

North Carolina Regional Reference Packet

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Charlotte

Climate Impacts

Extreme Heat

- In 2024, Charlotte is [expected](#) to experience seven hot days, which is considered to be any day above a “feels like” temperature of 104 degrees Fahrenheit.
- Due to climate change, Charlotte will [experience](#) 17 days above 104 degrees Fahrenheit annually in 30 years.
- By 2050, Charlotte is [projected](#) to experience an average of about 40 days per year over 95.6 degrees Fahrenheit.
- 96% of homes in Charlotte are at [major risk](#) of heat-related costs.

- In 2022, Charlotte [experienced](#) 19 more days with a heat index of 90 degrees Fahrenheit or above.
- On June 26, 2024, Charlotte [reached](#) a peak temperature of 95.2 degrees Fahrenheit. The city also [experienced](#) a CSI level 4, indicating that human-caused climate change made excessive heat at least four times more likely.

Drought

- Since 2000, the Lower Catawba watershed, which contains Charlotte, has [experienced](#) 748 weeks (62% of weeks) with some of its area in drought at any level and 103 weeks (9% of weeks) with some of its area in extreme or exceptional drought.

Wildfires

- There are [77,639 properties](#) - representing 28% of properties – in Charlotte that are at risk of being affected by wildfires over the next 30 years.
 - In Charlotte, [73,714 out of 273,541](#) homes have a moderate risk of being affected by wildfires over the next 30 years.
 - In Charlotte, [1,925 out of 14,904](#) commercial properties have a moderate risk of being affected by wildfires over the next 30 years.
 - In Charlotte, [64 out of 336](#) infrastructure facilities have a moderate risk of being affected by wildfires over the next 30 years.

Extreme Rainfall & Flooding

- About 11% of buildings in Charlotte are currently at a [high risk](#) of flooding.
- There are [27,489 properties](#) – representing 10% of all properties – in Charlotte that are at risk of being affected by flooding over the next 30 years.

Hurricane Florence

- In September 2018, Hurricane Florence [impacted](#) 2,539 properties in Charlotte.
- Rainfall totals in Charlotte ranged from [4 to nearly 10 inches](#) during Hurricane Florence.

Pollution Impacts

Air Pollution

- According to the American Lung Association's 2024 State of the Air report, Mecklenburg County [received](#) C grades for the number of high-ozone days and annual particle pollution.
- The Charlotte-Concord metropolitan area [ranked](#) 79 worst for high ozone days, 85th worst for 24-hour particle pollution, and 84th worst for annual particle pollution.
- In North Carolina, [nine of the ten](#) leading causes of death are caused or worsened by ozone and particle pollution, including stroke, chronic lower respiratory conditions, COVID-19, and heart disease.

Water Pollution

- North Carolina has 47 coal ash dump sites [leaking](#) pollution into groundwater across the state.
 - The Marshall Coal Plant, located just outside of Charlotte and owned by Duke Energy, was found to have arsenic levels in the groundwater that were [five times](#) EPA's safe drinking water standards. Boron was [five times](#) above the standard, Cobalt was [22 times](#), Lithium was [two times](#) higher, and Radium was [two times](#) higher than the EPA's standards.
 - The Allen Coal Plant, located just south of Charlotte and owned by Duke Energy, was found to have arsenic levels in the groundwater that were [seven times](#) EPA's safe drinking water standards. Beryllium tested [six times](#) higher, Cobalt was [466 times](#) above the standard, Lithium was [12 times](#) higher, Selenium was [five times](#) higher, and Sulfate was [three times](#) higher than the EPA's standards.

Clean Energy

Clean Energy Saves Money

- According to a 2011 report from the American Council for an Energy-Efficient Economy, in Charlotte, 23.76% of all households and 49.47% of low-income households are extremely [energy-burdened](#), meaning their energy burden is more than twice the city median.

- With the widespread implementation of zero-emission transportation and electricity resources, North Carolina could [experience \\$35.3 billion](#) in cumulative public health benefits and [avoid 387,000 lost work days](#) by 2050.
- Investment in clean energy and decreased spending on gasoline are [projected](#) to reduce average annual household energy spending by \$120 per year in 2030 and a cumulative \$9.9 billion through 2050 across all households in North Carolina.

Charlotte’s Growing Clean Energy Economy

- Since the passage of the clean energy plan, over [\\$104 million](#) in investments have been announced in clean energy projects that will create [375 jobs](#) in Charlotte.
 - In May 2023, Atom Power [announced](#) a \$4.2 million investment to expand its headquarters and manufacturing operations in Huntersville, North Carolina, just north of Charlotte. The investment was [expected](#) to create 205 new jobs. Atom Power manufactures [advanced](#) EV charging solutions. The expansion was [projected](#) to grow North Carolina’s economy by over \$800 million.
 - In August 2022, Atom Power [received](#) a \$100 million investment from SK Energy to expand its EV charging workforce. Atom Power [planned](#) to hire 170 new employees as a result of the investment at its facility located north of Charlotte.
- According to E2’s Clean Jobs America 2023 [report](#), the Charlotte-Concord-Gastonia metropolitan area is home to 33,692 clean energy jobs, including 5,608 in renewable generation, 758 in energy storage, 23,881 in energy efficiency, and 3,149 in clean vehicles.

Eastern and Coastal North Carolina

Climate Impacts

Extreme Heat

- In 2024, Wilmington is [expected](#) to experience seven hot days, which is considered to be any day above a “feels like” temperature of 107 degrees Fahrenheit.
- Due to climate change, Wilmington will [experience](#) 19 days above 104 degrees Fahrenheit annually in 30 years.

- By 2050, Wilmington is [projected](#) to experience an average of about 35 days per year over 94.4 degrees Fahrenheit.
- 100% of homes in Wilmington are at [extreme risk](#) of heat-related costs.
- In 2023, the number of heat-related 911 calls in New Hanover County [tripled](#) between June and July.
- Wilmington [experienced](#) eleven more days in 2022 than in the past four decades, with a heat index of 90 degrees Fahrenheit or above.

Drought

- The Lower Cape Fear watershed has [experienced](#) 608 weeks of partial drought since 2000.

Wildfires

- There are [24,538 properties](#) – representing 57% of properties – in Wilmington that are at risk of being affected by wildfires over the next 30 years.
 - In Wilmington, [18,997 out of 34,194 homes](#) have a moderate risk of being affected by wildfires over the next 30 years.
 - In Wilmington, [1,642 out of 2,930 commercial properties](#) have a moderate risk of being affected by wildfires over the next 30 years.
 - In Wilmington, [60 out of 100 infrastructure facilities](#) have a moderate risk of being affected by wildfires over the next 30 years.
- There are [3,764 properties](#) – representing 68% of properties – in Nags Head that are at risk of being affected by wildfires over the next 30 years.
 - In Nags Head, [2,945 out of 4,304 homes](#) have a major risk of being affected by wildfires over the next 30 years.
 - In Nags Head, [173 out of 222 commercial properties](#) have a major risk of being affected by wildfires over the next 30 years.
 - In Nags Head, [7 out of 13 infrastructure facilities](#) have a major risk of being affected by wildfires over the next 30 years.
- North Carolina's Southern Coastal Plain has seen [eight more](#) annual fire weather days in the past 50 years.

Hurricanes And Tropical Storms

General

- Over the past decade, North Carolina has been [impacted](#) by 15 billion-dollar hurricane and tropical storm events.
- In recent years, due to extreme weather, insurers across the country have [raised](#) homeowner premiums in many states, including North Carolina.
- After major providers [quit](#) California, Florida, and Louisiana, insurers are starting to pull back in other U.S. states – including North Carolina – leaving homeowners struggling to find affordable cover for the risk of being hit by floods, wildfires, or hurricanes.
 - As more and more insurance companies pull out of states, it is [challenging](#) for many homeowners to find affordable private insurance coverage.
- In 2023, insurance firm Nationwide did not [renew](#) around 10,000 policies in North Carolina due in part to risks posed by climate change and hurricanes.
 - Nationwide's [decision](#) on non-renewals is a clear sign that insurers are increasingly wary of the risk of extreme weather.
- As of May 2024, the average annual premium for a home with a dwelling coverage amount of \$300,000 was \$2,535 in North Carolina – which is [above](#) the national average of \$2,151 per year.
- In 2024, the North Carolina Rate Bureau [proposed](#) an average increase of 42% in homeowners insurance rates—with a high of 99% in some areas—but Insurance Commissioner Mike Causey rejected this, describing the proposed increase as "excessive and unfairly discriminatory."

Hurricane Matthew

- In October 2016, Hurricane Matthew [made](#) landfall in North Carolina as a Category 1 hurricane.
- Hurricane Matthew [caused](#) \$13 billion in damages and killed 49 people.
- The most costly impacts were due to historic river flooding in eastern North Carolina, which [damaged](#) 100,000 homes, businesses, and other structures.

Hurricane Florence

- In September 2018, Florence [made](#) landfall as a category 1 hurricane at Wrightsville Beach.

- Hurricane Florence [caused](#) a damaging storm surge of up to 10 feet and wind gusts reported over 100 mph.
- Hurricane Florence had a [disproportionate impact](#) on North Carolina's communities of color, some of whom were still rebuilding from Hurricane Matthew.
- Wilmington was [cut off](#) by flood waters caused by the hurricane. Officials had to deliver supplies of food, water, and tarps to as many as 120,000 city residents trapped in inland neighborhoods.
- Eastern North Carolina, home to some of the state's [most impoverished](#) towns and communities, was hit particularly hard by Florence.
 - In New Hanover County, where Hurricane Florence made landfall, [more than 19,500](#) residents live in six neighborhoods that have poverty rates above 40%.
- Hurricane Florence [caused](#) \$29.8 billion in damages and killed 53 people.

Hurricane Dorian

- In September 2019, Hurricane Dorian [made](#) landfall on the Outer Banks of North Carolina as a Category 1 hurricane.
- Hurricane Dorian was the strongest and most destructive storm of the 2019 hurricane season.
- Heavy rain from the storm [led](#) to flash flooding in parts of Brunswick and New Hanover counties.
- Hurricane Dorian [caused](#) \$2 billion in damages and killed 10 people.

Hurricane Isaias

- In August 2020, Hurricane Isaias [made](#) landfall near Ocean Isle Beach as a strong Category 1 hurricane with winds of 85 mph.
- Hurricane Isaias also [produced](#) several EF-2 tornadoes and one EF-3 tornado, which damaged coastal North Carolina and Virginia.
- Hurricane Isaias [caused](#) \$5.8 billion in damages and killed 16 people.

Sea Level Rise And Flooding

- On the North Carolina coast, the sea is [rising](#) faster than in most other parts of the U.S. and faster than what most scientists had expected.

- An April 2024 analysis by the Washington Post [found](#) that sea levels have rapidly risen in North Carolina.
 - In Wilmington, sea levels have [surged](#) 7 inches from 2010 to 2023.
 - In Beaufort, sea levels have [surged](#) 5.6 inches from 2010 to 2023.
 - In Nags Head, sea levels have [surged](#) 4.6 inches from 2010 to 2023.
 - In Duck, sea levels have [surged](#) 3 inches from 2010 to 2023.
- An April 2023 study [found](#) sea rise along the U.S. Southeast and Gulf coasts have reached record-breaking levels over the past 12 years.
- According to the Virginia Institute of Marine Science at William & Mary's Sea Level Report Card, Wilmington will [see](#) an average sea-level rise of 0.52 meters (1.7 feet) over 1992 levels by 2050 based on historic tide gauge data.
- Many Black and Brown communities in the east of the state are located in lower-lying geographies and flood plains, making them [especially susceptible](#) to damage from powerful storms.
- Predominantly African-American, rural communities on North Carolina's coast are [threatened](#) by sea-level rise and flooding.
 - Tyrrell and Washington counties are home to some of the [lowest-lying](#), rural areas in coastal North Carolina.
 - Many of these communities [depend](#) on the region's natural resources for their livelihoods, which include forestry, agriculture, and nature-based tourism.
 - These communities are [already witnessing](#) the effects of a changing climate, including recurrent flooding, marsh migration and increasing salinity in the groundwater and soil that is reducing agricultural production and forest health.
 - These areas are also [experiencing](#) coastal subsidence, meaning the land is sinking and slipping into the Albemarle and Pamlico sounds.
- In the Outer Banks, homes have been [collapsing](#) due to sea level rise and coastal erosion.
- By 2100, 100,000 homes in North Carolina worth an estimated \$28.5 billion [will face flooding](#). Those homes at risk [currently contribute](#) around \$187 million in annual property tax revenue.

- Archaeological sites in North Carolina are [under threat](#) from sea level rise and storms.
 - In North Carolina, Hammocks Beach State Park [includes](#) over 2,000-year-old archaeological sites – including Indigenous hunting and fishing sites, colonial settlements, and the Civil War.
 - All along the North Carolina coast, climate change could [damage or destroy](#) archaeological sites — including prehistoric shell middens, shipwrecks, and cemeteries where enslaved people were buried.

Pollution Impacts

Water Pollution

- PFAS have been [detected](#) across North Carolina, including the Lower Cape Fear River Basin.
 - As of May 2024, at least 17 cases of PFAS contamination were [found](#) along North Carolina’s Eastern Coast, including at Wrightsville Beach.
 - In 2021, the Cape Fear River watershed, which supplied drinking water for 350,000 North Carolinians, [tested positive](#) for PFAS.
- A new study [found](#) that the frequency and severity of “sunny day flooding” is increasing along North Carolina’s coast due to land sinking, groundwater drilling, changes in Gulf Stream currents, and sea level rise. These events [increase](#) the levels of fecal bacteria in coastal waters.
- In March 2024, portions of Buxton Beach were [closed](#) due to petroleum-contaminated soil and water.
- In 2020, 87 beaches across North Carolina were [reported](#) with at least one unsafe for swimming day due to fecal indicator bacteria levels exceeding the U.S. Environmental Protection Agency’s Beach Action Value. Seven of those beaches were [unsafe](#) on at least 25% of testing days.
 - Pamlico River in Beaufort County [tested](#) as unsafe for 59% of the days that sampling took place.

Clean Energy

Clean Energy Saves Money

- With the widespread implementation of zero-emission transportation and electricity resources, North Carolina could [experience \\$35.3 billion](#) in cumulative public health benefits and [avoid 387,000 lost work days](#) by 2050.
- Investment in clean energy and decreased spending on gasoline are [projected](#) to reduce average annual household energy spending by \$120 per year in 2030 and a cumulative \$9.9 billion through 2050 across all households in North Carolina.

Eastern And Coastal North Carolina's Growing Clean Energy Economy

- Since the passage of the clean energy plan, over \$649.9 million in investments have been [announced](#) in clean energy projects that will create 500 jobs in Wilmington.
- According to E2's Clean Jobs America 2023 [report](#), Wilmington is home to 3,228 clean energy jobs, including 338 in renewable generation, 106 in energy storage, 2,558 in energy efficiency, and 207 in clean vehicles.

Triad - Greensboro/Winston-Salem/High Point

Climate Impacts

Extreme Heat

- In 2024, Greensboro is [expected](#) to experience seven hot days, which is considered to be any day above a "feels like" temperature of 103 degrees Fahrenheit.
- Due to climate change, Greensboro will [experience](#) 18 days above 103 degrees Fahrenheit annually in 30 years.
- By 2050, Greensboro is [projected](#) to experience an average of about 44 days per year above 94 degrees Fahrenheit.
- 100% of homes in Greensboro are at [major risk](#) of extreme heat exposure over the next thirty years.
- On July 15, 2024, high temperatures at the Piedmont Triad International Airport [reached](#) 99 degrees Fahrenheit, the hottest temperature measured there since 2012.

- In 2024, Winston-Salem is [expected](#) to experience seven hot days, which is considered to be any day above a “feels like” temperature of 102 degrees Fahrenheit.
- Due to climate change, Winston-Salem will [experience](#) 18 days above 102 degrees Fahrenheit annually in 30 years.
- By 2050, Winston-Salem is [expected](#) to experience an average of about 43 days per year above 94.4 degrees Fahrenheit.
- 100% of homes in Winston-Salem are at [major risk](#) of extreme heat exposure over the next thirty years.
- In 2024, High Point is [expected](#) to experience seven hot days, which are considered to be any day above a “feels like” temperature of 103 degrees Fahrenheit.
- Due to climate change, High Point will [experience](#) 17 days above 103 degrees Fahrenheit.
- By 2050, High Point is [projected](#) to experience an average of about 45 days per year above 94.2 degrees Fahrenheit.
- 100% of homes in High Point are at [major risk](#) of extreme heat exposure over the next thirty years.

Drought

- The Haw watershed, which provides drinking water for nearly [one million people](#), including those in Greensboro, has [experienced](#) 684 weeks of partial drought since 2000.
- The Deep Watershed, which provides [clean water supplies](#) to nearby communities, including High Point residents, has [experienced](#) 700 weeks of partial drought since 2000.
- The Upper Yadkin watershed, which [covers](#) more than 7,200 square miles of the Carolinas, including Winston-Salem, is the principal source of water for the central Carolina region. Since 2000, it has [experienced](#) 707 weeks of partial drought.

Wildfires

- There are [18,948 properties](#) – representing 18% of properties – in Greensboro that are at risk of being affected by wildfires over the next 30 years.

- In Greensboro, [18,948 out of 109,942 homes](#) have a moderate risk of being affected by wildfires over the next 30 years.
- In Greensboro, [911 out of 7,873 commercial properties](#) have a moderate risk of being affected by wildfires over the next 30 years.
- In Greensboro, [24 out of 130 infrastructure facilities](#) have a moderate risk of being affected by wildfires over the next 30 years.
- There are [53,521 properties](#) – representing 54% of properties – in Winston-Salem that are at risk of being affected by wildfires over the next 30 years.
- There are [14,251 properties](#) – representing 30% of properties – in High Point that are at risk of being affected by wildfires over the next 30 years.
- North Carolina's Piedmont Triad has seen [13 more](#) annual fire weather days in the past 50 years.

Extreme Rainfall & Flooding

- There are [9,618 properties](#) – representing 9.3% of all properties – in Greensboro that are at risk of being affected by flooding over the next 30 years.
- There are [8,824 properties](#) – representing 9% of all properties – in Winston-Salem that are at risk of being affected by flooding over the next 30 years.
- There are [4,567 properties](#) – representing 9.8% of all properties – in High Point that are at risk of being affected by flooding over the next 30 years.

Pollution Impacts

Air Pollution

- According to the American Lung Association's 2024 State of the Air report, the Greensboro-Winston-Salem-High Point, NC, metropolitan area [ranked](#) 79th for worst 24-hour particle pollution and 78th for worst annual particle pollution.
 - More than [1.72 million people](#) in the Piedmont Triad are especially at risk, including children, the elderly, and people of color.
- Forsyth County [received](#) C grades for annual particle pollution.

Water Pollution

- North Carolina has 47 coal ash dump sites [leaking](#) pollution into groundwater across the state.

- The Dan River Coal Plant, located north of Greensboro and owned by Duke Energy, was found to have arsenic levels in the groundwater that were [three times](#) EPA's safe drinking water standards. Cobalt was [one time](#) higher than the EPA's standards and Lithium was [three times](#) higher.
- The Belews Creek Coal Plant, located north of Greensboro and owned by Duke Energy, tested with arsenic levels [five times](#) EPA's safe drinking water standards. Beryllium was [two times](#) higher, cobalt was [38 times](#) higher, and radium, boron, selenium, sulfate, and thallium all tested [one time](#) higher than the EPA's groundwater standards.
- According to EPA PFAS standards that were finalized in April 2024, [at least 2.5 million](#) North Carolinians have been exposed to contaminated drinking water.
 - Water from the Piedmont Triad Regional Water Authority's John Franklin Kime Treatment Plant, which serves over 367,000 people, [tested](#) positive for PFOA [1.25 times](#) higher than the EPA's limit and PFOS [2.25 times](#) higher. To address the pollution, the plant has [proposed](#) an expansion and reverse osmosis treatment system.
 - Water from the City of Greensboro's Mitchell Water Treatment Plant, which serves over 318,000 people, [tested](#) positive for PFOS [6.75 times](#) higher than EPA's new limits, and PFHxS tested [1.2 times](#) higher. The plant [installed](#) granular-activated carbon filters and other upgrades to address the pollution.

Clean Energy

Clean Energy Saves Money

- With the widespread implementation of zero-emission transportation and electricity resources, North Carolina could [experience \\$35.3 billion](#) in cumulative public health benefits and [avoid 387,000 lost work days](#) by 2050.
- Investment in clean energy and decreased spending on gasoline are [projected](#) to reduce average annual household energy spending by \$120 per year in 2030 and a cumulative \$9.9 billion through 2050 across all households in North Carolina.

The Triad's Growing Clean Energy Economy

- Since the passage of the clean energy plan, over [\\$342 million](#) in investments have been announced in clean energy projects that will create [802 jobs](#) in North Carolina's Triad.

- In March 2023, Autel [announced](#) it would open an EV charger manufacturing plant in Greensboro, North Carolina. The facility will hire 400 workers and will produce up to 5,000 EV chargers per year. Atuel opened the facility in October 2023.
- In August 2023, Deere & Company [announced](#) a \$69 million investment to build a battery and charger manufacturing facility in Kernersville, North Carolina. The facility [will produce](#) battery packs and chargers for off-highway equipment, creating 50 new jobs.
- In November 2023, Dai Nippon Printing Co. [announced](#) it would invest \$233 million to build a lithium-ion battery pouch manufacturing facility in Linwood, North Carolina. The facility will create 352 new jobs with an average annual salary of \$50,281, higher than the county average of \$49,956.
- According to E2's Clean Jobs America 2023 [report](#), the Greensboro-High Point metropolitan area is home to 7,099 clean energy jobs, including 355 in renewable generation, 108 in energy storage, 5,439 in energy efficiency, and 1,145 in clean vehicles.
- According to E2's Clean Jobs America 2023 [report](#), the Winston-Salem metropolitan area is home to 5,288 clean energy jobs, including 240 in renewable generation, 954 in energy storage, 3,628 in energy efficiency, and 408 in clean vehicles.

Triangle – Raleigh/Durham/Chapel Hill

Climate Impacts

Extreme Heat

- In 2024, Raleigh is [expected](#) to experience seven hot days, which is considered to be any day above a “feels like” temperature of 105 degrees Fahrenheit.
- Due to climate change, Raleigh will [experience](#) 17 days above 105 degrees Fahrenheit annually in 30 years.
- By 2050, Raleigh is [projected](#) to experience an average of about 41 days per year above 94.9 degrees Fahrenheit.
- 82% of homes in Raleigh are at [major risk](#) of heat-related costs.

- On June 26, 2024, Raleigh [reached](#) a peak temperature of 98.9 degrees Fahrenheit. The city also [experienced](#) a CSI level 5, indicating that human-caused climate change made excessive heat at least five times more likely.
- In 2024, Durham is [expected](#) to experience seven hot days, which is considered to be any day above a “feels like” temperature of 105 degrees Fahrenheit.
- Due to climate change, Durham is [expected](#) to experience 17 days above 105 degrees Fahrenheit annually in 30 years.
- By 2050, Durham is [projected](#) to experience an average of about 42 days per year above 95.3 degrees Fahrenheit.
- 97% of homes in Durham are at [major risk](#) of heat-related costs.
- A 2021 urban heat island study [found](#) that temperature differences between urban and non-urban areas in Raleigh reached up to 9.6 degrees Fahrenheit. In Durham, there was a max difference of 10.4 degrees Fahrenheit.
- In 2024, Chapel Hill is [expected](#) to experience seven hot days, which is considered to be any day above a “feels like” temperature of 106 degrees Fahrenheit.
- Due to climate change, Chapel Hill is [expected](#) to experience 17 days above 106 degrees Fahrenheit annually in 30 years.
- 95% of homes in Chapel Hill are at [major risk](#) of heat-related costs.

Drought

- The Upper Neuse Watershed, which contains Raleigh and Durham, has [experienced](#) 683 weeks of partial drought since 2000.

Wildfires

- There are [32,087 properties](#) – representing 23% of properties – in Raleigh that are at risk of being affected by wildfires over the next 30 years.
 - In Raleigh, [30,749 out of 134,524 homes](#) have a moderate risk of being affected by wildfires over the next 30 years.
 - In Raleigh, [2,333 out of 10,359 commercial properties](#) have a moderate risk of being affected by wildfires over the next 30 years.
 - In Raleigh, [35 out of 217 infrastructure facilities](#) have a moderate risk of being affected by wildfires over the next 30 years.

- There are [39,277 properties](#) – representing 40% of properties – in Durham that are at risk of being affected by wildfires over the next 30 years.
 - In Durham, [35,865 out of 90,066 homes](#) have a moderate risk of being affected by wildfires over the next 30 years.
 - In Durham, [1,217 out of 4,635 commercial properties](#) have a moderate risk of being affected by wildfires over the next 30 years.
 - In Raleigh, [36 out of 116 infrastructure facilities](#) have a moderate risk of being affected by wildfires over the next 30 years.
- There are [6,248 properties](#) – representing 45% of properties – in Chapel Hill that are at risk of being affected by wildfires over the next 30 years.
 - In Chapel Hill, [5,879 out of 13,149 homes](#) have a moderate risk of being affected by wildfires over the next 30 years.
 - In Chapel Hill, [221 out of 498 commercial properties](#) have a moderate risk of being affected by wildfires over the next 30 years.
 - In Chapel Hill, [9 out of 30 infrastructure facilities](#) have a moderate risk of being affected by wildfires over the next 30 years.

Extreme Rainfall & Flooding

- About 9% of buildings in Durham are currently at a [high risk](#) of flooding.
- About 8% of buildings in Raleigh are currently at a [high risk](#) of flooding.
- There are [9,278 properties](#) – representing 9.6% of all properties – in Durham that are at risk of being affected by flooding over the next 30 years.
- There are [16,327 properties](#) – representing 12.2% of all properties – in Raleigh that are at risk of being affected by flooding over the next 30 years.
- There are [1,541 properties](#) – representing 11.2% of all properties – in Chapel Hill that are at risk of being affected by flooding over the next 30 years.

Tropical Storm Debby

- In August 2024, Tropical Storm Debby [brought](#) intense rainfall, flooding, and strong winds to the Triangle.
 - Orange County [recorded](#) 6.5 inches of rain in an area south of Chapel Hill, and Durham County [recorded](#) 7 inches of rain just north of Durham.

Hurricane Matthew

- In October 2016, the Raleigh/Durham airport [reported](#) 6.96 inches of rain after Hurricane Matthew.
- Raleigh [reported](#) a record 1-day rainfall total of 6.45 inches during Hurricane Matthew.
- One death was [reported](#) in Wake County during Hurricane Matthew.

Pollution Impacts

Air Pollution

- According to the American Lung Association's 2024 State of the Air report, the Raleigh-Durham-Cary metropolitan area [ranked](#) 116th for worst high ozone days, 124th for worst 24-hour particle pollution, and 162nd for worst for annual particle pollution.

Water Pollution

- North Carolina has 47 coal ash dump sites [leaking](#) pollution into groundwater across the state.
 - The Cape Fear Coal Plant, located south of Raleigh, is one of North Carolina's ten inactive coal ash landfills and legacy ponds. Cape Fear was owned by Progress Energy Carolinas Inc. and had five unregulated ponds. According to the EPA, there was evidence of site contamination, including Lithium which tested [three times](#) above the federal standard.

Clean Energy

Clean Energy Saves Money

- With the widespread implementation of zero-emission transportation and electricity resources, North Carolina could [experience \\$35.3 billion](#) in cumulative public health benefits and [avoid 387,000 lost work days](#) by 2050.
- Investment in clean energy and decreased spending on gasoline are [projected](#) to reduce average annual household energy spending by \$120 per year in 2030 and a cumulative \$9.9 billion through 2050 across all households in North Carolina.

The Triangle's Growing Clean Energy Economy

- Since the passage of the clean energy plan, over [\\$246 million](#) in investments have been announced in clean energy projects that will create [637 jobs](#) in North Carolina's Triangle.
 - In November 2023, Forge Nano Inc. [announced](#) it would invest \$165 million to build a lithium-ion battery manufacturing plant in Morrisville, North Carolina. The facility will create 204 new jobs.
 - In February 2023, Kempower [announced](#) a \$41 million investment in a new EV charging station factory in Durham, North Carolina. The investment is set to [create](#) more than 300 jobs, with Kempower looking to create a total of 300 jobs within five years. Kempower opened the facility in November 2023.
 - In September 2022, Sunlight Batteries [announced](#) a \$40 million investment to open a battery manufacturing plant in Mebane, North Carolina. The facility will create 133 jobs with an average salary of over \$67,000 per year, \$20,000 higher than the county average.
- According to E2's Clean Jobs America 2023 [report](#), the Raleigh metropolitan area is home to 17,880 clean energy jobs, including 1,343 in renewable generation, 893 in energy storage, 14,740 in energy efficiency, and 796 in clean vehicles.
- According to E2's Clean Jobs America 2023 [report](#), the Durham-Chapel Hill metropolitan area is home to 7,097 clean energy jobs, including 1,922 in renewable generation, 113 in energy storage, 4,520 in energy efficiency, and 506 in clean vehicles.