7. DROUGHT

7.1 HAZARD PROFILE

7.1.1 Hazard Description

Drought is a period characterized by long durations of below-normal precipitation. Drought is a temporary irregularity and differs from aridity since the latter is restricted to low-rainfall regions and is a permanent feature of climate. Drought conditions occur in virtually all climatic zones, yet its characteristics vary significantly from one region to another, since it is relative to the normal precipitation in that region. Drought can affect agriculture, water supply, aquatic ecology, wildlife, and plant life.

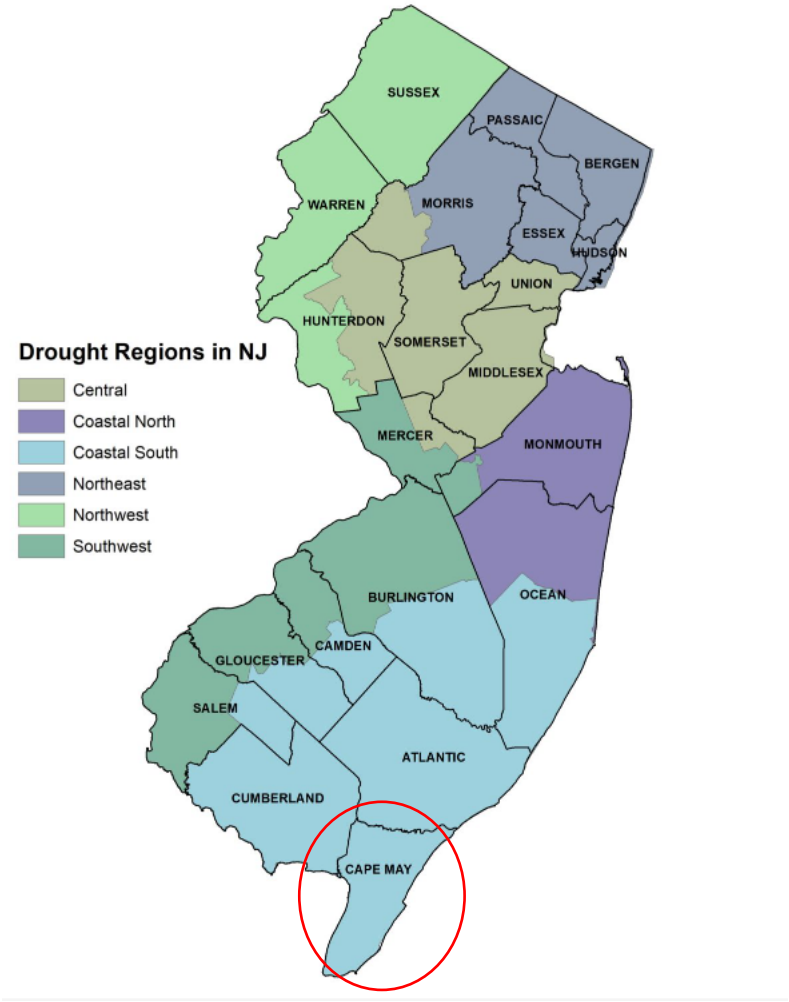
There are four different ways that drought can be defined or grouped:

- ***Meteorological*** drought is a measure of the departure of precipitation from normal. It is defined solely by the relative degree of dryness. Due to climatic differences, what might be considered a drought in one location of the country may not be a drought in another location.
- ***Agricultural*** drought links various characteristics of meteorological (or hydrological) drought to agricultural impacts, focusing on precipitation shortages, differences between actual and potential evapotranspiration, soil water deficits, reduced groundwater or reservoir levels, and other parameters. It occurs when there is not enough water available for a particular crop to grow at a particular time. Agricultural drought is defined in terms of soil moisture deficiencies relative to water demands of plant life, primarily crops.
- ***Hydrological*** drought is associated with the effects of periods of precipitation shortfalls (including snowfall) on surface or subsurface water supply. It occurs when these water supplies are below normal. It is related to the effects of precipitation shortfalls on stream flows and reservoir, lake, and groundwater levels.
- ***Socioeconomic*** drought is associated with the supply and demand of an economic good with elements of meteorological, hydrological, and agricultural drought. This differs from the aforementioned types of droughts because its occurrence depends on the time and space processes of supply and demand to identify or classify droughts. The supply of many economic goods depends on the weather (for example water, forage, food grains, fish, and hydroelectric power). Socioeconomic drought occurs when the demand for an economic good exceeds the supply as a result of a weather-related shortfall in the water supply (NDMC 2013).

7.1.2 Location

New Jersey is divided into 6 drought regions based roughly the natural watershed boundaries, reflecting regional similarities in climate and water supply sources. This alignment enables the New Jersey Department of Environmental Protection (NJDEP) to address changing conditions in one area without imposing restrictions on regions not facing water shortages. Additionally, these drought regions correspond with municipal borders, as local police departments are primarily responsible for enforcing water restrictions during drought emergencies (NJDEP n.d.). Cape May County is identified as NJDEP Drought Region 6, the Coastal South (Figure 7-1).

Figure 7-1. NJDEP Drought Regions of New Jersey



Source: NJDEP n.d.
Note: The red circle indicates the approximate location of Cape May County.

When a drought occurs, the agricultural industry is most at risk in terms of economic impact and damage. According to the 2022 Census of Agriculture, Cape May County is home to 171 farms, covering 7,821 acres, which is a 4-percent decrease from 2017 (USDA 2022).

7.1.3 Extent

The severity of a drought depends on the degree of moisture deficiency, the duration, and the size and location of the affected area. The longer the duration of the drought and the larger the area impacted, the more severe the potential impacts (NOAA 2022). The New Jersey Department of Environmental Protection (NJDEP) identify droughts in the following four stages (NJDEP n.d.):

- ***Normal*** is considered the standard moisture soil levels found throughout New Jersey. NJDEP conducts routine monitoring of water supply and meteorological indicators.
- ***Drought Watch*** is the first stage of drought. A Drought Watch signifies that conditions are dry, but not critically so. During this period, the Department closely monitors various drought indicators, such as

precipitation, stream flows, reservoir and groundwater levels, and water demands. Additionally, the Department consults with affected water suppliers to stay informed and responsive. The Drought Watch designation serves to inform the public about worsening conditions. Simultaneously, it reminds water-supply professionals to closely monitor the situation and update contingency plans if dry conditions persist or worsen. The public is also encouraged to use water wisely to help conserve supplies. NJDEP places a focus on voluntary reductions in demand through increased public awareness.

- ***Drought Warning*** indicates a non-emergency phase in managing water supplies during the early stages of drought, positioned between the Watch and Emergency levels of response. The goal of a Drought Watch is to prevent severe water shortage that would require declaring a water emergency and enforcing mandatory water use restrictions or bans. During a drought warning, the commissioner of NJDEP DEP may instruct water suppliers to develop alternative water sources or transfer water from areas with more abundant supplies to those with less. Although mandatory water use restrictions are not enforced under a Warning, the public is strongly encouraged to conserve water in affected regions.
- ***Drought Emergency*** is the third stage of drought. This stage can only be declared by the Governor. While drought warning measures aim to increase or redistribute water supplies, actions taken during a water emergency focus on reducing water demand. Typically, a phased approach to water consumption restrictions is implemented during such emergencies. Phase I restrictions usually target non-essential outdoor water use. Although some indirect economic impacts may occur, the initial phases of water use restrictions aim to minimize adverse effects on the economy. Individuals who believe they are uniquely affected by the restrictions can apply for a hardship exemption.

The State of New Jersey determines drought conditions through a comprehensive monitoring system managed by the Division of Water Supply and Geoscience within the Department of Environmental Protection (NJDEP). This system involves regularly assessing various water supply indicators across different regions of the state. Key factors include (NJDEP 2025):

- Precipitation levels
- Stream flows
- Reservoir and groundwater levels
- Water demands

U.S. Drought Monitor

The state also uses the U.S. Drought Monitor, which classifies drought severity based on physical indicators and input from local observers (NOAA-NIDIS 2025). This approach allows New Jersey to respond effectively to changing conditions and implement appropriate water management strategies.

The U.S. Drought Monitor uses six classifications for drought: normal conditions, abnormally dry (D0), moderate drought (D1), severe drought (D2), extreme drought (D3), and exceptional drought (D4). Table 7-1 describes these drought categories. Moderate and severe droughts have short-term impacts, typically last less than six months, and primarily affect agriculture and grasslands. Extreme and exceptional droughts have longer-term impacts, typically last longer than six months, and affect hydrology and ecology (NIDIS 2023).

Table 7-1. U.S. Drought Monitor Classifications

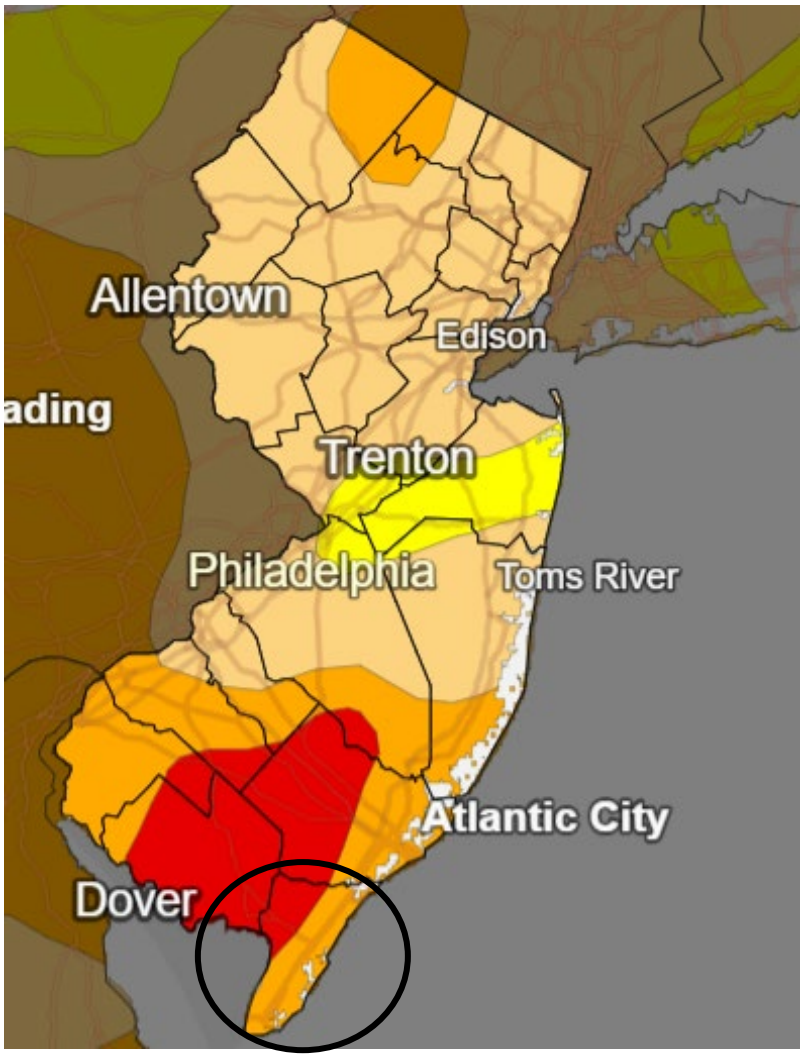
Category	Description	Possible Impacts	Palmer Drought Index
D0	Abnormally Dry	Going into drought—short-term dryness slowing planting and growth of crops or pastures; fire risk above average. Coming out of drought—some lingering water deficits; pastures or crops not fully recovered.	–1.0 to –1.99
D1	Moderate drought	Some damage to crops and pastures; fire risk high; streams, reservoirs, or wells low; some water shortages developing or imminent; voluntary water-use restrictions requested.	–2.0 to –2.99
D2	Severe drought	Crop or pasture losses likely; fire risk very high; water shortages common; water restrictions imposed.	–3.0 to –3.99
D3	Extreme drought	Major crop or pasture losses; extreme fire danger; widespread water shortages or restrictions.	–4.0 to –4.99
D4	Exceptional drought	Exceptional and widespread crop/pasture losses; exceptional fire risk; shortages of water in reservoirs, streams, and wells, creating water emergencies.	–5.0 or less

Source: NOAA-NIDIS 2025

Table 7-1 lists the U.S. Drought Monitor classifications. According to the National Integrated Drought Information System (NIDIS), the U.S. Drought Monitor shows the location and intensity of drought conditions across the country. Abnormally Dry (D0) conditions indicate an area that may be going into or coming out of a drought. The other four remaining categories (D1-D4) indicate drought conditions are actively seen in the area. The U.S. Drought Monitor is utilized by the U.S. Department of Agriculture to trigger disaster declaration and loan eligibility when needed (NOAA-NIDIS 2025).

Figure 7-2 illustrates the U.S. Drought Monitor New Jersey State Map which indicates the drought severity levels for the entire state as of March 2025. Approximately 13.8% of New Jersey, including parts of Cape May County, are experiencing Extreme Drought (D3) conditions (NOAA-NIDIS 2025). Extreme Drought conditions can be detrimental to agriculture and livestock as well as negatively impacting socially vulnerable populations within the County.

Figure 7-2. U.S. Drought Monitor New Jersey State Map



Source: NOAA-NIDIS 2025
Note: the black circle indicates the approximate location of Cape May County.

7.1.4 Previous Occurrences

FEMA Major Disaster and Emergency Declarations

Between 1954 and 2025, Cape May County experienced two FEMA declared drought-related disasters (DR) or emergencies (EM) classified as a water shortage. Generally, these disasters cover a wide region of the State; therefore, they may have impacted many counties. Cape May County was included in both declarations, as shown in Table 7-2 (FEMA 2025).

Table 7-2. FEMA Declarations for Drought Events in Cape May County (1954 to 2025)

FEMA Declaration Number	Date(s) of Event	Date of Declaration	Event Type
DR-205	August 18, 1965	August 18, 1965	Water Shortage

FEMA Declaration Number	Date(s) of Event	Date of Declaration	Event Type
EM-3083	October 19, 1980	October 19, 1980	Water Shortage

Source: FEMA 2025

USDA Declarations

The Secretary of Agriculture from the U.S. Department of Agriculture (USDA) is authorized to designate counties as disaster areas to make emergency loans to producers suffering losses in those counties and in contiguous counties. Between August 2019 and March 2025, Cape May County was included in one USDA-designated agricultural disasters that included or may have included losses due to drought, as shown in Table 7-3.

Table 7-3. USDA Declarations for Drought Events in Cape May County (2019 to 2025)

USDA Declaration Number	Date(s) of Event	Date of Declaration	Event Type
S5348	July 1, 2022 – Present	December 20, 2022	Heat, Excessive Heat, High Temperature, Drought

Source: USDA 2025

Previous Events

Known hazard events that impacted Cape May County between August 2019 and March 2025 are discussed in Table 7-4. For events prior to 2019, refer to the 2019 Cape May County HMP.

Table 7-4. Drought Events in Cape May County (2019 to 2025)

Event Date	FEMA Declaration or State Proclamation Number	Cape May County included in declaration?	Location Impacted	Description
September 17 – December 9, 2019	N/A	N/A	Cape May County	According to the U.S. Drought Monitor, conditions held at a D0 or “abnormally dry” status across Cape May County from September 17 – October 14, D1 or “moderate drought” status from October 15 - 21, and D0 or “abnormally dry” status from October 22 – December 9, 2019.
June 30 – July 13, 2020	N/A	N/A	Cape May County	According to the U.S. Drought Monitor, conditions held at a D0 or “abnormally dry” status across Cape May County from June 30 – July 13, 2020
March 18, 2025	N/A	N/A	Cape May County	The U.S. Drought Monitor reported a extreme drought across about 29% of the County, the rest of the County reported extreme drought conditions.

Sources: NOAA-NIDIS 2025

7.1.5 Probability of Future Occurrences

Based upon risk factors for and past occurrences, it is likely that droughts will occur across New Jersey and Cape May County in the future. In addition, as temperatures increase (see climate change impacts), the probability for future droughts will likely increase as well. Therefore, it is likely that droughts will occur in the State and County of varied severity in the future.

It is estimated that Cape May County will continue to experience direct and indirect impacts of drought and its impacts on occasion, with the secondary effects causing potential disruption or damage to agricultural activities and creating shortages in water supply within communities.

Information on previous drought occurrences in the County was used to calculate the probability of future occurrence of such events, as summarized in Table 7-5. The probability of occurrence, or likelihood of the event, is one parameter used for hazard rankings. In Chapter 20, the identified hazards of concern for Cape May County were ranked. The probability of occurrence, or likelihood of the event, is one parameter used for hazard rankings. Based on historical records and input from the Planning Partnership, the probability of occurrence for drought in the County is considered "*occasional*".

Table 7-5. Probability of Future Drought Events in Cape May County

Hazard Type	Number of Occurrences Between 2000 and 2025	Percent Chance of Occurring in Any Given Year
Drought	24	96.00%

Sources: NOAA-NIDIS 2025, USDA 2025

Notes: Due to limitations in data, not all drought events occurring between 1954 and 1996 are accounted for in the tally of occurrences. As a result, the number of hazard occurrences is calculated using the number of occurrences between 2000 and 2025

Climate Change Projections

The Office of the State Climatologist at Rutgers University has been tracking temperature and precipitation records in the State of New Jersey since 1895. Their data reveals a significant increase in the state's average annual temperature by 3.5°F (1.9°C) over the past century. This warming trend in the State of New Jersey is more pronounced than in the rest of the Northeast region, which has seen a 2°F (1.1°C) increase, and the global average increase of 1.5°F (0.8°C) (NJDEP 2020).

Since 1970, the rate of warming in the State of New Jersey has accelerated. Analysis of data up to the end of 2019 shows that the ten warmest years on record have all occurred since 1990, while the ten coldest years were all before 1940. The warmest year on record was 2012, with an average annual temperature 4.1°F (2.3°C) above the long-term average (1895-2019) and 3.0°F (1.7°C) above the 30-year normal. Additionally, the four warmest winters have occurred since 1998, and the eight warmest summers since 1999 (NJDEP 2020).

Seasonal analyses indicate that winter months (December, January, February) and summer months (June, July, August) have experienced significant warming. From 1990 to 2019, there were 43 instances of months with top-5 warmest average temperatures, while no months recorded a top five coldest average temperature in the same period. The last top five coldest month was December 1989.

Projections indicate that the State of New Jersey will continue to warm. Global climate models, which consider future greenhouse gas emissions, predict unprecedented warming in the 21st century. Under both high and low

emissions scenarios, annual temperatures are expected to be as warm as the warmest years in the historical record. By 2050, average annual temperatures in New Jersey could be 1°F (0.6°C) to 6°F (3.3°C) warmer, and by 2100, they could be 3°F (1.7°C) to 9°F (5.0°C) warmer under a lower emissions scenario, and 6°F (3.3°C) to 13°F (7.2°C) warmer under a higher emissions scenario (NJDEP 2020).

The New York City Panel on Climate Change projects that localized annual average temperatures will increase by 4.1°F to 5.7°F (2.3°C to 3.2°C) by 2050. The recent 10-year average annual temperature is already about 3°F (1.7°C) above the 1901-1960 period average.

By mid-century, around 70% of summers in the Northeast are expected to be hotter than the warmest summer to date. This increase in average annual temperatures will lead to more intense heat waves and fewer cold waves, extending the growing season. Consequently, the number of sub-freezing days and snow accumulation will decrease. Heatwaves are projected to increase in frequency, duration, and spatial extent, resulting in adverse impacts such as lower agricultural yields, higher energy consumption, reduced power plant efficiency, increased air pollution, negative effects on human health, and greater water loss through evapotranspiration (NJDEP 2020)

Droughts along with extreme precipitation have been an increasingly recurring phenomenon over the past decades. Precipitation has increased over time, which is counterintuitive given drought events are also projected to increase. However, this follows the trend of increased extreme weather. With isolated precipitation, long stretches of dry weather, wildfires, riverine flooding, and degraded water supply can all happen at the same time and therefore can put communities, especially those that live along a river, susceptible to structural flood damage along with potential degraded water supply due to the receding water table that cannot get replenished from such extreme precipitation. (Cornell University 2021).

7.1.6 Cascading Impacts on Other Hazards

Drought increases conditions that may trigger fires in the County, such as dead and dying trees, and grasses. Drought can lead to increasing temperatures and evaporation of moisture, which are ideal dry conditions for wildfire events to occur. Dry, hot, and windy weather combined with dry vegetation makes some areas more susceptible to sparking wildfires when met with a spark created by humans or natural events, including lightning. Additionally, droughts can lead to the following (NIDIS 2019):

- Long-term damage to crop quality and crop losses.
- Insect infestation leading to crop losses and reduced tree canopy.
- Reduction in the ability to perform outdoor activities, which could result in loss of tourism and recreation opportunities.

Public health impacts may include an increase in heat-related illnesses, waterborne illnesses, recreational risks, limited food availability, and reduced living conditions. Vulnerable populations could be particularly susceptible to the drought hazard and cascading impacts due to age, health conditions, and limited ability to mobilize to shelter, cooling and medical resources. Other possible impacts to health due to drought include increased recreational risks; effects on air quality; diminished living conditions related to energy, air quality, and sanitation and hygiene; compromised food and nutrition; and increased incidence of illness and disease. Some drought-related health effects are short-term while others can be long-term (Centers for Disease Control and Prevention 2021).

7.2 VULNERABILITY AND IMPACT ASSESSMENT

To understand risk, a community must evaluate assets exposed and vulnerable within the identified hazard area. For the drought hazard, all Cape May County has been identified as the hazard area. Therefore, all assets (population, structures, critical facilities, and lifelines) described in the County Profile (Chapter 3) are potentially vulnerable to drought. The following text evaluates and estimates the potential impact of the drought and water supply deficiency hazard on the county, including:

- Impact on (1) life, health, and safety; (2) general building stock; (3) critical facilities; (4) economy; (5) environment; and (6) future growth and development
- Effects of climate change on vulnerability
- Further data collections that will assist understanding this hazard over time.

7.2.1 Life, Health, and Safety

Overall Population

Drought conditions can cause a shortage of water available for human and livestock consumption and can reduce local firefighting capabilities. Social impacts of drought include mental and physical stress, public safety threats (increased threat from forest/grass fires), health threats, conflicts among water users, reduced quality of life, and inequities in the distribution of impacts and disaster relief. The infirm, young, and elderly are particularly susceptible to drought and extreme temperatures sometimes associated with drought conditions, due to their age, health conditions, and limited ability to mobilize to shelters, cooling, and medical resources. Impacts on the economy and environment may have social implications as well (NDMC n.d.) For this plan, the entire population of the County (95,263) is considered vulnerable to drought events.

Socially Vulnerable Population

Socially vulnerable populations are most susceptible to drought events based on several factors, including their physical and financial ability to react or respond during a drought. Vulnerable populations include homeless persons, elderly (over 65 years old), low-income or linguistically isolated populations, people with life-threatening illnesses, and residents that may have limited access to water as is. The population over the age of 65 is also more vulnerable. They may require extra water supplies or need assistance to obtain water and are more likely to seek or need medical attention.

Without a quantitative assessment of potential impacts of drought on socially vulnerable populations, the Planning Partners can best assess mitigation options through an understanding of the general numbers and locations of such populations across Cape May County. Table 7-6 summarizes highlights of this information. For planning purposes, it is reasonable to assume that the percentages and distribution of socially vulnerable populations affected by drought will be similar to the countywide numbers.

Table 7-6. Cape May County Socially Vulnerable Populations by Jurisdiction

Category	Cape May County Total		Municipality Highest in Category		Municipality Lowest in Category	
	Number	Percent	Number	Percent	Number	Percent
			Lower (T)	Avalon (B)	Cape May Point (B)	Wildwood (C)
Population Over 65	**26,529**	**27.8%**	**5,517**	**61.5%**	**118**	**15.5%**
			Lower (T)	Dennis (T)	Cape May Point (B), North Wildwood (C)	Cape May Point (B), North Wildwood (C)
Population Under 5	**4,117**	**4.3%**	**1,111**	**7.7%**	**0**	**0.0%**
			Middle (T)	Wildwood (C)	Avalon (B), Cape May Point (B), North Wildwood (C), Stone Harbor (B), West Wildwood (B), Wildwood Crest (B)	Avalon (B), Cape May Point (B), North Wildwood (C), Stone Harbor (B), West Wildwood (B), Wildwood Crest (B)
Non-English-Speaking Population	**1,408**	**1.5%**	**497**	**7.2%**	**0**	**0.0%**
			Lower (T)	Woodbine (B)	Cape May Point (B)	Cape May (C)
Population With Disability	**14,049**	**14.7%**	**3,632**	**35.8%**	**43**	**6.0%**
			Lower (T)	Woodbine (B)	West Wildwood (B)	Upper (T)
Population Below Poverty Level	**8,443**	**8.9%**	**2,369**	**30.4%**	**18**	**1.8%**

Source: U.S. Census Bureau 2022 ACS Vulnerable Population Totals

7.2.2 General Building Stock

No structures are anticipated to be directly affected by a drought event. However, droughts contribute to conditions conducive to wildfires and reduce fire-fighting capabilities. Wildfire fuel tends to be most plentiful in areas where development densities are lowest, which works to reduce losses to the general building stock. The wildfire risk to buildings is greatest in two areas:

- **The wildland-urban interface**—Where forested areas adjoin urbanized areas
- **Wildfire fuel hazard areas**—Where predominant plant species are highly susceptible to wildfire

Refer to Chapter 13 for the Wildfire risk assessment.

7.2.3 Community Lifelines and Other Critical Facilities

Drought events generally do not impact buildings, but they have the potential to impact agriculture-related facilities, critical facilities, and lifelines that are associated with water supplies, such as potable water used with fire-fighting services. Critical facilities and lifelines in and adjacent to the wildfire hazard areas are also considered vulnerable to drought.

Water systems and thus distribution to the population may also be impacted by drought conditions. The County's water supply sources are from surface water and unconfined groundwater sources (New Jersey Department of Environmental Protection 2022). In terms of annual water withdrawal by sector, the second highest sector is potable water supply. Water use trends, like withdrawal trends, vary from month to month with water use typically peaking during summer months when outdoor and irrigation demands are high (United States Environmental Protection Agency 2010).

7.2.4 Economy

Drought can produce a range of impacts that span many economic sectors and can reach beyond an area experiencing physical drought. As previously discussed, water withdrawals are not only used for potable water but for use in the commercial, industrial, and mining sectors and power generation. The governor is authorized to declare a state of water emergency when a potential or actual water shortage endangers the public health, safety, and welfare. In these cases, the NJDEP may impose mandatory water restrictions and require specific actions to be taken by water suppliers. According to the State of New Jersey Water Supply Plan, a water emergency seeks to cause as little disruption as possible to commercial activity and employment (New Jersey Department of Environmental Protection 2017) .

A prolonged drought can have a serious economic impact on a community. When drought conditions persist with little to no relief, water restrictions may be put into place by local or state governments. These restrictions may include placing limitations on when or how frequent lawns can be watered, car washing services, or any other recreational/commercial outdoor use of water supplies. In exceptional drought conditions, watering of lawns and crops may not be an option. If crops are not able to receive water, farmland will dry out and crops will die. This can lead to crop shortages, which, in turn, increases the price of food (North Carolina State University 2013).

Increased demand for water and electricity can also result in shortages and higher costs for these resources. Industries that rely on water for business could be impacted the most (e.g., landscaping businesses). Although most businesses will still be operational, they may be impacted aesthetically. These aesthetic impacts are most significant within the recreation and tourism industry. Moreover, droughts within another area could impact the food supply and price of food for residents within the county.

7.2.5 Natural, Historic and Cultural Resources

Natural

Droughts can impact the environment because these events can exacerbate conditions conducive to wildfires, increase insect infestations, and exacerbate the spread of disease (Intergovernmental Panel on Climate Change 2016). Droughts will also impact water resources that are relied upon by aquatic and terrestrial species. Ecologically sensitive areas, such as wetlands, can be particularly vulnerable to drought periods because they are dependent on steady water levels and soil moisture availability to sustain growth. As a result, these types of habitats can be negatively impacted after long periods of dryness (New Jersey Department of Environmental Protection 2017).

Droughts also have the potential to lead to water pollution due to the lack of rainwater to dilute any chemicals in water sources. Contaminated water supplies may be harmful to plants and animals. If water is not getting into the soils, the ground will dry up and become unstable. Unstable soils increase the risk of erosion and loss of topsoil (North Carolina State University 2013).

Drought affects groundwater sources, but generally not as quickly as surface water supplies. Groundwater supplies generally take longer to recover. Reduced precipitation during a drought means that groundwater supplies are not replenished at a normal rate. This can lead to a reduction in groundwater levels and problems such as reduced pumping capacity or wells going dry. Shallow wells are more susceptible than deep wells. Reduced replenishment of groundwater affects streams also. Much of the flow in streams comes from groundwater, especially during the summer when there is less precipitation and after snowmelt ends. Reduced groundwater levels mean that even less water will enter streams when steam flows are lowest (New Jersey Department of Environmental Protection 2021). These issues can lead to significant water shortages, adversely affecting agriculture, ecosystems, and daily life.

Historic

The primary impacts on historic resources from drought would be an increased risk of wildfires, which could threaten these assets, and impacts on structure foundations from the shrink-swell cycle of expansive soils.

Cultural

Prolonged drought and seasonal aridity can exacerbate soil deflation and erosion, potentially uncovering previously buried archaeological sites. This exposure increases the vulnerability of these sites to further damage and loss, posing a significant threat to the preservation of cultural heritage (USDA Forest Service 2018).

7.3 FUTURE CHANGES THAT MAY AFFECT RISK

Understanding future changes that affect vulnerability can assist in planning for future development and ensure establishment of appropriate mitigation, planning, and preparedness measures. The following sections examine potential conditions that may affect hazard vulnerability.

7.3.1 Potential or Planned Development

The State of New Jersey Water Supply Plan indicates seasonal outdoor water use is rising statewide and is attributable to continued suburbanization and increases in residential and commercial lawn and landscape maintenance. Changes in water demands by commercial/industrial users will depend on future development of this water type use and how effectively efficiency techniques are implemented (New Jersey Department of Environmental Protection 2017).

7.3.2 Projected Changes in Population

Projected population increases in Cape May County can exacerbate the impacts of drought in several ways. A larger population will lead to higher demand for water for residential, agricultural, and industrial uses, straining existing water supplies and making management during drought conditions more challenging (NEEF 2024). This increased demand will also put additional pressure on water infrastructure, leading to more frequent breakdowns and maintenance issues, complicating water distribution. With more people relying on the same water sources, the risk of water shortages during prolonged dry periods increases, leading to stricter water use restrictions and competition for limited resources. Additionally, increased population density can lead to more development and urbanization, reducing natural landscapes that help recharge groundwater and maintain ecological balance, further reducing water availability during droughts.

Higher population density can also increase the risk of wildfires, as more human activity can lead to accidental fires, which are exacerbated by drought conditions, leading to more frequent and severe wildfires that threaten both natural and developed areas (WRI 2024). Overall, the projected population growth in Cape May County will likely intensify the challenges associated with managing water resources and mitigating the impacts of drought. Refer to Chapter 3 (County Profile), which includes a more thorough discussion about population trends for the County.

7.3.3 Climate Change

Most studies project that the State of New Jersey will see an increase in average annual temperatures. Additionally, the State is projected to experience more frequent droughts which may affect the availability of water supplies, primarily placing an increased stress on the population and their available potable water. Agricultural needs may increase if the climate grows warmer but may decrease if more efficient irrigation techniques are adopted broadly or if precipitation increases. A decrease in water supply, or increase in water supply demand, may increase the County's vulnerability to structural fire and wildfire events. Critical water-related service sectors may need to adjust management practices and actively manage resources to accommodate for future changes.

7.3.4 Other Identified Conditions

As mentioned previously, resources indicate that the State of New Jersey is expected to observe a rise in average annual temperatures. Furthermore, there is a projected increase in the occurrence of droughts, which could impact the availability of water supplies and place added strain on the population and their access to clean drinking water. A decrease in water supply, or an increase in demand for water, may heighten the County's susceptibility to structural fires and wildfires. Consequently, it may be necessary for critical water-related service sectors to modify their management strategies and proactively allocate resources to adapt to forthcoming shifts.