \$1.3 billion at risk. Net equalized value includes land and improvement value, adjusted to reflect market value. However, improvement value at risk does not account for elevated structures. The significant exposure of residential areas presents current concerns for evacuation during storm events, as well as future risk of resident displacement as sea level rises (see Section V.D for further discussion).

A significant portion (25%) of commercial parcels are also within the flood zone, with 44 of 173 parcels exposed with a net equalized value of over \$37 million at risk. Notable areas of public property are also at risk (over 10,000 acres), reflecting the significant tidal marsh areas in the southern part of the Township, which is discussed in the next section on natural and working lands.

²⁶ NJ Office of GIS. 2025. [Parcel and MOD-IV Composite of New Jersey](#).

²⁷ <https://www.nj.gov/treasury/taxation/pdf/lptval/2023/allcounties.pdf>

Map V-7. Property parcels within FEMA 1% annual chance flood zone

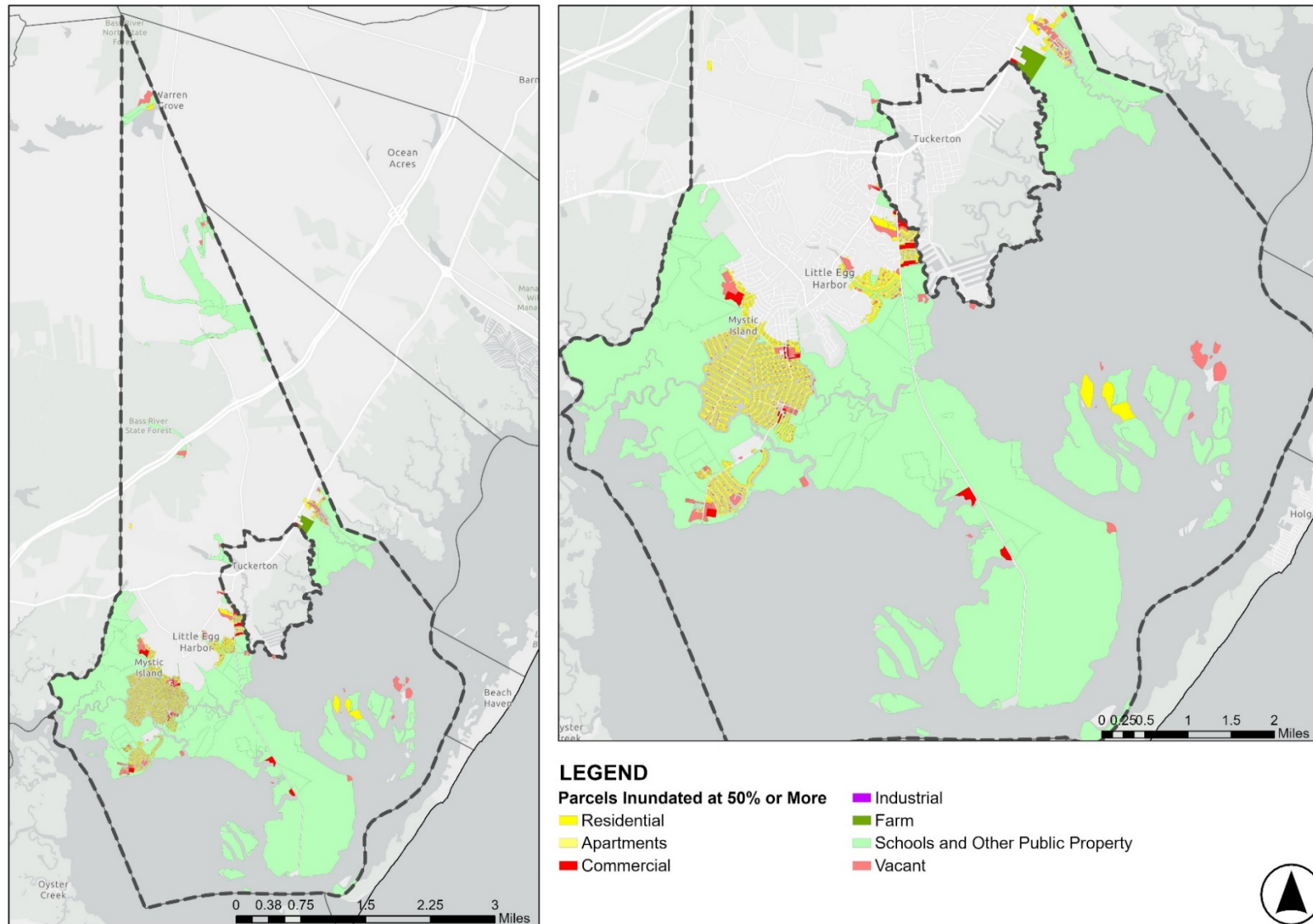


Table V-2. Property parcels within FEMA 1% annual chance flood zone

		Number / land area exposed in...		
		FEMA 1% Annual Chance Flood		
MOD IV Property Class	Total # parcels	# Parcels	Acres	Net Equalized Value (\$)*
Residential (2)	10,410	3,969 (38%)	717	1,336,648,208
Apartments (4C)	2	0 (0%)	0	0
Commercial (4A)	173	44 (25%)	77	37,151,515
Industrial (4B)	2	0 (0%)	0	0
Farm (3A and 3B)	17	1 (6%)	47	10,101
Schools and other Public Property (15A through 15F)	1,286	289 (22%)	10,404	59,992,549
Railroad Property (5A)	0	0 (0%)	0	0
Vacant Land (1)	1120	409 (37%)	278	35,690,337
Unclassified Land	117	45 (38%)	76	0
Total	13,127	4,757 (36%)	11,599	1,469,492,711

*Net equalized value includes land and improvement value, adjusted to reflect market value. Improvement value at risk does not account for elevated structures.

Natural and Working Lands

Natural and working lands include wetlands, forests, agricultural land, and other open/green space. These lands benefit communities in many ways and are especially important for addressing climate change for their capacity to absorb carbon from the atmosphere and mitigate the impacts of increasing temperatures. The Township includes expansive areas of tidal wetlands (approximately 24% of the Township's land area) in the south along the back bay within the Great Bay Boulevard Wildlife Management Area (WMA), Edwin B. Forsythe National Wildlife Refuge, and Jacques Cousteau National Estuarine Research Reserve (NERR). Significant forested land (approximately 30% of the Township's land area) is present in the north within Bass River State Forest and the Stafford Forge Wildlife Management Area within the Pinelands National Reserve. Although there are approximately 600 acres of agricultural land located along the US Route 9 corridor, most of this land is not under cultivation.²⁸

²⁸ NJ Division of Taxation. 2025. [Farmland Assessment](#).

Heat

As detailed in Section III.A, temperature projections indicate that the Township may experience increasing heat throughout the century. Extreme heat can disrupt wetland ecosystems by contributing to habitat loss, changes in wildlife diversity and behavior, and degrading soil and water quality. The Great Bay Boulevard WMA encompasses nearly 6,000 acres in the southern part of the Township and is an important habitat for commercial and recreational finfish including weakfish, summer flounder, bluefish, and black drum, as well as shorebirds including sandpipers, willets, plovers, oystercatchers, and black skimmers. Finfish and shorebirds are particularly sensitive to climate change impacts, with documented impacts to species range and life history (e.g. nesting, spawning).²⁹

Additionally, in forests and green spaces, high temperatures can degrade soil health, increase the frequency and duration of wildfires (see Section III.E), and accelerate the life cycles of insect pests, allowing them to mature and spread more rapidly.³⁰ For example, the pine-dominated forests of the New Jersey Pinelands within the Township are at risk from the invasive southern pine beetle, especially when trees are stressed by drought.

Storms

The increasing frequency of extreme precipitation events (see Section III.B) may contribute to heightened risks to natural and working lands from pests, diseases, and storm-related damage.³¹ For example, heavy precipitation and associated runoff increases the rate of sedimentation, streambank erosion and destabilization, which may damage surrounding areas and impact water quality.³² Water quality in many areas of Great Bay and Barnegat Bay is already compromised by nutrient loading (nitrogen and phosphorus) from stormwater runoff, which may be exacerbated by extreme precipitation events. Extreme precipitation also increases the likelihood of flooding, threatening coastal forests and other natural ecosystems already under stress from sea-level rise, groundwater changes, and saltwater intrusion (discussed in the next section). Forests may also be impacted by storms when extreme winds damage and uproot trees, weakening overall forest health by making trees less resistant to additional threats like disease, pests, and wildfires.

Drought

As detailed in Section III.C, the Township's time in drought each year is anticipated to increase throughout the century. Droughts can affect wetlands, forests, agriculture, and other open/green space. Wetlands may become drier during prolonged droughts, potentially decreasing fisheries production and the quality of tourism and recreation opportunities (see Section V.C for details on

²⁹ NJDEP. 2025. [New Jersey Scientific Report on Climate Change](#). (Eds. B. Wiley, K. Raper, J. Bonventre, R. Hill, L.A. Lester, N.A. Procopio). Trenton, NJ. 275 pp.

³⁰ NJ Office of Emergency Management. 2024. [2024 New Jersey State Hazard Mitigation Plan](#).

³¹ NJ Climate Change Alliance. 2022. [Forest Resource Considerations for A New Jersey Natural and Working Lands Strategy](#).

³² NJDEP. 2025. [New Jersey Scientific Report on Climate Change](#). (Eds. B. Wiley, K. Raper, J. Bonventre, R. Hill, L.A. Lester, N.A. Procopio). Trenton, NJ. 275 pp.

recreation and tourism in the Township). In combination with heat, drought can drive changes and/or die-off to saltwater marsh plant communities, especially when freshwater inputs decrease due to lack of rain.³³ Potential impacts of wetland loss in the Township are discussed in the next section.

Although active farmland is limited in the Township, drought can impact regional and state agricultural production. Agricultural drought occurs when there is not enough water available for a particular crop to grow at a particular time due to soil moisture deficiencies, lack of groundwater, and precipitation. The USDA issued six agricultural-related drought declarations in Ocean County between 2012 and 2023.³⁴ Agricultural drought may result in a reduction in crop yields, economic loss, livestock stress, an increased demand for irrigation, and soil degradation.

Drought may also compound risks from other climate hazards. For example, drought may exacerbate saltwater intrusion due to increased groundwater pumping and decreased freshwater input via precipitation (see next section for a detailed discussion of saltwater intrusion on natural and working lands). Additionally, drought in combination with high temperatures can increase the risk of wildfire due to an increase in evaporation, dry soil conditions, and large-scale loss of trees and vegetation.

Flood

Natural and working lands help absorb excess rainwater and buffer storm surge, thereby reducing flooding in surrounding areas. However, inundation can damage vegetation and negatively affect ecosystem health. Map V-8 depicts flood risk to natural and working lands in the Township for each of the four flood measures listed in Table III-8 (two feet coastal inundation, five feet coastal inundation, FEMA 1% annual chance flood zone, and NJDEP Climate Adjusted Flood Elevation (CAFE)). Additional details on exposure of farm parcels are included in Table V-3. Flood risk to natural and working lands is mostly concentrated in the tidal wetlands in the southern part of the Township, although small portions of forestland around rivers and creeks in the northern part of the Township are within the FEMA flood zone. Additionally, the Township's farmland has relatively low risk of flood impacts. None of the 17 farm parcels are exposed at two or five feet of coastal flooding and only one (47 acres in area) is within the FEMA 1% annual chance flood zone and the approximate extent of the CAFE mapping developed by NJDEP.

³³ NJDEP. 2025. [New Jersey Scientific Report on Climate Change](#). (Eds. B. Wiley, K. Raper, J. Bonventre, R. Hill, L.A. Lester, N.A. Procopio). Trenton, NJ. 275 pp.

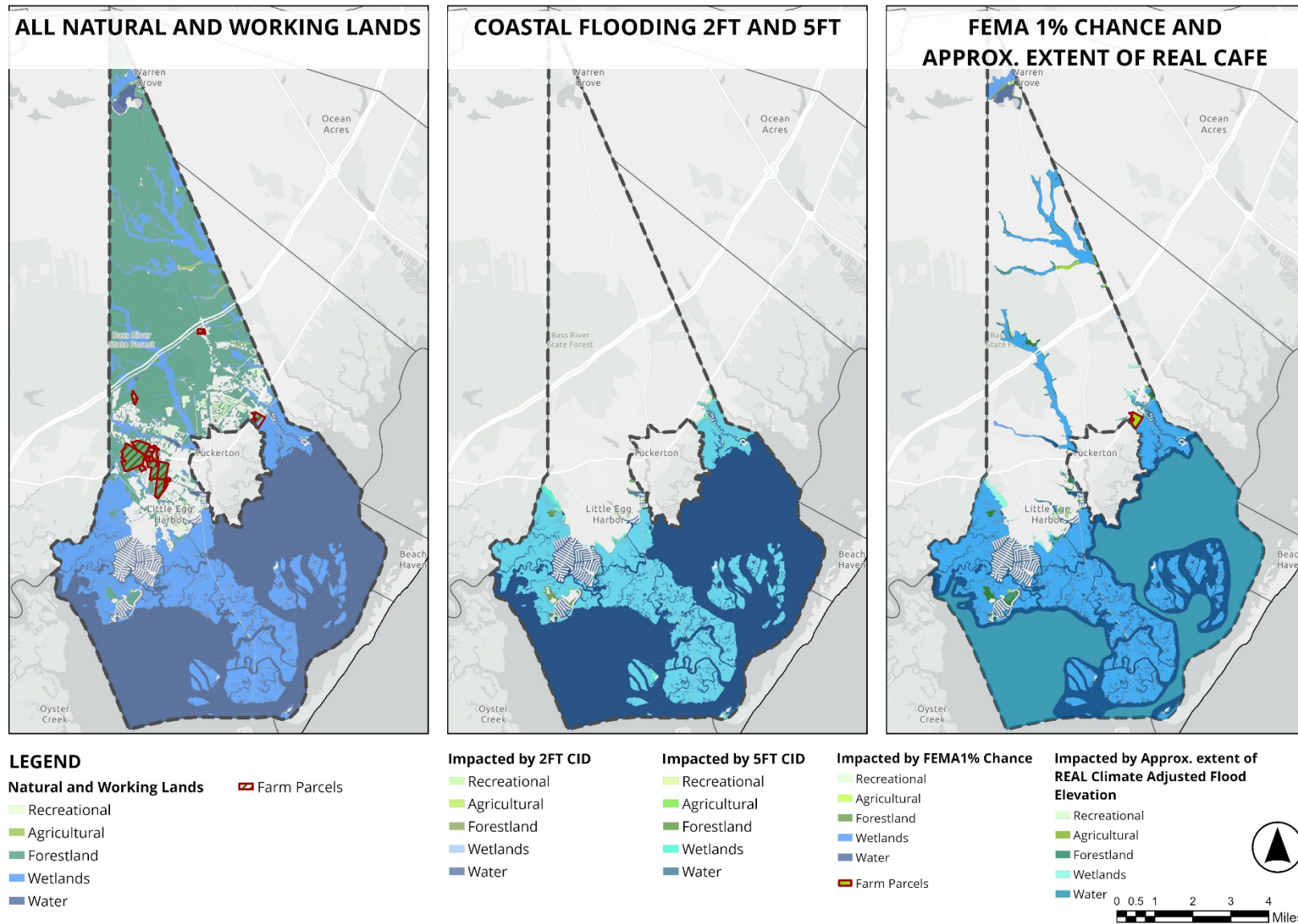
³⁴ NJ Office of Emergency Management. 2024. [2024 New Jersey State Hazard Mitigation Plan](#).

Table V-3. Flood exposure of farm parcels

	Number / land area exposed in...							
	2 feet coastal inundation		5 feet coastal inundation		FEMA 1% Annual Chance Flood		Approx. extent of CAFE	
MOD IV Property Class	# Parcels	Acres	# Parcels	Acres	# Parcels	Acres	# Parcels	Acres
Farm (3B)* Total parcels = 17	0	0	0	0	1 (6%)	47	1 (6%)	47

*Farm 3B parcels are in agricultural production and qualify for the State's Farmland Tax Assessment program. Farm 3A parcels are other lands associated with the farm that do not qualify for the program (farmhouse, other farm structures, etc.).

Map V-8. Flood exposure of natural and working lands



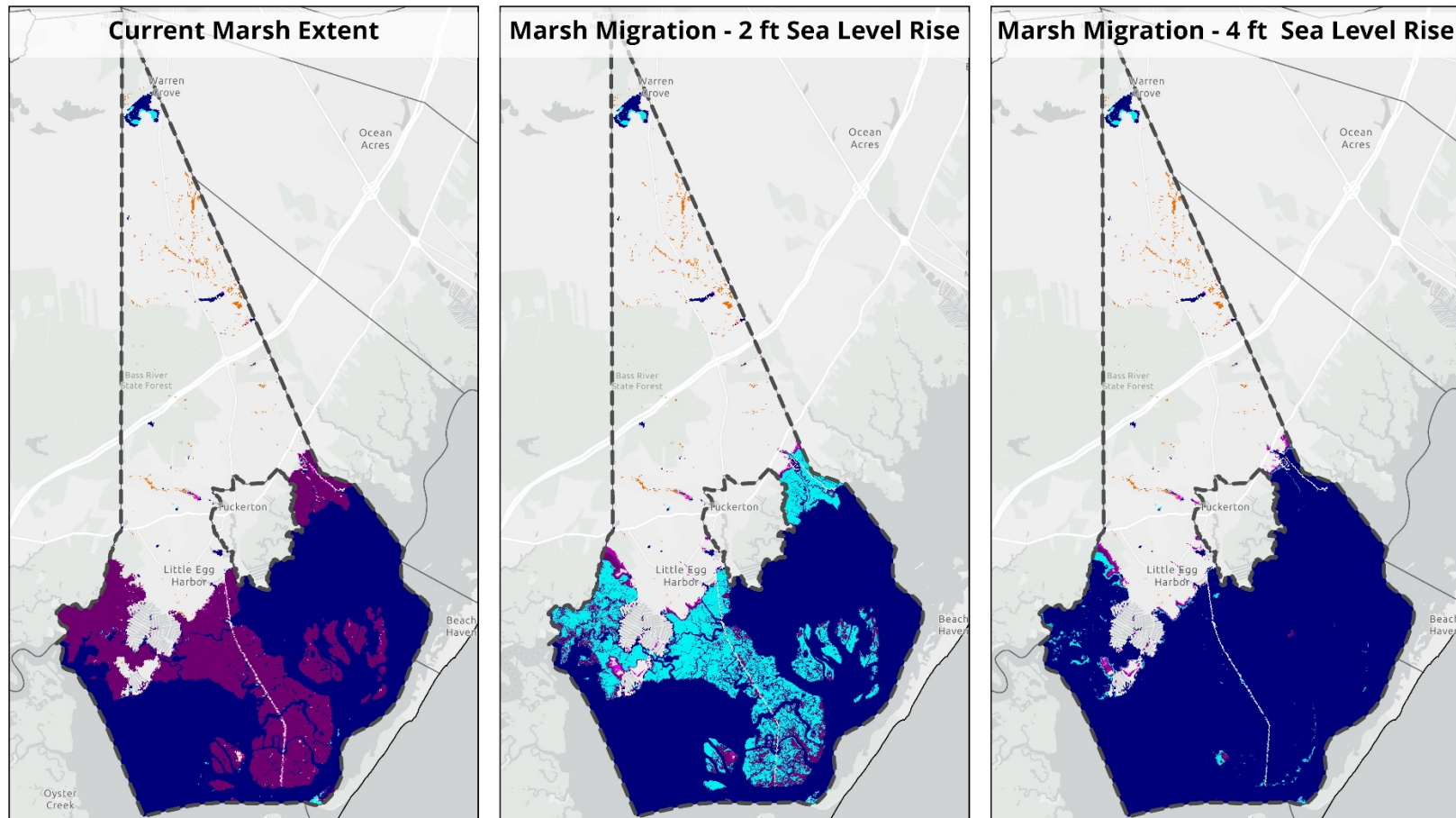
Additionally, tidal marshes are expected to migrate landward or “retreat” as sea-level rises due to inundation and saltwater intrusion. The Township is situated between the watersheds of the Mullica River-Great Bay and Barnegat Bay. As the sea-level rises within these estuaries, the saltwater front (the location where salt and freshwater meet in a waterbody) is pushed further inland. Areas of current tidal marsh could convert to mud flats or open water and existing adjacent areas of dry land could convert to new wetlands over time. Estimates suggest that 11.9% of the tidal wetlands in Barnegat Bay were lost between 1972 and 2012.³⁵ Additionally, forest areas adjacent to tidal marsh are experiencing tree die-off due to increasing inundation and salinity (i.e. “ghost forests”), particularly in the Mullica River-Great Bay watershed.³⁶ Map V-9 depicts a time progression from current day, to 2050 (two feet of sea-level rise), to 2100 (four feet of sea-level rise) of potential marsh retreat in the Township.

The analysis indicates areas of potential ecosystem conversion between freshwater shrub wetland (tidal or non-tidal, characterized by shrubs and small trees), freshwater emergent wetland (tidal or non-tidal, characterized by small plants like grasses and mosses), saltwater marsh (tidal, dominated by salt-tolerant grasses), unconsolidated shore (frequently inundated areas of silt, sand, or gravel with minimal vegetation), and water (open water). Large portions of land area in the southern part of the Township currently consist of tidal marsh and are subject to marsh retreat. As sea-level rises throughout the century, these tidal marsh areas may transition to unconsolidated shore by 2050 and eventually open water by 2100. Although the potential for migration of marsh areas into current upland areas appears to be minimal, the loss and/or degradation of tidal wetlands would decrease their ability to buffer flood waters, increasing flood risks to adjacent developed areas.

³⁵ NJDEP Science Advisory Board. 2020. [Final Report: The Status and Future of Tidal Marshes in New Jersey Faced with Sea Level Rise.](#)

³⁶ Able, Kenneth W. 2021. [From Cedar Cemeteries to Marsh Lakes: a Case Study of Sea-Level Rise and Habitat Change in a Northeastern US Salt Marsh.](#) *Estuaries and Coasts* 44, 1649–1657.

Map V-9. Marsh retreat



LEGEND

Marsh Migration

Orange Freshwater Shrub Wetland

Pink Freshwater Emergent Wetland

Purple Brackish/Transitional Marsh

Dark Purple Saltwater Marsh

Cyan Unconsolidated Shore

Dark Blue Water



0 0.5 1 2 3 4 Miles

(Source: NOAA Sea Level Rise Viewer)

Wildfire

A portion of the Township is within the Pinelands National Reserve and the northern areas are subject to significant wildfire risk (see Map III-10). Statewide, wildfires account for the damage or destruction of about 7,000 acres of forests each year, releasing pollutants such as carbon monoxide, volatile organic compounds, carbon dioxide, hydrocarbons, nitrogen oxides, and fine particulate matter. Wildfires destroy vegetation, threaten biodiversity, and damage habitat for threatened and endangered species. Conversely, many plant species have adapted to fire, and some are dependent on it for reproduction. In addition to the hazard of direct contact with fire, wildfires can cause prolonged secondary hazards to the lands they impact, including the weakening of soils and stripping of vegetation to absorb runoff. Dry conditions, which may be exacerbated by climate change, have historically contributed to wildfire events in the forested areas of the Township (Section III.E).

C. Community Assets

There are other assets in a community that may not be “critical” as defined by a CCRHVA. Assets with local value may be places that:

- Represent community identity;
- Are important to quality of life;
- Have significance for cultural reasons; and/or
- Provide community recreation.

Local planning can benefit from understanding impacts to these assets that shape everyday life in the community. Climate hazards may pose immediate and/or direct risks based on the exposure of the asset itself, as well as indirect and/or long-term risks associated with potential loss of the value provided to the community. Community assets in the Township were identified through publicly available datasets and input from municipal staff, residents, and other local stakeholders. Public datasets included locations of: (a) libraries, (b) art venues, (c) entertainment and sporting venues, (d) public access points to tidal waterways, and (e) historic properties. Community assets identified by local stakeholders were categorized as follows (see Appendix B for a list of each place identified):

- **Civic & Community** - Organizations focused on community needs such as social connections, advocacy, including senior centers, youth centers, etc.
- **Businesses** - Shops, restaurants, and other commercial entities providing community services.
- **Cultural** - Museums, galleries, theaters, etc.
- **Recreation** - Playgrounds, parks, trails, ball fields, etc.
- **Religious** - Churches, temples, and other spiritual centers.
- **Environmental** - Local, County, State and National Parks

Although essential commercial services (e.g. groceries, banks, hardware stores, etc.) may also be considered community assets, these facilities are included in Section V.A because of their importance to recovery after natural disasters. In this section, overall exposure analysis of commercial property parcels is included to support consideration of risks to commercially zoned areas.

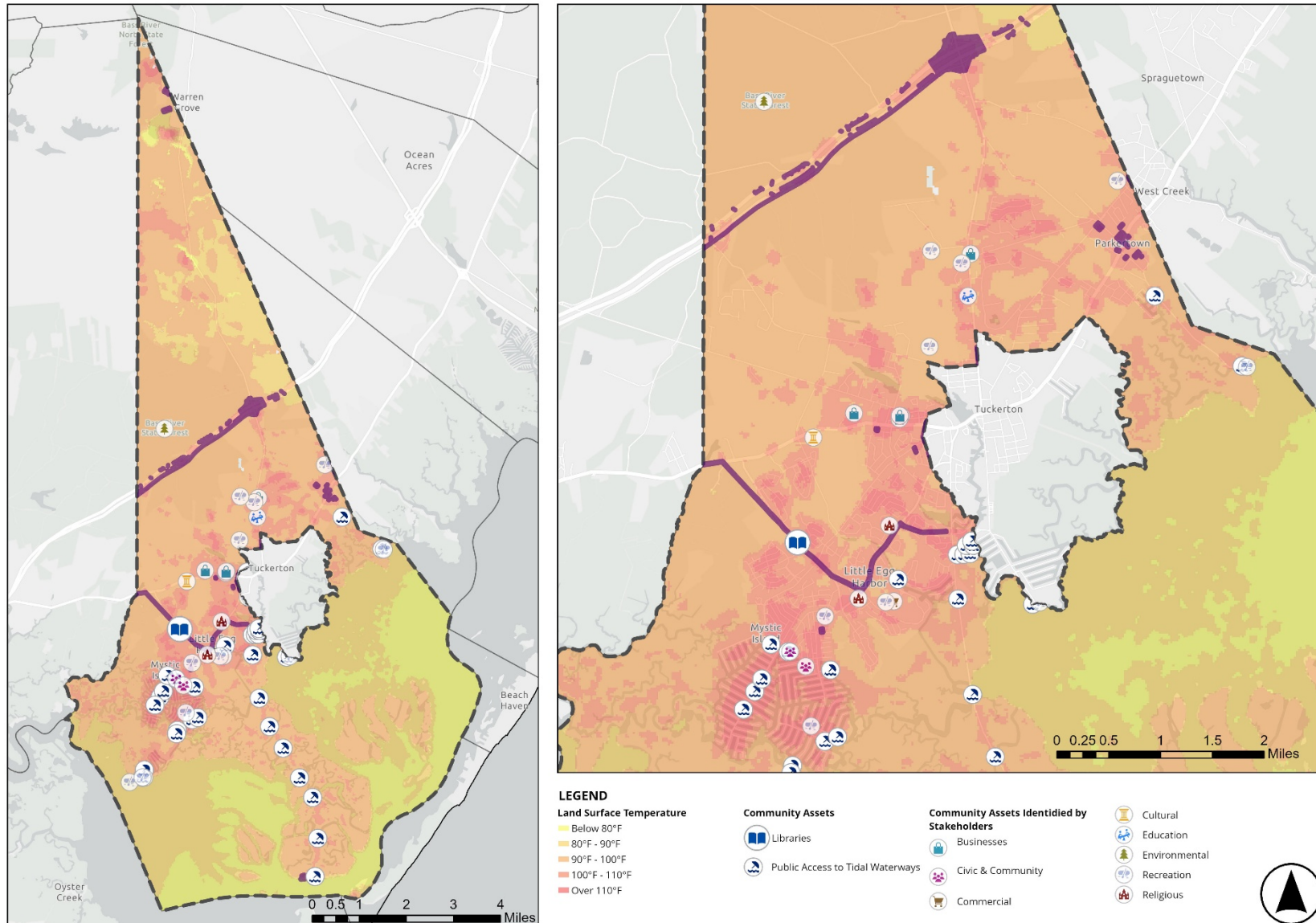
Heat

As detailed in Section III.A, temperature projections indicate that the Township may experience increasing heat throughout the century. Map V-10 depicts land surface temperature in summer 2022 in relation to the Township's community assets. Many community assets are in developed areas with more impervious surfaces and thus higher temperatures. Community assets identified by stakeholders, including local businesses, civic and community centers, religious centers, and recreational areas (identified in Map V-10), experience elevated land surface temperatures, ranging from 100 °F to over 110 °F during peak summer conditions. Exceptions include the abundant public water access points, which are an important resource for residents' heat relief.

Although the Township's abundant natural areas and bayfront location mitigate heat impacts, increasing temperatures can limit a community's ability to access and use various indoor and outdoor community assets, thus impacting social well-being and public health. On the other hand, places of gathering such as parks, libraries, and community centers can provide heat relief. Parks and green spaces can provide heat relief, but these outdoor assets can become unsafe without available shaded areas, trees, and water. Indoor facilities with air conditioning such as libraries, local shops, community centers, and event venues can also serve as cooling spaces. Although the Township has no formally designated cooling centers, Fire Station 72 at Mystic Island (Map V-1) and the library (Map V-10 below) can accommodate a heat emergency. Ensuring such facilities are properly equipped, accessible, and resilient to extreme temperatures is essential for protecting public health and maintaining social and community well-being.³⁷

³⁷ Filión, N.A., Knutsen, M., and Phillips, S. New Jersey Department of Environmental Protection. 2025. [New Jersey Extreme Heat Resilience Action Plan](#).

Map V-10. Land surface temperature and community assets



Storms

As detailed in Section III.B, the frequency and intensity of extreme precipitation events are anticipated to increase throughout the century. Extreme precipitation impacts community assets and economic well-being. Extreme precipitation can limit access to outdoor recreation when parks and other outdoor spaces flood. Increased stormwater runoff can also contribute to erosion and scouring of sandy beach areas. These impacts can last long after the precipitation event ends. Additionally, extreme precipitation can drive biodiversity loss, impacting recreational fishing and hunting³⁸ (see Section V.B. for details on recreationally important species present in the Township). These impacts may be a concern for the Township given the significant number of recreational and natural outdoor places identified as community assets by Township residents (Map V-11).

Drought

As detailed in Section III.C, the Township's time in drought each year is anticipated to increase throughout the century. Community assets can have varying water supply demands, which can place stress on water infrastructure, the local economy, quality of life, and natural resources during droughts. Although most water-based recreational activities (e.g. boating, fishing, etc.) of importance to the Township are done in coastal waterways and less impacted by drought, freshwater activities may depend on specific water levels. These activities can be restricted when water levels drop, negatively impacting local tourism, recreation, and/or quality of life.³⁹ Reduced water supply may also lower water quality, potentially impacting recreation and water-based jobs. Finally, drought watches may trigger mandatory water conservation measures including restrictions on landscaping and gardening.⁴⁰

Flood

Flood risk to community assets include short-term, temporary impacts from coastal storm events, as well as the potential for long-term losses associated with permanent inundation from sea-level rise (see Section III.D). Maps V-11, V-12, and V-13 depict potential flood exposure of community assets and associated property parcels in the Township for each of the four flood measures listed in Table III-8 (two feet coastal inundation, five feet coastal inundation, FEMA 1% annual chance flood zone, and NJDEP Climate Adjusted Flood Elevation (CAFE)). The following property classes were included in the analysis of community asset parcels: Commercial, Schools, Public Properties, Church and Charitable, and Other Exempt Properties. Tables V-5 and V-6 provide details on the number of parcels, land area, and value of property exposed. Table V-4 summarizes the number of each type of asset exposed at each flood measure.

The Township's most flood-vulnerable community assets are its public access points to tidal waterways. Due to their water-based locations, most are exposed at two and five feet of coastal

³⁸ NJDEP. 2023. Outside, Together! [A statewide comprehensive outdoor recreation plan for New Jersey](#).

³⁹ NOAA. 2025. National Integrated Drought Information System. [By Sector: Recreation & Tourism](#).

⁴⁰ Domber, S., Barr K., Snook, I., Hoy, D., Carreno, B., Drabik, J., Walsh, S. NJDEP Division of Water Resources Management. 2024. [2024 New Jersey Water Supply Plan](#)

flooding and all 29 are within the FEMA flood zone. The public library is not exposed to flooding at the scenarios included in the assessment. A few of the Township's historic properties are at risk from current and future flooding. At five feet of coastal inundation, two properties are at risk, three are located in the FEMA 1% annual chance flood zone, and 14 out of 66 are in the approximate extent of the CAFE zone.

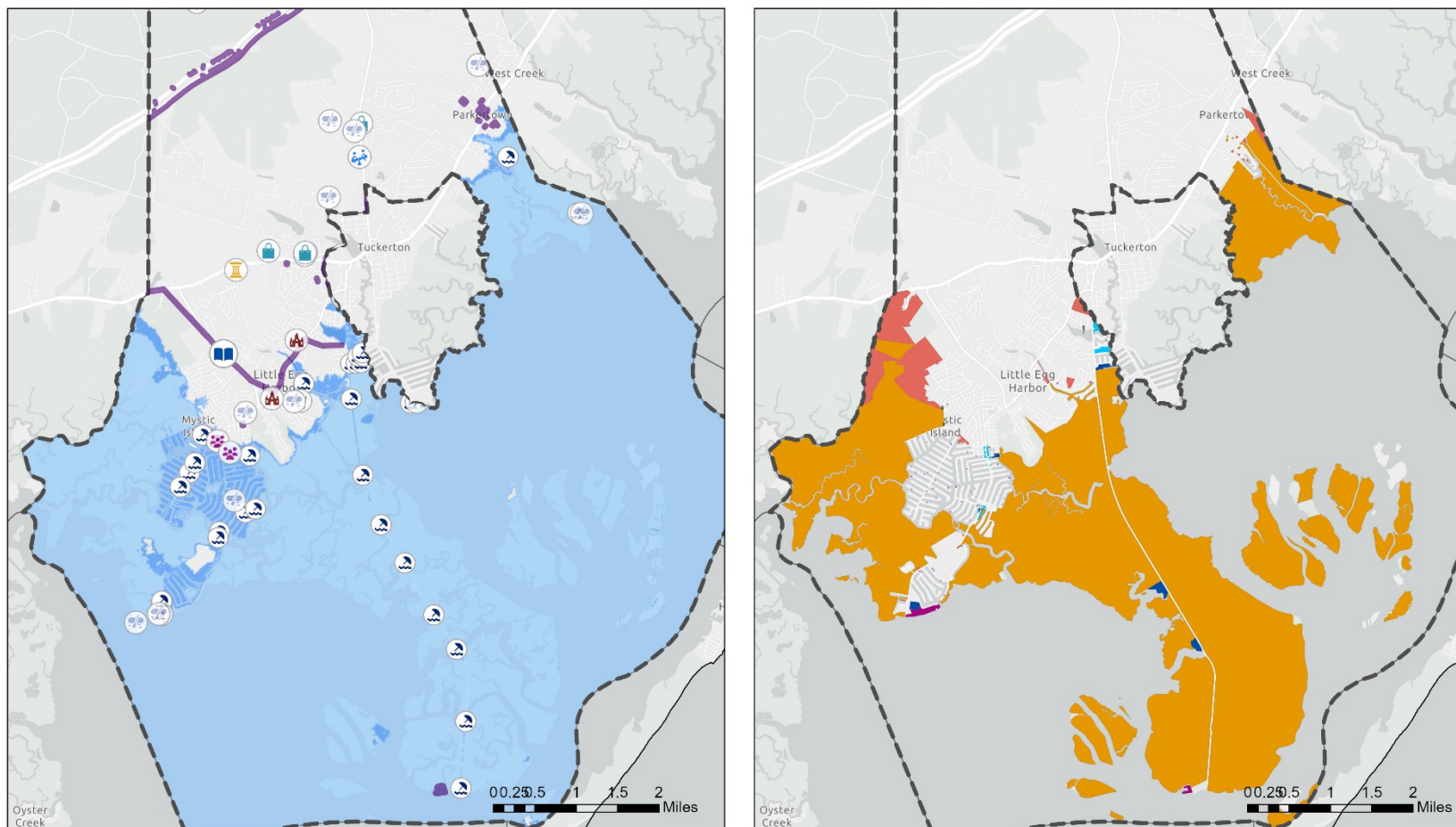
Stakeholders identified a total of 30 community assets, some of which face varying levels of flood exposure. Five of the identified recreational assets appear to be impacted by two feet coastal inundation and seven are exposed to flooding risk at five feet coastal inundation. Two of the identified civic and community centers are exposed to flooding risk at five feet coastal inundation and are located within the FEMA 1% annual chance flood zone as well as the approximate extent of CAFE zone. The community identified the Bass River State Forest as an environmental asset, which falls within the FEMA 1% annual chance flood zone as well as the approximate extent of the CAFE zone and is at risk from future flooding.

The property parcel analysis indicates that four of 22 church and charitable parcels (18%) are exposed at two feet of coastal flooding, increasing to seven parcels (32%) impacted at both five feet of flooding and within the FEMA 1% annual chance flood zone. Looking at commercial parcels, only 4% (seven of 173) are exposed at two feet of coastal flooding, increasing to 21% (36 parcels with a net equalized value over \$20 million) at five feet of flooding. One-quarter of commercial parcels are within the FEMA 1% annual chance flood zone, increasing to 36% (62 parcels with a net equalized value over \$50 million) within the approximate extent of the CAFE mapping developed by NJDEP. Net equalized value includes land and improvement value, adjusted to reflect market value. Commercial development provides both critical services (e.g. grocery stores, see Section V.A) and social value (e.g. popular restaurants). In the context of land use planning and zoning, the Township may consider how future flooding could shape the availability of commercial land (see Section IV).

Table V-4. Flood exposure of community assets

	Total #	# Exposed in...			
		2 feet coastal inundation	5 feet coastal inundation	FEMA 1% Annual Chance Flood	Approx. extent of CAFE
Libraries	1	0	0	0	0
Public Access Points to Tidal Waterways	29	20	28	29	29
Historic Properties	66	1	2	3	14
Identified by Stakeholders					
Civic & Community	3	0	2	2	2
Businesses	6	0	0	0	0
Cultural	1	0	0	0	0
Education	1	0	0	0	0
Recreation	15	5	7	8	9
Religious	2	0	0	0	0
Environmental	1	0	0	1	1

Map V-11. Community assets exposed at 2 feet and 5 feet coastal inundation



LEGEND

Coastal Flood Scenarios

- 2 ft. Coastal Inundation Extent
- 5 ft. Coastal Inundation Extent

Community Assets

- Libraries
- Public Access to Tidal Waterways
- Historic Properties

Community Assets Identified by Stakeholders

- Businesses
- Civic & Community
- Commercial
- Cultural
- Education
- Environmental
- Recreation
- Religious

Community Assets Impacted

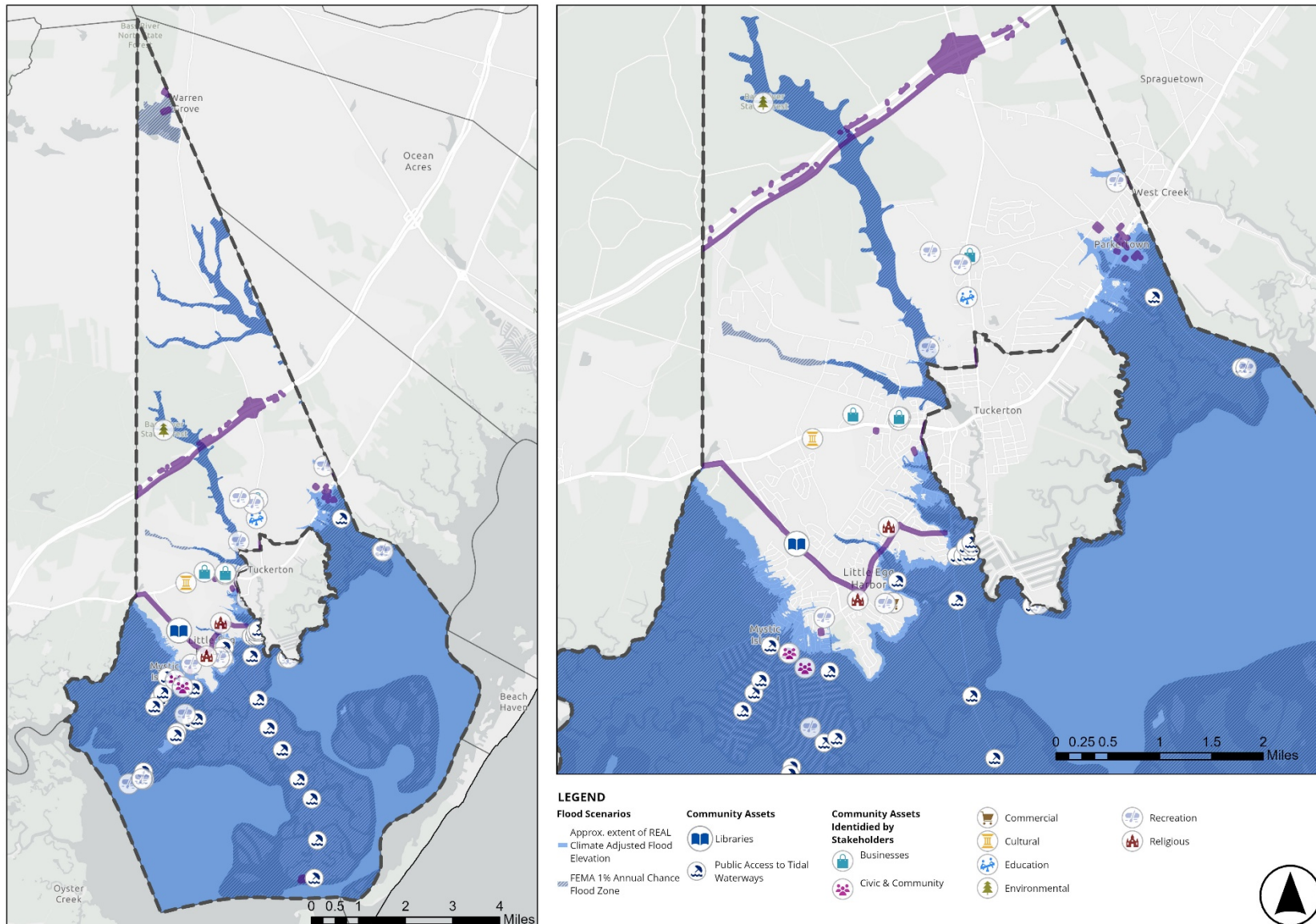
- 2FT Coastal Inundation
- Public Properties
- Church and Charitable Properties
- Other Exempt Properties
- Commercial Properties

5FT Coastal Inundation

- Public Properties
- Church and Charitable Properties
- Other Exempt Properties
- Commercial Properties



Map V-12. Community assets within FEMA flood zones



Map V-13. Community asset property parcels within FEMA flood zones

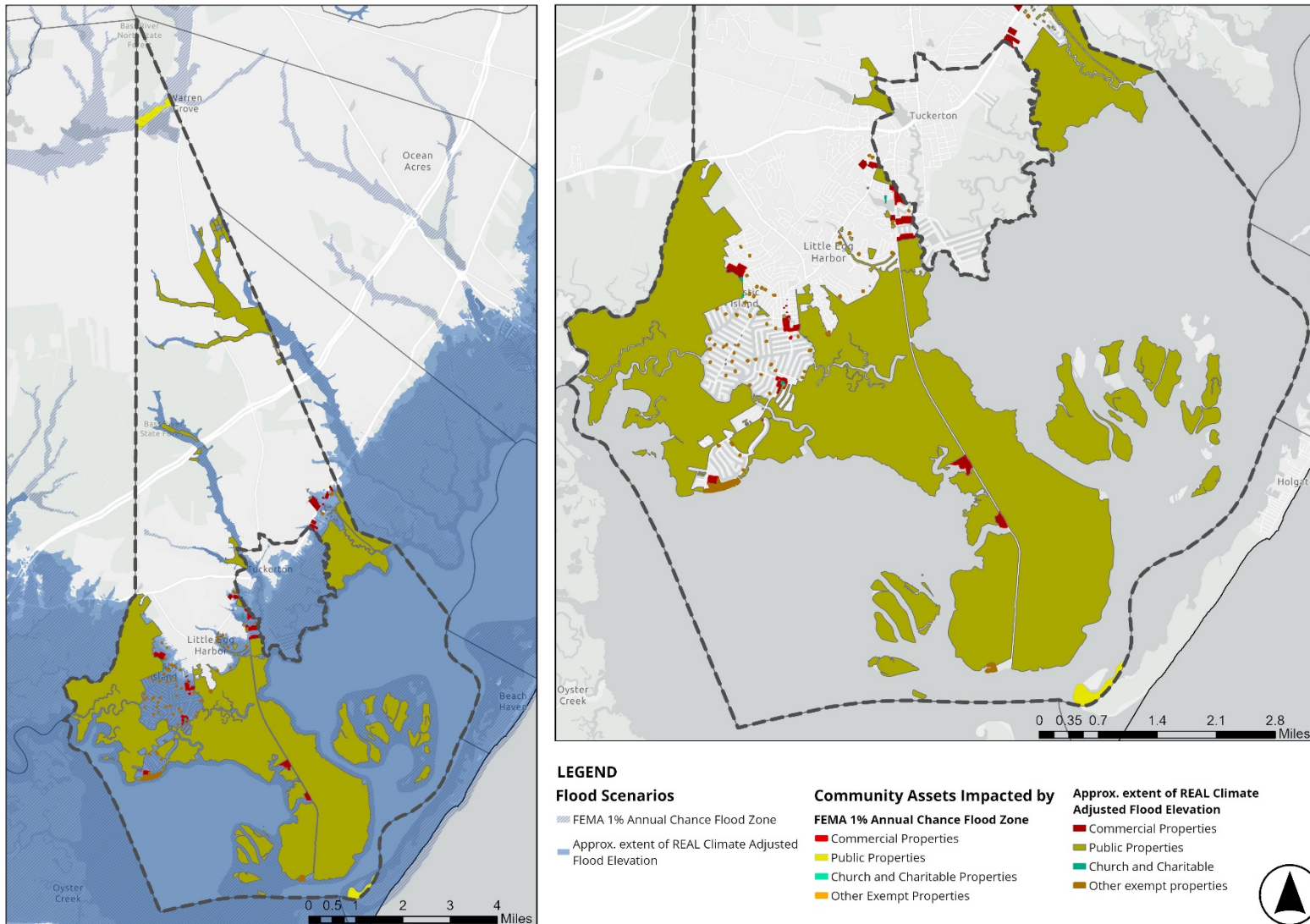


Table V-5. Flood exposure of community asset parcels at 2 feet and 5 feet coastal inundation

		Number / land area exposed in...					
		2 feet coastal inundation			5 feet coastal inundation		
MOD IV Property Class	Total # parcels	# Parcels	Acres	Net Equalized Value (\$)	# Parcels	Acres	Net Equalized Value (\$)***
Commercial (4A)	173	7 (4%)	37	8,519,192	36 (21%)	58	20,020,047
Schools (15A and 15B)	8	0 (0%)	0	0	0 (0%)	0	0
Public Properties (15C)*	993	123 (12%)	8,895	26,765,043	156 (16%)	9,325	35,789,597
Church and Charitable (15D)*	22	4 (18%)	1	4,040	7 (32%)	2	1,216,317
Other Exempt (15E and 15F)	263	6 (2%)	22	2,403,419	41 (16%)	28	15,903,497
Total	1,459	140 (10%)	8,955	37,691,694	240 (16%)	9,413	72,929,457

*Class 15 properties with no improvement value were excluded from the count of exposed parcels.

***Net equalized value includes land and improvement value, adjusted to reflect market value. Improvement value at risk does not account for elevated structures.

Table V-6. Flood exposure of community asset parcels within FEMA flood zones

		Number / land area exposed in...					
		FEMA 1% Annual Chance Flood			Approx. extent of CAFE		
MOD IV Property Class	Total # parcels	# Parcels	Acres	Net Equalized Value (\$)	# Parcels	Acres	Net Equalized Value (\$) **
Commercial (4A)	173	44 (25%)	77	37,151,515	62 (36%)	123	50,215,695
Schools (15A and 15B)	8	0 (0%)	0	0	0 (0%)	0	0
Public Properties (15C)	993	234 (24%)	10,372	40,761,003	271 (35%)	10,326	42,051,438
Church and Charitable (15D)*	22	7 (32%)	2	1,216,317	7 (32%)	2	1,216,317
Other Exempt (15E and 15F)*	263	48 (18%)	30	18,015,229	62 (24%)	34	21,950,272
Total	1,459	333 (23%)	10,481	97,144,064	402 (28%)	10,485	115,433,722

*Class 15 properties with no improvement value were excluded from the count of exposed parcels.

**Net equalized value includes land and improvement value, adjusted to reflect market value. Improvement value at risk does not account for elevated structures.

Wildfire

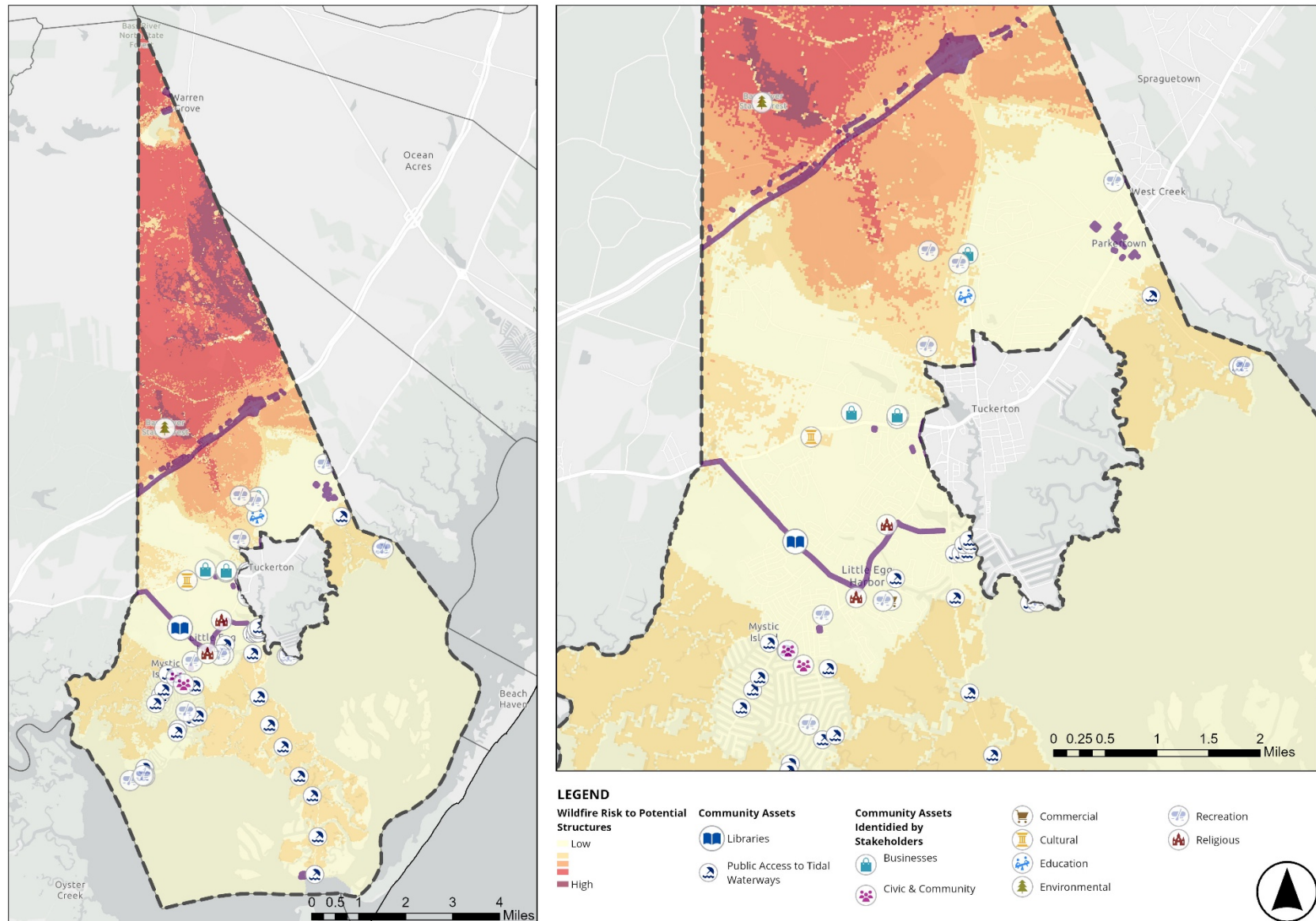
Map V-14 depicts wildfire risk to community assets. Community assets most at risk during wildfires are those located within the Wildland Urban Interface (WUI) where the built environment intermingles with undeveloped land, such as forests and grasslands.⁴¹ The area between County Route 539/N Green Street and Nugentown Road is representative of the WUI in the Township. Community assets within this area include the Bass River State Forest which was identified as an

⁴¹ U.S. Fire Administration. 2022. [What is the WUI?](#)

environmental asset by the community. Most of the other community assets are concentrated in the southern part of the Township where wildfire risk is relatively low. In addition to direct risks to community assets, wildfires can also decrease local air quality, making it undesirable to visit parks and other outdoor assets even after a wildfire has been extinguished.⁴² This can particularly affect individuals with respiratory conditions (see Section V.D).

⁴² Mattson, A. 2025. [As wildfires increase, NJ considers public-health impact](#). *NJ Spotlight News*.

Map V-14. Community assets and wildfire risk



D. Housing and People

Climate hazards can exacerbate existing housing issues such as escalating housing costs, displacement of lower-income people, and aging infrastructure. Although everyone who lives in New Jersey is vulnerable to climate change, some population groups are more vulnerable than others. Assessing the disproportionate impacts faced by these populations is necessary to assess the impacts of climate change on a community as a whole. Table V-7 provides data⁴³ on the Township's vulnerable population groups.

Table V-7. Vulnerable populations in Little Egg Harbor

	Population Estimate	Population Percentage
Low-income*	3,855	18%
No health insurance	533	3%
Aged 65 and older	5,668	27%
Aged 17 and younger	3,664	17%
Disabled	3,186	15%
Minority	3,157	15%
American Indian or Alaska Native	0	0%
Asian	360	2%
Black or African American	555	3%
Native Hawaiian or Pacific Islander	0	0%
Some other race	97	0.5%
Two or more races	863	4%
Hispanic	1,282	6%
Living in group quarters	259	1%
	Household Estimate	Household Percentage
Limited English proficiency households	126	1%
No vehicle households	394	4%
Mobile home housing units	70	0.6%
Multi-unit housing units	404	4%

*Below twice the poverty threshold as determined by the US Census Bureau.

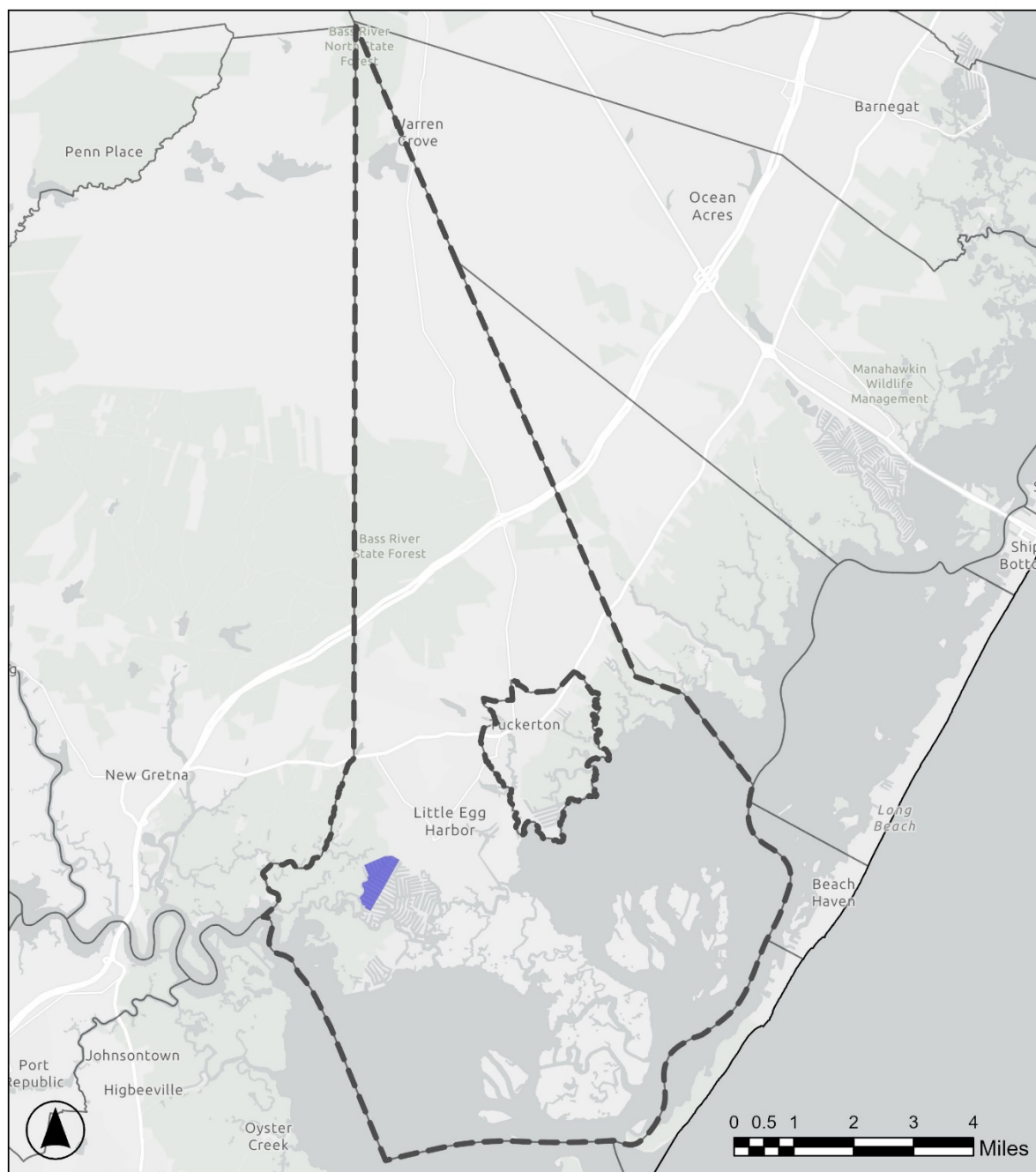
⁴³ U.S. Census Bureau. 2024. [American Community Survey Five Year Estimates](#).

Additionally, the New Jersey Environmental Justice Law (N.J. Stat. Ann. 13:1D-157) defines Overburdened Communities (OBC) as census block groups with:

- At least 35 percent low-income households (at or below twice the poverty threshold as determined by the United States Census Bureau); or
- At least 40 percent of the residents identify as minority or as members of a State recognized tribal community; or
- At least 40 percent of the households have limited English proficiency (without an adult that speaks English “very well” according to the United States Census Bureau).

The OBC designation facilitates mapping of these vulnerable populations within each municipality statewide. As depicted on Map V-15, one census block group in the Township, located on the northwestern side of Mystic Island, is defined as an OBC due to the percentage of low-income households. Within this census block group, there are 340 residents in low-income households and 23 identifying as minorities.

Map V-15. Overburdened communities



LEGEND

Overburdened Communities under the New Jersey Environmental Justice Law

 Low Income

Heat

As detailed in Section III.A, temperature projections indicate that Little Egg Harbor Township may experience increasing heat throughout the century. Hot days, in combination with poor housing conditions and lack of climate control can have significant impacts on health. Lack of air conditioning and crowded living spaces can cause heightened anxiety, disrupt sleep patterns, and stress cardiovascular systems.⁴⁴ Housing with insufficient building insulation located in areas of high surface temperature or potential heat islands may expose residents to temperatures that can exceed outside temperatures. In New Jersey, heat-related hospital admissions during the warm season (May to September) increased approximately 156% between 2004 and 2013.⁴⁵ Children, elderly people, and those with pre-existing conditions are especially at risk. In the Township, 44% of the population is either over 65 years old (27%) or under 17 years old (17%). High temperatures also increase the concentration of ground-level ozone in the air. This is particularly harmful for individuals with chronic respiratory conditions.⁴⁶

Additionally, the combination of high heat with high humidity increases risk to outdoor occupational groups for heat-related illnesses like heat stroke.⁴⁷ Occupational groups that are particularly vulnerable because of the amount of time spent outside include workers in construction, agriculture, forestry, and natural resource management. According to the 2024 American Community Survey,⁴⁸ approximately 1,500 Township residents (15% of the employed population) work in an occupation related to natural resources, construction, and maintenance.

To better understand potential heat stress challenges to residents, Map V-16 depicts housing parcels relative to land surface temperature. Much of the Township's housing is in higher-temperature areas as impervious surface (i.e. buildings, roofs, sidewalks, parking lots, streets, etc.) traps heat. Although the Township's abundant natural areas and bayfront location mitigate heat impacts, consideration of vulnerable populations (elderly, children, etc.) may be necessary as extreme heat days become more frequent (Table III-2). Fire Station 72 at Mystic Island (Map V-1) and the library (Map V-10), both located in the southwestern part of the Township, are able to accommodate a heat emergency.

⁴⁴ Filión, N.A., Knutsen, M., and Phillips, S. New Jersey Department of Environmental Protection. 2025. [New Jersey Extreme Heat Resilience Action Plan](#).

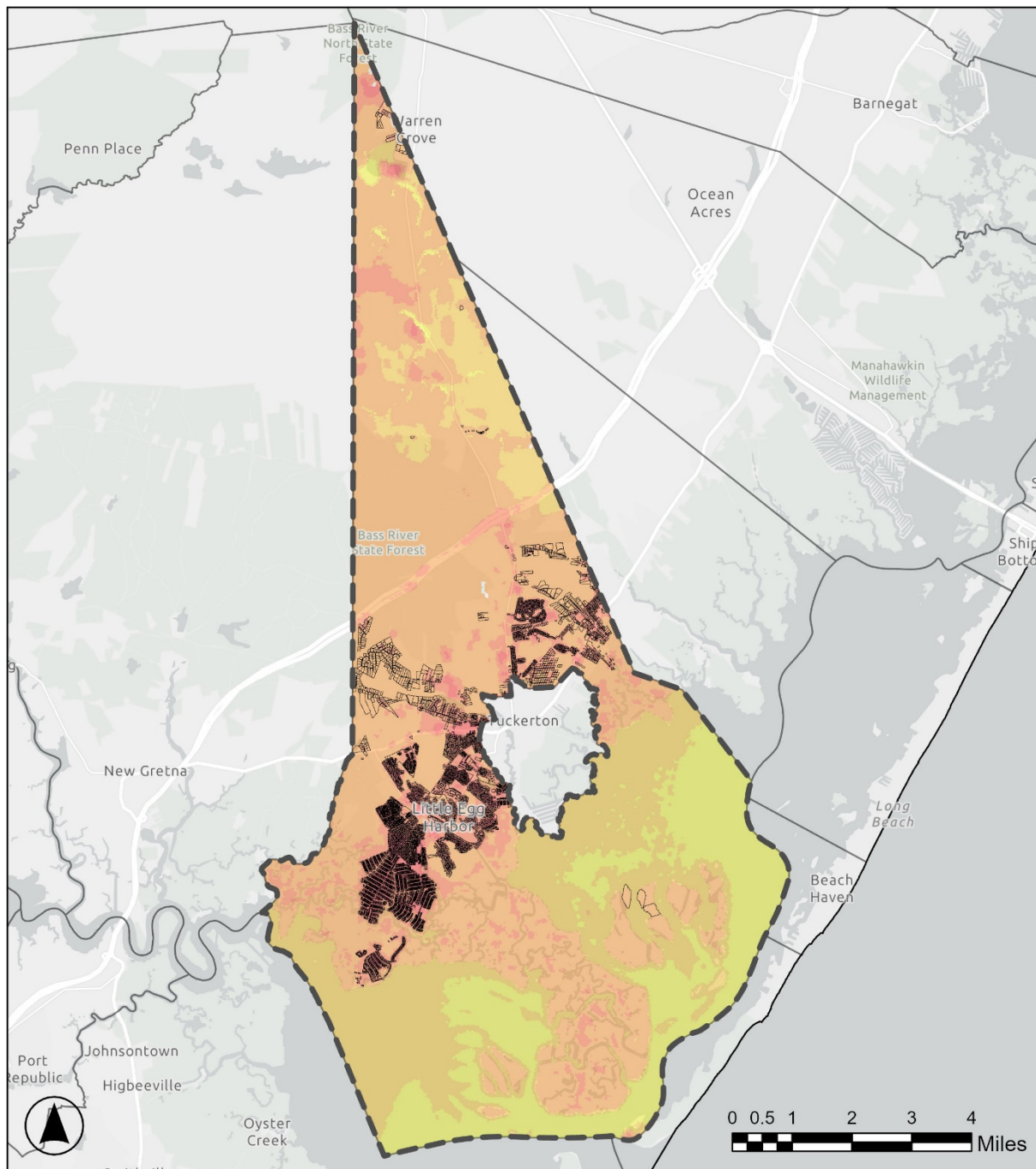
⁴⁵ Moran et al. 2017. [New Jersey Climate and Health Profile Report](#). New Jersey Climate Adaptation Alliance.

⁴⁶ Centers for Disease Control and Prevention. 2022. [Heat and chronic conditions](#).

⁴⁷ NJDEP. 2022. [Climate Change Impacts on Human Health & Communities](#): Addendum to the 2020 New Jersey Scientific Report on Climate Change. Version 1.0. (Eds. J.A. Bonventre, L.A. Lester). Trenton, NJ. 54 pp.

⁴⁸ U.S. Census Bureau. 2024. American Community Survey Five Year Estimates. <https://data.census.gov/table/ACSDP5Y2024.DP05?q=Little+Egg+harbor,+nj>.

Map V-16. Land surface temperature (°F) and housing



LEGEND

Land Surface Temperature Residential Parcels

- Below 80°F
- 80°F - 90°F
- 90°F - 100°F
- 100°F - 110°F
- Over 110°F

Storms

As detailed in Section III.B, the frequency and intensity of extreme events are anticipated to increase throughout the century. The public health impacts of storms are well documented in New Jersey. For example, extreme rainfall during the warm season has been connected to increases in hospitalizations for gastrointestinal illness.⁴⁹ In the aftermath of Superstorm Sandy, adults exposed to mold in their homes were more likely to be diagnosed with asthma and more likely to report mental health distress. Children living in homes that experienced even minor damage were at higher risk for psychological and emotional issues.⁵⁰ According to data from the US Census Bureau, approximately 3% of Township's population does not have health insurance and may be at particular risk of health impacts.

Tropical storms and hurricanes may damage residential buildings, including impacts from tree debris and the loosening of windows or roof shingles. Mobile homes are especially susceptible to damage or loss. There are approximately 70 mobile homes in the Township (representing 0.6% of the total housing units). Financially burdened households are also at particular risk as their response to extreme weather is constrained by limited resources. These constraints may prevent evacuation, the purchase of backup energy systems, access to emergency services, and/or insurance uptake. Review of summary data on the National Flood Insurance Program (NFIP) in the Township indicates that there are 102 Repetitive Loss properties and 14 Severe Repetitive Loss properties with a total of 435 claims paid on these structures since 1978.⁵¹ According to the 2017 Sustainable & Resilient Coastal Communities report, the Township ranks among the highest in Ocean County for repetitive loss events and NFIP payouts, with 1,500 bayfront homes specifically endangered by tidal surges.

Power outages pose additional risks to vulnerable populations, including the elderly and medically frail, who are more susceptible to temperature exposure in homes and facilities without air conditioning or heat. The loss of power can have serious health implications for New Jersey residents, where approximately 15.8% of homes rely on electricity for heating and cooling. Beyond residential settings, individuals in medical facilities may face life-threatening situations if critical equipment fails due to storm-induced outages. Vulnerable populations, like the elderly, especially in coastal communities, are considered the most vulnerable due to the direct exposure to high-impact storms, limited adaptive capacity, and need for additional time or assistance during evacuations.⁵² The Township has three nursing homes/assisted care facilities, including one within the FEMA 1% annual chance flood zone (Seacrest Rehabilitation and Healthcare Center on Center Street, depicted on Map V-3).

⁴⁹ Gleason, J. & Fagliano, J. 2017. Effect of drinking water source on associations between gastrointestinal illness and heavy rainfall in New Jersey. <https://doi.org/10.1371/journal.pone.0173794>

⁵⁰ Abramson, D., Alst, D., Merdjanoff, A., Piltch-Loeb, R., Beedasy, J., Findley, P., Peek, L., Mordy, M., Moroso, S., Ocasio, K., Park, Y.S, Sury, J., Tobin, J. 2015. Sandy Child and Family Health Study PERSON Report. https://www.researchgate.net/publication/280925388_Sandy_Child_and_Family_Health_Study_PERSON_Report

⁵¹ FEMA. 2026. [NFIP Multiple Loss Properties](#)

⁵² NJ Office of Emergency Management. 2024. [2024 New Jersey State Hazard Mitigation Plan](#).

Drought

The Township's time in drought each year is anticipated to increase throughout the century (see Section III.C). Drought can exacerbate climate-related effects on social systems. Due to the limited availability of reservoirs to back up the groundwater supply, municipalities in southern New Jersey are potentially more vulnerable to longer periods of drought.⁵³ While the built environment, including housing, is not directly damaged by drought, a home's dependence on the public water supply can influence its livability during drought periods. During periods of heightened demand on public water systems, increasing operational costs may be passed down to the consumer. Increasing water supply rates may restrict water access for financially constrained households. In rural communities, droughts may be felt more acutely due to reliance on private wells, their susceptibility to drying up, and maintenance costs. Limitations to financial and technical resources further exacerbate a community's vulnerability to drought-related hazards.⁵⁴

Flood

New Jersey has the largest number of affordable-housing units exposed to sea-level rise among all coastal states, with 1,640 affordable housing units subject to coastal flooding at least once a year.⁵⁵ Flooding impacts vulnerable populations by exacerbating existing underlying inequities. In addition to impacts to property, flooding causes physical and mental health impacts. The most direct health impact from flooding is drowning and trauma. Other health impacts from flooding can be the result of increased risk of exposure to contaminants such as bacteria, mold, parasites and chemical pollutants that can cause gastrointestinal, respiratory and other conditions. Costly repairs and displacement resulting from flood damage can create financial burdens that disproportionately impact low- to moderate-income families.⁵⁶

Maps V-17 and V-18 depict the potential flood exposure of housing parcels and OBC in the Township for each of the four flood measures listed in Table III-8 (two feet coastal inundation, five feet coastal inundation, FEMA 1% annual chance flood zone, and NJDEP Climate Adjusted Flood Elevation (CAFE)). Tables V-8 and V-9 provide details on the number of parcels, land area, and value of property exposed. Table V-10 summarizes the number of people exposed within the OBC census block.

The Township has 10,410 residential and two apartment parcels. Only 2% of these parcels are exposed at two feet of coastal inundation; however, 34% are exposed at five feet of coastal

⁵³ NJDEP. 2025. [New Jersey Scientific Report on Climate Change](#). (Eds. B. Wiley, K. Raper, J. Bonventre, R. Hill, L.A. Lester, N.A. Procopio). Trenton, NJ. 275 pp.

⁵⁴ Domber, S., Barr K., Snook, I., Hoy, D., Carreno, B., Drabik, J., Walsh, S. NJDEP Division of Water Resources Management. 2024. [2024 New Jersey Water Supply Plan](#)

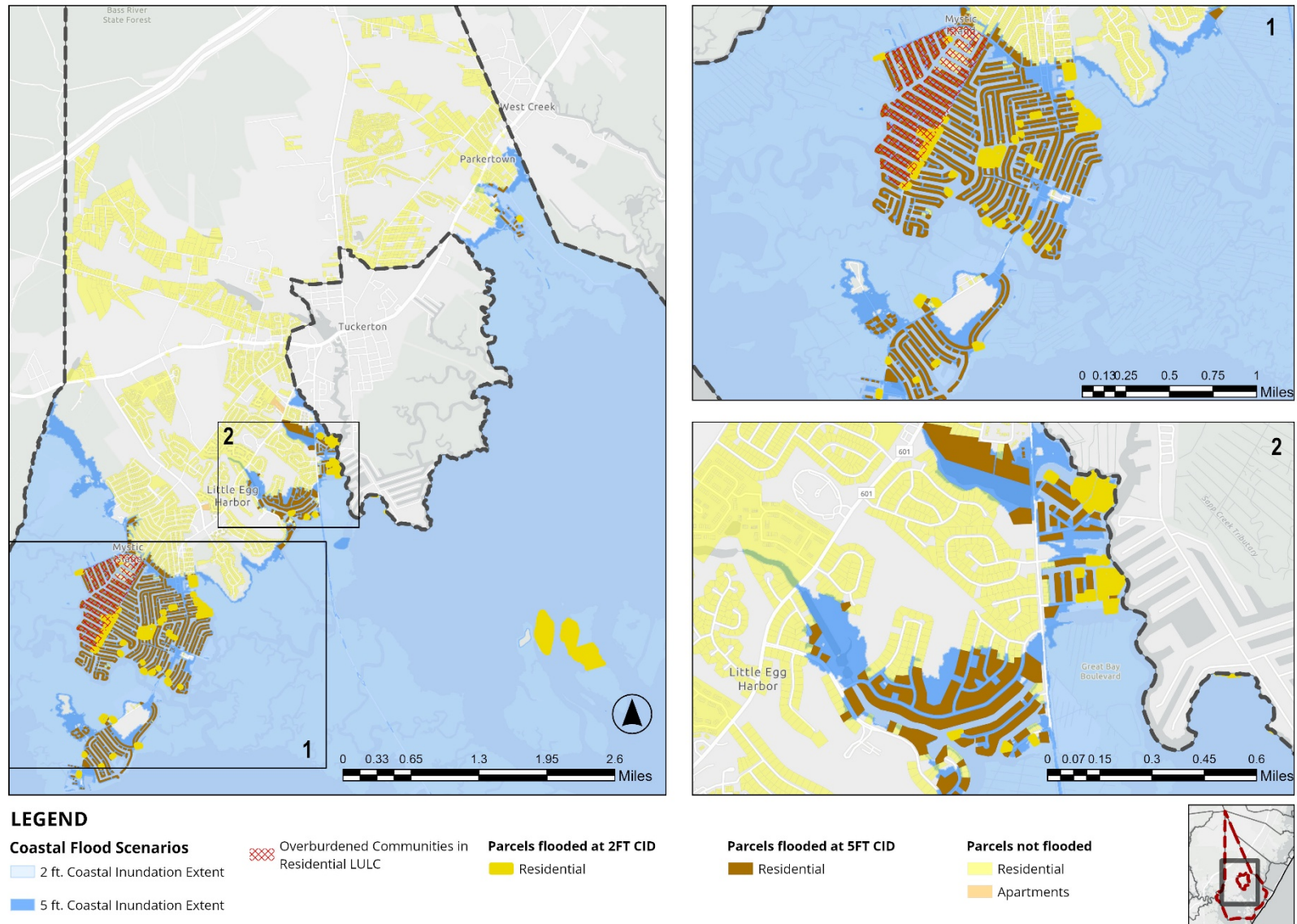
⁵⁵ Buchanan, Maya K. et al. 2020. Sea level rise and coastal flooding threaten affordable housing. *Environmental Research Letters*, Volume 15.

⁵⁶ Interagency Council on Climate Resilience. 2025. [New Jersey Statewide Flood Resilience Initiatives](#).

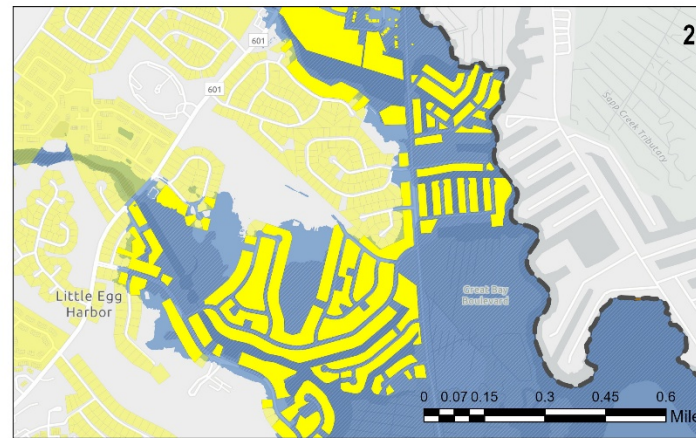
inundation (3,540 parcels with a land area of 613 acres and over \$1.2 billion in net equalized value). Additional residential parcels (38%) are within the FEMA 1% annual chance flood zone, valued at over \$1.3 billion. Net equalized value includes land and improvement value, adjusted to reflect market value. However, improvement value at risk does not account for the many homes that have been elevated in the Township, including many in Mystic Island within the OBC census block. The proportion of housing at risk is projected to increase throughout the century, with nearly half of the Township's residential parcels within the approximate extent of the CAFE mapping developed by NJDEP. The significant exposure of residential areas presents current concerns for evacuation during storm events, as well as future risk of resident displacement as sea level rises. The Township may consider long-term planning for these risks in future updates to the housing element of their master plan (see Section VI.C).

Additionally, there are 340 low-income individuals and 23 individuals identifying as minority in the OBC census block on the northwestern side of the Mystic Island neighborhood. Within this area, an estimated 78 people may be impacted by two feet of coastal inundation and 317 by five feet of coastal inundation. Nearly all the census block group is within the FEMA 1% annual chance flood zone (an estimated 360 people at risk). Looking to future risk, all the residents are within the approximate extent of the CAFE mapping developed by NJDEP.

Map V-17. Housing parcels exposed at 2 feet and 5 feet coastal inundation



Map of the Tuckerton, NJ area showing the Little Egg Harbor and surrounding regions. The map includes labels for 'Little Egg Harbor', 'Tuckerton', 'West Creek', and 'Myrtle Beach'. A scale bar indicates distances from 0 to 2.6 miles. A north arrow is present in the bottom right corner. A dashed line separates the 'Little Egg Harbor' area from the 'Tuckerton' area. A yellow shaded region highlights a specific area within the harbor, which is further detailed in an inset map labeled '1'.



 Approx. extent of REAL Climate Adjusted Flood Elevation
 FEMA 1% Annual Chance Flood Zone

Parcels within FEMA 1% Chance
 Residential

■ Residential
■ Apartments

Residential
Apartments



Table V-8. Flood exposure of housing parcels at 2 feet and 5 feet coastal inundation

		Number / land area exposed in...					
		2 feet coastal inundation			5 feet coastal inundation		
MOD IV Property Class	Total # parcels	# Parcels	Acres	Net Equalized Value (\$)	# Parcels	Acres	Net Equalized Value (\$)*
Residential (2)	10,410	196 (2%)	101	71,897,854	3,540 (34%)	613	1,217,389,001
Apartment (4C)	2	0	0	0	0	0	0
Total	10,412	196 (2%)	101	71,897,854	3,540 (34%)	613	1,217,389,001

*Net equalized value includes land and improvement value, adjusted to reflect market value. Improvement value at risk does not account for elevated structures.

Table V-9. Flood exposure of housing parcels within FEMA Flood Zones

		Number / land area exposed in...					
		FEMA 1% Annual Chance Flood			Approx. extent of CAFE		
MOD IV Property Class	Total # parcels	# Parcels	Acres	Net Equalized Value (\$)	# Parcels	Acres	Net Equalized Value (\$)*
Residential (2)	10,410	3,969 (38%)	717	1,336,648,208	4,984 (48%)	960	1,579,127,428
Apartment (4C)	2	0	0	0	1 (50%)	6	1,406,682
Total	10,412	3,969 (38%)	717	1,336,648,208	4,985 (48%)	966	1,580,534,110

*Net equalized value includes land and improvement value, adjusted to reflect market value. Improvement value at risk does not account for elevated structures.

Table V-10. Flood exposure of Overburdened Communities

	Total # in OBC census block	Estimated number of people exposed in...			
		2 feet coastal inundation	5 feet coastal inundation	FEMA 1% Annual Chance Flood	Approx. extent of CAFE
Low-income*	340	73	297	337	340
Minority	23	5	20	23	23
Limited English proficiency households	0	0	0	0	0

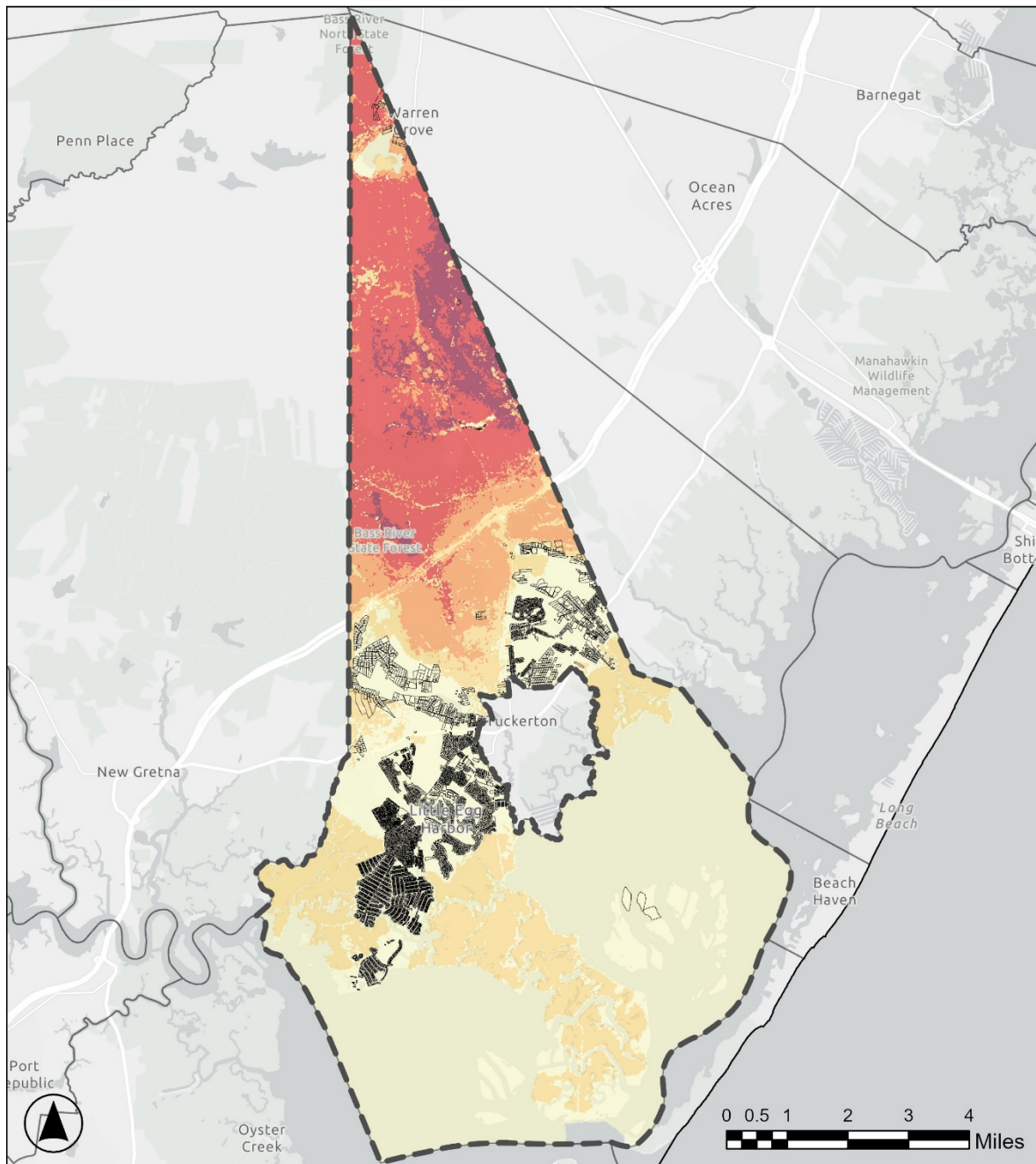
*At or below twice the poverty threshold as determined by the United States Census Bureau.

Wildfire

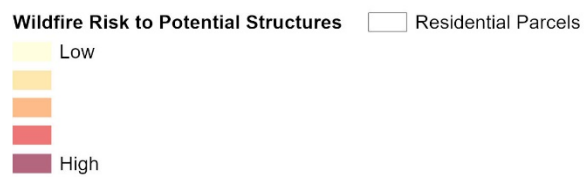
Map V-19 depicts the Township's housing parcels in relation to wildfire risk to structures. While much of the residential development is in areas of low wildfire risk in the southern part of the Township, some sections of housing located in proximity to forested areas south of the Garden State Parkway and around County Route 539 are at greater risk. Housing most at risk during wildfires is located in these areas where the built environment mixes with natural land. Wildfires can cause shifts in the housing market if fires destroy homes and displace residents. Municipalities may struggle to bounce back and provide sufficient housing stock after wildfires, causing a plateau or declining population in communities with large or recurring events.⁵⁷

⁵⁷ NJ Office of Emergency Management. 2024. [2024 New Jersey State Hazard Mitigation Plan](#).

Map V-19. Wildfire risk to housing



LEGEND



VI. Impacts on Master Plan Elements

The NJ MLUL stipulates that a CCRHVA shall “analyze the potential impact of natural hazards on relevant components and elements of the master plan” and “provide strategies and design standards that may be implemented to reduce or avoid risks associated with natural hazards.” This section addresses these requirements by providing a summary of relevant components of each element of the Township’s master plan, identifying connections with the current and future climate hazards and exposures identified in this CCRHVA, and offering potential considerations for the Township to improve resilience.

Table VI-1 lists the master plan documents and elements reviewed and analyzed.

Table VI-1. Little Egg Harbor Township master plan documents and elements analyzed

Master plan documents	Master plan elements
<ul style="list-style-type: none"> • 1999 Master Plan • 2007 Master Plan Reexamination Report and Update of the 1999 Master Plan • 2015 Reexamination Report and Master Plan Amendment • 2025 Housing Element and Fair Share Plan for the Fourth Round: 2025-2035 • 2026 Master Plan Reexamination Report 	<p>Mandatory Elements</p> <ul style="list-style-type: none"> • Statement of objectives, principles, assumptions, policies, and standards • Land use plan • Housing element and fair share plan <p>Optional Elements</p> <ul style="list-style-type: none"> • Community facilities plan • Recycling plan • Economic plan • Circulation plan • Open space and recreation plan • Stormwater management plan (included in Section VII.C)

Each element is analyzed with reference to the 2026 reexamination, although earlier plan versions are referenced where relevant. Notably, the 2015 reexamination included a summary of the Township’s Strategic Recovery Planning Report (SRPR), developed in 2014 to promote recovery

from the impacts of Hurricane Sandy and increase resilience to future storms. The SRPR identified resilience recommendations that were incorporated into the master plan goals and objectives as part of the 2015 amendment.

Additionally, the 2026 reexamination includes a summary of the 2017 *Comprehensive Coastal Hazard Mitigation Strategy* developed through the NJDEP’s Resilient Coastal Communities initiative. The reexamination notes that the strategy provides foundational data that this CCRHVA now expands upon. The strategy identified the Township’s coastal hazard exposures, vulnerabilities, and potential risk reduction strategies for the built environment and natural lands. These strategies included the following:

- Setbacks and zoning to reduce property at risk (e.g. overlay zones for design standards or permissible uses)
- Reduction of development in flood-prone areas
- Elevation of structures and infrastructure
- Acquisitions or buyouts of at-risk properties
- Shoreline stabilization using living shorelines or, where necessary, structural measures such as bulkheads
- Ecological enhancement to boost resiliency and function (e.g. salt marsh restoration and elevation)
- Allow for marsh migration inland

This section and the following (Section VII) build on these strategies by identifying additional resilience considerations specific to land use planning and zoning by analyzing the hazard exposures identified in this CCRHVA in relation to other local plans. To support this, local stakeholders were asked via an online survey to rank the importance of five broad strategies related to land use and zoning to reduce the impacts of climate hazards in the Township (Appendix B). Respondents ranked *protecting and restoring natural areas to reduce climate impacts* as most important, followed by *directing the location of new development to less vulnerable areas* and *requiring more trees and landscaping to reduce heat*. Strategies ranked less important were *updating building standards to increase climate resilience* and *encouraging compact, walkable neighborhoods with access to public transit*.

A. Master Plan Goals and Objectives

The MLUL requires a municipal master plan to include a “statement of objectives, principles, assumptions, policies and standards” to guide the physical, economic, and social development of the municipality. The original 1999 Master Plan includes eight objectives which have been incorporated into the 2026 reexamination.

The objectives that are most relevant to the CCRHVA are:

- To reduce permitted residential densities, where appropriate, consistent with planning efforts aimed at minimizing the fiscal impacts of new residential development and, existing conditions and potential vulnerabilities of flood-prone areas. The connection to flood vulnerability was recommended in the 2015 reexamination and incorporated in 2026.
- To concentrate new residential and commercial development in planned centers or other growth corridors where infrastructure is available or comprehensively planned.
- To promote better coordination and consistency between State and Municipal planning efforts.
- To coordinate with the New Jersey Highway Authority and county to continually improve the roadway system of the Township and to plan for anticipated changes brought on by growth and development.
- To promote sustainability and resiliency, as well as the local-level implementation of the 2014 Ocean County Multi-Jurisdictional All Hazard Mitigation Plan and the recommendations of the 2014 SRPR [through 37 objectives]. This objective was added as part of the 2015 amendment, acknowledging the “considerable changes at the local level” following Hurricane Sandy which caused extensive damage to housing, commercial and transportation infrastructure in the Township.

Climate Hazard Connections

The 2026 reexamination notes the direct connection between this CCRHVA and the objective “to reduce residential densities...of flood-prone areas.” Specifically, the CCRHVA provides data and mapping that can support “density reductions” or “resiliency standards” through zoning amendments.

Additionally, several of the 37 SRPR objectives align specifically with CCRHVA findings, including:

- Objective 2 (storm-resistant infrastructure elevated above flood hazard elevation) aligns with the FEMA flood zones as shown in Tables V-2 and V-9.
- Objective 5 (low-elevation arials with six-inch contours in flood hazard areas) supports the GIS-based flood exposure mapping that underlies the CCRHVA's Section V analysis.
- Objective 7 (prepare and adopt a floodplain management master plan element) was fulfilled by development of the 2015 Floodplain Management Plan (see Section VII.B).
- Objectives 19 and 20 (bay-front energy dissipation structures, riprap installation) correspond to CCRHVA Map V-9 marsh retreat projections and CCRHVA Section V.B identification of coastal buffer loss.

Potential Resilience Considerations

- Continue to incorporate sea-level rise projections, storm probability thresholds, and/or the long-term exposure framework of the CCRHVA into the planning and design of resilience objectives.
- Consider an additional master plan objective for climate adaptation to be explicitly incorporated into planning activities, informed by and consistent with exposures presented in the CCRHVA.

B. Land Use Element

The MLUL requires a municipal master plan to include a land use element. The 2015 reexamination added a new section of the land use element titled “Building Resiliency through Development Regulations,” which presents building and development techniques that are “an important tool for promoting resiliency” by mitigating flooding and promoting natural infiltration. It recommends their incorporation into municipal development regulations. The 2015 reexamination also recommended that the Township prepare a green buildings and environmental sustainability plan as a new element of the master plan, which would provide for, among other things, optimizing climatic conditions through site orientation and design. This would align with CCRHVA's heat and stormwater findings (see Sections III.A and III.B).

Additionally, the 2026 reexamination reiterates the need to reconsider residential densities in high-risk zones (initially identified in the 2015 reexamination). The 2026 reexamination also recommends that the land use plan element be updated in its entirety including integration of this CCRHVA.

Climate Hazard Connections

The Building Resiliency through Development Regulations section in the 2015 reexamination presents green infrastructure techniques that help address projected increases in stormwater runoff identified in Section III.B. The promotion of tree cover also addresses heat concerns (see Maps III-1 and III-2) in the Township's commercial zones.

The 2026 reexamination notes that this CCRHVA will identify “specific infrastructure and neighborhoods most at risk from sea-level rise and extreme weather” (see Sections V.A. and V.D) to support “density reductions” or “resiliency standards” through zoning amendments. In particular, the High-Density Residential and Waterfront Development categories identified in the land use element apply to areas of coastal flood exposure identified in the CCRHVA. The Waterfront Development zone may be especially vulnerable to the long-term loss of the natural buffer capacity provided by coastal wetlands (see Section V.B).

Additionally, the Multi-Family Residential zone may be expected to include some of the most climate-vulnerable populations, including assisted living, nursing homes, residential health care, and adult day care uses (see Section V.D).

Potential Resilience Considerations

- Consider flood overlays for exposed zones (e.g., High Density Residential and Waterfront Development) that include climate-informed design and development requirements supported by the exposures outlined in the CCRHVA.
- Consider opportunities to adjust zoning (e.g. permitted densities, uses) to shift development away from areas with greater climate exposure and into areas with less climate exposure (see Section IV).
- Assess opportunities to align standards for green infrastructure, impervious surface, and tree cover with heat and precipitation projections outlined in the CCRHVA.

C. 2025 Housing Element and Fair Share Plan for the Fourth Round

The housing element, also known as the Housing Element and Fair Share Plan (HEFSP), assesses present and prospective housing needs and sets forth how a municipality is satisfying affordable housing obligations. Although the MLUL does not require a housing element as part of the master plan, it is required as a foundation for the municipal zoning ordinance.

The Township initially adopted an HEFSP in 2003. The most recent (“Fourth Round”) HEFSP was adopted in 2025 and amended in March 2026. The 2026 HEFSP outlines the Township’s unmet affordable housing obligations, which will be addressed via redevelopment overlay zones in the southern part of the Township. The plan also notes that development (affordable housing in particular), is constrained as the entirety of the Township is either subject to the New Jersey Coastal Area Facility Review Act (CAFRA) or the Pinelands Comprehensive Management Plan. While the HEFSP is required to be consistent with the State Development and Redevelopment Plan, it does not include explicit consideration of climate-related hazards.

Climate Hazard Connections

Section V.D. of the CCRHVA analyzes climate exposures of the Township’s socially vulnerable populations. These populations overlap with those in need of affordable housing. These residents may face resource constraints that limit their ability to evacuate, purchase backup energy systems, or access emergency services. This highlights the importance of climate resilience in the siting and design of affordable units, as well as the potential need for enhanced risk communication and evacuation assistance for units in flood exposure zones.

Potential Resilience Considerations

- Future HEFSP updates could consider resilient and sustainable sites for affordable housing in alignment with hazard and vulnerability analyses from the CCRHVA.
- Consider climate resilience standards for affordable housing such as flood- and heat-resistant design.

D. Community Facilities Plan Element

The 1999 community facilities plan element identified the need for a criminal justice complex, recreation and open space facilities, and related public facilities. These have been progressively addressed since that time. The 2007 reexamination updated the map to show the Township Community Center and new municipal building and police department. The 2026 reexamination further highlights the development of the Township Sports Complex and waterfront open space.

In relation to this CCRHVA, the 2015 amendment made two significant additions which remain valid in the 2026 reexamination. First, it adds a 'Promoting Resiliency' section that details Hurricane Sandy damage to the Community Center and Parkertown Dock Recreation Facility and recommends a resiliency screening process or checklist for future capital investments. The checklist is to examine flood susceptibility, level of protection from flooding, and incorporation of at least one green building or infrastructure technique from the land use element. Second, it adds public facilities and critical infrastructure mapping component, showing the relation of all Township facilities to the flood hazard area. The element explicitly identifies the Community Center as within the floodplain and documents that most critical facilities — police, fire, EMS, municipal building, schools — are outside the Special Flood Hazard Area (SFHA), consistent with CCRHVA Table V-1.

The 2026 reexamination recommends that the community facilities plan be updated in consistency with this CCRHVA, which provides data that supports decision-making around capital improvement projects and infrastructure hardening for the most high-risk facilities.

Climate Hazard Connections

The 2015 resiliency screening process recommendation, critical infrastructure mapping, and documentation of Community Center flood damage align with CCRHVA Section V.A and Table V-1. Both the master plan and the CCRHVA confirm that the Community Center is exposed to flooding. Additionally, the 2015 recommendation for a flood susceptibility checklist as a capital investment screening tool is consistent with the CCRHVA's flood exposure methodology. The recommendation for green building and infrastructure techniques at community facilities is also consistent with CCRHVA findings on infrastructure vulnerability to extreme heat (see Section V.A).

Potential Resilience Considerations

- Consider identifying within the element designated shelters and facilities that provide services and support the quality of life after a natural disaster. Continue to evaluate emergency power availability at such facilities.
- Update the resiliency checklist to incorporate CCRHVA exposure data. Consider incorporating the siting of future community facilities in a manner that implements the recommendations of the CCRHVA such as establishing site selection standards for facilities that should be located outside of flood exposure areas.
- Use green building technology and site design in the construction of any new community facilities (e.g. consideration of heat mitigation for senior-serving facilities).
- Consider vulnerability of community healthcare facilities like the Seacrest Rehabilitation and Healthcare Center, identified in the CCRHVA as being within the FEMA 1% annual chance flood zone.

E. Recycling Plan Element

The Township's recycling plan element was adopted with the 2007 reexamination. It established a recycling coordinator, curbside collection of standard recyclables, drop-off at the Township Recycling Center at Route 539, and Ocean County management of household hazardous waste. The recycling element remains as adopted in 2007 and has not been updated to reflect any climate-related considerations.

Climate Hazard Connections

The household hazardous waste provisions, managed by Ocean County, are relevant to the CCRHVA's finding that flooding can mobilize pollutants and cause waterborne disease through contamination of water sources. Similarly, with increasing frequency and intensity of rainfall and flooding, the management of recyclable and hazardous waste materials during and after flood events may become an operational planning issue.

Potential Resilience Considerations

- Consider updating the element to evaluate the impact of climate hazards on the Township's solid waste and recycling system and determine alternatives if impacted by flooding or storm events.

F. Economic Plan Element

The 1999 economic plan element highlights strategies to encourage economic growth and increase municipal revenue. Those that remain most relevant to climate-related considerations in the 2026 reexamination are: (a) Prioritizing senior development, assisted living, and nursing homes to contribute to the tax base and (b) Leveraging natural assets to encourage ecotourism businesses.

The 1999 element also recommended cost-sharing with adjacent municipalities to reduce expenses. However, following Hurricane Sandy, this was amended in the 2015 reexamination to recommend shared service agreements specifically with inland municipalities that are less vulnerable to storms.

The 2026 reexamination recommends that the element be further amended to incorporate current economic conditions and identify updated strategies to enhance the local economy.

Climate Hazard Connections

The strategy of prioritizing senior development, assisted living, and nursing homes is connected to Section V.D of the CCRHVA, which identifies exposures and considerations for socially vulnerable populations, which include the elderly and those in group homes. Additionally, the strategy of leveraging natural assets to encourage ecotourism is related to Section V.B which highlights the climate exposures of the Township's natural and working lands.

The 2015 reexamination's recommendation of shared service agreements with less vulnerable inland communities is consistent with this CCRHVA's identification of above-average climate hazard exposure, particularly flooding (see Section III.D) and wildfire (Section III.E). An economic framework that builds service continuity through inland partnerships directly supports the Township's ability to sustain operations despite increasing risk of climate-related events projected by the data in this CCRHVA.

Potential Resilience Considerations

- Incorporate CCRHVA exposure considerations into future updates to the economic plan element, including strategies for cost-sharing and business resilience.

G. Circulation Plan Element

The 1999 circulation plan element established a roadway hierarchy and identified proposed improvements, policies for the Route 9 corridor, park and ride facilities, and a bikeway network. The 2007 reexamination made no circulation changes. The 2015 amendment updated the element, recommending the following new components relevant to the CCRHVA:

- Roadway Improvements section outlining the need for post-Sandy restoration (e.g. Radio Road) and/or flood protection (e.g. the Iowa Court seawall and Sail, Boat, and Dory Drives). These come directly from the 2014 Strategic Recovery Planning Report. The 2026 reexamination notes that these roadway improvements are complete.
- A new Emergency Evacuation Routes section identified Garden State Parkway, Great Bay Boulevard, North Green Street (Ocean County Route 539), and US Route 9 as New Jersey Department of Transportation (NJDOT)-designated emergency evacuation routes, calls for additional routes to the greatest extent possible, and emphasizes maintenance of signage, drainage, and surface condition on these routes.

The 2026 reexamination further recommends that the element should be updated in its entirety.

Climate Hazard Connections

The completed Iowa Court flood protection and Sail/Boat/Dory Drives projects directly address infrastructure exposed under the CCRHVA's current 100-year storm scenario (Map III-6).

The Emergency Evacuation Routes section in the 2015 reexamination is directly relevant to the CCRHVA's roadway flood exposure analysis (Section V.A). While the element does not currently address climate risks to these routes, its emphasis on improved drainage as a component of evacuation route maintenance aligns with the CCRHVA's documentation of recurrent tidal flooding on these routes. Specifically, Great Bay Boulevard is impacted beginning at 2 feet coastal inundation (see Map V-4) and experiences monthly high tide flooding, potentially challenging evacuation operations.

Potential Resilience Considerations

- Continue to implement roadway improvements to address flooding in alignment with long-term flood exposure projections included in the CCRHVA.
- Consider explicitly incorporating long-term flood exposure projections into emergency evacuation route planning.

H. Open Space and Recreation Plan Element

The Township adopted a recreation plan in 1997, re-adopted it by reference in the 1999 Master Plan community facilities element, and adopted an open space and recreation plan (OSRP) element in 2002. Subsequent reexaminations (2007, 2015, and 2026) recommended updating the element to reflect population growth, regulatory changes, and updates to the Township's open space and recreation inventory. The 2015 reexamination also notes that Hurricane Sandy demonstrated the value of open space areas in promoting natural infiltration of groundwater and resilience to extreme weather events.

Climate Hazard Connections

The CCRHVA analyzes exposure of open space and natural areas and includes projections of marsh retreat (Section V.B). It also assesses exposure of recreational areas identified by stakeholders as community assets (Section V.C.) The current OSRP element does not account for these potential climate-related impacts to open space and recreation assets.

Potential Resilience Considerations

The Township could consider integrating the following into a future update to the OSRP element:

- As noted in the 2015 reexamination, formally recognize the ability of open space to mitigate flooding, increased temperatures, and other climate impacts.
- Consider the inclusion of park and green areas in the design of any new development or redevelopment.
- Incorporate exposures identified in the CCRHVA into open space planning, including marsh retreat and sea-level rise projections for flood-vulnerable areas as well as the potential impact of drought and fire on forested areas.
- Incorporate green infrastructure, such as rain gardens, in new park designs and upgrades to existing parks.

VII. Coordination with Other Plans

The NJ MLUL requires a CCRHVA to include a “policy statement on the consistency, coordination, and integration of the climate change-related hazard vulnerability assessment with any existing or proposed natural hazard mitigation plan, floodplain management plan, comprehensive emergency management plan, emergency response plan, post-disaster recovery plan, or capital improvement plan” and “provide strategies and design standards that may be implemented to reduce or avoid risks associated with natural hazards.” This section addresses these requirements by reviewing and analyzing how the hazard exposures identified in this CCRHVA may impact the Township’s following plans:

- 2025 Ocean County Multi-Jurisdictional All-Hazard Mitigation Plan (including the municipal annex)
- 2022 Floodplain Management Plan
- 2007 Stormwater Management Plan
- 2025 Emergency Operations Plan

For each plan, this section includes a summary of relevant findings, connections with the current and future climate hazards and exposures identified in this CCRHVA, and potential considerations for the Township to improve resilience. Development of resilience considerations was supported by local stakeholders’ rankings of importance for strategies related to land use and zoning to reduce the impacts of climate hazards in the Township (described in Section VI and Appendix B).

A. 2025 Ocean County Multi-Jurisdictional All-Hazard Mitigation Plan and Municipal Annex

The most recent version of the Ocean County Hazard Mitigation Plan (HMP) was adopted in 2025 and is approved through 2030. The 2025 HMP reevaluated the identified hazards, risk assessment, and mitigation goals to identify changes and updates since the previous (2020) plan. The Little Egg Harbor Township municipal annex (henceforth, “Township annex”), included within the HMP (Appendix Vol. I, No. 16), includes a municipal profile, assessment of risks and capabilities, identification of hazards, and mitigation strategy including 24 actions to achieve a more resilient community. This section refers to information found in the HMP that is relevant to this CCRHVA, regardless of whether it is in the main County HMP or the Township annex.

The HMP contains five goals with subordinate objectives. The goals most directly relevant to the CCRHVA are:

- **Goal 1 (Sustainable Development):** Objectives 1G (climate change understanding) and 1H (socially vulnerable populations) align with the CCRHVA's analysis of socially vulnerable populations in Section V.D.
- **Goal 2 (Build and Rebuild):** Objectives 2A (elevations, acquisitions, floodproofing), 2B (community lifelines and critical facilities), and 2E (back bay flooding) correspond with the CCRHVA's exposure analyses in Section V.
- **Goal 3 (Natural Environment):** Objective 3C (increased open space and marsh migration opportunities) corresponds to the CCRHVA's Section V findings on marsh retreat (Map V-9).
- **Goal 4 (Education and Outreach):** Corresponds to the CCRHVA's identification of vulnerable populations in Section V.D, including the approximately 340 low-income residents in the OBC census block in northwest Mystic Island (Map V-15).

A key aspect of the 2025 HMP is that climate change, which appeared as a standalone hazard in the 2020 HMP, has been disaggregated and embedded within individual hazard profiles. Key references in the relevant hazard profiles, for example, include sea-level rise projections for coastal erosion and flooding and expectations for increased storm intensity. Objective 1G of the HMP's mitigation goals is “Develop and maintain an understanding of increased risk from climate change impacts to natural hazards.” Climate change is also one of the evaluation criteria applied across all mitigation actions, defined as “Incorporation of climate change projections for the State into the action, designs to withstand/address long-term conditions, and consistency with the State's climate resilience goals.” Two new 2025 mitigation actions are particularly relevant to climate exposure: Action 16-23 (tidal valve installation, road and yard elevations, \$50M) and Action 16-24 (Disaster Debris Management Plan).

Climate Hazard Connections

The hazard rankings in the Township annex, as well as assessments of coastal flood risk, are broadly consistent with the CCRHVA's exposure findings:

- Wildfire is ranked as high concern and ongoing HMP Actions 16-16 (fire break restoration) and previously completed Actions 16-1 through 16-5 reflect operational response to this risk (see CCRHVA Section III.E, Map III-10).
- Extreme temperature is ranked as medium concern (see CCRHVA Section III.A, Maps III-1 and III-2). Mitigation actions addressing extreme heat are not included.
- Drought is ranked as low concern (see CCRHVA Section III.C). Mitigation actions addressing water supply resilience or groundwater protection are not included.

The Township annex confirms the CCRHVA's findings that most critical facilities are located outside the flood exposure area. The one exception in both documents is Seacrest Rehabilitation and Healthcare Center within the FEMA 1% annual chance flood zone (Section V.A, Table V-1). Also, in alignment with CCRHVA Section V.B, HMP Goal 3, Objective 3C references opportunities for marsh migration. Additionally, both this CCRHVA and the HMP note the high flood risk in Mystic Island and Osborn Island, identifying one OBC census block group in the Mystic Island neighborhood as disproportionately exposed. Finally, the Township annex identifies improved stormwater drainage as a future priority (Section III.B).

Potential Resilience Considerations

Consider the potential addition of CCRHVA-supported mitigation actions to the Township annex for the 2030 HMP update, including:

- Extreme temperature mitigation action(s) to address heat risk areas.
- Marsh migration/living shoreline mitigation action(s) to address marsh impacts/retreat.
- Stormwater-related action(s) based on rainfall projections and stakeholder input on rain-driven flooding (CCRHVA Map III-5).

B. 2022 Floodplain Management Plan

The Township's 2022 Floodplain Management Plan (FMP) is an update to the 2015 FMP, which is updated on the five-year cycle of the National Flood Insurance Program (NFIP) Community Rating System (CRS). The CRS is a voluntary program that incentivizes resilient floodplain management practices through discounted flood insurance premiums for communities that exceed the minimum requirements of the NFIP.

The FMP retains the same five goals from the 2015 plan. The most relevant goals to the CCRHVA are:

- **Goal 1:** Reduce loss from flood damage and other hazards through codes and standards.
- **Goal 3:** Protect the natural resources and qualities of the Township, including wetlands, stream corridors, open space, and areas with scenic, cultural, and recreational values.
- **Goal 4:** Protect and ensure that Township infrastructure and critical facilities are able to withstand future hazard events and remain operational during and after such events.

The FMP's action plan is organized into six categories. Items most relevant to the CCRHVA include:

- **Preventative Measures:** Zoning amendments for impervious coverage limits in waterfront zones; Maintain and repair drainage system
- **Property Protection:** Elevate substantially damaged homes
- **Natural Resource Protection:** Shoreline stabilization of beaches and lagoon ends; Soil erosion and sediment control ordinance amendments
- **Emergency Services:** Replace emergency backup generators at Municipal Complex
- **Structural Projects:** Maintain and repair Township bulkheads; Storm drainage improvements in Mystic Island and Great Bay Boulevard

The FMP contains a future flooding impact analysis extending to 2050. It notes that New Jersey's Coastal Area Facility Review Act (CAFRA) governs coastal wetlands, waterfront development, and flood hazard permitting in the southern portion of the Township where flood exposure is greatest. As such, the feasibility of living shoreline expansion, marsh migration, and structural shoreline projects discussed in this section are subject to these regulations.

Climate Hazard Connections

The most substantive change from the 2015 FMP is the adoption of Ordinance #2022-02 which increased the freeboard requirement in the SFHA from one foot to three feet above the FEMA Base Flood Elevation (see CCRHVA Section III.D for a discussion of elevation requirements per the NJDEP PACT initiatives). The FMP also notes that new development is required to build with bioswales and greater recharge requirements to address increasing precipitation (CCRHVA Section III.B). The FMP also contains a climate change subsection within the Flood Hazard Assessment section, acknowledging the increasing hazards of sea-level rise and severe storms.

The FMP and this CCRHVA identify the same areas of highest flood risk including Mystic Island, Osborn Island, Great Bay Boulevard, Country Club Boulevard, Atlantis Boulevard, and areas along tidal lagoons. They both also recognize subsidence as a locally significant amplifier of sea-level rise, with the FMP noting settling issues in Mystic and Osborn islands. The FMP's action plan includes ongoing high-priority drainage improvements in Mystic Island and along Great Bay Boulevard. Both the FMP (Section V, Problem Assessment) and the CCRHVA (Section V.A, Table V-1) confirm that most of Township's critical facilities are located outside the flood exposure area.

Additionally, both the FMP and the CCRHVA recognize the Township's tidal wetlands and marshes as critical natural buffers against storm surge. The FMP acknowledges that sea-level rise will cause marshes to retreat but does not include an action item addressing marsh migration or landward

corridor protection. Maps depicting marsh retreat are included in both the FMP (Appendix N) and CCRHVA (Map V-9).

Potential Resilience Considerations

- Incorporate regulations included in the NJDEP’s PACT initiatives into the FMP, including statewide sea-level rise planning guidance to support evaluation of long-lived infrastructure in the action plan (i.e. four feet of sea-level rise by 2100).
- Consider incorporating the CCRHVA as a planning input in the FMP, including a late-century analysis section and/or new action(s) to address marsh migration and extreme heat.
- Consider adding extreme precipitation design criteria to the Storm Drainage Improvements action item.
- Consider a compound flood analysis for the FMP that includes both stormwater runoff and coastal surge.

C. 2007 Stormwater Management Plan

The Municipal Stormwater Management Plan (MSWMP) is a regulatory compliance document required by the NJDEP Municipal Stormwater Regulations (N.J.A.C. 7:14A-25). The Township’s MSWMP was adopted in 2005 and revised in 2007. Its purpose is to document the Township’s strategy for addressing stormwater-related impacts, with a focus on minimizing the adverse effects of land development on runoff quantity, runoff quality, and groundwater recharge. The Background section of the MSWMP notes that stormwater flooding in the Township occurs infrequently due to the sandy soils and extensive wetland areas that absorb runoff. The plan recommends nonstructural low-impact stormwater management practices that are consistent with modern green infrastructure practices.

Climate Hazard Connections

Both the MSWMP and the CCRHVA recognize that land development and impervious surface expansion increase stormwater runoff volumes and rates, reduce groundwater recharge, and create downstream flooding and erosion problems. Both identify the Township’s lagoon and waterfront neighborhoods as areas of higher exposure and the MSWMP’s mitigation plan identifies retrofit of Mystic Island stormwater systems as a priority action. Additionally, the MSWMP’s primary water quality focus addresses the mobilization of pollutants from flooding, which the CCRHVA identifies as worsening under climate change (Section V.A).

Due to its age and regulatory purpose, the MSWMP contains no reference to climate change, sea-level rise, or future changes in precipitation intensity or frequency. This may make the current stormwater design and performance standards insufficient as climate conditions shift. Similarly, while the MSWMP states that flooding in the Township occurs “infrequently,” this may change as

sea-level rise reduces wetland buffer capacity (Section V.B, Map V-9) and exacerbates recurrent tidal flooding (Section III.D, Map III-8). These climate-related impacts may interact with stormwater drainage systems; for example, tidal backpressure can decrease the effectiveness of gravity-fed stormwater outfalls during rainfall events.

Although the MSWMP does not frame its strategies as climate adaptation, their operational effect – reducing impervious surface runoff and maintaining groundwater recharge – is consistent with strategies for managing increasing extreme precipitation as documented in the CCRHVA (Section III.B). Many of these strategies also provide co-benefits for extreme heat mitigation (Section III.A).

Potential Resilience Considerations

The following may be considered to bring the plan into consistency with current climate science and the findings of this CCRHVA:

- Consider explicit integration of climate change considerations, guided by hazard projections from the CCRHVA as a planning input.
- Update the buildout analysis and pollutant loading calculations in relation to current land use, stormwater infrastructure conditions, and CCRHVA-identified exposures.
- Update the design and performance standards to incorporate current extreme precipitation projections (CCRHVA Section III.B).
- Assess sea-level rise vulnerability of tidal stormwater outfalls and integrate considerations for high tide flooding. Consider a compound flood analysis that includes both stormwater runoff and tidal flooding.
- Update the groundwater recharge provisions in the context of drought and subsidence (CCRHVA Section III.C).

D. 2025 Emergency Operations Plan

The Emergency Operations Plan (EOP) was approved in 2025 with a mandatory two-year review and update cycle per New Jersey Office of Emergency Management Directive NJOEM-11 (2023). The EOP is an all-hazards response and recovery planning document organized in accordance with the FEMA Comprehensive Preparedness Guide 101 and the National Incident Management System (NIMS). It establishes roles, responsibilities, activation protocols, and operational procedures for the Township's response to significant hazards. It is a response-based document based on static historical conditions and does not use planning horizons or reference climate hazard projections.

The EOP draws its hazard rankings directly from the Ocean County HMP and is broadly consistent with the CCRHVA's findings. However, the EOP does not assign different response protocols by hazard type but rather by function (Evacuation, Shelter, Public Works). Key aspects most relevant

to the CCRHVA are Annex A (Alert, Warning, and Communications), Annex D (Damage Assessment), Annex E (Disaster Recovery), Annex H (Evacuation), Annex M (Public Health), Annex O (Public Works), and Annex R (Shelter Reception and Care).

Climate Hazard Connections

The EOP's hazard rankings (derived from the HMP) of high risk for flood/flash flood, hurricane/tropical storm/nor'easter, and wildfire are consistent with this CCRHVA's analysis of current and future flood risks (Section III). The EOP notes that 40% of the population is at risk from forest fires in the northwest and 60% is at risk from coastal storms in the southeast. Pinelands Regional Junior High and High Schools are identified as shelters, which are "generally resilient to the impacts of hurricanes or storms" but are "particularly vulnerable to forest fires" according to the EOP. This operational challenge is reflected in CCRHVA Section V.A, Maps V-2, V-3, and V-6.

Annex H (Evacuation) notes tidal surge as a complicating factor for hurricane evacuations. The practices described align with the CCRHVA's exposure analysis and identification of vulnerable populations. While the EOP's primary public notification tools assume that residents can act on digital or telephone notifications for evacuation, CCRHVA Section V.D notes that financially burdened households may have limited ability to evacuate, purchase backup energy systems, and/or access emergency services. Additionally, the EOP indicates that Seacrest Rehabilitation and Healthcare Center and The Terraces at Seacrest Village are unlikely to evacuate and require specific planning consideration. Notably, CCRHVA Map V-3 and Table V-1 indicate that the Seacrest facility is within the FEMA 1% annual chance flood zone.

Annex D (Damage Assessment) and Annex E (Disaster Recovery) establish assessment and recovery frameworks that are consistent with the flood exposure analysis in the CCRHVA. Annex O (Public Works) directs inspection of bridges and reporting of structural damage immediately following a hazard event, relating to the potential for faster rates of degradation of transportation infrastructure including erosion at the base of bridges due to increased stream flow (see CCRHVA Section V.A).

Potential Resilience Considerations

The Township could consider referencing this CCRHVA in the 2027 EOP update as a planning input and integrating relevant CCRHVA findings to address the increased response demands of changing climate conditions. This may include updates to EOP annexes or protocols to address the following:

- Extreme heat response in alignment with the projected increase of heat waves (CCRHVA Table III-1).
- Management of recurrent tidal flooding events that are not declared emergencies but disrupt Township operations and roadway access (Map III-5). This may include communications protocols in advance of minor-to-moderate tidal flooding events as well as inspection protocols to address cumulative infrastructure risks from increased flood frequency.

- Flood response for the Seacrest Rehabilitation and Healthcare Center.
- Flood response for the Known Contaminated Site (former Texaco service station) at Radio Road and Dyke Place (CCRHVA Section V.A).
- Communications and evacuation assistance for socially vulnerable populations (CCRHVA Section V.D).
- Continued coordination with the Ocean County Health Department to address climate-driven public health risks (e.g. extreme heat hospital admissions, waterborne disease from flood-mobilized contaminants, and respiratory impacts from wildfire smoke).

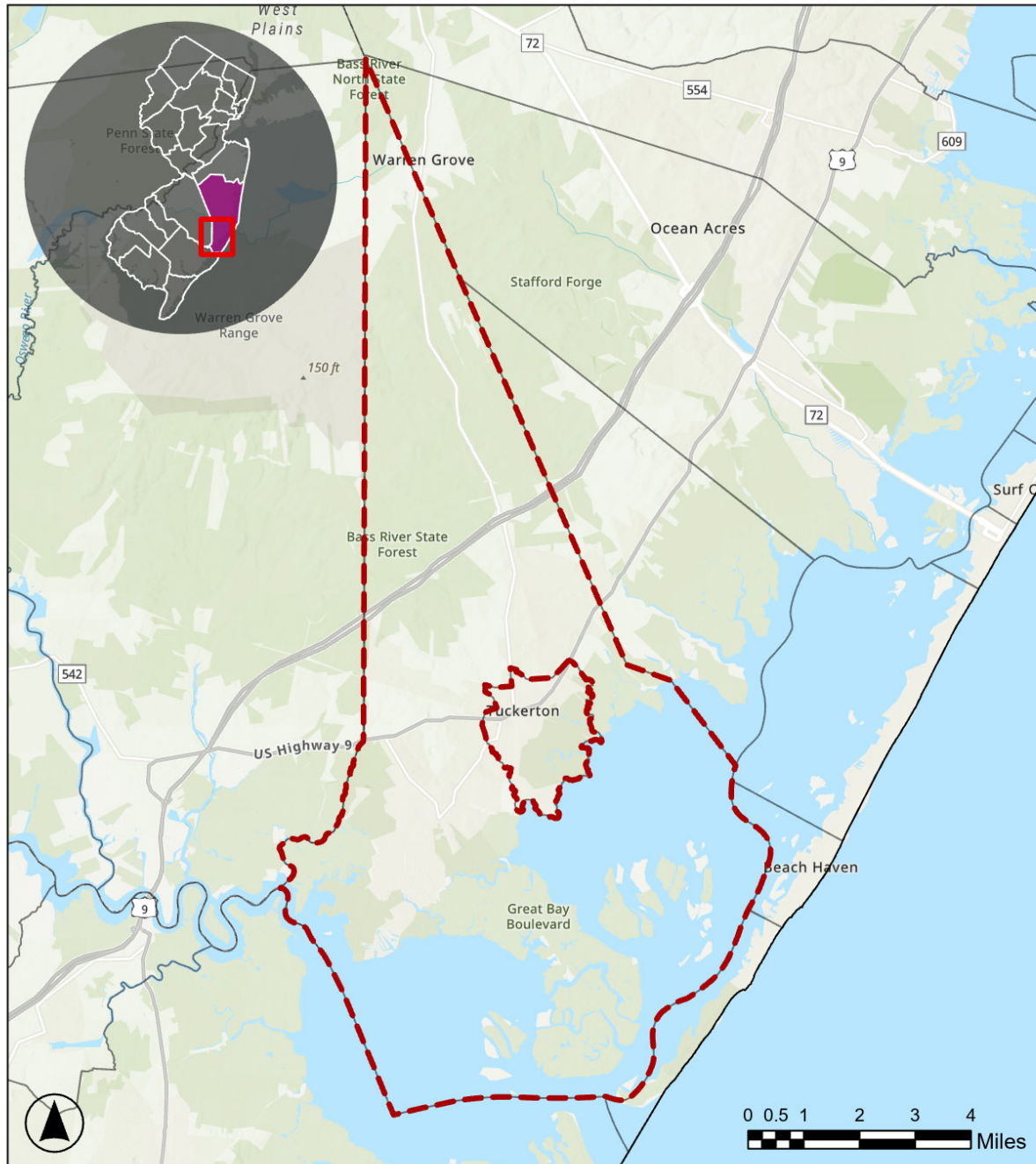
VIII. Appendices

Appendix A: Description of Little Egg Harbor Township

Little Egg Harbor Township is the southernmost municipality in Ocean County, New Jersey. It is bordered by Stafford Township and Eagleswood Township to the north and Bass River Township (Burlington County) to the west. The Borough of Tuckerton forms an enclave on the southeastern side of the Township. The Township also shares water boundaries to the southeast with the Long Beach Island municipalities of Long Beach Township and Beach Haven Borough and to the south with Galloway Township (Atlantic County). The Township spans 73.4 square miles with extensive natural areas including the Pinelands National Reserve in the north, Barnegat Bay, Great Bay, and the Great Bay Boulevard Wildlife Management Area in the south, and the Edwin B. Forsythe National Wildlife Refuge in the southwest. Map A-1 depicts the Township's location.

Settlement of Little Egg Harbor Township began in the early 18th century. It was named for the area of the bay called "Egg Harbor" by Dutch sailors because of the abundance of seagull eggs. A notable battle of the American Revolution occurred in 1778 when the British landed on Osborn Island and were driven back, memorialized by the "Pulaski Monument" off Radio Road. Tuckerton was part of the Township until 1901 and served as the shipping port for products including lumber and charcoal in the 18th and 19th centuries. The Township began to develop as a resort community in the late 1880s when the railroad transported summer visitors to seasonal accommodations. The opening of the Garden State Parkway in the 1950s spurred the development of summer homes in the Mystic Island area. Today the Township is a year-round community offering a rich history, plentiful water access, natural areas, and local events.

Map A-1. Little Egg Harbor Township



LEGEND

-  NJ
-  Municipal Boundaries
-  Little Egg Harbor

Demographics

According to the 2024 American Community Survey,⁵⁸ the residential population of Little Egg Harbor Township is 21,285. The population density is approximately 430 people per square mile (based on a land area of approximately 49.5 square miles). Table A-1 includes detailed demographic information.

Table A-1. Demographic data for Little Egg Harbor Township, Ocean County, New Jersey

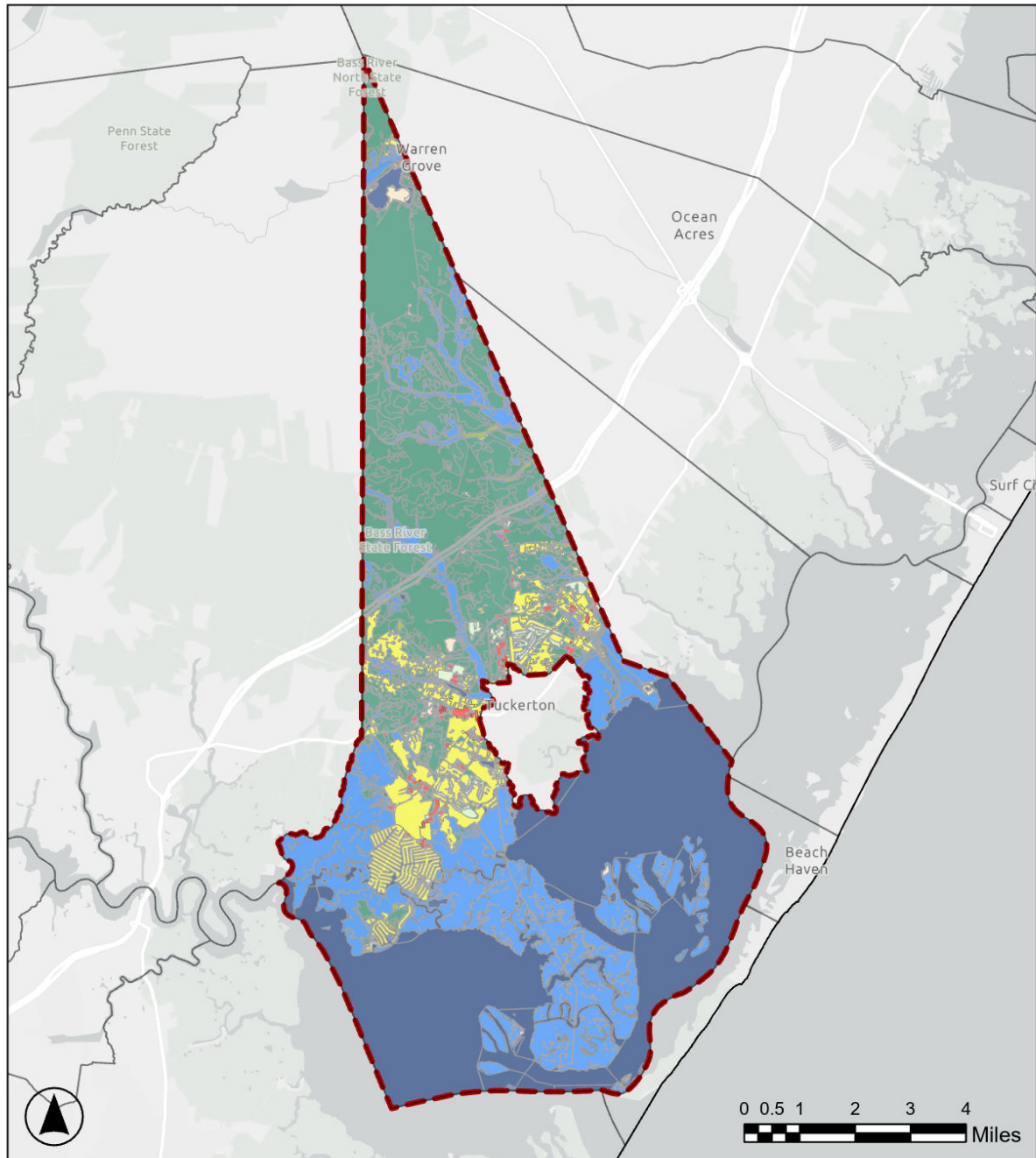
	NJ	County	Township
Total population	9,500,851	666,434	21,285
Population density	1,292 people/mile ²	1,061 people/mile ²	430 people/mile ²
Population change (2020 to 2024)	+211,857	+29,205	+501
Median age	40	41	50
Population below 18	2,043,575	166,327	3,664
Population above 65	1,706,665	155,133	5,668
Median household income	\$104,294	\$96,430	\$92,446
Persons in poverty	859,029	60,096	1,788

Land Uses

Large portions of the Township consist of federal and state public lands. These include forested land in the northern part of the Township and tidal marsh/back bay in the south. Most development is in the southern part of the Township due to historic development patterns in proximity to the water, as well as restrictions on development in the Pinelands National Reserve. Approximately 10% of the land area is residential (10,412 parcels totaling over 3,000 acres) and 4% is commercial (173 parcels totaling approximately 1,200 acres). Additionally, over 35% of the land area consists of water (rivers, bay, and tidal marsh). Map A-2 depicts the Township's land use-land cover. Table A-2 and Map A-3 detail property parcels and classes.

⁵⁸ U.S. Census Bureau. 2024. [American Community Survey Five Year Estimates](#).

Map A-2. Land Use-Land Cover (2020)



LEGEND

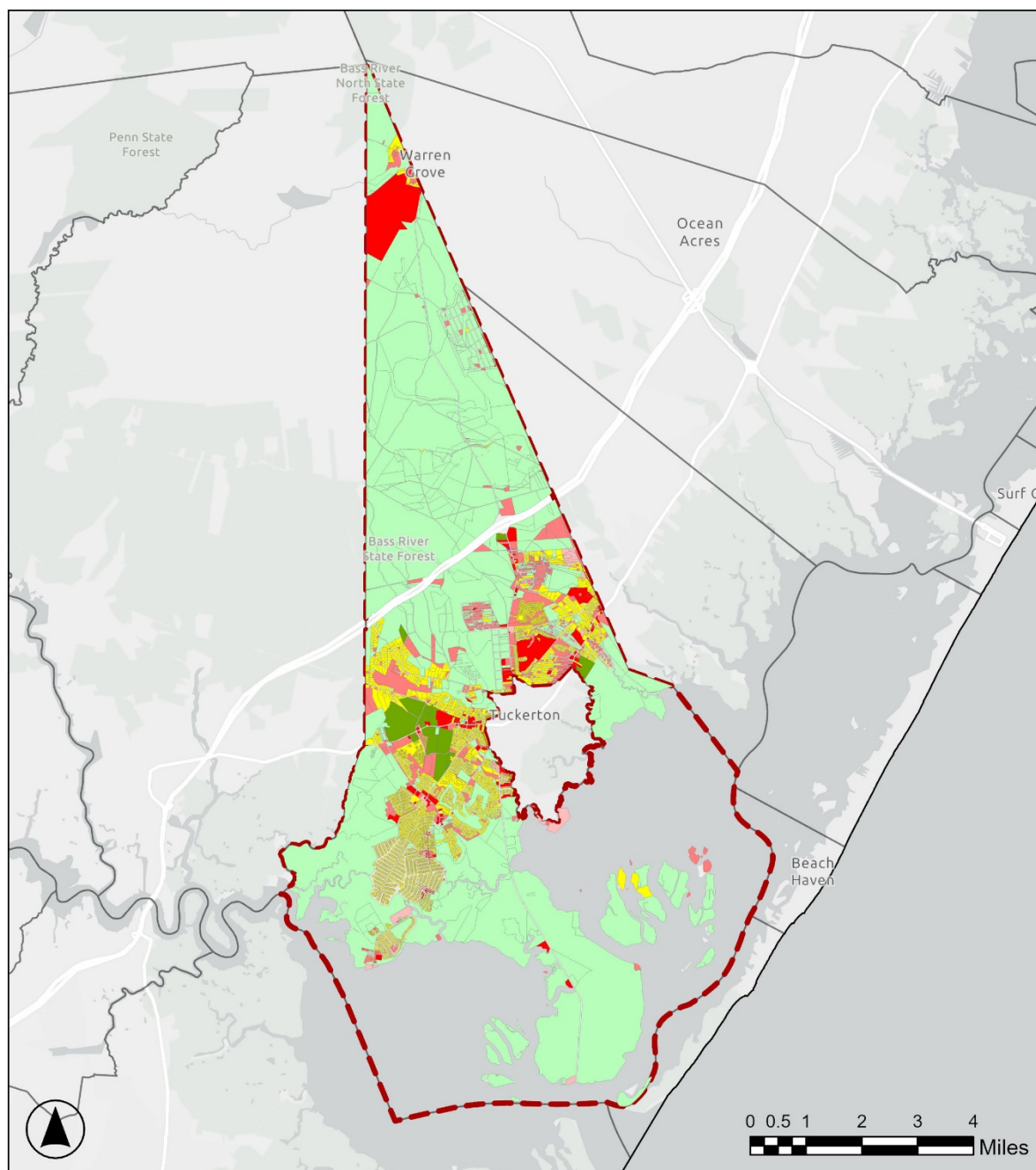
NJ	Land Use 2020	Industrial	Forestland
Municipal Boundaries	Residential	Mixed or Other Urban	Water
Little Egg Harbor	Commercial	Transportation, Communication and Utilities	Wetlands
	Industrial and Commercial	Recreational	Barren Lands
		Agricultural	

Table A-2: Property parcels by class

Property class	Number of parcels	Area in acres
Residential (2)	10,410	3,167
Apartments (4C)	2	8
Commercial (4A)	173	1,199
Industrial (4B)	2	2
Education (15A and 15B)	8	169
Public Property (15C)	993	22,204
Church and Charitable (15D)	22	40
Cemeteries (15E)	0	0
Farmlands (3A and 3B)	17	601
Transportation (5A and 5B)	0	0
Other Exempt (15F)	263	89
Vacant Land (1)	1,120	1,732
Unclassified Land	117	177
Total	13,127	29,386

(Source: Parcels and MOD-IV Composite of NJ)

Map A-3. Property parcels and classes



LEGEND

Parcels		Commercial	Schools and Other Public Property
Residential	Industrial	Vacant	
Apartments	Farm	No Value	

(Source: Parcels and MOD IV Composite of NJ)

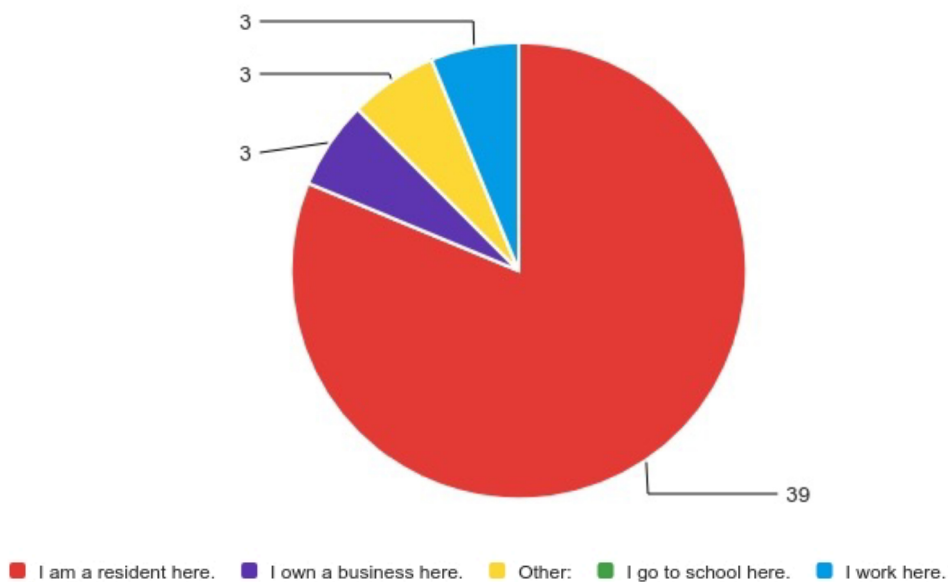
Appendix B: Public Engagement Summary

The Township advertised the CCRHVA public engagement opportunities on the municipal website and Facebook starting on March 5, 2026. The in-person meeting was held on April 2, 2026, one hour before the regularly scheduled monthly planning board meeting. Approximately 37 local stakeholders attended, including residents and representatives of local community groups (e.g. Save Barnegat Bay). The meeting included a brief presentation by Rutgers to explain the overall CCRHVA project (process, goals, etc.) and an overview of hazard assessment findings, followed by participants visiting “stations” with large, printed maps to share locations and experiences with flooding (high tide and/or stormwater), community assets, other climate hazards (heat, wind, drought, wildfire), and any other questions or concerns. The online survey was designed to replicate the opportunities for input provided at the in-person meeting. To this end, respondents were asked to mark digital maps and provide details about the locations of climate hazards and community assets. The survey was open for five weeks from March 5 to April 10, 2026, and had 41 responses. Input from the in-person meeting and the survey was used to refine the hazard analyses and maps in Sections III and V.

Survey Results

Q1 – How would you describe your relation to Little Egg Harbor Township? Select all that apply. – Selected Choice

41 Responses



Q1_5 Other: - Text

Other: - Text

Resident of Tuckerton

I live on the border of LEH and Tuckerton

RetiredI

Q2 - Rank each hazard according to your level of personal concern for Little Egg Harbor, with 1 being the most concern and 6 being the least concern.

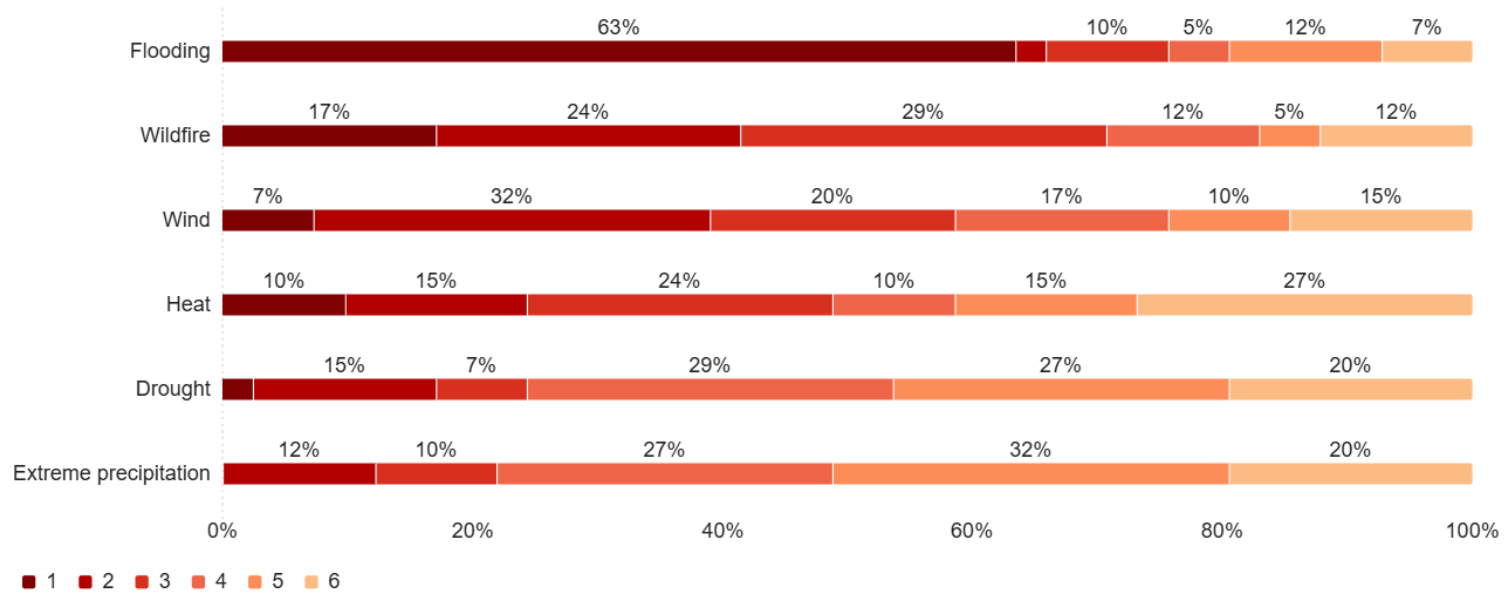
Note: Lower average rank indicates greater level of personal concern.

Rank	Hazard	Average Rank
1	Flooding	2.22
2	Wildfire	3.00
3	Wind	3.34
4	Heat	3.85
5	Drought	4.22
6	Extreme Precipitation	4.37

Continued on next page

Q2 - Hazard Concern Ranking (1 = Most Concern, 6 = Least Concern)

41 Responses



Q3 - How frequently are you personally affected by these hazards in Little Egg Harbor?

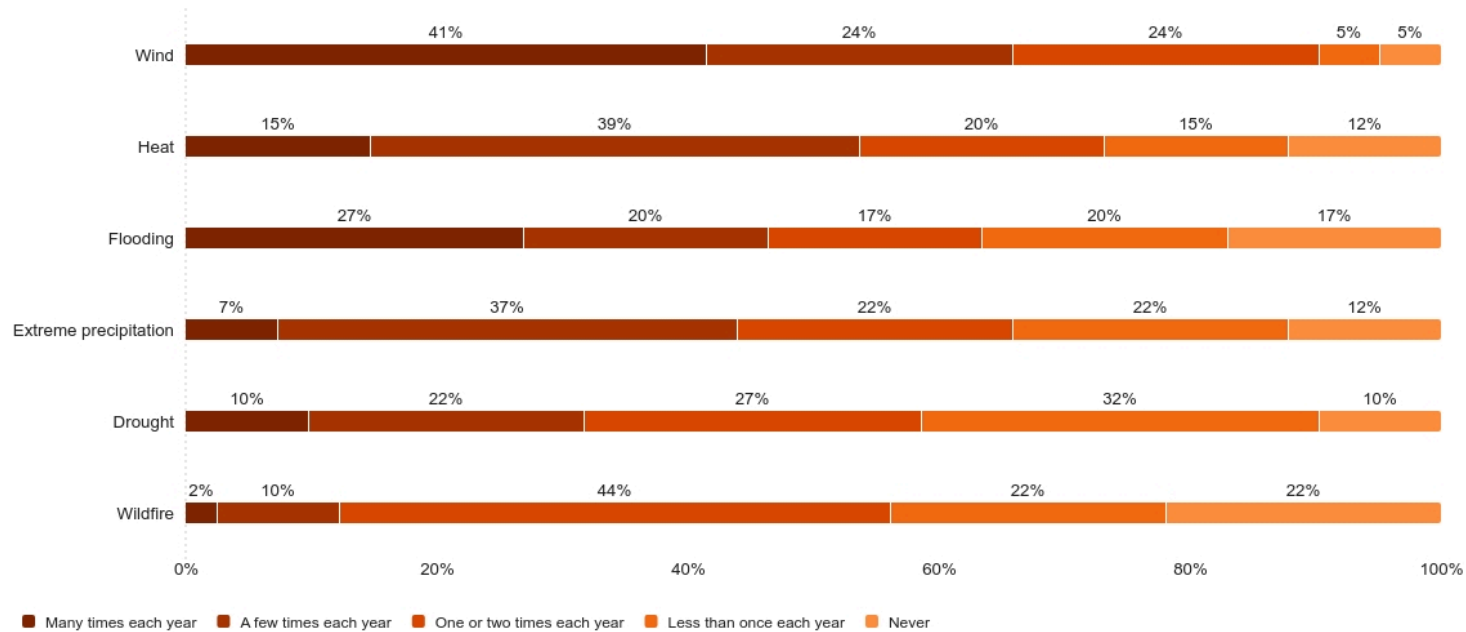
Note: Higher average indicates more frequently impacted. (Scale: Many times each year=5, A few times each year=4, 1 or 2 times each year=3, Less than once each year=2, Never=1).

Rank	Hazard	Average
1	Wind	3.93
2	Heat	3.29
3	Flooding	3.20
4	Extreme precipitation	3.05
5	Drought	2.90
6	Wildfire	2.49

Continued on next page

Q3 - How frequently are you personally affected by these hazards in Little Egg Harbor?

41 Responses



Q4 - Please share details below about up to three important places in Little Egg Harbor. The CCRHVA will recommend ways to protect the places most important to the community.

(Examples include recreational facilities, entertainment venues, museums, shops, places of worship, etc. We have already identified government facilities like schools and fire stations, so there is no need to share those.)

Please include:

- Place name
- Address or description of location
- Why it's important

Note: Responses to Q4 were categorized and added to the community assets maps in Section V.C.

Doyle's Pour House
Walmart Route 9
St Theresa Roman Catholic Church
Graveling Point Beach
Atlantis Golf Course and Cuisine on the Green
Trails behind Tuckerton Elementary School
Freedom Fields Park
Bayfront docks (Green St)
Edward Thornton Little Egg Harbor Community Center (Calabreeze Way)
Playhouse Road boat ramp
Beach end of Radio Rd
Parkertown Dock
Campsites on Stage Road (Baker's Acres Campground)
Mystic Wawa
Acme Shopping Center Rt 9 S

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Senior Community Center
Stanley H. "Tip" Seaman County Park
Naples Pizza
Mystic Island Park
George Mitchell Park
Food Pantries Rt 539 / Radio Rd
Historical church site
Sports complex
Cranberry Creek
Great Bay Blvd
Stage Road and Rt 539 Pine Barrens
Bass River State Forest
Lake in middle of town
7 Bridges Rd
E Playhouse Rd
N Burgee Dr
Edwin B Forsythe marshes
Library on Mathistown Rd
Seaport Rt 9 LEH
Seven Bridges Road
Freedom Fields natural lands along 539
Mathistown Rd & Rt 9 (church area)
Open lands along Center St, Rt 9, Rt 539
Wooded lands near schools
Lands between Poor Man's Pkwy, Rt 539 & Rt 9
The Tuckerton Seaport
Seven Bridges Road
Great Bay Blvd / 7 Bridges to Rutgers Field Station
Stafford Forge / Pinelands

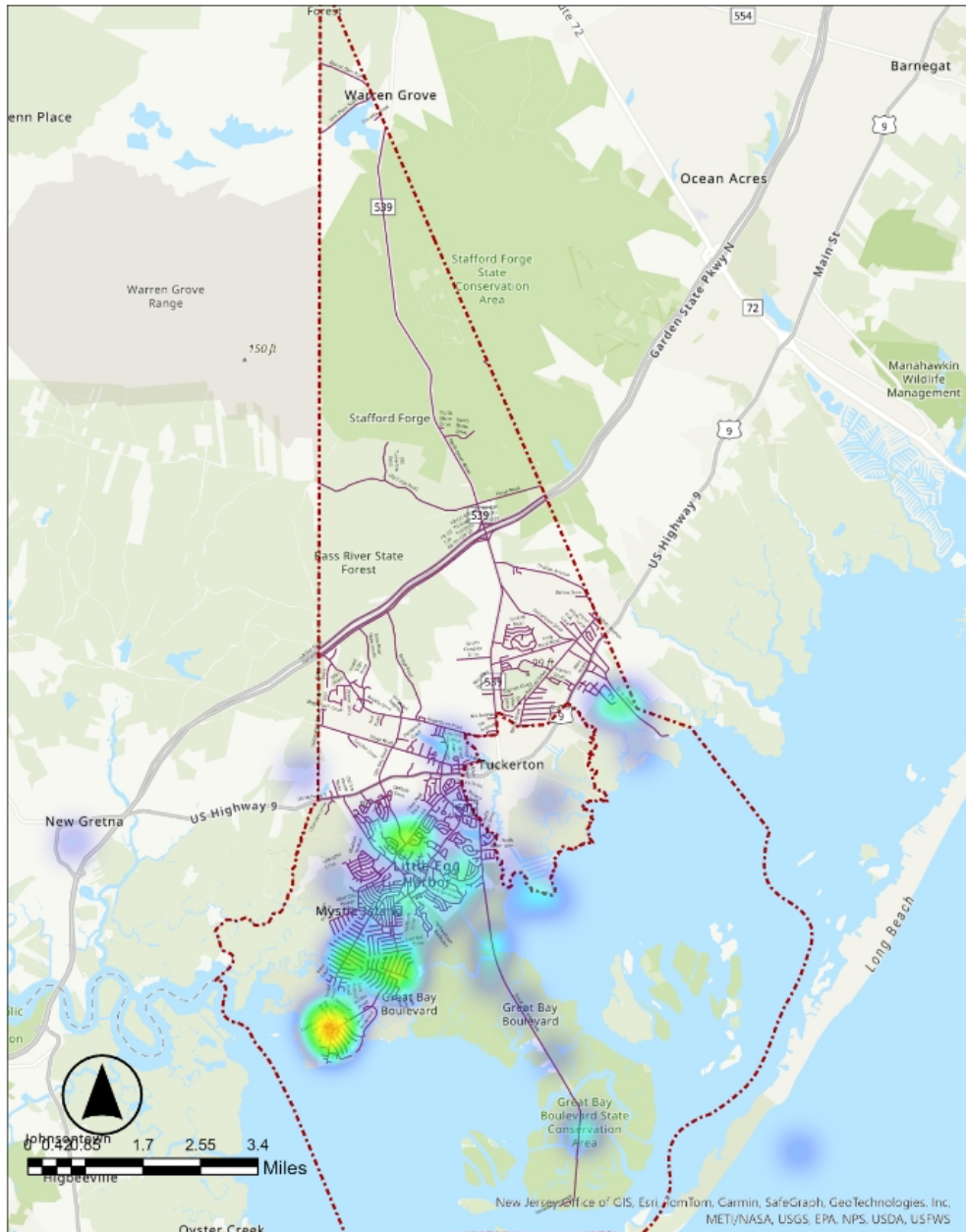
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Wetlands / marshland / vernal pools
Childcare sports recreation
Great Bay (Mystic beach)
Open upland space for wetlands
Critical open space (vernal pools)
Public access Great Bay Blvd
7 Bridges
Green St
Recreation fishing areas
Great Bay Blvd
Graveling Point Beach
Woods in Center St
Woodlands, rivers and streams
Route 9 park at Great Bay Blvd
Woods for wildlife
Wildlife habitat and wetlands
Osborne Island woods

Q5 - Click on the map below to add locations where you have observed flooding in Little Egg Harbor.

Note: The heat map colors represent the concentration of points added to the map by all respondents.

Q5 - Heat Map



LEGEND

Concentration of flooding locations



Low-----Medium-----High

Q6 - Please share details about each location you added to the map, including:

- **Names of flooded roads, intersections, and/or neighborhoods,**
- **How often it floods**
- **Causes of flooding (high tide, rain, storm surge)**
- **Damage or effects**

Note: Responses to Q6 were used to refine the flood map(s) in Section III.

Q7-Q10 - If you have experienced any of the climate hazards below [heat, wind, drought, wildfire] in Little Egg Harbor, please share details about the event(s) including:

- **Approximate location, if applicable**
- **Year (and month/season, if known) of event(s)**
- **Observed impacts**

Heat
I walk a lot. From mid-May to mid-September the heat index gets into at least mid-90's.
It just seems hotter in general
Parkertown July and August
The past few summers have yielded some brutal heat waves with temps near 100 degrees F or higher, making it unbearable to be outdoors, especially in paved or non-wooded areas. This is also apparent when you drive around the area as much of the flora and fauna look unhealthy/dead
July - August, it's hot
Summertime
See it every summer here. It kills our flowering plants, vegetable plants, causes high electric bills due to air conditioning.

Wind
During northeasters the winds are quite high.
Wind is constantly causing down trees and power outages.
The wind has affected more over the 40 years I've been here. I am in Tuckerton Borough, and we feel it more and see more water blown into streets after heavy rains in areas like the street behind the Wawa on Rt 9
Parkertown this past winter 2025-2026
Spring and fall
Yes-super windy on lagoons
All normal

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Drive along Poor Man's Parkway today to see how many trees fell during last week's windstorm. This roadway is owned by Fish and Wildlife and the Parkway Authority. They need to inspect all the trees near the roadway and cut them to eliminate this issue. Retaining water near trees along this roadway contributes to this problem.
I have experienced high winds in my yard which is not along the water/is more inland - more than in previous years - blowing down/causing damage to trees
It's always windy usually after 10am primarily in the summer months.
Sep-Nov
Hurricane Sandy 2012
Occasionally
It causes damage to siding and roofing; snowdrifts cause heavy damage to our streets.

Drought
2025
2025...very dry all grass died.
Almost every summer. Can't water my garden
The effects of drought can be seen all around the local area —like heat, the local flora and fauna clearly seem stressed/unhealthy and/or dead
July, can't water grass
On-going
Not as often but can cause wildlife issues in our area throughout the year.

Wildfire
Rt 9 in LEH
2021
Summer. Fire threats are high.
More often fires start due to the extra dry conditions. Usually on Rt 9 by the Little Egg Walmart
You can see smoke in the distance when there is fire in the pines. Prevents residents from reaching places like Hammonton when fire causes road closures.
Entire area 1 year
West of Rt 9
Underbrush along Poor Man's Parkway, Altori Court and Nugentown Road. Needs controlled burns.
Wildfire has been increasingly common in the area and quite close to home (fire in Bass River along Munion Field Rd and Rt 9 several years ago). Wildfire throughout the summer months is a common occurrence on and around the area (Bass River, Pine Barrens)
April-Oct, Pine barrens
Wildfire from Stage Rd to Rt 9 LEH early 2022?
Occasionally
Smoke conditions, loss of trees, and shrubs. Not as often as wind and heat.
Pinelands are our neighbors and a source of wildfire. Any forested area is a candidate for fires

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Q11 - Below are examples of strategies related to land use and zoning that can help reduce the impacts of climate hazards. Rank their importance for your municipality, with 1 being most important and 5 being least important.

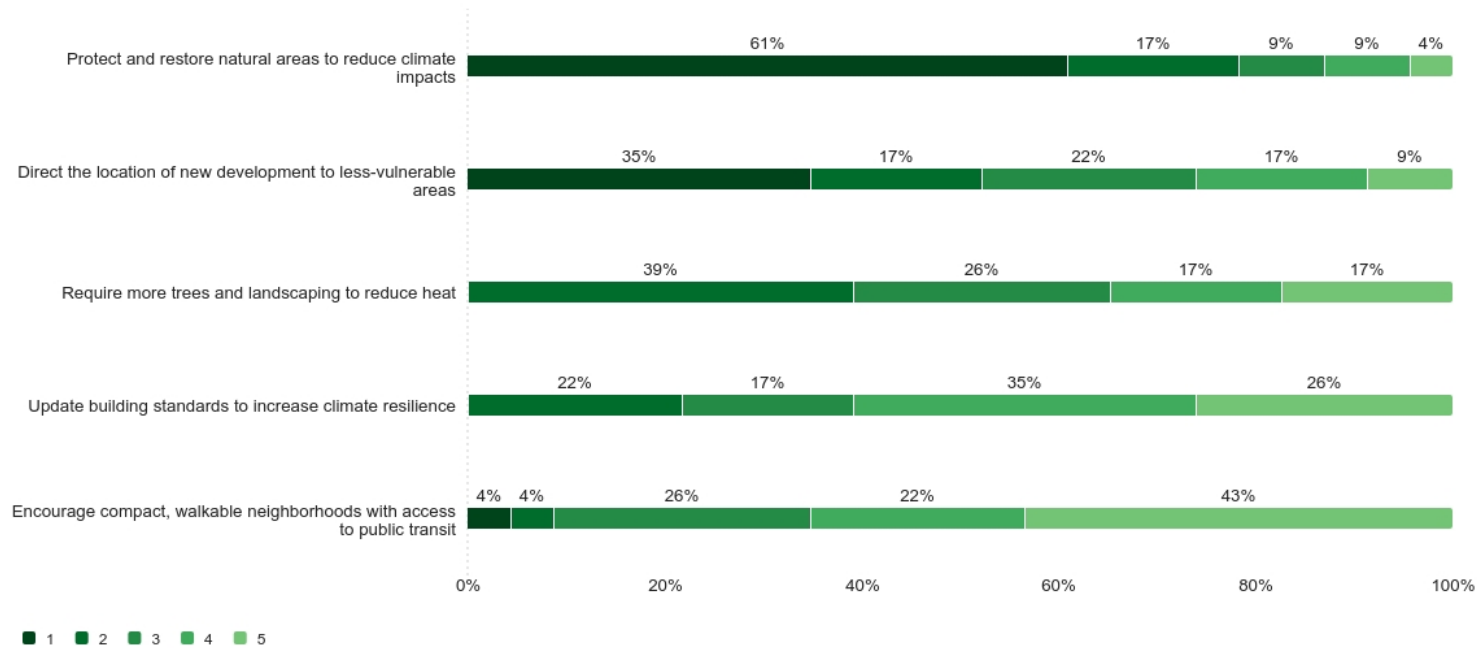
Note: Lower average rank = higher priority.

Rank	Strategy	Average Rank
1	Protect and restore natural areas to reduce climate impacts	1.78
2	Direct the location of new development to less-vulnerable areas	2.48
3	Require more trees and landscaping to reduce heat	3.13
4	Update building standards to increase climate resilience	3.65
5	Encourage compact, walkable neighborhoods with access to public transit	3.96

Continued on next page

Q11. Strategies Ranking (1 = Most Important, 6 = Least Important)

23 Responses



Appendix C: Data Sources

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Section III Detailed Data Sources

Tables

Table III-1. Heat waves - <https://njhealthadapt.rutgers.edu/>, Public Health Report, Table 1

Table III-2. Extreme heat days - <https://njhealthadapt.rutgers.edu/>, Public Health Report, Table 2

Table III-3. Days below freezing - <https://njhealthadapt.rutgers.edu/>, Forest Climate Risk Report

Table III-4. Rainfall (in inches) over 24-hours by annual storm probability - <https://njhealthadapt.rutgers.edu/>, Public Health Report, Table 3

Table III-5. Increase in annual probability for the 10% and 1% chance storm - [Northeast Regional Climate Center](#), unpublished data

Table III-6. Annual percent time in drought - Shope, J., Nikolopoulos, E., and Araujo, D.S.D. 2025. DRAFT New Jersey Projected Future Drought Dataset Technical Documentation, unpublished data

Table III-9. Historic flooding days - <https://coast.noaa.gov/sealevelcalculator/#>, Changes in Flood Frequency

Maps

Map III-1. Land surface temperature – Summer 2022 –

<https://rutgers.maps.arcgis.com/apps/mapviewer/index.html?webmap=4d8f6d249e394357827fec5312fc861>

Map III-2. Heat island risk -

<https://rutgers.maps.arcgis.com/apps/mapviewer/index.html?webmap=9f8adca918b0467bbcf74f5c06918e22>

Map III-3. FEMA flood zones -

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Map III-4. High tide flooding locations - Rutgers University (2026). NOAA Minor High Tide Flooding for New Jersey (Rutgers Modified).

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Map III-6. Potential inundation from 100-year storm - <https://njfloodmapper.org/>, Total Water Levels Tool, Accessed May 2025

Map III-7. Areas potentially subject to the NJ PACT regulatory reforms –

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Map III-8. Projected permanent inundation from future sea-level rise in 2050 and 2100 -

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Map III-9. Potential inundation from coastal flooding from 100-year storm in 2050 -

<https://njfloodmapper.org/>, Total Water Levels Tool, Accessed May 2025

Map III-10. Wildfire risk to potential structures and select historic wildfires - [NJ Wildfire Risk Explorer](#) and [Wildland Fire Incident Locations | National Interagency Fire Center](#)